

MEETING SUMMARY
Lake Jesup, Crane Strand, and Long Branch BMAP
Technical Working Group Meeting
April 24, 2008
1:00 PM – 4:00 PM
Sylvan Lake Park
Sanford, Florida

Meeting Attendees

John Abendroth, FDEP	Danielle Honour, CDM
Barbara Bess, FDEP	Chandy John, BCI
Julie Bortles, Orange County	Carol Johnson, FDACS
Mary Brabham, SJRWMD	Joel Jordan, RCS
Sherry Brandt-Williams, SJRWMD	Bob Kelly, SAIC
Tiffany Busby, Wildwood Consulting	Robert King, Friends of Lake Jesup
Fred Calder, FDEP	Chris Kintner, City of Longwood
Lisa Curtin, City of Orlando	Steve Lienhart, URS
Rick Dedman, E-Sciences	Regina Lovings-Morse, SJRWMD
Tim Egan, City of Winter Park	Kevin McCann, City of Orlando
Chris Ferraro, FDEP	Durga Nagda, City of Lake Mary
Mark Flomerfelt, Seminole County	Kim Ornberg, Seminole County
Denis Frazel, Frazel Inc.	Marcy Policastro, Wildwood Consulting
Vivian Garfein, FDEP	Robert Potts, E-Sciences
Jennifer Gihring, FDEP	Marissa Rodriguez, City of Maitland
Cecilia Height, Sierra Club	Joe Walter, PBSJ
Dan Homblette, Orange County	

Opening Remarks

Welcome and Introductions

Tiffany Busby welcomed the group and everyone introduced themselves and the entity they represent.

Long Branch BMAP Public Meeting

Tiffany noted that the Long Brach Basin is located entirely in Orange County and a separate effort on that basin management action plan (BMAP) has been underway. A public meeting on the BMAP was held on April 23rd. Julie Bortles stated that the meeting went very well with about five people in attendance. There was a lot of support for the BMAP and people were encouraged that additional data would be collected in the basin. The public did raise a concern about a potential groundwater quality issue in the northern portion of the basin due to activities on Honeybee Ranch. The ranch has a consumptive use permit and the county will investigate this source further.

Jennifer Gihring stated that she presented the BMAP to Mimi Drew (FDEP) and received approval to bring the BMAP to the FDEP Secretary for adoption. The BMAP will be finalized with information about the public meeting before the Secretary signs it. There is a 21-day

challenge period; however, challenges are not expected and the BMAP should be adopted within the next month.

Tiffany introduced John Abendroth who will be taking over Fred Calder's position when he retires in October. John is currently shadowing Fred to learn about the BMAP processes in the basins. John added that he used to work for Fred as a Basin Coordinator so he is already somewhat familiar with the BMAP process.

Update ACOE Channel Modification Plans

Barbara Bess presented the U.S. Army Corps of Engineers efforts to model different channel modification scenarios. Under the §1135 Program, the Corps is allowed to mitigate for previous federal projects. In the Lake Jesup Basin there is concern that Government Cut (which is a created channel near the mouth of the lake) has caused damage to the lake. The Corps is undertaking a study using the RMA2 model to examine impacts from the channel. The report on this study has been posted on the FTP site if the group is interested in more details. The model focuses on the effects on Lake Jesup of changing the braided channels upstream, including Government Cut. The Corps found that water movement around the mouth of Lake Jesup is largely wind driven. They also found a seiche (a standing wave) that oscillates between Lake Monroe and Lake Harney. The selected plan, Plan 5, creates the greatest increase in flow with Channels A and C open and Channel B and Government Cut closed. Closing Government Cut forces some of the water north so all the flow does not go to Lake Jesup; however, this plan does the most to help with circulation within the lake.

Sherry Brandt-Williams asked if the Corps explained why the water backs up to the braided channel; it seems like Channel C is not wide enough. Barbara said she did not know the answer but would ask that question at the field meeting. This meeting will be held on May 15th with the Corps, Friends of Lake Jesup, FDEP, and SJRWMD. The timeline for this project is unknown because it depends on the Corps receiving federal funds. They are also trying to estimate the environmental benefits by explaining the water quality improvements in terms of habitat units (such as number of fish).

Sherry asked if the Corps measured scouring and transport of sediments. Robert King responded that the Corps is saying that scouring and transport is not an issue. The Friends of Lake Jesup do not agree with this. Rick Dedman asked if Lake Jesup was originally part of the river. Robert responded that historic data shows Channels A and B being open but historical information is not available on Channel C. The braided channels are constantly changing and have altered since the modeling; however, the Corps has decided to use a snapshot in time for the modeling. When the Corps built the channel out of Lake Monroe in the 1920s, it caused the seiche that was identified in the modeling.

Other Updates

Robert noted that the *Seminole Chronicle* wrote an article about Lake Jesup and the SR 46 Bridge replacement as part of their Earth Day coverage. This project is scheduled to be completed by the end of 2009. Sherry added that the article gave credit to the Friends of Lake Jesup for encouraging this project.

Presentation on Low Impact Development (LID) Analysis

Tiffany noted that a required part of the BMAP is addressing potential impacts from future growth. Denis Frazel has been talking to the local governments about the efforts they have underway to address growth. Denis added that he received comments on the LID report from Jennifer and Fred that he will incorporate before reposting the report for review by the local governments. He requested that each entity review the information included to ensure it is correct and to add any information that is missing.

The layout of the report includes a table with descriptions of the 14 key principles and strategies and examples of what is being done in the basin. There is also a section on local multi-strategy programs and projects, such as how the local governments are working with other programs to internally meet their LID objectives. The report includes a list of impediments to implementing LID and Denis requested other items that may be missing from the list and also what successes the local governments have had. Other related management actions (e.g., NPDES activities, comprehensive plan updates, new ordinances) are also included in the report.

Denis reviewed several strategies and examples. One strategy is to incorporate small scale stormwater treatment systems at the lot level. Onsite treatment (grassed swales, vegetated filter strip, grassed depressed area) is the best treatment method because it helps to maintain hydrology and hydraulics onsite. Many of these measures are aesthetically pleasing, which makes it easy to incorporate in developments. Increasing infiltration helps to retain stormwater and increase percolation for water quality and recharge benefits. Examples of this strategy include curb cuts and depressed area with onsite storage. Options to reduce impervious surfaces include swales and filter strips, porous pavement, grassed parking, rain gardens, and bioretention. The main point of the report is that LID is occurring throughout basin and local governments are actively reaching out to the community to educate and inform them about LID. The local governments have been very proactive and this is having a positive effect.

Cecilia Height stated that she was concerned that one of the examples used Mexican petunias because they are invasive. She suggested that local governments use native plants instead. Denis noted that one of the key LID strategies is xeriscaping and there are existing programs to help local governments with this, including Florida Yards and Neighborhoods. Denis pointed out that lakeshore protection is another initiative in the report and a lot of local governments are doing this by creating buffers with native vegetation. The report will also include a section on example ordinance language based on the ordinances passed in accordance with the Wekiva Protection Act. Dan Homblette added that Orange County is adapting the Wekiva language and is adopting these ordinances piece by piece.

Barbara asked what the differences are between a bioretention system and a stormwater pond. Denis responded that the bioretention area would include vegetation and the stormwater runoff would percolate into the ground and be transpired by the plants, which would complete the hydrologic cycle. A stormwater pond is generally a large grassed area that would just use percolation. The bioretention area would have higher construction and maintenance costs but could improve the aesthetics of a development and help sell homes. Maintenance of the bioretention area and swales can be an issue. Homeowners would need to be educated about

swales to prevent them from planting in the swales. Durga Nagda added that bioretention and swales could be more cost effective in the long term in areas where land is becoming scarce.

In-Lake Water Withdrawals Credit Discussion

Tiffany noted that in the last meeting Brian Fields (City of Winter Springs) had asked if water withdrawals from the lake for consumptive use could count as a project credit in the BMAP. An issue paper was provided with FDEP's response.

Jennifer reviewed the issue paper, which includes two separate but related questions. One question is whether in-lake restoration projects, such as the Aquafiber project and dredging, would count as credit. The response from FDEP is consistent with what the Technical Working Group (TWG) had decided, which is that the first iteration of the BMAP would not calculate credits for in-lake projects. The BMAP would focus on reducing external loads to the lake and in the next cycle, when there is more information on nitrogen fixation and sediments, the group can decide what types of in-lake projects would be beneficial. Credit would only be provided for these projects in this BMAP if in-lake sources are included as part of the TMDL allocation, which they were not, or if the load reductions can be estimated with reasonable confidence, which is not the case yet.

Rick asked why removing water from the lake for irrigation would not provide credits since the plants would uptake some of the phosphorus. Jennifer responded that this is related to the other question in the issue paper about consumptive uses. The decision in the paper is based on the fact that the reduction is not consistent with the TMDL rule because the rule focuses entirely on external loads coming into the lake. There is also the issue of uncertainty because it is not known if removing the phosphorus with the water would be a benefit or a detriment. There could be a point where withdrawals increase the concentration of phosphorus in the lake. Sherry noted that once the external loads are cut off then they can focus on other types of projects. The focus should now be on reducing external loads. Jennifer added that the answers to these questions could be different in the next BMAP cycle based on information collected from ongoing studies.

Kim Ornberg asked for an update on the SJRWMD sediment study. Sherry responded that the request for proposals (RFP) came back with no response for several reasons. They are making some revisions and will reissue the RFP next week. Sherry requested that if the group let her know of anyone who does this type of work.

Rick asked what the first objective of the Lake Jesup TMDL reduction program is. Jennifer responded that the objective is to reduce external loads to the lake to enhance water quality within the lake. The TMDL targets were set for external loads and this will be the initial focus. Rick noted that if water is drawn from the lake and treated to apply on the land, there will be phosphorus removal and cleaner water returned to the lake. This is the most cost effective method for reductions. Jennifer responded that they know that reductions in external loads and work in the lake (such as the Aquafiber project to treat and return water) will benefit the lake. Right now, withdrawals for consumptive use do not fit with the TMDL rule. Sherry added that if they do not reduce what is coming into the lake from the watershed, then nutrients will just keep building up in the lake. Kim noted that it is easier to treat higher concentrations. Howell

Creek has the lowest concentration but the highest load; however, they are focusing on other tributaries with higher concentrations.

Steve Lienhart stated that they are trying to reduce the amount of phosphorus in the lake, no matter where the reductions are coming from. This may become an economic question of what is the most cost effective solution. Sherry responded that the group has discussed this before and they determined that treating the lake water would be difficult because of the amount of recalcitrant phosphorus in the lake. The focus is external reductions, which is included in the Interagency Plan. Once the external load reductions are achieved, then the focus can be on reducing the loads in the lake. Fred added that removing water for consumptive use is not changing the condition in the lake; however, if water is removed to be treated and removed, that is changing the lake's water quality. Vivian Garfein stated that non-consumptive use water withdrawals would be open for discussion in the next BMAP cycle when more information is available on lake processes.

The TWG will review the issue paper in more detail and the paper will be discussed for consensus at the next meeting.

Allocations and Reduction Table Discussion

Site 10 EMCs and Estimated Loads

Tiffany noted that issues related to how Site 10 was represented in the TMDL have been raised and the group has been working to address these issues. The land use for Site 10 was shown as industrial in the TMDL and a revised land use has been created. Also, there are wastewater activities that occur on site near the lake that need to be addressed.

Jennifer noted that two conference calls were held with FDEP, SJRWMD, and the City of Sanford. The purpose of these calls was to revisit the loading estimates in the TMDL and to determine how to account for the fact that the land use is not just a managed pasture; there are also wastewater reuse and residuals applications that occur on the site. The goal was to determine a more accurate number for phosphorus surface runoff and how that load fits into the quantitative allocations. The group agreed that the SJRWMD 2004 land use provided the best representation of the site. The site boundary was also modified based on information from Danielle Honour, which showed that a portion of the site drains to the east to the Mullet Lake Basin and not the Lake Jesup Basin.

Another issue was what event mean concentration (EMC) should be used for the site to accurately estimate loads from stormwater runoff. They found two studies from the 1980s, which had EMCs for managed pasture that could be used for Site 10. Sherry reviewed these SJRWMD studies and used the loading rates (lbs of P/acre/year) and the EMCs in the reports to extrapolate what the EMC for Site 10 would be based on the loading rate for Site 10. The two options for the EMCs were 1.18 mg/L and 2.78 mg/L. These values were compared to four samples events from Seminole County, which showed that the average value is closer to the 1.18 mg/L. This EMC was multiplied by the entire site within the revised boundary to yield a new loading estimate of 4,121 lbs/yr of phosphorus. The total surface loading in the basin is approximately 34,000 lbs/year. The estimate in the TMDL for Site 10 was 900 lbs/yr. This revised estimate is a valid estimate based on the best available information. This loading

highlights the need for long term monitoring on the site as the City of Sanford implements the actions Migdalia Hernandez (Sanford) described at the last meeting.

The new loading estimate accounts for the stormwater load and also the wastewater and residuals application loads. During their calls, the involved entities decided to split these two loads because the wastewater and residuals load was not included in the TMDL. The stormwater loads will be included in the allocation table. The wastewater and residuals loading will be included in the BMAP with projects identified to address that load. Bob Kelly added that there is also uncertainty about what reductions can be expected from the actions that Sanford is proposing, so keeping those loads and projects separate from the detailed allocation made sense. The monitoring will be important to determine the effects of these projects for the next BMAP cycle. Sherry noted that she would like to see stronger wording the BMAP that the city also has responsibility for cleaning up the residuals that have accumulated on the site. These residuals can be a source of phosphorus for many years due to leaching.

Joe Walter stated that in order to split the load, they reverted back to the way the original TMDL was calculated. The values in the TMDL with the updated land use and boundary yielded a stormwater loading of 632 lbs/yr. This value will be included on the allocation table. Kim asked if the remainder of the Site 10 load would be taken out of the total TMDL. Joe responded that it would not and that the wastewater and residual load will be included in its own category. Steve asked why this load is being ignored since it is almost 10 percent of the load. Jennifer responded that they do not believe this load is big enough to stop the process and recalculate the TMDL. Joe added that the load is 10 percent of the surface load and the surface load is only a portion of the total load in the TMDL. Fred noted that new information is always coming up in all basins. This new information will be noted in the BMAP to keep track of what issues need to be addressed in the next cycle.

Robert stated that the most significant factor between now and the next TMDL cycle is how to implement monitoring so that the necessary information is available. Lakewatch volunteers have been monitoring the lake and they found that water quality is improving. This data can be used as a baseline. Jennifer noted that Migdalia has stated she is comfortable with having a monitoring site between the lake and Site 10 and including the monitoring requirement in the BMAP.

Rick asked if there is a potentially irresponsible entity that may put off implementing projects, is there is a way to make them responsible for meeting reductions through another mechanism. Fred responded that depending on the permit renewal schedule for the point source, there may be a way to include a load reduction target in the permit. Chris Ferraro noted that she does not think the city is irresponsible since they are already moving forward with projects to reduce loading to Site 10. She will have to further explore what can be accomplished in a permit for a non-TMDL allocated load.

Sherry stated that the samples collected by Shannon Wetzel (Seminole County) did have a high phosphorus value and the studies reviewed to determine the EMC did indicate that improved pasture could have high values. The EMC chosen for this site is conservative and monitoring will be important to refine this value in future cycles.

The discussions on septic tank allocations and project sheets were postponed until the next meeting. Tiffany requested that the group provide feedback on what issues they have had with filling out the sheets and identifying projects. Jennifer noted that they are still working on the allocations, which is why a new allocation table was not provided. The allocations in the table distributed in March should be close to the final numbers and can be used as a guideline when determining a project list.

Next Steps

Date for Basin Working Group Meeting

Tiffany noted that the group had discussed setting up a voting Basin Working Group. It would be a good idea to have this group meet soon to provide them with background information and updates on what has been done. Then, another meeting can be held once the TWG has reached consensus on the allocations. The initial meeting would be held in June. The group decided that the morning of the June TWG meeting would be best. The Basin Working Group meeting will be held on June 26th from 10:00 AM – 12:00 PM. The TWG is welcome to attend this meeting.

Next Meeting Agenda Topics

The meeting topics will include: 1) discussion of consensus for the consumptive use and in-lake issue paper; 2) revisiting the Site 10 loading and providing consensus on the process; 3) discussing the septic tank issue paper; and 4) discussing project collection sheet issues.

Next Meeting Date

The next meeting will be held on May 29th at 1:00 PM at Sylvan Lake Park.

Adjournment

The meeting was adjourned at 4:00 PM.

Action Items

1. The TWG should review their information in the revised LID report and provide any changes to Denis Frazel (dfrazel@msn.com).
2. The notice for the updated LID report should include both Denis and Jennifer's email addresses for the group to send their comments.
3. Jennifer will revise the consumptive use and in-lake restoration issue paper to clearly explain the link to the TMDL, clarify how the interagency plan projects that treat inflows are considered external reductions, and to define consumptive use.
4. The group should send Sherry information on anyone they know who may be interested in the sediment study RFP.
5. Joe and Bob will update their load model modification history paper with information on the changes to the Site 10 land use, boundary, and EMC.
6. The BMAP will include a description of the wastewater and residual loads from Site 10, information on the projects Sanford will implement, and language that Sanford will be responsible for the residuals that have accumulated on the site.
7. The TWG should provide comments to Tiffany and Jennifer on any issues they have had with the project collection sheet and identifying projects.