

**Lake Jesup Basin Management Action Plan (BMAP)
Meeting Summary**

Thursday, September 13, 2018

10:00 AM

City of Sanford

Utilities Training Room

300 N. Park Avenue

Sanford, FL 32771

Attendees

Troy Attaway, City of Winter Park
Kelly Brock, City of Casselberry
Derek Busby, SJRWMD
Miguel Conde, City of Lake Mary
Susan Davis, SJRWMD
Teayann Duclos, FDOT E Sciences
Marie Duffy, City of Sanford
Bill Eggers, AquaFiber
Marcy Frick, Tetra Tech
Tina Gordon, Wildwood Consulting
Madeline Hart, FDACS
Janet Hearn, ATM
Moira Homann, DEP
Mitchell Katz, Orange County

Robert King, Citizen
Danielle Koury, City of Lake Mary
Lisa Lotti, City of Orlando
Matt Noonon, City of Winter Park
Kim Ornberg, Seminole County
Ben Pernezny, CDM Smith
Tyler Pierce, Inwood Consulting
Rob Renk, Orange County
Stacey Simmons, FDACS
Bryant Smith, City of Winter Springs
Pam Way, SJRWMD
Shannon Wetzel, Seminole County
Marissa Williams, City of Casselberry
Curt Williams, Florida Farm Bureau

Welcome and Introductions

Tina Gordon welcomed everyone and asked participants to introduce themselves. Moira Homann, Florida Department of Environmental Protection (DEP) Basin Coordinator reminded everyone there was a teleconference last September after the last public meeting to review updates and revisions. Moira told participants that the notes from that meeting were included in the information sent out last week and asked that anyone not receiving email notices sign-up for them using the sign-in sheets provided to ensure they receive future communications. Moira reviewed the agenda for the meeting and reminded everyone that they can give updates from their entity at the end of the meeting or send them via email to be included in the post-meeting distribution and posting.

Overview of the BMAP Amendment Document

Moira stated that the draft document being presented is a BMAP Amendment and does not replace the current adopted BMAP that was completed in 2010, but is adding or supplementing the original document. She stated that the amendment covers new or changed information since the 2010 BMAP and if there is information that is not found in the amendment, it is because it did not have any changes from the original BMAP. She added that the primary changes are to the

allocations and credits based on updates from Tetra Tech to the model that was originally done by St. Johns River Water Management District (SJRWMD).

Chapter One

Moira reviewed the information that can be found in Chapter One of the amendment which reviews the total maximum daily loads (TMDLs) which have remained unchanged, the load reductions, and what is in rule about meeting the TMDL. She stated it also includes a recap of all of the meetings that have been held leading up to the revisions. Moira reminded everyone that the TMDL includes reduction requirements for total nitrogen (TN) and total phosphorus (TP). She added that in the 2010 BMAP there was a section regarding the technical uncertainties at the time of the TMDL around the rate of nitrogen fixation and TN loading in the lake. Moira stated that due to this uncertainty, the 2010 BMAP focused on projects that would reduce phosphorus loading with the understanding that those projects would also reduce TN loading and that the TN credits for those projects have been added to each entities TN allocation. Moira added that, based on language in the BMAP, the addition of the TN allocations to meet the nitrogen portion of the TMDL should be a known and anticipated progression of the plan.

Chapter Two

Moira reviewed information on the model update (as covered in Chapter Two of the BMAP Amendment). She reminded participants that the SJRWMD had worked on a Pollutant Load Reduction Goal (PLRG) for the lake based on the Hydrological Simulation Program - FORTTRAN (HSPF) model. Based on stakeholder feedback, DEP worked with Tetra Tech to refine the SJRWMD model to make it more specific to the lake. Moira presented the loading and relative contributions to Lake Jesup from the major contributing sources, including surface runoff, groundwater flows, septic systems, atmospheric deposition, groundwater seepage to the lake, and sediment flux for both TN and TP. Moira stated that Chapter Two reviews provides a quick update of the model and covers major points. She added that the final model report is where more details and specifics about the model update can be found. Moira stated that the model report is available on the file transfer protocol (FTP) site if anyone is interested and she would update the location for easier access.

Kelly Brock asked if the septic load represent all the septic systems in the watershed. He added that the load reductions in the projects seem higher than the total loading from the model update assigned to septic systems. Marcy Frick stated that she would check on that discrepancy. Marcy added that the pie charts from the presentation would be added to the BMAP Amendment document.

Chapter 3

Marcy presented on the calculation and allocations for load reductions (as presented in Chapter 3) which she stated were the same numbers reviewed at the last meeting. She explained the HSPF was used to create geographic information system (GIS) layers and those were clipped to jurisdictional boundaries and natural lands were pulled out to determine the starting load for each stakeholder. She presented a table that showed the starting load for each entity, agriculture, and

natural lands based on the model. Marcy stated that the required reductions for the TMDL are a loading in pounds per year (lbs/yr) for TN and TP. She added that achieving the target load is anticipated to achieve the in-lake concentration, however the concentration is not in rule. She added that the TMDL estimates a 95 % reduction in nitrogen fixation (based on a decrease in phytoplankton and biomass as well as a decrease in TP which would make the system less nitrogen limited) is estimated based on reducing the loading to meet the TMDL target. Marcy stated that reductions of 16.7 % of TN and 45.5 % of TP would be needed to meet the TMDL. She presented on the allowable loading to meet the TMDL, stating that the allowable load is a percentage of the starting load. She added that the natural areas loading was subtracted out of the allowable load to get the anthropogenic target loading.

Marcy stated that required reductions were assigned to stakeholders based on the percentage of each stakeholder's starting load to keep the loading and required reductions in proportion. She added that the model is attenuated and that the required reductions are the same as what was presented last September. Marcy presented a table with the starting load, required reductions, and percentage of the reduction for each stakeholder. She reminded everyone that the percentage of the reduction is a little higher than the overall percentage reduction needed since natural lands do not have a reduction, that means that agriculture and urban lands pick up a little more. Marcy reviewed the proposal in the amendment that each entity achieve at least 50 % of the required reductions during the first five years following the adoption of the BMAP amendment. She added that as part of the allocation process they did a low priority ranking to determine which stakeholders were contributing less than 1 % of the TN and TP loading. Marcy stated that Altamonte Springs, Orlando, and Eatonville fall within these parameters and, for the next five years, they would not be required to meet the 50 % reduction. She added that most of them have already met the 50 % reduction and all have provided projects. Marcy stated that as the BMAP progresses and the lake is assessed in regard to how it is reacting to reductions, reductions from low priority entities may be needed in the future.

Chapter 4

Marcy covered the management actions (Chapter 4) stating that structural projects done on or before January 2013 were given credit. Structural projects before January 2013 did not receive credit as they were included in the model. Marcy added that credits also include best management practices (BMPs) not represented in the model, including structural projects missing from the model, non-structural projects, agricultural BMPs, and education efforts, regardless of implementation date. She added that feasibility studies and restoration projects are listed but do not receive credit. Marcy presented the project credits and stated that everyone has provided projects, that are completed or planned, that meet or exceed the 50 % within five years target.

Chapter 5

Moirá presented on the monitoring strategy (Chapter 5), which picked up where the 2010 BMAP left off. She added that anything that may not be stated in the BMAP Amendment monitoring section can likely be found in the 2010 BMAP document. She stated that the monitoring strategy

is designed to track trends in TN and TP loads in Lake Jesup and its tributaries. She added that the monitoring strategy is also designed to determine the inputs into the lake, identify hot spots to focus management efforts, and the ecological and limnological responses. Moira stated that DEP has reached out to stakeholder feedback and updates to monitoring efforts that included changes to frequency, stations, parameters. She added that any stations that are no longer monitored have been removed and new stations added. She asked that stakeholder let her know if there are any other updates needed.

Chapter 6

Moira stated that Chapter 6 in the BMAP Amendment discusses commitment to implementation and plans on achieving the reduction goals within 20 years after adoption of the original BMAP (by 2030). She stated that we will reevaluate the progress toward achieving the loads set forth in the TMDL in 5 years (2023) and will continue to adaptively manage the Lake Jesup basin. She also stated that DEP would continue to work with entities on identifying projects and potential funding sources.

Appendices

Moira added that the appendices include a short list of references (Appendix A) and project tables (Appendix B) submitted by stakeholders. She asked that entities go through their projects in detail to confirm the accuracy of projects and provide information for those cells highlighted in yellow which represent missing information. Moira added that DEP will begin doing project collection for the annual reports toward the end of 2018 and any information provided by stakeholders for the BMAP Amendment now would not need to be provided during the annual reporting process.

Robert King asked about the monitoring station near the wastewater plant that was removed from the monitoring plan. Moira stated that there was not enough flow at this station to keep it in the network. Robert added that his previous understanding was that there would be a station installed there and monitored to capture any runoff from the wastewater plant. Marcy responded that they tried to monitor that station for a while, but there was not enough flow. Robert stated that there have been concerns since the plant previously had an incomplete stormwater system and that, with no monitoring, there is no way to capture hot spot data from storm events or spills. He added that despite difficulties, DEP needs to monitor that location. Moira stated that she would follow up on whether the monitoring station can or will be brought back online.

Robert stated that he went back to the 2010 BMAP and noted that there were three five-year periods: 2010 to 2014; 2015 to 2019; and 2020 to 2024. He stated that per the BMAP, in 2025 we were supposed to meet our pollution reduction goals. He asked what happened to the previous goal of meeting the TMDL by 2025. Moira responded that the date got pushed back due to delays in modeling which pushed back the completion of the Amendment. She added that entities have continued to work on projects and management strategies and that the change in date does not necessarily mean that we will not reach the TMDL by that date. She added that the updated model was needed to update allocations. Robert stated that the Amendment states that

by 2024 stakeholders must only meet 50 % of their goals rather than the total reduction by the same date laid out in the original BMAP. He asked what about the other 30 or 40 % that should have been met by 2024, adding that it is a significant amount. Robert added that the stakeholders were never given the opportunity to express whether or not they thought the time extension was a good idea. Moira explained that projects that were completed in the beginning were considered in the new model so those projects did not go away. Marcy added that there were some years dedicated to completing the model and it was not possible to have a seamless time transition. Robert added that there is nothing in the document to explain why there is a time extension in the Amendment. Moira stated that they would look at putting an explanation into the BMAP Amendment to explain why the deadline for meeting the TMDL loading was changed from the original BMAP. Moira added that, with the projects already submitted, it appears that the original goals and timeframe will likely still be met. Robert stated that with the state of the current water quality, it does not appear that the management strategies are working at this time.

Kim Ornberg asked about identifying in-lake projects to address loading. Moira replied that there is a section in the document that covers in-lake projects and the work the SJRWMD has been doing. She added that the district has narrowed the in-lake project option to three potential technologies that would work best for Lake Jesup. Derek Busby, SJRWMD, added that the next step is to use some bench-scale examination of the three technologies identified, however Lake Jesup is large and these technologies have not been performed on that scale. Kim added that it would be good to see the in-lake project from the SJRWMD listed in the BMAP. Moira added that DEP and SJRWMD have been working to look at opportunities for funding and partnership.

Kim asked, for in-lake projects, if there was a goal for 50 % reduction in five years or a timeline associated with the in-lake projects. She added that these are the standards for all entities and encouraged DEP to include the in-lake projects in the BMAP Amendment as these are going to be necessary for improvement of the lake to move forward. Moira added that right now there is just a general discussion of what the SJRWMD is doing, and that DEP hopes to have more information at the next 5-year update. She added that the 2030 date is still there and is still the final date to achieve the TMDL. Kim stated that she would like to see it listed and added that it may help move the projects forward.

Pam Way asked about the limnological and biological responses being monitored. The SJRWMD discontinued their phytoplankton monitoring, so she was not sure who will be doing that type of monitoring in the future. Shannon Wetzel stated that Seminole County is monitoring at macroinvertebrates, but not phytoplankton. Moira stated that she will look at adding phytoplankton monitoring as a gap that needs to be addressed in the monitoring plan and will check with DEP Central District monitoring team.

Seminole County Projects

Shannon presented on the Black Hammock and Salt Creek floodplains projects. She added that two of the three primary conveyances are straight-line discharges to the lake and that this channelization disconnected the floodplain by altering the meanders of the tributaries. Shannon

stated that Salt and Sweetwater creeks were channelized for agriculture back in the 1920s and have a large drainage area. She added that the county received a DEP grant for passive design and construction projects that do not have significant maintenance needs and take advantage of natural wetland filters. Shannon stated that most of the Black Hammock tributaries are in suburban and agricultural areas with few to no BMPs and high loading.

Shannon showed a historic map of the natural flows and floodplains for Salt Creek and explained that CDM Smith worked with the county to do modeling and to design a passive treatment system that would reconnect natural meanders as well as provide restoration and rehydration of the historic floodplain. She added that the area is not conducive to traditional stormwater treatment and that the county needed an option with low maintenance requirements and could be implemented with minimal disturbance to natural areas.

Shannon stated that the project took advantage of dips in the spoil berm and enhanced them to reconnect the channel and meanders. She added that the project constructed low flow diversion weirs (gabions) to capture base flow at the entrance to the channels and divert it to natural, historic meanders. Shannon stated that in high flow times, water just goes over the weir.

Shannon stated that they wanted to add on a BMP to reduce nutrients, so the project incorporated Bold and Gold® media into the gabions and in filter socks within the meanders. She added that initially CDM Smith modeled that the amount of days in which flow went into the meanders was low but, after adding the gabions, residence time increased significantly.

Shannon presented the nutrient reductions for the projects. Ben Pernezny, CDM Smith, added that to calculate the nutrient reductions CDM Smith needed to find similar studies, which was difficult. He stated that they found some relevant studies in Chesapeake Bay and developed the removal efficiencies based on storage volume in the floodplains and filtration media. Shannon discussed the challenges of implementing the project including access to the creeks and impacts from hurricanes. Shannon added that Hurricane Irma changed the topography of the creek, so the four locations of the weirs were deeper and CDM Smith had to redesign the weirs to be larger. The construction of the fourth weir was actually abandoned due to high rain conditions that created access issues, however the meander cut was still completed.

Derek asked how the elevation of the weir was set and at what floodplain elevation. Ben stated that it set so that for small events, it could be diverted to meanders, but anything bigger is a pass over. Kelly asked if the gabions are permeable. Ben replied that they are permeable, but they expect the gabions to be clogged with sediment relatively quickly. Someone asked if the Bold and Gold was actually expected to get a 17 % reduction and whether that has been monitored yet. Shannon replied that the 17 % is an estimate and has not been monitored yet. Someone asked what the anticipated replacement frequency for the media replacement was and whether they anticipated doing maintenance on it. Shannon replied that the Bold and Gold was an add-on BMP and will not be replaced but will be monitored over the long-term. Someone added that it may also be good to know breakthrough time on the media in the socks. Pam asked if a permit

for the weirs was needed. Shannon answered that the project required permitting through SJRWMD and U.S. Army Corps of Engineers (USACE). Moira asked if the county planned on installing the fourth weir at a later date. Shannon stated that restoring the meander was the most important to add residence time and that a cost benefit analysis of adding a fourth weir did not support its installation.

Shannon then presented on Sweetwater Creek stating that the county originally wanted to work on this creek, but the creek was lower than the wetlands which would have resulted in a more engineered solution that would include a pump. She added that the creek bottom was all muck. She stated that this project focused more on creek restoration and involved removing the accumulated muck and revegetating the shoreline. Shannon stated that they encountered many of the same challenges as the Salt Creek project with the remote location and no option for diversion. She added that the Sweetwater Creek project site is adjacent to district lands and land managers there were already doing restoration as a part of a mitigation project for the Florida Department of Transportation (FDOT). Shannon stated that this allowed the project to be co-permitted with the district which used the Sweetwater Creek dredge as ditch plugs. Shannon stated that the project also involved aerial spraying to treat invasive species. Shannon concluded that the Sweetwater Creek project restored the native vegetation, reduced nutrients through muck removal, and improved conveyance and connectivity with Lake Jesup.

Moira thanked Shannon and Kim for presenting their projects and asked if any other entity had updates on projects they would like to share. Moira stated if anyone has information they would like sent to the group, it should be emailed to her and she will send it out with the meeting follow-up.

Derek gave an update on the SJRWMD study of the possible opening of Channel C to improve connectivity of the lake, stating that the potential project came out with a negative cost-benefit, so the district did not proceed. He added that there was renewed interest recently to look again at the potential of opening Channel C and that the SJRWMD has undertaken a concise feasibility study. Derek stated that the draft report is under review now if anyone is interested and looks at the localized benefits. He stated that the second phase of the study will be implemented and will look at other potential environmental benefits and interests besides water quality in Lake Jesup, as well as downstream impacts. Moira stated that she would share the report.

Next Steps and Timelines

Moira asked that comments on the BMAP Amendment document be submitted by close of business on Friday, September 21, 2018. She stated that stakeholders could obtain the BMAP Amendment as a Word document or a PDF from the file transfer protocol (FTP) site. Moira asked that stakeholders take a detailed look at the project tables.

Moira informed participants that the new annual reporting format will continue for this year. She stated that the report last year (which they are calling the "STAR" report) was submitted in late June for transmittal to the Governor's Office by July 1st. She reminded everyone that the new

annual report includes updates on TMDL and minimum flow and level (MFL) projects. She stated that the annual report is available on the DEP website and is separated by appendices for each watershed. She added that surface water BMAPs, including Lake Jesup, can be found in Appendix C. Moira stated that she has had several stakeholder requests, particularly from the Central Florida region, to send out project requests earlier this year to allow entities more time to collect all of the data. She added that she plans to send out the project requests in mid- to late-October for updates through December 2018. She reminded participants that anything submitted for the Lake Jesup BMAP Amendment would be included.

Adjourn

The meeting was adjourned at 11:15 AM.

Action Items

- All entities should go through their project tables in Appendix B to confirm the accuracy of their entries.
- Update the location of the modeling final report on the FTP site for easier access and share the new link with stakeholders. (Moira)
- Check the numbers on septic loading to see if the credits exceed the assigned load. (Marcy)
- Add pie charts for loading to the draft BMAP Amendment document. (Marcy)
- Check on the monitoring station near the wastewater plant to see if it will be reinstated. (Moira)
- Look into adding language regarding the time extension from the original BMAP to the Amendment to clarify why this occurred. (Moira)
- Contact DEP Central District about the gap in monitoring for phytoplankton. (Moira)
- Look into adding language regarding the timeline for in-lake projects or listing in the project tables. (Moira)
- Send out project requests in mid-October for the upcoming annual reports. (Moira)
- Share the draft report on the Channel C project from the SJRWMD. (Moira)