

MEETING SUMMARY
Lake Jesup, Crane Strand, and Long Branch BMAP
Technical Working Group Meeting
March 20, 2008
1:00 PM – 4:00 PM
City of Sanford, Utility Conference Room
Sanford, Florida

Meeting Attendees

Barbara Bess, FDEP	Danielle Honour, CDM
Mary Brabham, SJRWMD	Carol Johnson, FDACS
Sherry Brandt-Williams, SJRWMD	Joel Jordan, RCS
Kelly Brock, City of Casselberry	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
Bill Fagan, Aquafiber Tech.	Durga Nagda, City of Lake Mary
Brian Fields, City of Winter Springs	Anita Nash, FDEP
Mark Flomerfelt, Seminole County	Kim Ornberg, Seminole County
Denis Frazel, Frazel Inc	Zynka Perez, City of Winter Springs
Vivian Garfein, FDEP	Marcy Policastro, Wildwood Consulting
Jennifer Gihring, FDEP	Penny Post, Orange County
Ed Hayes, FWC	Robert Potts, E-Sciences
Cecilia Height, Sierra Club	Deborah Schafer, Soil and Water Conservation District
Migdalia Hernandez, City of Sanford	Neta Villalobos-Bell – Seminole County FYN
Rick Hicks, FDEP	Joe Walter, PBSJ
Dan Homblette, Orange County	Shannon Wetzels, Seminole County

Opening Remarks

Welcome and Introductions

Tiffany Busby welcomed the group and thanked Migdalia Hernandez and the City of Sanford for the use of their meeting room. Participants introduced themselves and the entity they represent. Fred Calder introduced Anita Nash with the Florida Department of Environmental Protection (FDEP). Anita has taken over Amy Tracy's position providing support on basin management action plan (BMAP) efforts across the state (Amy is in another position in the section). Anita has a lot of experience working in the field and providing support in a different FDEP section.

Long Branch BMAP Update

Dan Homblette stated that Orange County approved a resolution to support the Long Branch BMAP. They are now moving ahead with the public meeting on April 23rd. The County will continue to monitor the Long Branch area and they currently have two months of data, although there has not been much rain. The Department of Health (DOH) will also be involved to help conduct a septic tank survey. The County is planning on using optical brighteners in the system when there is enough flow. Jennifer Gihring stated that it is really exciting to have a BMAP

approved and supported by the local governments. She noted that FDEP will determine whether it is appropriate for the St. Johns River Water Management District (SJRWMD) to provide a letter of commitment for the BMAP. The Environmental Resource Permit (ERP) program is mentioned in the BMAP but the process in Long Branch is not different from the SJRWMD's standard process. The Florida Department of Agriculture and Consumer Services (FDACS) will sign a letter of commitment in April. The BMAP has gone through internal FDEP review and Eric Livingston stated that he felt the County's efforts are more than enough to address the problems in Long Branch. This area is very rural and natural and the level of effort in the BMAP is equivalent with the conditions of the waterbody. Jennifer noted that each BMAP will be different and FDEP does include a "reality factor" when determining what level of effort is sufficient for each waterbody.

U.S. Army Corps of Engineers Channel Modification

Barbara Bess provided a brief overview of the Corps channel modifications and will provide more detail at the next Technical Working Group (TWG) meeting. The §1135 Program is a federal effort in which the Corps can use funds to offset/mitigate environmental impacts from past federal efforts such as dredging projects. The Corps is focusing on "Channel C", which will extend from the last turn in the river to the lake. The Corps has created a model to test options for this channel; however, this is not a predictive model. The analysis will focus on actual numbers of predicted changes to biological indicators, such as the number of fish or extent of submerged aquatic vegetation, when looking at the channel options instead of on water chemistry values. Barbara stated that she will discuss the model in more detail at the next meeting.

Site 10 Groundwater Presentation

Tiffany introduced Rick Hicks, who is a supervisor in the FDEP Groundwater Protection Section in the Bureau of Watershed Management. The purpose of this presentation is to discuss the results of the groundwater study on Site 10 and its influence on water quality in Lake Jesup. This study was conducted in response to questions from the group about groundwater contributions from this site.

Rick stated that the FDEP Groundwater Section became involved in the assessment of Site 10 after CDM completed their report on the surface runoff. He met with CDM and the City of Sanford in June 2007 to discuss the CDM analysis. CDM did not have current data and they also lacked information on nutrients in the groundwater near the lake in the hay fields of Site 10. Before FDEP was able to conduct their analysis of the groundwater, they had to wait until it rained to obtain a picture of the site under more typical conditions. FDEP conducted the groundwater study in December 2007. Rick noted that the purpose of the study was to provide a snapshot of the groundwater conditions to give ball park estimates of the nutrient concentrations.

Site 10 is approximately 2,200 acres with 1,800 acres as part of the facility. There are 620 acres of hay fields, 270 acres of citrus groves, and the remainder of the site is wooded wetland. Reclaimed water is placed in the holding ponds at the northern end of the site and is transferred to the fields in pipes where it is used as flood irrigation. In their study, CDM found that approximately two-thirds of the site (the hay fields) surface runoff goes to Lake Jesup and the remainder of the site (the citrus groves) flows to Mullet Lake. The focus of the groundwater study was on the hay fields because they are located close to Lake Jesup.

In addition to the use of reclaimed water, residuals are also applied in the fields. There are higher concentrations of nitrogen and phosphorus in the residuals than the reclaimed water. Several of the fields received more residuals than others, in part due to the size of the field, but also because a lesser amount of residuals was applied to the fields that are closer to the lake.

The groundwater in this area includes the surficial aquifer (about 30-40 feet deep), an intermediate confining zone (uneven but the bottom is approximately 60 feet deep), and the Floridan aquifer. The surficial is the aquifer of concern because the reclaimed water and residuals seep into this aquifer and move into the lake. The confining unit is made up of soils in the Hawthorn group, which are typically phosphate rich. There are also high chlorides in this area because the Floridan is brackish and discharges in this area, as can be seen in the springs in the southern portion of the lake.

The FDEP assessment focused on groundwater flow and nutrient inputs. Sites were selected for four well clusters based on proximity to the lake and the watershed conditions. The water levels in these wells were used to determine the groundwater elevation and flow direction. The groundwater flow generally corresponds to the topography and is influenced by the ditches, berms, and stormwater ponds. From these wells, the following median concentrations were found for the parameters of concern: nitrate – 0.033 mg/L, ammonia – 1.1 mg/L, total phosphorus (TP) – 0.76 mg/L, and chloride – 94 mg/L. This nitrate value was much lower than the value used by CDM because CDM based their groundwater nitrate concentration on the citrus groves, which are more impacted by fertilizers than the wastewater applications. The TP value is high compared to the historical TP concentration in Lake Jesup of 0.148 mg/L. The background concentration for TP is 0.3 mg/L, which was determined using the background monitoring network in Seminole County, and is most likely due to the phosphorus rich Hawthorn group in the confining layer. The ammonia concentration is also high. The relatively high chloride level is most likely from the Floridan aquifer. Seminole County also collected two surface water samples during this time, which showed high phosphorus concentrations on site. The results for both ammonia and phosphorus are significant. The ammonia concentration has a potential loading to the lake of 130 lb/yr and the TP concentration has a potential loading of 89.43 lb/yr.

Jennifer noted that for the purposes of the BMAP, the allocations have focused on surface water loads. The City of Sanford has projects planned for Site 10 that will reduce the application of reclaimed water and residuals, which will in turn reduce the surface and groundwater loads. Jennifer stated that the surface water loads for Site 10 will be included in the allocations but the groundwater loads would be addressed in the narrative portion of the BMAP.

Rick requested that the TWG provide comments on the report so it can be finalized.

Allocations and Reduction Table Discussion **Changes to Load Estimates since the TMDL**

Tiffany noted that during the last meeting, the group had several questions about how the allocations were calculated and how the reduction numbers have evolved since the TMDL. Bob Kelly and Joe Walter prepared a report (provided as a handout) to answer these questions.

Jennifer added that the group has been discussing the details of the allocations for awhile now but they are getting closer to finalizing the allocations, which is a big part of moving towards an adopted BMAP. Other major components that are needed include collecting project information, addressing the future growth component (discussed later in the meeting), creating a monitoring and research plan, and obtaining commitments from FDACS on the agricultural reductions. Having the final allocations is an important step for these other items and for the final BMAP.

Joe stated that once the TMDL had been adopted, the group realized that there were some items that needed to be changed or modified to be made consistent. This report summarizes those changes, including modifications to land uses and best management practices (BMPs), and how these changes modified the TMDL values. Bob reviewed the land use summary table in the report. The first column shows what acreages were in the TMDL itself, which does not include Site 10 or a specific allocation for golf courses (grouped with agriculture). From there, two major revisions occurred. The first revision focused on transportation land uses. The information from Seminole County included all roads in the transportation land use while Orange County broke out subdivision roads from major highways. After reviewing Harvey Harper's event mean concentration (EMC) numbers, Bob and Joe realized that the residential EMCs were for all residential development, including the roads. Therefore, the subdivision roads were converted to the appropriate residential land use. Also as part of the first revision, golf courses were split out from agriculture; however, the EMC did not change for the golf courses. The biggest change in the second revision was converting Site 10 to its own land use. An EMC for this land use has been created based on managed pasture loads but has not yet been finalized. The other major change in this revision was to separate agriculture and transportation by parcels instead of by land use. This did not change the total loading to the lake but was used to refine the allocations.

Two changes were also made to how BMPs were included in the calculations. The first change was to remove the BMPs originally associated with Site 10. Since the site is a treatment area, there should not be other BMPs included. The other revision was to remove BMPs from wetlands and water areas since treatment is not expected on these land uses.

The loading summary table includes the gross loads for the original TMDL. The TMDL focused on net loading but to simplify this effort, Bob and Joe removed the reductions from the BMPs to estimate the gross TMDL loads. Since the TMDL did not include the gross load for surface runoff, they calculated this number by rerunning the model with one representative year for the eight year period examined in the TMDL. The rainfall value used in this calculation was a long term value for Seminole County and not the average for the eight year period. This estimate was within ten percent of the load in the TMDL. During the first revision, fixing the transportation land use and separating out golf courses from agriculture resulted in load reduction of 0.8 metric tons (from 15.5 MT to 14.7 MT). The major change in loading due to the second revision was from converting Site 10 to its own land use, which resulted in a final load of 14.9 MT.

Brian Fields asked where in this analysis was the septic tank loads considered. Bob responded that this analysis was just for the surface water loads and septic tank loading will be discussed later in the meeting.

Bob reviewed the base load allocation summary table in the report. This table is organized by entity and shows how loads changed due to the revisions to the TMDL. Most load changes are very small and for several entities, the load reductions decreased slightly.

Fred noted that BMPs were originally incorporated to calculate the TMDL. Bob responded that the revised numbers focus on the gross load, which does not include any BMPs. The BMPs that are currently in place will be factored in as part of the allocation table. Jennifer added that the purpose of this analysis was to obtain an updated phosphorus surface water runoff value that could be used to determine the jurisdiction allocations. Fred stated that the base load allocation table lists water/wetlands/natural lands and he asked if these are considered uncontrollable sources. Bob responded that these are classified as natural lands and that projects are not required to be implemented on these lands to further reduce loads.

Vivian Garfein stated that this document is great roadmap for the BMAP. Fred added that documenting the process for revising the TMDL will help prevent problems as the group moves forward.

Allocation Table Discussion

Jennifer reviewed the handout with the updated allocation table. She noted that the major change to the allocation table is that the 34 percent reduction from the TMDL is no longer being applied across all entities. When looking at the TMDL, FDEP and SJRWMD realized the best way to determine the allocations was to base them on the total load reduction needed as described in the TMDL. The net loads in the TMDL included BMPs; however, these were only some of the BMPs in place at that time. It was difficult to move forward with a TMDL that only focused on a small number of BMPs; therefore, the TMDL revisions focused on the gross and BMPs will be included as part of the BMAP. Fred noted that the TMDL included some BMPs because Seminole County was very progressive in implementing stormwater BMPs and FDEP wanted to acknowledge this effort.

Jennifer noted that in the gross loads table, the surface runoff number of 14.9 MT is from Bob and Joe's work. The TMDL did not require reductions from baseflow, groundwater, or atmospheric deposition. In the BMAP, the required reduction for the river is also zero because it does not make sense to hold the entities accountable for activities occurring upstream. Tiffany added that the BMAP can include language that reductions are expected from upstream. Jennifer noted that the total BMAP reductions based on surface runoff and septic tanks is 8.9 MT/year, which was used in the allocation table to determine each entity's reductions.

Robert King asked how the loading from the river was determined in the TMDL. Jennifer responded that this was calculated using water quality information from the station at the mouth of Lake Jesup. Robert asked if changes in flow from the proposed water withdrawals were included. Jennifer responded that the loading was based on flows at the time of the TMDL.

Kim Ornberg asked if the DOH has been contacted about the septic tank load reductions. Jennifer said DOH has not been contacted yet about this issue. The group could decide to either have one allocation or to split out their allocation for their MS4, non-MS4 area, and septic tank loads. Kim noted that the loads attributed to septic tanks need to be clear in the BMAP because

they are separate from the MS4 permit. Jennifer responded that the link to the MS4 permit is through the BMAP. The permit requirement will be tied to the projects listed in the BMAP for each entity, not their allocation. Robert Potts asked what will happen when an entity needs to renew their permit and FDEP wants to know why the entity's allocation has not been met and it is because of the septic tank loads. Fred responded that FDEP would look at the projects listed in the BMAP for that entity and will determine if they are being implemented according to schedule. This will be the basis for compliance. Fred suggested it would be best to show the septic tank loads separately because the Environmental Protection Agency's view of municipal separate storm sewer systems (MS4s) is still evolving. Jennifer noted that FDEP would work with DOH on the septic tank portion of the allocation to assist the local governments.

Brian stated that he would support listing septic tank loads separately because that is the direction the group was heading originally. It is also better to keep them separate because septic tanks are the responsibility of a different area of the local governments. The funds for stormwater projects will not be sufficient to also reduce septic tank loading. There were no objections from the TWG to splitting out the septic tank loads from the surface runoff loads on the allocation table. Jennifer stated that FDEP will determine several options for how to allocate the septic tank loads to each entity and provide these options to the group.

Jennifer noted that she will clarify the allocation table to show that the loads listed are in pounds/year. The table includes columns for the BMPs that are currently in place and these reductions will be determined based on information provided by the entities in their project collection sheets. The next set of columns is for new projects that will be implemented by the entities. The reductions from the existing and new projects will be subtracted from the required reduction to determine the remaining reduction for each entity. This number will most likely not be zero for each entity in this BMAP cycle but the purpose of this table is to show what has been implemented in the basin and the projects that can be achieved in the next five years. The group will need to discuss what a reasonable effort will be for this BMAP cycle. Additional projects and efforts will be added in future cycles until the reductions needed are achieved.

Robert King asked when the target date is for a complete BMAP. Jennifer responded that a reasonable target would be the end of the year. Part of the BMAP process includes meeting with all the local governments and obtaining resolutions in support of the BMAP, which can be time consuming.

Kim asked if future research efforts would be included in the monitoring section of the BMAP. Jennifer responded that if the group determines there are areas that need further study, these can be included in the monitoring efforts. Bob noted that there will also be monitoring efforts in the BMAP that will not be part of research in the basin. Tiffany added that the purpose of the BMAP monitoring plan is to determine how the lake is responding to the reductions being made. The monitoring sites could include some of the existing efforts by MS4s but additional sites may be needed to fill in important data gaps.

Dan asked if an entity conducts monitoring or testing to gather needed information on BMPs if they would receive credit for that monitoring. Jennifer responded that they could receive credit under the non-quantifiable column in the allocation table and the group would have to determine

how much credit those efforts are worth. Dan asked what the cutoff date is for the projects included in the TMDL. Jennifer stated that this date is December 2004 and projects after that date would be listed in the new projects columns. Jennifer will place the BMP shapefile on the FTP site so the group can determine which of their projects were included in the TMDL. Bob suggested adding a column for pre-TMDL projects to the allocation table.

Consensus item: The TWG reached consensus that load reductions should not be allocated to the natural areas (water/unimpacted wetlands/conservation areas).

The TWG will review the revised allocation table before providing consensus on the values in the table.

Presentation on Low Impact Development (LID)

Tiffany noted that Denis Frazel has met with many of the local governments to discuss LID practices. This information will be a necessary component of the BMAP, which is required to address future growth. FDEP contracted with Denis to talk with entities about what they have already implemented to address the loads from new development.

Denis reviewed the draft report he prepared on the management actions implemented by each entity. Before meeting with the entities, Denis reviewed the comprehensive plans, land development information, and any other related information he could find. The purpose of this report is to identify key strategies for LID and to discuss what actions the local governments are taking. Denis requested that the TWG review this document to ensure he included all their information and that it is correct. The group should provide their comments to Jennifer.

Also included in the report are impediments to LID, which includes regulation issues. He noted that the local governments, especially at the county level, are conducting a lot of outreach and are working with landscape architects and developers to help them understand LID options. Denis stated that several of the local governments had requested example ordinance language for LID that they can include in their code. He suggested looking at the language in the Wekiva Springs Act. The purpose of this LID report is to provide ideas to the entities and to help them obtain credit for their efforts. Denis noted that he will provide a more detailed presentation and the updated report at the next TWG meeting.

Local Fertilizer Sources – Management Efforts

Seminole County Florida Yards & Neighborhoods Program

Tiffany stated that the group has previously discussed how fertilizers from individual properties can be a significant source and how this is an important issue for the local governments. The Florida Yards & Neighborhoods (FYN) program can help address this issue and Neta Villalobos-Bell will provide information on what the program is doing in Seminole County.

Neta noted that the program started in the early 1990s and merged with the University of Florida in 1994. FDEP has endorsed this program as a way to address homeowners and homeowner's association landscape practices. The FYN principles are part of the LID efforts. The SJRWMD has a new program, Water Star, which certifies new construction and the program's outdoor element uses FYN principles. Orange County has a certification process for landscapers and

Seminole County will conduct their first certification in a few months. FYN also has a Florida Friendly Landscaping program, which is active in several counties across the state (participating counties are listed on the FYN website). Neta stated that FYN can help the entities educate new homeowners and landscapers on fertilizer and pesticide use. The group can contact Neta for more information on the program.

Orange County

Dan stated that Orange County has created a draft fertilizer ordinance that is based on the Sarasota County ordinance and the Model Ordinance from the FDACS Task Force Final Report. The Orange County ordinance includes some additional provisions including establishing a time of year when fertilizer use is not allowed, revising the fertilizer free zones, creating special protection zones, revising exemptions to golf courses if they follow FDEP BMPs, and adding enforcement. Dan noted that the County is hurrying to approve this ordinance before July because the current rules require adoption of the Model Ordinance at that time if another ordinance is not already in place.

Danielle Honour asked how the County will enforce this ordinance. Dan responded that it would be similar to enforcement of the irrigation ordinance and that fines may be necessary. Enforcement could be an issue. Cecilia Height asked if this ordinance includes leaf blowers. Dan responded that leaf blower rules are in a separate ordinance.

Seminole County

Mark Flomerfelt stated that Seminole County recently passed a resolution supporting the draft Model Ordinance.

Mary Brabham stated that now would be a good time for the local governments to talk to their administrators to ask them not to vote for any legislation that would preempt the local government's authority to have their own fertilizer ordinance. At the last Middle Basin Technical Advisory Committee, there was a panel discussion on the fertilizer rule, which was very interesting.

Next Steps

Next Meeting Agenda Topics

The next meeting topics include: 1) update on the Long Branch BMAP public meeting, 2) information on the Corps channel modifications (Barbara Bess), and 3) presentation on the results from the LID meetings (Denis Frazel). Brian also suggested that there be a discussion on how consumptive use water withdrawals from the lake will be handled in the BMAP.

Next Meeting Date

The next TWG meeting will be on April 24th at the usual location (Sylvan Lake Park). There is also a lakes conference that will be held on June 2-5 which will include a panel discussion on Lake Jesup efforts.

Other Discussion

Jennifer noted that they have discussed creating a Basin Working Group (BWG) to function as the Sunshine Law voting group. Once the TWG has reached consensus on the allocation table,

the table will need to go to the BWG for approval. This meeting will most likely be held in the next two to three months.

Fred stated that it may be beneficial to include the wastewater utilities in these meetings when the group is discussing removal of septic tanks. This will help with coordination on providing the wastewater infrastructure.

Adjournment

The meeting was adjourned at 4:05 PM.

Action Items

1. FDEP will coordinate with SJRWMD on whether the SJRWMD should provide a letter of commitment for the Long Branch BMAP.
2. The TWG should provide comments to Rick Hicks on the Site 10 report.
3. FDEP will split out the septic tank load reductions from the surface runoff reductions. They will also determine options for how to allocate these reductions to each entity.
4. Jennifer will fix the allocation table to clarify that the numbers are in pounds/year (the spreadsheet currently just shows pounds).
5. Jennifer will add an additional column to the allocation table for pre-TMDL projects.
6. Jennifer will post the BMP shapefile on the FTP site.
7. The TWG should review the LID report and provide comments to Jennifer.
8. Jennifer will post the revised LID report on the FTP site once it has been updated.