

Lake Okeechobee Basin Management Action Plan

Technical Meeting Summary

Wednesday, February 19, 2014

10:00 AM – 12:00 PM

Okeechobee County Civic Center

1750 U.S. Highway 98 North, Okeechobee, Florida

Attendees

Beth Alvi, FDEP	Kerry Kates, Florida Fruit and Vegetable Association
Nathan Bailey, FDEP	Chad Kennedy, SFWMD
Lesley Bertolotti, SFWMD	Kimberly Lawrence, Osceola County
Patricia Burke, SFWMD	Beth Lewis, SFWMD
Tiffany Busby, Wildwood Consulting	Linda McCarthy, Lykes Brothers Inc.
Marisa Carrozzo, Conservancy of Southwest Florida	Barbara Miedema, Sugar Cane Growers Coop
Kevin Carter, SFWMD	Frank Nearhoof, Federico, Lamb & Associates
Audra Corson, Okeechobee SWCD	Julie Neurohr, FDEP
Juliana Corrales, FIU	Steffany Olson, SFWMD
Joe DeCerbo, Spring Lake Improvement District	Kelly O’Nan, Hendry County
Kim Dinkins, FDEP	Marcy Policastro, Wildwood Consulting
Clell Ford, Highlands County	Irene Quincey, Pavese Law Firm
Stan Ganthier, FDEP	H.M. Ridgely, Evans Properties
Xueqing Gao, FDEP	Gary Ritter, SFWMD
Jill Grimaldi, CDM Smith	Brian Roy, Royal Consulting Services
Katie Hallas, FDEP	Chad Rucks, SFWMD
Noah Handley, Lykes Brothers Inc.	Dan Rutland, E Sciences
John Hayford, Okeechobee Utility Authority	Mike Sullivan, Osceola County
Janet Hearn, ATM	Jeff Sumner, SFWMD
Ray Hodge, Southeast Milk	Pam Wade, SFWMD
Dianne Hughes, Martin County	Bonnie Wolff Pelaez, FDACS

Welcome and Opening Remarks

Tiffany Busby welcomed everyone to the Lake Okeechobee Basin Management Action Plan (BMAP) meeting. The participants introduced themselves and the entity they represent.

Preliminary Results of the Watershed Loading Tool

Xueqing Gao stated that the BMAP allocation tool was presented during the last meeting, but there have been some refinements to the tool since then, and these changes will be discussed during this meeting. The Lake Okeechobee total maximum daily load (TMDL) has a total phosphorus (TP) target concentration of 40 parts per billion (ppb). In order to achieve this target, the allowable load to the lake is 140 metric tons per year (MT/yr). Of this, 35 MT/yr is from atmospheric deposition on the lake. Therefore, 105 MT/yr is left for TP watershed loading.

To determine how to achieve the TMDL target, a tool is needed to reflect the spatial distribution of TP loading in the watershed, which is influenced by land use type, soils, hydrological conditions, topography, and attenuation. The tool focuses on the northern part of the watershed, which includes the Upper Kissimmee, Lower Kissimmee, Lake Istokpoga, Indian Prairie, Fisheating Creek, and Taylor

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Creek/Nubbin Slough sub-watersheds. The sub-watershed boundaries were delineated by the South Florida Water Management District (SFWMD).

The allocation tool is a Geographic Information System (GIS) tool, which makes it easy to visualize the TP loading across the watershed. The tool includes the sub-watersheds (the level that the TP loads will be allocated), land use type (the index to reflect the TP distribution), land use area, land use specific areal load or unit load, and attenuation rate. Using this information, the final loads reaching Lake Okeechobee can be calculated. The allocation tool includes 43 land use types with a specific unit loading in kilograms per hectare per year (kg/ha/yr) for each sub-watershed. When the unit load is multiplied by the land use area, the total load from that area is calculated. This load will not stay where it was generated but instead will be transported to the receiving water and then to Lake Okeechobee. As the load is transported, it will be attenuated, so the tool includes the transport attenuation. The total load times one minus the transport attenuation rate results in the load that actually reaches Lake Okeechobee.

Xueqing noted that the areal TP load from the Watershed Assessment Model (WAM) developed by Del Bottcher (Soil and Water Engineering Technology, Inc.) includes both unattenuated and attenuated loads. The unattenuated load is what is being generated at the source. This load will be transported from the source to the receiving water and, as it is transported, it will go through land surface attenuation and in-stream attenuation. This is the attenuated load. In addition, for the Upper Kissimmee and Lake Istokpoga sub-watersheds, the loads also have a downstream attenuation factor as they go through the Lower Kissimmee sub-watershed before reaching Lake Okeechobee.

Xueqing noted that after the last meeting, he spoke with Del and realized that the model also takes into account ground water loads. Based on this discussion, the Department revised the tool to use the unattenuated load from the source instead of the attenuated load so that the ground water load was included. This changed the attenuation rate used in the tool because the attenuation is now the sum of the watershed and in-stream attenuation rates. In addition, during the last meeting, Xueqing had noted that the loads for the Upper Kissimmee and Lake Istokpoga sub-watersheds were the loads at the outlets of these sub-watersheds and not the loads to Lake Okeechobee. The attenuation of these loads as they move through the Lower Kissimmee sub-watershed is now accounted for in the tool.

The majority of the loading to Lake Okeechobee is from the Fisheating Creek, Indian Prairie, Taylor Creek/Nubbin Slough, and Lower Kissimmee sub-watersheds. After the attenuation factor is applied, the loads from the Upper Kissimmee and Lake Istokpoga sub-watersheds become even less, and the Fisheating Creek, Indian Prairie, and Taylor Creek/Nubbin Slough sub-watersheds are still the hotspots. This information will help during discussions of the projects needed to meet the gap between current loading and the TMDL target. Linda McCarthy asked if the loading in the tool includes the Florida Department of Agriculture and Consumer Services (FDACS) agricultural best management practices (BMPs). Xueqing responded that the additional agricultural BMPs were removed from the model although some agricultural practices are included implicitly through calibration of the WAM.

Xueqing noted that the total watershed load from the tool is about 420 MT/yr. During the last meeting, the number presented was about 456 MT/yr. After the refinements were made to the tool, the overall loading to the lake decreased. The 420 MT/yr can be compared to the 105 MT/yr to determine the percent reduction needed to meet the TMDL. The Lower Kissimmee and Taylor Creek/Nubbin Slough

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sub-watersheds contribute the most loading to the lake followed by the Fisheating Creek and Indian Prairie sub-watersheds.

Brian Roy asked if there were enough water quality data to calibrate the new coefficients from the tool. Xueqing responded that the tool was not calibrated; however, WAM was calibrated and the tool is based on this model. Brian asked if the change in the attenuation factors changed the model calibration. Xueqing responded that the attenuation rates were all generated from WAM, so the calibration was not affected. Brian asked how the results from the tool match with real data. Xueqing responded that WAM was calibrated within 10% of actual data, and the tool did not change the WAM outputs. A participant asked what the period of record is in the model. Xueqing responded that the WAM version used was the existing conditions model, which was based on 2006 land use and hydrological data from the period of 1978 to 2010. The model was calibrated using data from 1998 to 2007. Juliana Corrales asked how the downstream attenuation factors for the Upper Kissimmee and Lake Istokpoga sub-watersheds were calculated. Xueqing responded that the attenuation rate was calculated as the total inlet load that gets into a sub-watershed minus the total outlet coming out of the sub-watershed divided by the total inlet load. After the load leaves the Upper Kissimmee and Lake Istokpoga sub-watersheds, it goes through the Lower Kissimmee sub-watershed so that attenuation rate is also applied to the loads.

Beth Alvi asked for more detail on what agricultural BMPs were included in the tool. Xueqing responded that the modelers compared the agricultural loading in each of the WAM domains. From this comparison, they found in the S-191 basin that the agricultural BMPs were explicitly included in the model. Since the reductions from these BMPs were not ground-truthed, the Department decided to remove the effect from the BMPs in the tool and, instead, account for those reductions in the BMAP. The difference between the agricultural factors in the S-191 basin compared to the other model basins was approximately 17% for citrus and 27% for dairies. These factors were used to remove the BMP reductions from this basin.

H.M. Ridgely asked if both the total inlet load and total outlet load are modeled. Xueqing responded that both are modeled. H.M. noted that since the attenuation rate is needed to determine the outlet load, and this is also modeled, it seems like the logic is circular. Xueqing stated that the inlet load and outlet load are known, and the difference between the two is the attenuation rate. WAM includes a parameter for first order decay, which is typically used for model calibration. This factor can be adjusted to calibrate the outlet flow at the terminal reach until the model TP load matches measured data. H.M. stated that this works for a set point in time, but the loading changes over time. Xueqing responded that the model is calibrated for the period of 1998 to 2007; therefore, the model was set up so that the decay rate matches the data during that time. The calibration is done by looking at the central tendency of the model versus the measured data.

Marisa Carrozzo asked how the land use was updated to include the WAM land use information. Xueqing responded that the WAM provides a unit loading for different land use types based on the 2006 land use coverage. The allocation tool is based on the 2009 land use coverage, which had been updated by SFWMD in 2013. The unit loading from WAM was transferred to the 2009 land use coverage. The assumption was made that the unit loading would stay the same for each land use type, and only the acreage would change with the new land use coverage. Clell Ford stated that he knows there is a paucity of data in the Lake Istokpoga sub-watershed, and there is a hotspot area that seems to go away when attenuation is applied. He asked if the attenuation is occurring within Lake Istokpoga, and if the lake

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itself would be used for restoration. Xueqing responded that when the load enters the lake there is natural deposition of TP because of the long residence time. The lake is not intentionally being used for restoration. Clell noted that during extreme rain events, there is a lot of nutrient load that washes out from Lake Istokpoga. This should be considered if the plan is relying on natural attenuation. Xueqing responded that he would review the model to see if it simulates this load during hurricane years.

Juliana asked how the TMDL loading will be allocated to each of the sub-watersheds. Xueqing responded that this will be discussed in more detail later in the meeting. The general plan is look at how much of the reductions have already been achieved and then determine where to place projects to meet the gap in reductions to the TMDL.

John Hayford asked if the current loading is based on the WAM loading rates for each land use type. Xueqing responded that WAM outputs two loads: one is the unattenuated load at the source and one is the attenuated load at the receiving water. The tool has been revised to use the unattenuated load. The total inlet load is the source load plus the upstream load. The difference between the inlet load and the outlet load is the total load attenuated in the watershed and in-stream. John asked where the model accounts for land uses that already have attenuation. For instance, the attenuation from land that has stormwater treatment versus land that is not treated. Xueqing responded that this treatment is implicitly included in the WAM; therefore, the loading would be different for an area with treatment versus an area without treatment.

Dan Rutland asked if the unit loading rate is calculated, modeled, or based on literature values. Xueqing responded that the unit loading rate is simulated based on the land use type, management practices, rainfall, topography, soils, and land surface attenuation. All of these factors are included in the model simulation to determine the per hectare loading. The model is calibrated to the available data for the receiving water, and the watershed loading to the receiving water is calculated. Dan noted that the watershed is made up of many different land use types. Xueqing responded that the model calibration is for all land uses. The rainfall, soils, and topography are all based on measured data. The management practices efficiencies are based on literature values. Dan stated that there are event mean concentration (EMC) values for a finite number of land uses. He asked how the WAM output compares to the EMCs. Xueqing responded that WAM simulates the load without using EMCs. EMCs are static numbers that do not change with rainfall and soil types.

Project Updates

Kim Dinkins stated that the project collection process involved the stakeholders providing projects to the Department. The projects included in the calculations are those completed since 2009 and planned through 2019, which is the end of the first five years of the BMAP implementation period. Nutrient load reductions for the BMAP only include projects that had treatment above and beyond any permit requirements. The projects must address TP, total nitrogen (TN), or both. The projects must be within the Lake Okeechobee Watershed, and the GIS files with the watershed boundary are posted on the file transfer protocol (FTP) site. Kim reviewed the standard stormwater BMPs and noted that the projects received include BMPs such as wet detention ponds, street sweeping, and alum treatment. There are also provisional BMPs that can be included in the BMAP, such as public education and outreach. Muck removal and aquatic vegetation harvesting projects were not submitted by any of the stakeholders. The Department is working with FDACS on reductions associated with water control structures in the watershed.

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Kim stated that for the project calculations, the Department took the project areas submitted by each of the stakeholders and matched them with the model output to determine the total load. The percent treatment efficiency was then applied to the load to determine the reduction. The urban BMP efficiencies were previously distributed and that information is posted on the FTP site. A lot of these efficiencies came from studies by Harvey Harper. The agricultural BMP efficiencies are based on a study by Del Bottcher. The street sweeping and BMP clean out reductions are based on the Florida Stormwater Association (FSA) spreadsheet tool. The weight or volume of material collected was provided by the stakeholders and input into the spreadsheet.

Each of the stakeholders, who submitted projects, have a separate spreadsheet with the load reduction calculations. These spreadsheets will be posted to the FTP site. Kim noted that some projects are highlighted in yellow because information is missing. Any missing information should be submitted by March 1st. The projects highlighted in green are those that the Department is still working to calculate reductions. The project load reductions calculated to date achieve 63.76 MT/yr of TP reductions. The majority of the reductions are located within the Taylor Creek/Nubbin Slough sub-watershed. Kim noted that a lot of projects were submitted in the Upper Kissimmee sub-watershed but because of attenuation, these projects do not result in much reductions for Lake Okeechobee. However, these projects have a greater benefit for the lakes in this sub-watershed.

The reductions in the Fisheating Creek sub-watershed are from agriculture and Highlands County. Kim noted that the agricultural reductions are based on 100% enrollment. FDACS provided the Department with information on their notices of intent (NOIs) to implement BMPs, and these NOIs cover a large portion of the Lake Okeechobee Watershed. In the Indian Prairie sub-watershed, the projects from agriculture and Highlands County achieve about 7 MT/yr of reductions. In the Lake Istokpoga sub-watershed, agriculture, Highlands County, Polk County, and Spring Lake Improvement District provided projects that achieve about 1.8 MT/yr of reductions. The projects in the Lower Kissimmee sub-watershed total 9.8 MT/yr reductions and these projects include public education, aquifer storage and recovery (ASR), and agricultural BMPs. In the Taylor Creek/Nubbin Slough sub-watershed, there is not a lot of agricultural BMP implementation; however, there are several large regional projects. These projects include stormwater treatment areas (STAs) and hybrid wetland treatment technology (HWTT). The projects in this sub-watershed total 32.6 MT/yr of reductions, which is the majority of load reductions in the watershed. There are a lot of projects in the Upper Kissimmee sub-watershed, which benefit the lakes in the upper chain; however, they do not have a very large benefit to the Lake Okeechobee due to attenuation. The projects in this area achieve about 5 MT/yr of reductions and include public education, street sweeping, continuous deflective separation (CDS) units, and stormwater reuse.

Kim stated that there are other projects the Department is working to evaluate the benefits of, which are currently not included in the total reductions. The Department is working with FDACS to evaluate the structural agricultural BMPs, such as water control structures. The Department is also working with SFWMD to evaluate the reductions associated with dispersed water management (DWM) and the Florida Ranchlands Environmental Services Projects (FRESP). There are six ongoing FRESP and two ongoing DWM projects in the watershed.

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Kim then discussed the BMAP approach. She noted that the model estimates the total current loading is 420 MT/yr, and the TMDL target is 105 MT/yr. Therefore, 315 MT/yr must be removed, and the goal for this BMAP iteration is to achieve 40% of the required reductions, which is 126 MT/yr. This load reduction is double the reductions achieved through the projects quantified to date. The Fisheating Creek, Indian Prairie, and Taylor Creek/Nubbin Slough sub-watersheds will be the focus for projects since these areas are along the lake. However, projects will be collected in all six sub-watersheds north of the lake. Any additional projects should be submitted using the project collection information on the FTP site. The project collection spreadsheet should be completed to the extent possible, projects in a treatment train should be noted, and the permit numbers should be provided for permitted projects. Information on additional projects should be submitted by March 1st. The Department will then update the project calculations with the new information received, and the updated information will be presented at the March 19th meeting. The Department will also be meeting with the stakeholders to discuss project ideas. Kim asked for feedback on this approach.

Marisa asked what will occur in December if the 126 MT/yr goal has not been achieved. Kim responded that the Department will be working with the stakeholders to collect projects and look for funding options. The 126 Mt/yr reduction is the goal and where the Department wants to be for this BMAP iteration. Juliana asked if there will be specific reductions for each of the sub-watersheds. Kim responded that the Department considered having separate reductions for each sub-watershed; however, there was a better “bang for the buck” in focusing on the sub-watersheds closest to the lake. However, even the Upper Kissimmee sub-watershed loading is high and cannot be ignored.

Ray Hodge asked about funding and what the carrot would be for agriculture to make reductions. Kim responded that the Department wants to start having discussions with the stakeholders about funding. The Department has Section 319 and TMDL grant options. The Department staff who work with this funding may attend the next BMAP meeting to talk about options. FDACS and the National Resources Conservation Service (NRCS) also have funding. Ray stated that it takes money to make plans. FDACS is a great partner, but he is aware of other regions in the state where the Department is allocating money to help agriculture, in addition to the FDACS funding. Kim responded that projects must be identified first to help determine where to go for funding. The Department has some funds, and there is also the opportunity for stakeholders to go to the legislature for funding. Beth added that she and Tom Frick (Department) would be calling Ray next week to follow up on past discussions. The Department has been focused on developing the allocation tool for the BMAP to determine the amount of reductions needed. Since this is complete, the new focus can be on brainstorming project ideas and identifying pots of money. The Department will be actively meeting with the stakeholders on these items.

Review of the Draft BMAP Monitoring Plan

Katie Hallas stated that the Florida Watershed Restoration Act requires that a monitoring plan be included in the BMAP to determine progress towards meeting the restoration goal. When developing a monitoring plan, the TMDL parameter the BMAP is addressing (TP in the Lake Okeechobee Watershed) must be considered. As the goals and objectives of the monitoring plan are refined, the monitoring network must be assessed to determine if it is adequate to address the objectives. Any assumptions made in TMDL development, the existing stations, and the responsible entities should also be considered when creating the plan. Katie then went through the Department’s process for development of a monitoring plan. Since the Lake Okeechobee Watershed is so large and there is so

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much monitoring, the Department created a preliminary monitoring plan from the existing stations, frequencies, and parameters that were received from the stakeholders. This plan will be discussed shortly. The first step in developing a monitoring plan is to establish objectives. Then, information on the existing monitoring can be collected. Katie noted that SFWMD does a great job outlining their monitoring in the *South Florida Environmental Report* (SFER) each year. The next step is to discuss the sampling parameters and frequency so that monitoring locations can be identified. The monitoring information will be included in its own chapter in the BMAP.

Katie stated that the monitoring plan objectives were presented in November, and only minor tweaks were made since then. The phrase “continue to” was added to the objectives to acknowledge the great work that has been done and to use that historical information. This change was made at the suggestion of SFWMD. The primary objective is to “Continue to track trends in TP concentrations and loads by sub-watershed.” The secondary objectives are “Continue to identify areas within the watershed with high TP loading to better focus management efforts,” and “Continue to measure effectiveness of individual or collective projects in reaching TMDL target-pollutant loadings.” Katie asked the stakeholders to provide feedback on these objectives and other ideas for objectives.

The existing monitoring in the watershed was collected using a spreadsheet that was sent to the stakeholders. The spreadsheet includes information on the sampling locations, frequencies, parameters, and period of record. Katie presented two maps that were created using data from the SFER for water years 2001 to 2013 that show flow and TP concentration in each sub-watershed. The flows are the highest in northern sub-watersheds; however, the average TP concentrations are highest in the sub-watersheds closest to the lake. When the Department went through the monitoring stations information, these data and maps were considered to locate the best stations for the BMAP. These types of maps will also be helpful during future discussions of where additional projects are needed.

The Department received monitoring station information from SFWMD, U.S. Geological Survey (USGS), Osceola County, Orange County, City of Orlando, and City of Kissimmee. The Department pared down the stations received, and the presentation only includes the selected stations. The monitoring plan will be presented at the next one or two meetings for additional discussion. Katie will post the GIS layer and Excel table with the monitoring plan information to the FTP site so that the stakeholders can review the information and provide feedback.

SFWMD has a lot of monitoring that occurs through different programs for different purposes. Additional details about these programs can be provided at the next meeting, if the stakeholders are interested. For the SFWMD stations that say “various” for parameters, this means that they sample for nutrients, metals, and physical parameters. The Department selected all the lake structures monitoring, both inflow and outflow, because the Department hopes to expand the watershed area in the next BMAP iteration, so more details on the lake’s operation are needed. Stations in the lake and in the watershed at the major tributaries and the chain of lakes were also selected for the monitoring plan. There are two USGS stations listed in the presentation, but there are more in the watershed that will be added to the monitoring plan once the Department determines these locations.

Katie noted that for the rest of the stakeholders, the Department kept all of their monitoring in the plan. The Department will be holding conference calls with these stakeholders to determine which stations would be most beneficial to the BMAP. Osceola County submitted four stations from the Lake

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Tohopekaliga (Toho) Nutrient Reduction Plan (NRP) and an additional 19 stations from their monitoring network. All of these stations are sampled monthly or as flow permits. Osceola County and SFWMD have one station that is part of the Lake Toho NRP that is sampled monthly. Orange County has three stations that are measured quarterly. Orlando and Orange County have two joint stations from the Lake Toho NRP. Orlando also has 38 stations that they monitor quarterly. Kissimmee has eight stations that are sampled quarterly. Katie reviewed the map of the stations that were selected and noted that additional stations will be added in the Lower Kissimmee and Lake Istokpoga sub-watersheds. SFWMD also sent comments on the plan that need to be incorporated.

Marisa suggested including a secondary objective to monitor TN trends, since the Department mentioned at the last meeting that TN would also be evaluated. Katie responded that this is a good suggestion, and this objective will be added to the plan as a secondary objective. The Department wanted to present the TN reduction benefits at this meeting, but they were not ready. The TN reductions will be provided at a future meeting. Clell asked if there is any ground water monitoring in the plan because there are places where ground water is affecting surface waters. Katie responded that the monitoring plan stations are all for surface waters, but the Department can determine if there are any ground water stations in the watershed. Clell noted that a portion of the watershed is within the Southwest Florida Water Management District (SWFWMD) and their stations are not listed. Katie responded that the Department would reach out to them for information. There are representatives from SWFWMD on the distribution list, and they have attended past meetings.

Xueqing suggested collecting data in locations where the WAM does not have enough information for calibration. Additional data would help to refine the model simulation. Brian suggested adding monitoring to evaluate human versus animal loading, such as to distinguish septic tank loading from an agricultural area. Beth asked where in the watershed it would be helpful to collect this information. Brian noted that it would be helpful in mixed use areas. Beth responded that the Department can follow up with Brian on this suggestion to determine if there are specific areas where this type of monitoring would be useful.

Katie stated that the BMAP can also include a section on monitoring/research needs that the stakeholders would like to explore, if funding were available. The Department will look through the Lake Okeechobee Protection Plan for research needs, but the stakeholders should also submit any ideas. The stakeholders should submit comments on the monitoring plan and research ideas by February 28th.

Next Steps

Katie stated that the next steps for the projects will be to set up one-on-one meetings to develop new project ideas and to discuss funding mechanisms. For the monitoring plan, a revised plan will be presented at the next meeting. The Department is also working with in-house statistical experts to obtain feedback on what monitoring stations are necessary to determine progress towards the TMDL. The Department will also begin to develop the BMAP document, and chapters will be presented to the stakeholders so that they will have seen most of the document before it goes out for public comment. Once the BMAP is completed, a public meeting will be held to discuss the final draft BMAP. The Department would then incorporate the comments received before going to the Secretary for adoption.

A participant asked what the timeline is for completion of the BMAP. Katie responded that the Department is hoping to have the BMAP adopted by the end of the year. This is a quick timeline, but

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the Department has been working rigorously to pull together information for the BMAP development. This information will be discussed at the monthly BMAP meetings and the one-on-one meetings. Clell asked if the plan for each sub-watershed will be done by the end of the year. Katie responded that the Department will work with the stakeholders to identify projects in the watershed to meet 40% of the required reductions. This plan will be included in the BMAP. Beth added that the current loading is 420 MT/yr, and the TMDL is 105 MT/yr so 315 MT/yr must be reduced. The Department wants to achieve at least 40% of the required reductions in the first phase (126 MT/yr), with the total reductions being closer to 50%, if possible. The projects quantified to date achieve 20% (63.76 MT/yr) of the required reductions.

Questions, Comments, and Discussion

Tiffany stated that the next BMAP meeting will be on Wednesday, March 19th. The Department is planning to hold the meetings on the third Wednesday of every month.

Adjourn

The meeting was adjourned at 11:48 AM.

Action Items

- Xueqing Gao will review the model to determine if it simulates nutrient load export from Lake Istokpoga during large flushing events.
- Kim Dinkins will post the project reduction calculation spreadsheets to the FTP site. – *Completed.*
- The stakeholders should submit any missing or new project information to Kim and Katie Hallas by March 1st.
- The Department will make a presentation at a future BMAP meeting about funding opportunities for projects.
- Beth Alvi and Tom Frick will contact Ray Hodge to follow up on past discussions with him.
- The Department will present the monitoring plan at future BMAP meetings to obtain additional feedback from the stakeholders.
- Katie will post the monitoring plan spreadsheet and GIS file to the FTP site. – *Completed.*
- Additional details about SFWMD's programs that conduct monitoring can be provided at the next meeting, if the stakeholders are interested.
- The Department will be holding conference calls with Osceola County, Orange County, City of Orlando, and City of Kissimmee to discuss how to include their sampling stations in the BMAP monitoring plan. – *In progress.*
- The Department will present the TN project load reductions at a future meeting.
- The Department will add a secondary monitoring objective to track trends in TN.
- The Department will look for existing ground water monitoring in the watershed and, if available, will consider adding them to the BMAP monitoring plan.
- The Department will contact SWFWMD for information on their monitoring in the watershed.
- The Department will consider adding monitoring in areas with limited data to help calibrate and refine the WAM.
- The Department will follow up with Brian Roy about monitoring to differentiate human from animal sources to determine if there are specific areas where this monitoring would be useful.

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- The stakeholders should submit comments on the monitoring plan and research ideas to Katie and Kim by February 28th.