

Gemini Springs and DeLeon Spring Basin Management Action Plan (BMAP) Meeting

Thursday, January 25, 2018

9:00 AM

County Council Chambers, Room 204

Thomas C. Kelly Administration Center

123 West Indiana Avenue

DeLand, Florida 32720

Attendees

Ginger Adair, Volusia County
Mary Brabham, SJRWMD
Tiffany Busby, Wildwood Consulting
Greg DeAngelo, DEP
Lauren Dorval, FDACS
Teayann Duclos, E Sciences/FDOH
Al Everson, The Beacon
Gerald Fieser
James Fogle, Contractor
Xueqing Gao, FDOH
Tina Gordon, Wildwood Consulting
Saundra Gray, Volusia Water Alliance
Judy Grim, Volusia County
David Hamstra, City of DeBary
Hugh Harling, East Central Florida Regional
Planning Council
Casey Harris, SJRWMD
Madeline Hart, FDACS
Clay Henderson, Stetson University
Paul Holt, Dixie Septic
Alyse Howell, Volusia County
David Huggins, DEP
Steve Kintner, Blue Springs Alliance

Laura Kramer, FDOH
Kevin Lee, QLH
Megan Long, Amec (Wood)
Celeste Lyon, DEP
Eric Maday, FDOH
Robert Maglievaz, FDOH
Sean Maroney, Volusia County
Scott Mays, Volusia County Utilities
Ronnie Mills, Joe Mills Services
Edward Northey, FDOH
Kim Ornberg, Seminole County
Jon Perry, Janicki Environmental
Erin Reed, Geosyntec
Charles Shinn, Florida Farm Bureau
Stacey Simmons, FDACS
Randy Sleister, Volusia County
Karen Snyder, FDOT
Saurabh Srivastava, WSP
Mary Szafraniec, Amec (Wood)
Shannon Wetzels, Seminole County
Michael Woods, Cobb Cole
Kelly Young, Volusia County

Welcome and Opening Remarks

Tiffany Busby welcomed the attendees and thanked them for attending. Tiffany thanked Mike Ulrich and Volusia County for the use of the facility and introduced herself. She reminded everyone to sign in and check the accuracy of their information and informed them that signing in would get them added to the email list for updates. Tiffany reviewed the agenda and reminded everyone that this is the first meeting for the Gemini Springs and DeLeon Spring and that the BMAP for each springshed would be a separate document; however, holding the meetings together seemed more efficient given the mutual stakeholders involved in both BMAPs. Tiffany stated that these BMAPs are similar to surface water plans in which many stakeholders have participated. However, there is a different schedule and regulatory requirements for springs. Tiffany informed everyone that Moira Homann is the basin coordinator; however, she was unable to attend this meeting. Tiffany informed everyone that the sign-in sheet is based on Volusia Blue and Lake Harney Monroe BMAPs as they cover a similar area of land. She reminded everyone that BMAP

Gemini Springs and DeLeon Spring Basin Management Action Plans

meetings are public and are listed in the Florida Administrative Register. Tiffany asked participants to introduce themselves.

Water Quality Framework and BMAP Introduction

Tiffany provided an overview of the BMAP process, starting with the water quality framework, which include comparing standards of water quality with data that are collected. She informed participants that impaired waters are prioritized, a total maximum daily load (TMDL) is developed, and a BMAP is created that works to achieve the TMDL. Tiffany reminded everyone that the models and reductions are not exact, so BMAPs are iterative, allowing for improved modelling and monitoring throughout the process. She showed a map and explained that nitrogen within the springshed that is applied to the land can move underground and be discharged at the spring vent. She explained that area where land application contributes to a particular spring vent is known as the contributing area and is the focus for these BMAPs.

Tiffany addressed the adopted TMDLs, which both have a target of 0.35 milligrams per liter (mg/L) for nitrogen. She explained that this target is set with the goal of maintaining a healthy aquatic system, which is a different goal than the human health. She explained that to achieve the TMDL, there would need to be a 56 % and 75 % reduction in nitrogen for DeLeon Spring and Gemini Springs respectively.

Tiffany covered the BMAP process to restore water quality and informed participants that BMAPs are legally adopted by secretarial order which makes them enforceable. She told participants that BMAPs are updated annually by collecting data on the projects for each BMAP area and they are reevaluated every five years. Tiffany reviewed the key components for a BMAP including the TMDL is addressed, the area is defined, future growth impacts are addressed, projects to meet the TMDL are listed, and a process to assess progress is included. She stated that projects to meet the TMDL must include an implementation timeline, commitment to the project, and expected water quality improvements. She also discussed the assessment toward achieving the TMDL needing to include a monitoring plan, annual project reporting, and periodic follow-up meetings which are generally held on an annual basis.

Tiffany reviewed the regulatory framework and associated Florida Statutes, including Florida Springs and Aquifer Protection Act which defines requirements for BMAPs of Outstanding Florida Springs (OFS). Requirements for these BMAPs must identify a priority focus area (PFA), identify and estimate pollutant loads for each source category, and include an onsite sewage treatment and disposal system (OSTDS)--or "septic system" as they are commonly referred to--remediation plan.

Technical Analysis

Megan Long presented an overview of the technical analysis of water quality data used to determine the nitrogen loading in the springs. She stated that the TMDL is set as a concentration, but to address sources, load information is needed. She discussed where the data came from including spring vents, surface water, and ground water monitoring. She explained the processing and quality assurance and quality control implementation in the analysis, including looking for fatal qualifiers and performing statistical checks within the data. She explained data analysis was conducted to identify a break point to indicate the appropriate period of record for

Gemini Springs and DeLeon Spring Basin Management Action Plans

each spring. Megan stated that the analysis indicated a 2011 to 2017 period of record would be appropriate. She explained that they then used the flow and discharge data for that period of record to determine the upper 95 % confidence interval and calculated loads and discharge. She explained that the comparison of nitrogen at the springs versus groundwater wells had too few sample points for groundwater so a conclusion could not be made. She stated that sampling for groundwater wells would need to be increased to use this in the future and that higher concentrations in groundwater may suggest higher future nitrogen loads discharging from the springs.

Megan presented the spring vent load and TMDL concentration numbers and explained that the analysis used the flow and discharge to calculate loading. She stated that for both of the springs, there are about a 15,000 pounds of nitrogen per year (lb-N/year) reduction between the nitrogen loading at the spring vents and the nitrogen load for the TMDL using calculated flows.

Dr. Xueqing Gao asked if a trend analysis was conducted. Mary Szafraniec from Amec (Wood) stated that no, the trend analysis is usually done for surface water BMAPs, but not for the springs, which focus on loading. Xueqing asked if the analysis uses aggregated data and Mary stated that it does. Xueqing asked if the numbers presented were the means. Mary stated that yes, they were the means and that the analysis also looked at other measures of central tendency.

A participant asked how the source was determined, as a study he read showed that most of the loading was from stormwater and, when you look at location, one of these springs is along the Interstate-4 corridor. Mary explained the difference between nitrogen applied to the land and what impacts groundwater and stated that Celeste Lyon from Florida Department of Environmental Protection (DEP) would cover the sources to groundwater in the later presentation on the Nitrogen Source Inventory Loading Tool (NSILT).

A participant asked if, with regard to Gemini Springs, the analysis was averaging the two spring vents or calculating each vent load individually. Megan stated that there were no data available from one of the boils, so the data reflect the data collected from the main vent. The stakeholder stated that there is a difference between the two boils. Megan further clarified that one of the boils does not have flow data, and, therefore, could not be calculated separately.

Ronnie Mills asked where within the spring, at what time of year data were collected from the boils, and expressed concern that the manatee aggregations around the boil may impact the water quality data. Greg DeAngelo (DEP) clarified that water is sampled from inside the spring vent and not from the surrounding waters when a spring vent is being sampled. David Huggins (DEP) further clarified that seasonality was considered during the TMDL development and, based on the sampling data, there was no significant difference in nitrogen concentration found between seasons. Ronnie asked for further information on what would make a difference in the boils. Mary stated that there is not a comparison of the boils, but variation could be related to the size of the boil or any number of factors.

Steve Kintner stated that in Blue Springs there is testing equipment in place and there is a temporal relationship between wet and dry season. He stated that since there is not continuous monitoring at these springs, it cannot be concluded that there is no seasonal relationship. David

Gemini Springs and DeLeon Spring Basin Management Action Plans

responded that there were enough data points to statistically look at each season, even though daily monitoring is not done, and conclude that there is not a statistically significant relationship.

Mary mentioned that she brought supplemental slides on the analysis and could look more in depth with anyone interested, after the meeting.

Paul Holt asked if this presentation would be shared and Tiffany stated that it would be posted by DEP following the meeting.

NSILT

Tiffany introduced Celeste Lyon and David Huggins from DEP. Celeste stated that the Florida Springs Protection Act requires that DEP develop a nitrogen inventory for the contributing area of all OFS that are impaired, and that DEP is using the NSILT to fulfill this requirement. Celeste informed everyone that there are many sources that contribute to springs, including atmospheric deposition, urban turf grass fertilizers, septic tanks, land application of wastewater, livestock manure, and farm fertilizers.

Celeste stated that the NSILT provides a customized inventory for each spring basin or BMAP area to account for differences in hydrology and land use, and provides an estimate of nitrogen loading to groundwater within each area by source. She showed springshed maps for DeLeon Spring and Gemini Springs and explained that the primary contributing area for Gemini Springs is in pink on the map. Celeste informed participants of the steps to developing the loading estimates in the NSILT, which included estimating inputs of nitrogen to the land surface, applying attenuation factors that could transform nitrogen in the subsurface, applying areal weighting factors based on recharge rates, and refining numbers based on stakeholder input.

She also showed a nitrogen cycle and nitrogen attenuation graphic and discussed the various sources and ways in which nitrogen might be attenuated. Celeste explained that the amount of nitrogen that reaches the groundwater in a given area is based on recharge rates provided by the St. Johns River Water Management District (SJRWMD). She then showed a map of the groundwater recharge area for DeLeon, followed by pie charts showing the percentage of land uses in each springshed.

Celeste stated that the next slides would show the DeLeon springshed as examples, but that the process was the same in both watersheds. Celeste also explained the atmospheric deposition is determined using the U.S. Environmental Protection Agency's (EPA's) Total Deposition (TDEP) model. She stated that the average total nitrogen (TN) deposition is 4.67 to 5.56 pounds of nitrogen per acre per year. Celeste explained that the wastewater treatment facility (WWTF) category utilized the facility-specific effluent concentrations and considered land application/wastewater disposal application site types separately.

She explained that for OSTDS, DEP uses the Florida Department of Health (FDOH) inventory of the number and location of OSTDS, uses U.S. Census data to estimate the number of people per household, and then applies an effective population to account for being residents being away for work or school. She also explained that the average input of 9.012 lb-N/person is used and is based on loading estimates from the EPA.

Gemini Springs and DeLeon Spring Basin Management Action Plans

Celeste also reviewed the process to estimate livestock waste, which uses county-level land use information from Florida Statewide Agriculture Irrigation Demand (FSAID) data to estimate livestock population within the springshed. Celeste explained that there is a horse farm in DeLeon springshed which was estimated separately, as they do not apply additional fertilizer. She stated that there is also a dairy farm in the springshed, which was considered using herd size and specific waste disposal methods. Celeste stated that for the remaining livestock, DEP used Volusia County data to find the livestock acreage and then looked at what percentage fall within the springshed. She explained that for farm fertilizer, DEP looks at types of crops grown and uses application rates from the University of Florida Institute of Food and Agricultural Sciences (UF-IFAS).

Celeste covered urban fertilizer for residential and non-residential land, explaining how application rates are calculated using a 2009 study by the University of Central Florida (UCF) that was conducted in the Wekiva basin. Celeste also covered how land area for sports fields is calculated and that golf course calculations use an average application rate unless specific application rates are otherwise provided by the golf course.

Celeste presented pie charts for each springshed that show the percentage by source of nitrogen inputs to the surface before any recharge or attenuation takes place. Celeste stated that the estimated total load to the surface for Gemini Springs is 614,819 lb-N/yr and for DeLeon Spring is 1,567,211 lb-N/yr.

She then reviewed the biochemical attenuation factors for each source category that were used in the NSILT and the hydrogeological attenuation factors based on recharge rates in the location of the contributing source for each springshed. Celeste stated that in Gemini Springs, DEP reclassified the recharge south of the river to all low recharge since the river presents a significant barrier to groundwater flow that would need to move north to reach the springs.

Celeste presented pie charts for each springshed that show the relative contributions of nitrogen loading to the groundwater from each source category once attenuation and recharge are considered. In Gemini Springs, the estimated total load to groundwater is 53,086 lb-N/yr with 46 % of the load originating from urban fertilizer and 41 % from septic tanks. In DeLeon Spring, the estimated total load to groundwater is 205,707 lb-N/yr with 52 % from farm fertilizer, 19 % from urban fertilizer, and 14 % from septic tanks.

She then covered the estimated load to groundwater in each springshed within the priority focus areas (PFAs). Within the DeLeon Spring PFA, the total load to groundwater is 124,475 lb-N/yr with 36 % attributed to farm fertilizer, 25 % to urban fertilizer, and 22 % to septic tanks. The PFA in Gemini Springs has an estimated total load to groundwater of 37,387 lb-N/yr with 44 % attributed to urban fertilizer and 49 % to septic tanks.

Steve stated that this seems to be a departure from what stakeholders saw last time in that the previous DEP document showed aquifer vulnerability and recharge for Gemini Springs and the area south of the St. Johns River. David explained that this is different from the recharge map shown in the TMDL development process, and stated that there likely little recharge crossing the river, so it should not be considered a major contributing area. Another stakeholder asked if

Gemini Springs and DeLeon Spring Basin Management Action Plans

Steve was stating that the load going into the river has no potential to go into the groundwater. Celeste clarified that it is likely that the area is a contribution to surface water and not groundwater. Ronnie stated that you need to account for the surface water to meet the BMAP. Tiffany stated that this surface area that contributes to the river is addressed in the surface water BMAP, which is a separate plan, and that this meeting addresses the loads related to the springs. She further explained that the geologic conditions that create a surface water feature, such as the river, means that the water is staying at the surface and pollutants to land surfaces are most likely to go into the surface waters. Ronnie asked if it is separate, what percentage is doing the most damage. Tiffany explained that both areas contribute nitrogen, but some is going into the river and some comes out at the spring. Ronnie asked if you have a leaking system, if it is possible that it is not showing up at the spring vent, but in the river and gave the examples of the overflow spills during the hurricane, which he stated were dumped into the surface waters. Tiffany and Celeste clarified that even though it is a low recharge area, the NSILT is still accounting for nitrogen as if 10 % is making it to the groundwater. Ronnie added that if the ultimate goal is to cover our waterways, he feels that there is too much focus on the springshed.

Steve stated that if this is still true, you still have a recharge rate applied and going to Gemini Springs and asked where it is going to. He stated that he did not think 90 % would go to Wekiva and 10 % to Gemini. Steve added that if there is a portion going somewhere else, DEP needs to account for that and that groundwater, unless you have a strong conduit system, has to travel somewhere. A stakeholder asked if there was a groundwater model for the area. Tiffany stated that there is not, to her knowledge.

Sean asked how far south the low recharge area extends. Greg replied that it goes maybe three miles south of the river. Celeste added that once attenuation and recharge are added, we have the load to the top of the aquifer, but after that we don't have a lot of information on what happens.

Clay stated that Gemini was above the 20 % OSTDS, however DeLeon was only at 14 %. Tiffany responded that we will be talking about the DeLeon Spring OSTDS remediation plan later.

Celeste discussed the NSILT and that the same process was conducted just looking at the PFA source contributions. She stated that the OSTDS contribution in DeLeon Spring within the PFA was 22 % and within the Gemini Springs PFA was 44 %. Tiffany clarified that the over 20 % source contribution within the PFA means that an OSTDS remediation plan would be required for DeLeon Spring and that the PowerPoint slide would be edited to reflect that requirement.

Ronnie asked if the percentages shown only applied to the PFA. Celeste stated that the first charts were the whole BMAP and the second set of charts with the higher percent contribution were for the loading in the PFA. Ronnie stated that he thought that in the PFA, you cannot quantify what is in the collection itself for WWTF, and only the outgoing load can be quantified. Celeste stated that is correct. Tiffany added that after the Volusia Blue meeting when a similar question was asked, DEP looked for more quantifiable information about collection system loads and did not find detailed information. But DEP has noted that more information is needed. Ronnie asked if this is based on what goes into the groundwater and not the springshed, shouldn't DEP take into account the collection systems or spillage for WWTF from things like storms. He

Gemini Springs and DeLeon Spring Basin Management Action Plans

also asked how the policy would cover potential growth and redevelopment. Celeste stated that DEP has the load and, if the area is more densely populated, they have the actual number of septic tanks. Another stakeholder added that they think there should be a density formula in there and inquired as to why DEP is considering lot size with fertilizer and not with septic tanks. Tiffany responded that the loading from septic systems is per unit and the number of tanks is from the FDOH inventory, where the fertilizer is dependent on property size as larger size properties are less likely to fertilize the whole property. Ronnie stated that you cannot get a septic system permit unless you have over an acre of land in the BMAP area [Editor's note: this was later corrected as being inaccurate.].

A stakeholder asked about how DEP will address the surface water. Celeste and Tiffany stated that we address pollution to the surface waters in the surface water BMAP for the Middle St. Johns River. Celeste clarified that the 22 % attributed to OSTDS loadings within the PFA of DeLeon is north of the river and may not be included in the surface water BMAP and that the surface water BMAP for the Wekiva River estimates the load that comes over the land and into the shallow surface water. Celeste stated that the springs BMAP will look at what goes into the deep aquifer and comes out at the spring vent and these plans are different. Greg stated that DEP discussed the potential plans and this is one of the only areas where we have a springs BMAP that also has a larger surface water BMAP and that the springs protection act required increased focus on the groundwater contributing area. Given that DEP decided to leave the Lakes Harney Monroe BMAP in place and develop a new BMAP just for Gemini Springs.

A stakeholder asked how DEP looks at farm fertilizer, since the historic basis of agriculture in the DeLeon BMAP area is gone and most of the farms are not actively being managed, but the NSILT still shows farm fertilizer as a large contributing source. Celeste stated that 2015 through 2016 FSAID database is used to calculate area for farm fertilizer acreage using permitted data and land use data from the SJRWMD. Maddy Hart from the Florida Department of Agriculture and Consumer Services (FDACS) stated that there was a lot of difference when looking at aerial imagery than what was listed in the FSAID. The stakeholder added that there are a lot of consumptive use permits in this area. However, many permits are not being utilized anymore as active citrus grove or fernery. He stated that he would doubt the level of loading and the extent of agricultural land use is accurate. Tiffany thanked the stakeholder for his input and reminded participants that the reason we hold these public meetings is to get local insight that we may not have from the statewide perspective. She added that if stakeholders are aware of a more accurate source of information from agriculture, we can consider that in the future.

Paul Holt stated that he feels like the septic industry is attacked and this plan puts the burden on them. Tiffany stated that we will discuss septic systems; however, all sources are being analyzed. Paul stated that some of the water coming in through the springs may be coming from very far away, like from Georgia, with a lot of travel time. Tiffany stated that the Floridan aquifer is a large aquifer and does get some contribution from north of Florida in some other springsheds, but that is not the case for this springshed. She stated that the SJRWMD and the U.S. Geological Survey (USGS) has studied the contributing area for the springshed and none of the contributing area comes from Georgia.

Gemini Springs and DeLeon Spring Basin Management Action Plans

Steve stated that the Volusia County aquifer has been studied extensively and there is no contribution from rivers and water from Georgia. The U.S. EPA designates the springs in Volusia County as sole-source aquifers, meaning that all the spring water comes from local sources.

Paul asked if DEP would you ever go out on a limb and say that growth is the biggest issue. Tiffany stated that, no, as the impairments exist now and must be addressed even before any additional growth. Paul stated that DEP cannot show exact data that says this is where it comes from and that he is trying to make sure it is not going to fall on any one stakeholder group. He stated that he understands that DEP has to do this, but he believes the nitrogen levels will continue to go up no matter what, due to growth.

Ronnie asked for a definition of the acronym atmospheric deposition (ATDEP) which was listed on some of the slides. Tiffany stated this was an abbreviation for atmospheric deposition. Ronnie added that heard that lightening recharged the ground with nitrogen. Greg stated that atmospheric deposition does not account for lightening specifically, but is based on a monitoring program that is national and looks at all air emissions. The stakeholder asked for clarification on how it is calculated and Celeste stated that the TDEP is based on real data from stations across the state that look at the loads coming from the atmosphere. An average is used as the station doesn't indicate where it came from—so the nitrogen measures could be from many sources like car emissions or lightening.

Kelly Young asked if enough time passed with any other springs, like Silver Springs, to look at efficacy of the policies implemented. Tiffany stated that Wakulla is a well-studied system with rapid travel times and you can see where they upgraded the WWTF in the spring vent data and improvements to water quality.

OSTDS Remediation and Public Education Plans

Tiffany stated that we are looking at multiple nitrogen sources in these two springsheds. However, DEP has been developing an OSTDS remediation plan for all springs, even in BMAPs where the source contribution is under 20 % in the PFA. Tiffany also pointed out that although the slide says "will included" an OSTDS remediation plan for DeLeon, it should say that an OSTDS plan "is required" because the PFA loading from OSTDS is over 20 %. Tiffany stated that the OSTDS plan will include a public education plan, a review of scientific information related to the OSTDS plan, and a list of projects to reduce nutrient impacts from OSTDS.

Tiffany stated that one of the goals for today is to get an inventory of public education efforts. She provided stakeholders with a handout and informed them that Volusia County and SJRWMD already provided information for other BMAPs in the area which were included in the handout. She asked everyone to discuss public education needs in Gemini Springs and DeLeon Spring, noting that the intention of the plan is to increase knowledge of groundwater, septic systems, and other sources to nitrogen. She asked stakeholders to provide feedback by the next meeting.

Tiffany stated that list of target audiences was based on what they heard in other BMAP meetings and asked if there were additional audiences this group felt should be a primary focus.

Gemini Springs and DeLeon Spring Basin Management Action Plans

Paul asked why "middle class" was particularly singled out in the plan and suggested it be changed to everyone – not just middle class.

Tiffany reviewed the recommended messaging listed on the hand-out. Paul stated that he would like to see the first item, "Don't blame the septic industry, they are part of the solution" reworded to say the septic tank industry is part of the solution without the "don't blame" statement.

Tiffany reviewed the recommended materials and emphasized the importance of trying to maximize avenues for piggy-backing information. A participant stated that he does not think that there are existing utility inserts here, so that should be removed.

Ginger Adair suggested that in the springshed, where there is a more rural or agricultural component, DEP should look at the Florida Farm Bureau, UF-IFAS, or other agricultural outlets for getting out educational materials. Another stakeholder stated that 90 % of the loading is from City of DeBary, which should make materials more community-focused. Kelly asked if there is a way to announce if grants available for making upgrades, stating that the county can offer and educate people, but we need to make structural changes. Tiffany reminded everyone that there is money from the legislature for springs protection and grants for sewerage. Tiffany also stated that for advanced wastewater treatment (AWT) of OSTDS, there is money available at the state level to be administered at the local level, but it has not been utilized in any springshed yet. Greg added that it is DEP's intention to have funding available to offset the cost of the AWT to assist homeowners with the cost of implementation. Kelly asked if the state already has money allocated. Greg responded that there is earmarked money and DEP plans on tapping into that; however, there are not yet any adopted OSTDS remediation plans.

Ginger asked how plans can move forward in this area where there is no utility provider. Tiffany stated that this means there will be different solutions in this area. Ginger explained that in Volusia Blue there are many utilities. However, in this area the opportunity for converting to sewer is not there as there is not utility service and infrastructure.

Mary Brabham stated that last week the SJRWMD advertised money for septic systems to be upgraded for advanced nitrate reduction for areas where sewer is not an option. Ginger stated that there is no utility to implement projects though and asked who would manage it. She asked what the government's responsibility is when there is no easy mechanism for this.

A stakeholder suggested that it make sense for FDOH to administer this program since they are the permitting agency. Greg responded that DEP has been meeting with FDOH. The two agencies are working on a new memorandum of understanding (MOU) that would define their roles. Currently, local funding administration has not been defined as an FDOH role.

Ronnie added that the education plan should include information on what the long-term cost to the taxpayers will be since extending wastewater also costs tax money. He added that everyone will be impacted by the policy in terms of taxes and that the plans should be very careful to not implement something that will put a large burden on everyone in the state.

Gemini Springs and DeLeon Spring Basin Management Action Plans

Tiffany asked if there were any more additions or concerns with the education handout. She stated that she would make the edits suggested and send it out to the entities to update.

Tiffany directed the participants to look at the second page of the handout for an example of a project table and asked them to submit projects that could be listed in the BMAP in the public education section.

Paul identified himself as a member of the septic industry and asked why, in regards to the last project listed which is a marketing campaign that links septic tanks to springs, does DEP not list fertilizer and all of the other sources of nitrogen. He stated that he feels the septic industry is part of the solution. Tiffany responded that the last page covers OSTDS and fertilizer social marketing campaigns. She stated that the costs for implementation is estimated, but is provided as an example of what a campaign might cost.

Ginger stated that Volusia County applied for OSTDS education funding through the state's 319 grant program with the intent to do a social marketing campaign to educate people we are all part of the source and solution. She added that this campaign is intended for Blue Springs, but the messaging should be able to be used anywhere in the county.

Tiffany stated that in 2017 the Florida Stormwater Association (FSA) sent a survey regarding the needed for continued state funding of educational programs and thanked participants who sent in information on funding needs for stormwater. She added that DEP set aside another one million dollars this year for public education based on the survey results.

Ronnie asked if the BMAP already predetermined and if this process is just to notify the public or if it intended to ask what should be in the BMAP. He also asked who was involved in the determination of the PFA and when it was decided. Tiffany stated that Celeste covered the PFA development in her part of the presentation. Greg replied that the goal of this meeting is to introduce the framework and NSILT, which shows us that these BMAPs do need OSTDS remediation plans. Greg added that it also looks at what is needed from other areas, adding that the meeting focus seems to be on OSTDS because it is an important category of nitrogen sources that has not been addressed. Greg added that there are requirements for agricultural best management practices (BMPs) and that the next meeting will look at submitted projects and to see how much load reductions we can expect from different sources.

He stated that after that meeting it would be clearer how many septic systems need to be addressed through AWT or connected to sewer to meet the gap over the 20 year life of the BMAP. He explained that this is called the gap analysis and it will look at the needed reductions, the reductions we can expect from projects submitted, and what gap we can fill with OSTDS. He also clarified that the minimum statutory requirement is that septic tanks within the PFA must be enhanced or sewer on lots less than one acre and once the reduction is determined for the minimum requirement we will know if that meets the needed reduction gap. Greg stated that some of the gap could be met in other ways, such as agricultural advanced practices or procedures.

Gemini Springs and DeLeon Spring Basin Management Action Plans

Ronnie stated that he has heard among the septic industry that it may be a lot less expensive to get to a 50 % reduction, as opposed to the 65 % and asked if there was room in the BMAP to shift the reduction percentage as the 65 % reduction technology would be too expensive for rural areas residents. He also asked if the legislature is being educated to the financial problem that we are getting into when we have to implement this. Greg stated that the 65 % that includes all reductions, which may include in-tank, drainfield, and attenuation, and is most likely the same thing being referred to as technology that has a 50 % reduction. He stated that FDOH has done studies on more expensive systems that have a much larger reduction, but need maintenance because there is a pump component. The requirement is being worded as meeting a certain treatment level and then the property owner has some flexibility in what system or manufacturer they want to use.

A participant asked where DEP was in terms of rule development with FDOH and how to implement these policies. Greg stated that he did not think DEP would need to go through the rule making process. DEP and FDOH are working on a new MOU. There are existing MOUs between the agencies that have been in place for years, so the new MOU will address the needs established by the new legislation. The participant clarified that the rule would be to identify which technology will be permitted and approved by FDOH. Xueqing (FDOH) clarified that the advanced treatment unit (ATU) is already a permitted by FDOH and the only change that is needed is to allow in-ground media filtration and liners. Greg stated that, because of the legislative language, where we will clearly be able to start is within the PFA on lots less than one acre, which will go into place immediately, and FDOH will ensure that these are advanced treatment systems for nitrogen.

Ginger asked when the Volusia Blue BMAP will be adopted. Greg stated that it is ready to be signed and that all springs BMAPs need to be adopted by July 1, 2018. He stated that all BMAP documents will be similar. Greg added that DEP is required to adopt 14 of springs BMAPs by the July 1, 2018 deadline, so he was apprehensive to put a hard date on any particular one. Ginger added that there was a lot of discussion on difficult topics in Volusia Blue BMAP meetings and she was interested on when that would be adopted and if the language would be changed. Greg stated that Moira Homann is the basin coordinator and would be able to state if or how comments on the BMAP are integrated, although one potential reason for the initial three BMAPs being held back is to see if any of the solutions could be refined. Ginger added that having to review the BMAPs all at once would be a burden and suggested that they be staggered.

Ronnie stated that there are more questions being asked at every meeting on the technical side and more information is coming into perspective. He suggested that we need to get more information before we have a set plan. Greg stated that he understood the concern. However, there is a statutory deadline of July 1, 2018 for BMAP adoption that must be met according to the legislative mandate. Greg stated that in the previous surface water BMAP process, there was a 5-year planning horizon to meet and then the BMAP would reassessed and, possibly, reset. He stated that this is not the case as the springs have a hard 20-year deadline to meet each TMDL, so there is an inherent obligation to come back and meet the milestones. He reminded participants that there will be annual reporting to see progress and assess milestones. Greg added the DEP will also refine the BMAP every 5 years based on NSILTs, new technology, and other scientific information and that BMAP will need to be readopted. He stated that we need to focus and start

Gemini Springs and DeLeon Spring Basin Management Action Plans

on reductions within our PFA to meet the reduction. It would not be necessary to hold up the process now as minor changes would not be likely to make a significant impact on the policy we would select today.

Ronnie stated that this is likely going to transition from DEP to FDOH and to utility companies and asked who would pay the maintenance cost and whether this would move development away from the BMAP. He expressed concern that developers will avoid transitioning to advanced systems or putting in sewer. He added that this policy also falls on the homeowner and needs to be part of the training and education program that needs to go to the public. Xueqing stated that after this is put into place, FDOH will still be the permitting agency so the only change would be whether the BMAP would require a nitrogen reduction system instead of a conventional system. Ronnie stated that this would be governed by the local utilities. Tiffany clarified that the role of FDOH will stay the same, although they may add to the list of acceptable technology over time and the utility would only manage the area they currently manage unless sewer is expanded.

Paul asked if DEP will have the authority to determine when and where septic systems can be installed. Tiffany responded that DEP will not tell owners which treatment system to use, but they will state that the National Sanitation Foundation (NSF) 245 standard for nitrogen treatment must be met. Tiffany reviewed the scientific information that would be used and ongoing projects in research and science. She stated that FDOH has an ongoing effort to update their septic inventory and that there are proposed projects, like expanded groundwater monitoring. Tiffany asked that stakeholders let Moira or herself know if they have any additions.

Reduction Approaches

Tiffany reviewed the general approach of determining what the reduction goal is and then looking at the projects that have been submitted and their possible reductions to get the reduction gap. Tiffany showed the reduction to meet the TMDL and talked about the milestones we need to meet, including having an aggressive starting goal so that there is time to reevaluate and adjust to still meet the 20 year deadline.

A participant asked if DEP is looking at boil information from up to 15 years ago, how that relates to loading at the boil. Tiffany stated that DEP looks at concentration and biological data to determine impairment. The participant then asked if land use changes over time, such as the reduction in agricultural land as someone had pointed out, could make it possible to meet the goals without doing anything. Tiffany responded, yes, and with studies we can continue to find out more about travel time and what happens underground and link to results.

A stakeholder stated the he felt well data would be critical to defining success. Greg stated that he agreed and that project implementation is linked to reductions, but will also be looking at the nitrogen load at the vent and the monitoring plan.

Ronnie asked for clarification on the difference seen in Wakulla Springs and what was done there to improve water quality. Tiffany stated that there was a WWTF upgrade and there are also WWTF regulation improvements.

Gemini Springs and DeLeon Spring Basin Management Action Plans

Tiffany asked participants to follow-up before the next meeting by providing projects. She stated that these could be anything from education, fertilizer ordinances, or OSTDS remediation projects. She stated that DEP would need this by Feb 16, 2018 to allow time to look at reductions and gaps before the next meeting. She also informed participants that the recharge and attenuation rate would be added to project reductions submitted and, to determine this, it is important to have location information.

Teyanne Duclos asked what the project date range would be for this BMAP. Tiffany responded that projects will be accepted from January 1, 2009 forward.

Tiffany added the location information could be added as a latitude and longitude coordinate or submitted in a geographic information system (GIS) file. She also noted that supplemental information may be requested to help confirm reductions. Tiffany reminded participants that ordinances, street sweeping, and education efforts do not have to follow the start date limit as long as they are ongoing. Tiffany let stakeholders know that Moira would send out collection workbooks.

Tiffany showed a gap analysis example table from the Crystal River/Kings Bay BMAP and reviewed the septic tables for Gemini Springs. Tiffany reminded participants that the septic count in the PFA is a known number based on the FDOH inventory and that the expected reduction from septic tanks with technology conforming to the NSF 245 standard or sewerage has a given reduction. She stated that if areas don't have utilities and AWT was implemented the entire PFA, a reduction of around 12,000 lb-N/yr could be expected. She also showed a table showing the estimated reduction of 14,841 lb-N/yr if AWT was implemented in the entire BMAP area. Tiffany presented numbers for DeLeon for AWT in the PFA as 17,873 lb-N/yr and for AWT in the entire BMAP as 20,406 lb-N/yr.

Ginger asked if one looks at all lots in the PFA and look at which can be converted, what percentage of homes need a permit or retrofit per year to see how that would time out with the 20 year OSTDS policy for AWT or sewer connection. Greg stated that DEP does have repair rates per county and the 20-year life of the BMAP takes into account the 5 % average repair rate and lifespan of a septic system, although there are some areas that are higher or lower. Ginger asked if that accounts for new systems. Greg stated that this was correct. Someone asked if DEP would count putting in new retrofits toward the reduction. Greg stated, no, as that would be new loading and not reductions to the loads we already have.

Xueqing stated that on the FDOH website there is a table with number of repairs and cumulative number of septic tanks in this area and that the repair rate was around 1 % in this area. Ginger stated that a 1 % repair rate would not get us to the needed reduction. Tiffany responded that the backstop would as it would require all systems to comply the BMAP policy within 20 years. She also stated that if owners need a repair that does not require a permit, they could decide to do the upgrade then, even if the upgrade is not required.

Tiffany covered other sources like urban turf grass, agriculture, and WWTF restoration approaches to achieve the reduction goals. Tiffany stated that one of the issues with urban turf is that it is an individual choice which makes reductions difficult to calculate. She added that for

Gemini Springs and DeLeon Spring Basin Management Action Plans

agriculture, FDACS provides us with advanced practices and their load reduction estimates. Tiffany showed the estimated reductions from advanced agricultural practices in a table and explained that these reduction credits look at going above and beyond what growers are required to do. Tiffany spoke about the need to subsidize OSTDS AWT for local residents and the need to find an implementation option.

Tiffany discussed the OSTDS AWT options to meet the 65 % improvement in treatment. Tiffany discussed the requirements of the remediation plan, requirements to upgrade when permit is issued, and the need to connect to sewer if it is available.

Tiffany stated that the next meeting will cover the gap analysis and stated that we would look at holding it in late February or early March. She stated that an additional public meeting would be held most likely in late March early April.

Ginger asked if stakeholders will have the opportunity to look at the NSILT GIS files to make comments to change the NSILT before adoption. Greg stated that we can make supporting information available if we have not already. Tiffany stated that we would like to know about comments or corrections and, while the NSILT will be refined over time, we may not have time to do NSILT amendments before BMAP adoption. Greg stated that if we need to change the NSILT we can, but we are looking at load at the vent for our reduction goal, and refinements to NSILT will not change BMAP policy approaches.

Ronnie stated that there is not a limit on development of one acre not being allowed septic systems, it is one-half acre.

Tiffany stated that the group needed to look at meeting room availability and other events to avoid. Ginger stated that March 12th to 16th is spring break for the Volusia County School District and should be avoided for meeting dates.

A stakeholder asked if the presentation would be posted and Tiffany replied that yes, Moira will post it when she is able to return to the office. Tiffany stated that DEP will also get back to you on meeting dates, follow-up on education projects, and get project list for gap analysis.

Teyanne asked if the springshed and PFA GIS files are online. Greg stated that they were not. Tiffany replied that she would ask Moira to follow-up with stakeholders on providing shapefiles. Greg stated that the PFA and springshed are available in shapefiles, but they are not posted on the DEP website until after BMAP adoption. Teyanne and Judy stated that the project collection sheets ask for identification of location and that it would be easier to do this if GIS files were available. Greg stated that DEP can send those GIS layers to stakeholders who need them.

David Hamstra asked if the computations from the NSILT were available to stakeholders or documented in some way. Greg stated that there is not a separate NSILT report for Gemini Springs and DeLeon Spring; however, DEP could provide the assumptions in an appendix format. Tiffany added that it is difficult to send the spreadsheet because it is linked to a resident database.

Gemini Springs and DeLeon Spring Basin Management Action Plans

Someone asked if DEP could put proposed PFAs and maps online to be available. Greg stated that these could be requested from Moira and added that DEP is also working on a tool for homeowners and septic contractors to search whether an address is in the PFA.

Public Comments

Public comments were taken throughout the meeting and can be found above in the full summary. No public comment time was requested.

Next Meeting

The next meeting date has not been determined at this time. Stakeholders request that the meeting date avoid spring break from March 12 through 16, 2018.

Adjourn

The meeting adjourned at 11:57AM.

Action Items

- Moira – Post meeting presentation online.
- Moira - Follow-up with Teayann and Ginger to provide GIS files for project location determination.
- Tiffany – Make suggested edits to the education projects spreadsheet and send to stakeholders.
- Stakeholders – Provide updates to DEP for education projects to be included in the OSTDS remediation plan.
- Stakeholders – Provide BMAP project information to DEP.
- Moira – Decided on and send out information for the next meeting date and location.
- DEP – Summarize NSILT assumptions and provide to stakeholders.