

**Wekiva River, Rock Springs Run, and Little Wekiva Canal
Basin Management Action Plan (BMAP)
Onsite Sewage Treatment and Disposal System (OSTDS) Committee Meeting Summary
Wednesday, November 8, 2017
2:00 PM
Seminole County Extension Auditorium
250 West County Home Road
Sanford, FL 32773**

Attendees

Advisory Committee Members

Julie Bortles, Orange County
Mike Cliburn, Friends of Wekiva River
Roxanne Groover, FOWA
Bart Harriss, FDOH
Kim Ornberg, Seminole County
Kate Rogers, City of Apopka
Bob Samson, Homeowners

Others

Quinten Beitel
Mary Brabham, SJRWMD
Keith Browning, OUC
Fred Brummer, Citizen
Robert Burleson, ATM
Tiffany Busby, Wildwood Consulting
Kevin Coyne, DEP
Teayann Duclos, E Sciences for FDOT
Jay Exum, Friends of Wekiva River
Chris Ferraro, DEP
Xueqing Gao, FDOH
Tina Gordon, Wildwood Consulting
Madeline Hart, FDACS

Charles Henry, FDOH
Dave Herbster, DEP
Maira Homann, DEP
Emily Lawson, OC-EPD
Charles Legros, DEP
Lisa Lotti, City of Orlando
Elisabetta Natale, WSP
Megan Nelson, Orange County Utilities
Andrea Samson, Homeowner
Laura Savage, Wildwood Consulting
Mary Thomas, WSP
Shannon Wetzel, Seminole County

Welcome and Introductions

Tiffany Busby welcomed everyone to the meeting and thanked Seminole County for use of the meeting room. She reminded attendees that the meeting is also an OSTDS Advisory Committee meeting. The first part of the meeting will primarily engage the committee members and the second part of the meeting is a general BMAP meeting. Tiffany reminded the committee members of the Sunshine Law requirements and requested attendees sign in on the provided sign in sheets. She then introduced Maira Homann as the basin coordinator and requested each person in the room introduce them self and the entity they represent. Maira thanked everyone for coming to the meeting and provided an overview of the agenda.

Review Draft BMAPs- Crystal River/Kings Bay and Volusia Blue

Moira reviewed the OSTDS load reduction approaches for the Volusia Blue Spring and Crystal River/Kings Bay draft BMAPs. The draft BMAPs are posted to the Florida Department of Environmental Protection (DEP) file transfer protocol (FTP) site (the FTP site link is at the bottom of the agenda). DEP is currently making refinements to the BMAPs based on public comments and is scheduled to adopt the BMAPs soon.

Based on the Crystal River/Kings Bay nitrogen source inventory loading tool (NSILT) and geographic information system (GIS) coverages, OSTDS contribute approximately 40 % of the pollutant loading in the priority focus area (PFA). According to Florida Department of Health (FDOH) estimates, there are over 28,000 OSTDS in the PFA. To meet the required reductions for Crystal River/Kings Bay, the draft BMAP requires all OSTDS in the PFA to be enhanced or sewered within 20 years. Enhanced OSTDS must meet or exceed the National Sanitation Foundation (NSF) Standard 245 nitrogen removal rate. If sewer is projected (i.e., listed as a project in the BMAP), a conventional system can be installed or repaired, in the interim. The draft BMAP lists 12 specific projects that reduce OSTDS loading by 103,868 pounds of nitrogen per year (lb-N/yr).

Based on the Volusia Blue Spring NSILT and GIS coverages, OSTDS contribute approximately 38 % of the pollutant loading in the PFA. There are over 26,000 OSTDS in the PFA, based on FDOH estimates. To meet the required reductions for Volusia Blue Spring, the draft BMAP requires OSTDS on lots less than one acre in the PFA to be enhanced or sewered within 20 years.

The OSTDS policies will be reviewed at the 5-year milestone and at the annual meetings. The policy can be amended to include lots outside the PFA or lots greater than one acre in the PFA (in the case of Volusia Blue Spring).

The following comments and questions were discussed regarding the Crystal River/Kings Bay and Volusia Blue Spring draft OSTDS policies:

- Bob Samson asked how the OSTDS policies will be measured/tracked. Moira responded that DEP plans to update the NSILTs by the first five-year milestone of the BMAP planning period to incorporate current data and update methodologies. The updated tool will be used to measure OSTDS reductions.
- Kevin Coyne commented that the OSTDS policy language in the draft BMAPs is being revised in response to public comments.
- Bob asked for the definition of an enhanced OSTDS. Moira returned to slide 9 of the presentation and pointed out a list of existing technologies to enhance OSTDS. Bob commented that these technologies are not passive and noted that FDOH is required by

law to come up with passive technologies (i.e., gravity flow). Bob replied that many of the technologies listed could lower home values. If this happens, the government by law must compensate a homeowner for the loss. He noted that it is time to have solutions that will not devalue homes.

- Bob asked for a status of the FDOH passive system rulemaking. Moira replied that FDOH is revising its rules to add new passive OSTDS technologies. Tiffany noted in the meantime there are other technologies available to homeowners. Xueqing Gao noted that the biofilter technologies listed in on slide 9 of the presentation are passive technologies.
- Tiffany asked Bob if his main concern is cost. Bob responded that his concern is regarding the lack of passive technologies. There are people that may want to install the more expensive options, but passive, cost-effective technologies also need to be available to homeowners.

OSTDS Source Reductions Approaches

Moira reviewed each sources percent load to groundwater in the Wekiva River, Rock Springs Run, and Little Wekiva Canal springshed. She pointed out that OSTDS contribute 29 % of the total load to groundwater. Approximately 23 % of this loading is within the PFA. Based on the Florida Springs and Aquifer Protection Act, an OSTDS remediation plan is required because OSTDS contribute more than 20 % of the groundwater loading. Moira commented that the BMAP boundary will be slightly revised to incorporate the entire PFA.

The conventional OSTDS loads to groundwater were compared by recharge area to the enhanced and replaced OSTDS loads to groundwater. Enhanced systems result in a 65 % improvement or 35 % of the load reaching groundwater and replaced systems result in a 95 % improvement, or 5 % of the load reaching groundwater. Based on a study performed in the basin, a range of attenuation factors apply to OSTDS. The factors range from 22 % to 96 % due to different site properties (i.e., soil type, depth to water table, and recharge rates). Approximately 55 % of the OSTDS in the springshed were assigned an attenuation factor of 57 %. For the OSTDS groundwater load calculations, an attenuation factor of 57 % (43 % of the load reaches the groundwater) was selected and the standard recharge rates were applied. The load reduction to groundwater, from enhanced and sewer OSTDS, is calculated by multiplying the number of OSTDS per recharge area times the improvement to groundwater. The tables on slide 20 show approaches to reduce OSTDS loads to groundwater. The next step is to determine the geographic extent of the enhancement and sewer requirement. Options include: less than one acre lots within the PFA, all lots within the PFA, and additional lots outside PFA.

The following questions and comments were discussed regarding the Wekiva OSTDS calculations and reductions:

- Mike Cliburn noted that various OSTDS load inputs were presented at the August 15, 2017 meeting. One slide showed an U.S. Environmental Protection Agency (EPA) average annual input of 9.012 lbs-N per person. Another slide showed an input of 60 milligrams per liter (mg/L), which was based on a site-specific study performed by DEP (i.e., Rick Hicks). Mike asked why the site-specific data were not used. Kevin stated that the 9.012 value is the load going into the tank, whereas the 60 value is the load from the drainfield. Moira noted that the nitrogen input to the tank was calculated by multiplying 9.012 lbs-N/yr times the estimated number of people per household—those using the septic tanks (i.e., 2.08 persons per household from the U.S. Census). This same method was used to calculate the OSTDS load in the NSILT. Moira noted that she will check with Rick to ensure that the correct OSTDS load value was used.
- Roxanne Grover asked for the treatment level of sewer OSTDS. Tiffany replied that the treatment level is based on the wastewater treatment facility (WWTF) policy. The policy applies to all new and existing WWTFs in the BMAP area and sets nitrogen effluent concentration limits (3mg/L or 6 mg/L) based on a facility's permitted capacity and effluent disposal type.
- Bob asked if homeowners will be required to hook up to sewer (when it becomes available) if an enhanced system is installed. Bob noted that there needs to be a communication strategy so homeowners can make the right choice. Tiffany responded that the policy is set up to provide options. Homeowners will only be required to implement one of the options.
- Bob suggested adding to the BMAP strategy the life expectancy of the various OSTDS technologies.
- Moira stated that by statute, projects listed in the BMAP may be postponed for one five-year cycle. Homeowners will not be penalized if utilities fail to meet the sewer project schedules. Bob asked if the statute language on project postponement is included in the BMAP. Kevin replied that DEP will consider adding this to the BMAP.
- Julie Bortles asked if the BMAP includes details on project deadlines. Tiffany replied that the Crystal River/Kings Bay draft BMAP includes the standard project details for all springs BMAPs. Tiffany added that projects listed in the BMAP are eligible for legislative funding, whereas projects not listed are not eligible.
- Mike asked for the definition of National Sanitation Foundation (NSF) Standard 245. Roxanne offered to provide the definition to Moira for posting.
- Mike stated that data from a local/specific OSTDS study were used to calibrate the OSTDS model (Soil Treatment Unit Model- STUMOD). He asked why these data were not used to estimate the OSTDS loadings in the NSILT. Moira offered to talk to Celeste to determine if more specific data can be used in the NSILT.

- Mike commented on the approach used to calculate the total required load reductions. Based on the approach, an estimated reduction of 250,000 lbs-N/yr will be required. The current total reduction from completed projects listed in the annual progress report is 355,000 lbs-N/yr. This shows that there are more reductions than necessary. He suggested DEP look at the total load to groundwater and a recharge rate rather than just evaluating the load coming out of the spring vents. Moira replied that she will discuss the load reduction approach during the second part of the meeting. She briefly pointed out that only projects in the springshed will be included in the new BMAP. The existing BMAP includes projects in the springshed as well as the BMAP area (i.e., outside the springshed).
- Jay Exum stated that he sent a letter to DEP regarding the reduction calculations in the annual progress report. He noted that he has not received a response from DEP and asked that they respond to his questions and think about setting a procedure for responding to questions more timely. He explained that the load reduction reported in the annual progress report appears to be more than an order of magnitude off. Moira replied that she will schedule a meeting with Mike and Jay to discuss their concerns. She noted that the projects are missing a lot of details, and will need to be split up into surface water and springshed projects. The reductions associated with springshed projects will also be adjusted to account for attenuation and recharge.
- Andrea Sampson asked how the recharge areas were delineated. Tiffany responded from a GIS layer provided by the St. Johns River Water Management District (SJRWMD). Andrea explained that the groundwater table depth varied significantly across the local OSTDS study area. The study found that the OSTDS discharge is treated to drinking water standards (10 milligrams per liter) approximately eight feet below the discharge point. She is concerned that the attenuation factor may be misrepresented because of testing restrictions and variation in groundwater table elevation. She suggested using the springs protection funds to conduct additional testing before spending money on projects. Mary Brabham noted that there are several geochemical factors that affect attenuation including recharge area, soil type, and confining layers. She added that depth to groundwater may not matter, especially if the soils are a sandy soil.
- There was a request to list the passive systems first than the non-passive systems. There was also a question regarding the location of the WWTFs. Moira responded that the WWTFs are located throughout the springshed.
- There was a comment that members of the National Association of Landscape Professionals may need to be involved in the process since urban turfgrass fertilizer is a source.

Moira explained that SJRWMD reevaluated the 2015 springshed boundary and revised it based on more current data. Someone asked why the boundary changed after only two years. Kevin responded that the springshed was reevaluated to meet the new water bill requirements. The

springsheds for Rainbow Spring and Silver Spring were also modified. Moira replied that she will ask the groundwater section if they have a write-up on the springshed delineation.

Someone asked if there is a map of the utility service areas. Kim Ornberg noted that the billing addresses are needed to accurately determine parcels on sewer. Addresses can be difficult to obtain because of private utilities and other utilities not willing to share customer information. Xueqing commented that FDOH has an OSTDS inventory tool available on its website.

Orange County Education Grant

Julie presented, on behalf of Orange County, the Wekiva Basin Social Marketing and Communication Plan. The plan will focus on non-point source pollution prevention and education and will include a professional campaign. Julie asked that everyone look through the handout and let DEP know if the task list is missing any essential steps. Anyone interested in actively participating in the campaign should also let DEP know. Orange County expects to have the request for proposal for the plan and campaign development posted by the first of the year. The total cost of the project is \$250,000, the funding source is a 319 grant, and the project expiration date is 2021. Kevin noted that DEP will email the handout to the Wekiva stakeholders. Moira will also email the Tampa Bay Estuary Program "Be Floridian" campaign information.

Draft Approaches to Achieve Reductions and Restoration

Discharge and nitrate data from 2002 to 2017 were evaluated to determine the date range for the nitrogen load calculations. Moira as well as Rick Hicks with the DEP groundwater section and SJRWMD reviewed the data. They all agreed that the entire period of record (2002-2017) could be used to calculate the load calculations. Moira displayed graphs of the data and commented on the strong relationship between the nitrate and discharge data, and the low nitrate concentrations, which resulted from decreased fertilizer usage during 2006/2007 drought conditions.

The nitrogen loads at the Wekiwa Spring and Rock Spring vents were summed to get the total current load at the springs. The TMDL concentrations and the discharge data from 2002-2017 were used to calculate the TMDLs for Wekiwa Spring and Rock Spring. Again, the loads were summed to get the total allowable load. The difference between the current load and the TMDL is the total required reduction.

Mike commented that the total current load is less than one-third of the total load to groundwater. Tiffany responded that the NSILT is a best estimate of what is going into the groundwater. The load to groundwater is based on the NSILT, whereas, the spring vents load and the total allowable load are based on actual data. The two datasets are not directly comparable. Moira commented that DEP is aware of this discrepancy and is working on a method to address the difference. The NSILT accounts for attenuation and recharge, but additional reductions that may occur from fate and transport are unknown. Mike suggested adding a recharge rate/factor to address the difference.

Bob commented on the low nitrate concentrations, which resulted from decreased fertilizer usage during 2006/2007 drought conditions. The data suggest that OSTDS may not be the main problem and requested that DEP use logic to assign reductions.

Moira reviewed the reduction milestones and provided a recap of the BMAP approaches. She noted that the project list in the original BMAP will be updated. Request for project updates will be sent to stakeholders soon. Project completion dates and locations as well as other information will be requested. A map with streets and the BMAP and springshed boundaries will be provided to stakeholders as well. The map will help stakeholders identify whether a project is located inside or outside the springshed.

As an example, Moira reviewed the approach to achieve the required reductions in the Crystal River/Kings Bay draft BMAP. Reductions from stakeholder and policy projects (existing and planned efforts) were subtracted from the total load reduction. The remaining reductions (known as "the gap") must then be addressed through additional policies or projects such as advanced cost-share agriculture best management practices (BMPs), quantifiable educational measures, or increased geographic area of the OSTDS enhancement and sewer requirement. Moira mentioned that DEP needs to look at the current WWTF policy to determine if it can be further amended and is working with the Florida Department of Agricultural and Consumer Services (FDACS) to determine if additional agriculture reductions can be achieved in the springshed.

Bob asked who tracks the sanitary sewer overflows (SSOs) in the state. Chris Ferraro, with the DEP Central District Office, stated that DEP regulates SSOs through the facility's domestic wastewater permits. The facilities are required to report spills and have emergency plans in place to prevent spills. She noted that DEP, in response to Hurricane Irma, is working with facilities to determine if the emergency plans need to be improved.

Madeline Hart asked if the agriculture reductions are based on 100 % enrollment. Moira replied yes. Tiffany added that owner-implemented agriculture BMPs are required (or water quality monitoring) and, therefore, the enrollment requirement will be met by the 20-year milestone. Madeline noted that she will provide the current agriculture workbooks for the Wekiva area.

Kim asked how golf courses and sports turf grass reductions will be managed. Kevin replied that DEP has a golf course BMP manual. Tiffany mentioned that the NSILTs include a list of golf courses and sports turf fields. The golf courses were contacted during NSILT development and those that provided specific fertilizer use information were reflected in the NSILT. Kim noted that the Volusia County schools are exempt from the county's fertilizer ordinance if they follow the University of Florida Institute of Food and Agricultural Sciences (UF-IFAS) guidelines. Moira noted that DEP is open to suggestions on how to reach out to and educate the sports turf grass owners.

Mike recommended using the SJRWMD water supply planning model to calculate recharge rates. Moira offered to contact SJRWMD to determine if the model is suitable for determining recharge rates.

Timeline for BMAP Revision

Moira reviewed the timeline for the BMAP revision. The draft OSTDS remediation plan should be ready by February 2018 and the draft BMAP document should be ready by April 1, 2018. The final plan must be adopted by July 1, 2018.

Moira reviewed the new statewide TMDL, BMAP, Minimum Flows and Levels (MFLs) annual report. The new statewide annual report will meet the requirements of Chapter 2016-1, Laws of Florida. The report will include the status of MFLs, TMDLs, and BMAPs and will replace the individual BMAP annual progress reports. Project information will be requested in late November, and will be due by the end of January. Information needed will include: entity activities, compliance, project information, and milestones. The report is due to Governor's Office by July 1, 2018 and every year thereafter.

Seminole County Fertilizer Ordinance

Kim, with Seminole County, presented the county's enhanced fertilizer ordinance and the work that will be performed to verify the effectiveness of the ordinance. Seminole County is required to have a fertilizer ordinance per its National Pollutant Discharge Elimination System (NPDES) municipal separate stormwater sewer system (MS4) permit. The permit required that the model ordinance (meets the minimum standard of Florida Statute 403.9337) be adopted by November 31, 2013. Seminole County adopted an enhanced fertilizer ordinance on October 1, 2017. The enhanced fertilizer ordinance applies to the unincorporated areas of the county. However, all but one city in the county adopted the enhanced ordinance. The key differences between the model ordinance and the county's ordinance is a summer restricted period (June 1st through September 30th). The county's ordinance also requires use of slow release nitrogen fertilizers during the non-restricted season and a 15-foot setback (5-feet more than the model ordinance) of any waterbody or wetland. The county plans to increase the slow release fertilizer from 50 % to 65 % after three years.

The implementation plan focuses on education and not enforcement. Educational components include a dedicated webpage, on-line calculators to help residents determine fertilizer application rates/amounts, Florida Yards and Neighborhoods targeted workshops, billboards, public service announcements, vehicle wraps, signage at voluntary retail stores, and enlisted local advocacy groups.

The county received a 319 grant to implement fertilizer educational outreach. Unique program components include three interconnected online calculators that look at the percentage of slow release nitrogen fertilizer, application amount, and reclaimed water inputs. The county is working with utilities to come up with nitrogen concentrations for reclaimed water. The plan is to add the concentrations to a GIS map which can be assessed by homeowners and then inputted into the calculator.

The county plans to quantify the long-term impacts with data collection. The study area is the Wekiva sub-basin (Sweetwater Cove). The multi-year study will include a pre-fertilizer

ordinance survey, outreach in the community, and follow-up resident surveys. Kate Rogers asked if the county plans to sample the lakes. Kim replied that the stormwater runoff will be collected and sampled and seepage meters will be installed by the waterbodies.

Wrap Up

The next meeting was tentatively scheduled for February 6th or 7th. Moira will send a save-the-date to confirm the meeting date and time.

Adjournment

The meeting adjourned at 5:04 PM.

Action Items

OSTDS Committee Meeting Action Items:

- DEP/FDOH: Provide a list of options for OSTDS enhancement for public/homeowners.
- DEP: Revise the BMAP boundary to incorporate the entire PFA.
- DEP: Determine the geographic extent of the OSTDS enhancement and sewer requirement.
- Moira: Ask Rick to confirm the correct OSTDS loading input (i.e., 9.012 lb-N/person/year EPA value or value based on the DEP site-specific study).
- Roxanne: Provide to Moira the NSF Standard 245 definition.
- Moira: Post the NSF Standard 245 definition.
- Moira: Talk to Celeste and Rick regarding the OSTDS data used in the NSILT. Ask if the NSILT reflects the data that Rick collected in the basin.
- DEP: Consider adding language to the BMAP regarding the postponement of projects listed in the BMAP for up to one five-year cycle.
- Moira: Schedule a meeting with Jay to discuss Friends of Wekiva concerns regarding the project and loading calculations.
- DEP: Consider listing the lined OSTDS systems in the BMAP first and then other, non-passive systems.
- Moira: Ask the groundwater section if they have a write-up on the modified springshed boundary and how it was derived compared to the previous Wekiwa springshed area.
- Moira: Provide the Orange County education grant handout to stakeholders.
- All: Look through the Orange County education grant handout and let DEP know if the task list is missing any essential steps by November 30, 2017.

- All: Let DEP know if you are interested in actively participating in the Orange County social marketing and communication plan by November 30, 2017.
- Moira: Post the Tampa Bay Estuary Program "Be Floridian" campaign information.
- DEP: Consider using the springs protection funds to conduct additional OSTDS testing before spending money on OSTDS projects.

Wekiva General Meeting Action Items:

- Madeline: Provide current Wekiva Basin agriculture numbers.
- Moira: Send project update request to stakeholders. Include a map with streets and the BMAP and springshed boundaries for project location identification.
- All: Submit project information—new projects and missing information—to DEP.
- Moira: Update the project list once the new and missing project information is received. Split up projects into surface water and springshed projects. Adjust the reductions associated with springshed projects to account for attenuation and recharge.
- DEP: Consider reaching out to members of the National Association of Landscape Professionals since they may be a source of urban fertilizers.
- Moira: Work on a method to address the difference between the NSILT load to groundwater and the loads at the spring vents.
- Moira: Ask SJRWMD if their water supply planning model can be used to calculate recharge rates.
- Moira: Determine if the current WWTF policy to can be further amended.
- Moira: Work with FDACS to determine if additional agriculture reductions can be achieved in springshed.
- All- Provide DEP suggestions on how to reach out to and educate sports turf grass owners.
- Moira: Work on draft reduction numbers and present at the next meeting.
- Moira: Request project information in late November for the new statewide report. Information requested will include: entity activities, compliance, project information, and milestones.
- Moira: Schedule the next meeting- tentatively scheduled for February 6th or 7th.