

Upper Wakulla River and Wakulla Springs Basin Management Action Plan

Technical Meeting Summary

Tuesday, June 25, 2013

9:30 AM – 12:00 PM

Woodville Community Center, Live Oak Room
8000 Old Woodville Road, Tallahassee, Florida 32305

Attendees

Joseph Addae-Mensa, DEO	Cal Jamison, Friends
Craig Barkve, Tallahassee	John Kraynak, Leon County
Carly Barnes, FDACS	Graham Lewis, NFWFMD
Kris Barrios, NFWFMD	Debbie Lightsey, Citizen
Curtis Baynes, Citizens	Eric Livingston, Citizen
Catherine Bray, Tallahassee	Alex Mahon, Leon County Health Department
Kathy Burke, Leon County	Sean McGlynn, MLI
Tiffany Busby, Wildwood Consulting	Anita Nash, FDEP
Steve Cioccia, FDEP	Terry Peacock, USFWS
Christy Crandall, FAMU	Ron Piasecki, Friends of Wakulla Springs
Jason Dickey, Cardno ENTRIX	Marcy Policastro, Wildwood Consulting
David Edwards, Wakulla County	Johnny Richardson, Leon County
Eric Etters, Tallahassee	Peter Scalco, Wakulla Springs State Park
John Folks, FAMU	Luis Serna, Wakulla County
Cassel Gardner, FAMU	Will Sheftall, IFAS Extension
Charlie Gauthier, FDEP	Charles Shinn, Florida Farm Bureau
Pam Hall, Citizen	Ed Steinmeyer, Leon County
John Hallas, Talquin Electric Cooperative	Jim Stevenson, Citizen
David Hammonds, FDOH	Bob Thompson, Citizen
Janet Hearn, ATM	David Tillman, GPI Southeast
Theresa Heiker, Leon County	Amy Tracy, ETM
Steve Hodges, Tallahassee	Elke Ursin, FDOH
Linda Hudson, Tallahassee	Rob Williams, Center for Earth Jurisprudence
Brian Icerman, Jones Edmunds	Mark Yelland, DEO
Jason Icerman, Jones Edmunds	Laura Youmans, Leon County

Welcome and Introductions

Tiffany Busby welcomed everyone to the Upper Wakulla River and Wakulla Springs Basin Management Action Plan (BMAP) meeting. The participants introduced themselves and the entity they represent.

Monitoring Plan Follow Up

Anita Nash stated that during the last meeting, the outline for the BMAP monitoring plan was discussed and the stakeholders provided a lot of feedback on ideas for the monitoring. The purpose of this discussion is to provide information on what changes were made to the monitoring plan. A handout was also provided with the updated plan and map of the monitoring locations. Anita noted that as a reminder, the total maximum daily load (TMDL) would be achieved when the 0.35 mg/L nitrate concentration is met and the river shows healthy vegetation.

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This is also consistent with the numeric nutrient criteria for springs, which will be used to assess the Wakulla Springs boil during the next assessment cycle.

Anita stated that the first primary objective of the monitoring plan is to, “Track trends in nitrate concentrations and loads in the Upper Wakulla River and Wakulla Springs.” This objective will be determined through the water quality sampling. The second primary objective is to, “Track trends in the biological communities in the Upper Wakulla River.” This objective will be determined through the biological assessments.

To meet the needs of the first primary objective, river monitoring will occur. The Northwest Florida Water Management District (NFWFMD) will continue to sample monthly at the upper bridge site, which is located at the bottom of the waterbody identification (WBID) number 1006 for the Upper Wakulla River and at the edge of the Wakulla Springs State Park boundary. NFWFMD will also start collecting monthly samples at the recreation area boat dock, which is close to the spring vent but within the Upper Wakulla River WBID. NFWFMD will also start collecting samples twice a year at the biological sites. The Florida Department of Environmental Protection will also start collecting samples twice a year at the biological sites. Debbie Lightsey asked if NFWFMD and the Department will take the samples at biological sites at the same time or if they will stage them so that quarterly samples are collected. Anita responded that the approach will be reviewed during the biological sampling part of the presentation.

Anita stated that the changes made to the river monitoring since the May meeting included adding the Department’s water quality samples at the biological sites, modifying the list of parameters to match NFWFMD’s standard parameters list, and adding NFWFMD’s continuous river level recorder and continuous pH, conductance, and temperature recorders. These recorders provide information to help support the monthly data.

To help with the first primary objective, spring vent and conduits monitoring will also occur. NFWFMD will continue to sample quarterly at the spring vent. The Department will also continue to collect quarterly samples at the spring vent, which will be staggered from NFWFMD’s sampling so that eight samples are collected each year. The Department will also sample the six conduits on a quarterly basis. In addition, the Department will purchase and install a continuous nitrate meter for the spring vent (Note: since the meeting, it has been decided to install the meter at the recreation area boat dock). Christy Crandall asked if the meter would collect data every hour or every 15 minutes. Anita responded that she was not sure about the frequency but she would find out.

There were several changes to the spring vent and conduits monitoring since the last meeting. The Department’s Ground Water Management Section and the Florida Geological Survey (FGS) met with Wakulla Springs State Park staff to discuss access to the conduits that have tick problems. The Park committed to providing maintenance to allow for quarterly sampling around the conduits. In addition, the list of monitoring parameters was refined to match the Department’s standard list and the continuous nitrate meter in the spring vent was added.

Anita stated that the biological monitoring to meet the second primary objective will include four tools: (1) rapid periphyton survey (RPS), which is an assessment of the abundance and variety of

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algae; (2) linear vegetation survey (LVS), which is an assessment of plants including the presence of native versus non-native species; (3) stream condition index (SCI), which is an assessment of the number of different organisms present; and (4) habitat assessment (HA), which is used to determine if there is adequate habitat to support a healthy community of organisms. NFWFMD will conduct the RPS, LVS, SCI, and HA twice a year about 200 meters downstream of the upper bridge and about a half mile from the spring vent. The Department determined that they could match this sampling so that quarterly assessments of the biology will be made. During the last meeting, there were questions about the amount of biological monitoring needed for statistical significance. The Department determined that quarterly sampling, which will occur in each season, should be conducted for a few years to determine if this frequency is adequate.

The changes to the biological monitoring include changing the frequency to quarterly, with the Department conducting the assessments the additional two times per year. Water quality samples will be collected during the biological assessments; therefore, quarterly water quality samples will be collected at the biology sites. In addition, SCI and HA were added to both biological sites.

Flow monitoring will also be conducted to help determine the nitrate loading. The U.S. Geological Survey (USGS) will continue to maintain the continuous flow gage at the upper bridge and NFWFMD will continue the gage at the spring vent, which was missing from the monitoring plan at the last meeting. FGS has conduit flow gages in place and they are going to replace these soon with newly calibrated meters. The Department and funding partners, who have not been identified, are looking to re-establish the flow gage at Spring Creek. The changes to the flow monitoring since the last meeting were to add the NFWFMD flow gage at the spring vent and the FGS gages in the conduits. Anita noted that the map in the presentation and handout show what monitoring is occurring at each location and who the contact for the monitoring will be.

Johnny Richardson asked if the nitrate meter data would be used for TMDL compliance. Anita responded that she believes that data from the meter can be used. However, the spring vent is located in a different WBID, so the data would not be used for the existing Upper Wakulla River TMDL.

Johnny noted that if the nitrate concentration is met and healthy vegetation is present, then the TMDL would be achieved. He asked what would occur if the SCI does not pass since this is what the TMDL is based on. Anita responded that the Department would look at the data collected around the SCI to determine why it did not pass. HA is used to make sure that the SCI correlates well for the type of stream so that it can be determined if the SCI data are appropriate. Johnny noted that the natural conductivity in the springs would mean that the SCI would not pass. Anita responded that the numeric nutrient criteria do not require that all three tests (RPS, LVS, and SCI) pass to show a healthy community. If the RPS and LVS pass then the SCI is not needed. Tiffany added that the river could also be listed as impaired for a parameter other than nitrate if something else is affecting the biology. Johnny asked if these sites currently pass the biological assessments. Anita responded that the data Joy Jackson (Department) showed at the March meeting were for the site near the upper bridge and the LVS was not passing.

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Bob Thompson asked for an explanation of the HA. Anita responded that the HA would occur on the same stretch of the river where the SCI will be conducted. The purpose of the HA is to determine if vegetation is present that will support organisms. The habitat is assessed in half-meter square areas. This information is then used to score the waterbody, which determines what types of organisms should be present given the habitat. The results help support the SCI evaluation to determine if the community present is matching the available habitat.

Will Sheftall asked why biological data were not being collected at the recreation area boat dock, since this area has the greatest use. This area may only be appropriate for RPS and LVS but it would be helpful to match the vegetation information to the water quality data collected at this site. Kris Barrios responded that there are a lot of boats driving around near the docks and the biological sites were selected in areas that were less impacted. Anita added that the location about a half mile downstream is also better because it is shallower, which makes it easier to see the vegetation. Kris noted that the vegetation in this location is more stable, which would make it easier to compare the data from visit to visit. Will stated that from a public perspective, there would not be data on algae and vegetation where there is more public use of the river. Anita responded that the location about a half mile downstream is part of the boat tour so the public does see the proposed location. This comment will be noted but there is no one currently available to collect the data.

Jason Dickey stated that the way he understands the numeric nutrient criteria is that if the SCI fails but the other tests pass, it is not automatic that the stream passes because it is up to the Department to explain why the community is healthy. Anita responded that the other parameters are collected to help with this determination. Steve Cioccia noted that they coordinated with the Department's Watershed Assessment Section when developing the monitoring plan to make sure that the data collected would meet the requirements of the TMDL. There was a lot of discussion about the numeric nutrient criteria and SCI. The consensus was that the RPS and LVS for the numeric nutrient criteria are a better measure in this area; however, SCI is also included to provide a comparison to past information.

Initial Discussion of Research Items for the BMAP

Steve stated that the list of research items in the presentation and handout were compiled by the Department from discussions during previous meetings. A request for additional items was sent to all the stakeholders via email, but none have been received yet. Any additional research items should be sent to Anita by July 2nd. Once finalized, the list of research items will be included in the BMAP as actions that could be pursued to improve understanding of the basin if funding becomes available. These items will not necessarily be funded through BMAP or Department funds.

Steve noted that the for the item, "Determine the nitrate contributions to Wakulla Springs during the reverse flow scenario where Spring Creek flows to Wakulla Springs," John Folks provided information on how to calculate this based on the Lombardo report. Steve stated that he would post this information to the FTP site for the other stakeholders. Another research item is to expand the Department's Wakulla Springs nitrogen sourcing inventory, which was presented at the April meeting, to the entire BMAP boundary. This request has already been made to the

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Department's Ground Water Management Section and they will expand the inventory when they have the time. Debbie asked what information is collected as part of this inventory. Steve responded that the Ground Water Management Section looked at nitrate loading from different source categories including wastewater, fertilizer, onsite treatment and disposal systems (OSTDS), and agriculture. The OSTDS loading was determined using the Florida Department of Health (FDOH) inventory with literature values for loading. This study also included attenuation factors to represent what load enters the ground water. The purpose of this inventory was to update the information from the 2002 Chelette report and to focus more on what load is entering the ground water. The Ground Water Management Section only focused on part of the BMAP basin for this inventory so they were asked to expand the inventory to match the BMAP basin. They are currently inundated with other springs studies, so it may be a year or two into the BMAP implementation before the inventory is updated to include the additional area in the BMAP boundary.

Pam Hall asked how this inventory is different from the Lombardo study because that study also included attenuation factors for different sources. Steve responded that the Lombardo study had a different geographic area. The inventory will be expanded first to include an evaluation of the priority focus areas (PFAs) and then for the entire BMAP basin. Pam noted that it is also important to evaluate what is coming into the PFAs. Steve responded that he agrees and this is why the inventory will be expanded to the entire BMAP boundary.

Rob Williams asked if the information from this inventory would help the Department make detailed allocations to different source categories as per state statute requirements. Currently, the Department is saying that it is not making allocations because of uncertainties about how much load makes it to the spring. Steve responded that the purpose of this inventory is to give an idea of the magnitude of loads from different source categories; however, the inventory is not as detailed as an allocation because it is based on some countywide information. Debbie noted that she is surprised that some of this information is not already available. For instance, Leon County has an OSTDS coverage, which may not be complete but it would help to determine general loads from general source categories. Steve responded that the Ground Water Management Section is using a FDOH model that helps to determine OSTDS locations based on where sewerage is available and where residences are located. Debbie noted that, in general, the number of OSTDS is not an unknown quantity. Steve responded that there are questions about which OSTDS estimates are the best, but they are all general.

Jim Stevenson asked if the research items are a wish list or a list of what will be done. Steve responded that the list is a combination of the two types. The items are not listed in any priority order, but the Department wanted feedback from the stakeholders to ensure the list is complete for inclusion in the BMAP. Tiffany added that the Ground Water Protection Section has committed to expanding the nitrogen sourcing inventory, but the timeline for this effort is not known. The list of items that will be done could be shown separately from the "wish list" items, if that would be less confusing. Christy noted that Light Detection and Ranging (LIDAR) data are available already for Wakulla County, so some of these items may be done. Steve noted that the LIDAR data could be incorporated into the aquifer vulnerability assessment to improve that information.

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Rob stated that he agrees it is important to identify potential sources of loading but there is the 2002 report by Chelette, 2010 report by Davis, and 2011 report by Lombardo. He asked when the studies for new boundaries would stop and if the update to the Department's inventory is really necessary. Steve responded that the Department does feel that the update is necessary because the Ground Water Management Section is using more advanced methods, including Geographic Information Systems (GIS) data that have been ground-truthed (especially for agriculture). The update is also needed to include all sources within the boundary, including the loads coming from north of the Cody Scarp.

Sean McGlynn suggested adding a research item to evaluate color in the river and springs.

Pam stated that she believes that she is the author of the FDOH model on OSTDS that the Department is using for the inventory. She can be a resource if the Department has any questions. She noted that Alex Mahon's data for OSTDS would be better because it is specific to Leon County and was not developed as a part of statewide model. Steve responded that he would provide Kirstin Eller (Department) with Pam's information for any questions on the FDOH model.

Will stated that for the research item on saltwater intrusion, the organization known as Aquifer Watch could be a good resource. This group uses homeowners to collect water quality samples from their wells, so this information could be a good early warning about saltwater intrusion. Christy noted that there is probably a lot of work underway on each of the research topics because she knows that the Florida Agricultural and Mechanical University (FAMU) is working on some of these. The BMAP should include information about what is already occurring. Steve responded that if the stakeholders could submit information about these ongoing studies, he would appreciate it.

Bob noted that Steve stated that the number of OSTDS in the basin is an estimate and the Department is not comfortable that a good number is available. During earlier meetings, OSTDS were identified as the largest contributor of nitrates. Therefore, it seems that it should be a high priority to identify the number of systems so that an allocation can be assigned to make effective reductions. Steve responded that the Department has been talking about this issue and this will be part of the discussion at the August meeting. Ron Piasecki stated that he does not understand why estimating the number of OSTDS is a difficult task. Leon County has a good inventory and the Wakulla County property appraiser website can help determine the OSTDS locations.

Alex noted that Leon County is looking to fund a position to assist in creating a coverage for OSTDS in the county. This will involve looking at GIS data to determine what lots are developed and where sewer is available to identify OSTDS parcels. One of the issues is large properties that have multiple structures on it. The Leon County Health Department will have to visit these sites to determine which buildings have septic tanks. This work should start in October, which is the beginning of the county's fiscal year. Steve added that Wakulla County is also trying to obtain funding to conduct an OSTDS inventory. Ron stated that Florida State University (FSU) did an inventory about five years ago, so the information should still be good. Steve responded that the Department is trying to compile the most accurate information about OSTDS so they are going to the local governments where these systems reside to obtain an

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accurate and verified count that includes the age of the system. Pam stated that it would only take a few hours to determine this for Leon and Wakulla counties using the property appraiser database and permit information. There is never going to be an inventory that includes 100% of the OSTDS, but there are numbers that are good enough and statistically valid.

Debbie asked if the Department is saying nothing will be done to remediate OSTDS loading until a good number could be determined. Steve responded that he is trying to describe what information is available now. The local governments have relayed to the Department that they are not comfortable with the existing estimates. Debbie stated that OSTDS have already been identified as the largest source of loading based on the existing information and the Lombardo report has some good numbers in it. Steve noted that the Department's plan to address OSTDS loading in the BMAP would be described as part of the sufficiency of effort presentation.

Elke Ursin stated that FDOH is actively creating an inventory of OSTDS for the state. The bigger question is what amount of the OSTDS load is going into ground water, and FDOH is also working on a model to determine this. The model will not be ready until 2015 but the results will help answer some of the questions raised today. Elke noted that by the end of June/early July, FDOH will have a map online where a user can enter an address to determine if that parcel is on central sewer or OSTDS. The information is editable so it can be updated by the public. Steve stated that he would follow up with Elke to find out when this map is posted. Will asked if the FDOH study would include the data from the lysimeter study. Elke responded that a nitrogen study is currently being done by a contractor, which involves ground water monitoring to determine how nitrogen behaves in natural systems. This information will be used in the ground water model.

Preliminary Sufficiency of Effort Evaluation for Wastewater Sources in the PFAs

Steve stated that the Department asked the stakeholders in the PFAs to provide management strategies that reduce or prevent nitrate loading. Steve noted that he was grateful for the stakeholder's hard work that went into putting together information on the completed and planned strategies. The stakeholders in the PFAs include City of Tallahassee, Florida Department of Agriculture and Consumer Services (FDACS), Florida Department of Environmental Protection, Florida Department of Transportation (FDOT) District 3, Leon County, Wakulla County, and Wakulla Springs State Park. The sufficiency of effort review for the PFAs looked at strategies to address wastewater, residential fertilizer, agricultural fertilizer and livestock, stormwater, and OSTDS sources. The stakeholders also provided other helpful strategies including protection measures, studies, source control, and public education. Steve noted that the Department also received some thoughtful comments from stakeholders other than the responsible entities and the Department is taking these into consideration. For the sufficiency of effort evaluation, the Department compared the strategies received to each source in the PFAs. For the first five-year iteration, the Department made a determination whether the source was sufficiently addressed by all responsible stakeholders' strategies. Additional information and strategies were requested to ensure sufficiency for this BMAP iteration.

Steve stated that for the wastewater sources in the PFAs, the City of Tallahassee, Florida Department of Environmental Protection, Leon County, and Wakulla County are the responsible stakeholders. The types of strategies to address wastewater loading include upgrading

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wastewater treatment facilities (WWTFs) to higher treatment levels, removing/reducing biosolids application, and sewer collection system inspections and repairs/upgrades. Of the strategies received, the largest contributor is the upgrade to the Tallahassee WWTF, and the city provided an estimated reduction in loading from this upgrade. The city also eliminated biosolids disposal in the basin and they have inspections and rehabilitation projects for the sewer collection system. Wakulla County has a requirement for advanced waste treatment (AWT) for new facilities and spray fields in the Wakulla Springs Special Planning Area. The county is also looking to upgrade its WWTF to AWT and use the effluent for irrigation. Wakulla County also has a proposal to pump wastewater to the City of Tallahassee for treatment. Leon County is proposing to adopt an AWT standard for new systems in the Primary Springs Protection Zone, which is similar to Wakulla County's existing requirement.

Ron stated that there are five WWTFs in Wakulla County but only one is under the county's control. The county can talk with the other entities that own the WWTFs but it is really the Department's responsibility to require AWT in the permit. Ron asked if the Department has identified facilities that they should talk to about upgrading. Steve responded that the Department reviewed information on all of the domestic WWTFs within the PFAs to look at treatment levels, current flows, design flows, and discharge monitoring reports (DMRs) for the actual discharge of nitrate or nitrogen. Of the facilities reviewed, only the Winco Utilities WWTF was large enough to be a potential concern and this facility is associated with the prison. Steve noted that he had preliminary discussions with the Department's permitting staff about including aquifer protection measures in the permit in the future. Ron stated that there might be a limitation to what Wakulla County can impose on the WWTFs so the Department may need to target these facilities with state standards. Steve responded that he has been talking directly with the Department's permitting staff so the Department is directly addressing this issue. Marcy Policastro added that this is the reason the Department is listed as a responsible stakeholder in the presentation.

Debbie asked if the other facilities in the PFAs have done enough sampling so that the Department does not have any concerns about them. Steve responded that he reviewed the permits and DMRs and the majority of the facilities in the PFAs are very small (less than 10,000 gallons per day) or have adequate treatment levels so that they have minimal nitrate contributions. Pam asked if the Department has information about actual nitrogen levels from these facilities since they are talking about targeting individual OSTDS. Steve responded that the nitrogen limits are included in the permit and this is part of the information he is reviewing. John Hallas noted that the Talquin WWTF in Wakulla County will be decommissioned at the end of this quarter and the flows will be sent to the county's WWTF.

Steve Hodges asked if the Department would continue to review these WWTF permits. Steve Cioccia responded that the Department would continue to review these permits and to try and determine the impact in the basin. Jim asked if the Department's Northwest District office participating in these meetings since they permit the facilities. Steve responded that he has not yet met with the district office. He received information about the WWTFs from the Northwest District but he has been talking with the central permitters about options. Charlie Gauthier noted that about eight years ago, the Wakulla Sustainable Community was established with specific conditions for this development. One of these conditions was for upgraded treatment, which

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includes upgrading the Winco facility; however, nothing has happened with this development yet. In the Wekiva Springs Basin, there is a special state statute that includes wastewater discharge standards. The Wakulla Basin does not have a similar statute, so the Department is looking into what options it has. Amy Tracy asked when the Winco permit comes up for renewal. Steve responded that he does not remember the date but he can provide this information.

Steve noted that the City of Tallahassee will be providing details on the assessment and rehabilitation of the sewer collection system, and the Department will work with the significant WWTFs in the PFAs. The wastewater strategies are sufficient to address the wastewater sources in the PFAs for this BMAP iteration.

Amy stated that she does not understand the methodology used for the sufficiency of effort evaluation because there does not seem to be a weight of evidence or a timeline for addressing Winco's permit. Steve responded that the evaluation started by looking at the major sources of loadings and the strategies for each category. The Department found that the upgrade to the Tallahassee WWTF, which addressed the major load, was sufficient. The Department is now looking at other ways to achieve additional reductions, which is where the Winco permit fits in.

Will noted that the Department is one of the principal stakeholders because it is issuing permits. He asked if the Upper Wakulla River and Wakulla Springs are not meeting standards, would the Department be prohibited from issuing any more permits until the TMDL is met. Steve responded that he talked with the Department's permit staff about any new facilities would need to be at AWT. This BMAP is concerned not only with surface water but also with ground water; therefore, the Department had to look outside of the TMDL boundary for strategies to help address the sources. The Department cannot allow an additional discharge within the impaired WBID, but this only covers the surface water portion. Will asked that since the surface water's origin is from the ground water in the basin, does that mean the Department cannot permit anything else until the TMDL is met. Steve responded that this is being discussed internally since the TMDL is directed at the surface water impairment. Debbie stated that everyone knows that the surface water is the ground water and the Department should be able to reach that conclusion. Steve responded that the Department has reached that conclusion and is addressing it in the BMAP.

Theresa Heiker stated that it would seem that Tallahassee would not be able to expand its WWTF because it would increase loading to ground water. The stakeholders are being asked to remove OSTDS because of the ground water component but it sounds like wastewater is not being considered as a source to ground water. Steve responded that he is not saying that wastewater is not being factored into the ground water load but that the Department is trying to work with the way the TMDL was written that focused on the surface water impairment. Tiffany suggested that the Department provide information about its authority for permitting additional WWTF capacity at the next meeting.

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Preliminary Sufficiency of Effort Evaluation for Fertilizer, Agriculture, Stormwater, and Other Strategies in the PFAs

Steve stated that the responsible stakeholders for residential fertilizer include the City of Tallahassee, FDOT District 3, Leon County, and Wakulla County. The types of strategies to address this source include fertilizer management ordinances, education and outreach, and cessation. The City of Tallahassee, Leon County, and Wakulla County have fertilizer ordinances, and Tallahassee and Leon County have fertilizer management education. Wakulla County has committed to starting fertilizer management education and outreach. FDOT no longer fertilizes in the basin. Steve noted that the Department is gathering information on fertilizer use on state agency properties, but they have not found any significant sources. These actions are sufficient to address residential fertilizer sources.

Steve noted that FDACS is the main stakeholder to work with growers to address agricultural loading in the PFAs. FDACS has committed to enrolling 80% of the agricultural acreage in the PFAs in appropriate best management practices (BMPs) during the first BMAP iteration. The City of Tallahassee also eliminated fertilizer use on the spray field where hay is grown. FDACS has already enrolled some of the agricultural acres in the PFAs in BMPs. Steve noted that there is some concern about the hay fields in the PFAs because they can be fertilized heavily, so the Department will ask FDACS to focus on BMP implementation in these areas. Ron asked if the Department has had conversations with retailers about what types of fertilizer they are selling. Steve responded that those conversations happen through FDACS. Steve noted that the Department determined that the silviculture operations in the PFAs do not use fertilizer. These strategies are sufficient to address agricultural sources in the PFAs.

The stakeholders responsible for stormwater include the City of Tallahassee, FDOT District 3, Leon County, and Wakulla County. Steve noted that stormwater is not a major input to the groundwater in the Upper Wakulla River Basin. The types of strategies to address stormwater loading include capital projects; stormwater system maintenance; participation in Florida Yards and Neighborhoods (FYN) program; pet waste management, irrigation, and landscaping ordinances; and public education and outreach. Steve noted that all of the strategies tables would be provided after the meeting.

Pam asked if there have been any discussion about varying designs for stormwater ponds based on different soil types. Steve responded that the Department had discussions with FDOT about this and the FDOT central office is talking about using soil amendments to augment stormwater pond treatment. Pam noted that this recommendation should also be made to the other stakeholders.

Other strategies were also provided including studies, aquifer protection measures, surface water protection measures, litter control, and public education. Steve noted that public education is an area that the Department wants to stress because it helps the public understand the nature of the problem, which helps to get their buy in on what needs to be done make reductions.

Christy asked if the Department has had any contact with lawn maintenance companies because they do a lot of work in Leon County and they need education about fertilizer use. Eric Livingston responded that the education of lawn care companies is part of the Green Industries

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BMP Program, and they are required to be trained by 2014. Will asked what study was done to show that the education and certification process would result in a sufficient practice change. Anita responded that for the first BMAP phase, the Department thought these strategies were sufficient and, in the future, the Department could ask for more, if needed. Catherine Bray stated that John Cox (Tallahassee) had put together a lot of information on the Think About Personal Pollution (TAPP) Program in Tallahassee, and the key to this was pre and post surveys with focus groups. The results of the surveys showed an actual behavior change, and addressing the source is more cost effective than removing the nutrients later. Eric stated that before and after surveys of the Green Industries BMP Program are being conducted. This is a good program, although it is not in full effect yet.

Jim asked once the BMAP is completed, if anyone at the Department will be tracking compliance or will everyone have to wait five years for the end of the first iteration. Steve responded that the Department would be looking at compliance through annual water quality monitoring. If within a few years there is no improvement, the Department will re-evaluate the effectiveness of strategies. Tiffany responded that also annually, the Department would contact all responsible stakeholders about their BMAP strategies to ask for updates, which will be documented in a report. Therefore, the strategies will also be tracked to ensure compliance.

Plan Forward for Sufficiency of Effort Evaluation for Onsite Treatment and Disposal Systems in the PFAs

Steve responded that the City of Tallahassee, Leon County, and Wakulla County are responsible for OSTDS in the PFAs. The types of strategies to address OSTDS include ordinances, OSTDS inspections, sewerage, septic tank connection to sewer, use of higher efficiency treatment systems, and public education and outreach. Steve noted that the local governments provided some good ideas for what they are proposing to do for OSTDS management. Leon County has proposed projects to sewer within the Primary Springs Protection Zone, conduct a septic tank inventory, revisions to the septic tank ordinance for repair requirements, adding nitrogen removal requirements within the Primary Springs Protection Zone, and adding education about septic tanks. Wakulla County has a public education project and a requirement for nitrogen reducing systems within the special planning area. The county also has proposed projects for historical neighborhood sewerage, inspection and repair of tanks within basin, and a Tax Increment Financing (TIF) District for Crawfordville.

Steve stated that although these are good ideas, the Department did not find the OSTDS strategies sufficient because there are no commitments that these projects will occur. OSTDS are now the largest source in the basin. BMAPs must also address future loading and OSTDS loading is expected to increase. Recommendations to reduce the OSTDS contribution were also received by several stakeholders outside of the responsible entities. Addressing the OSTDS loading is priority for both stakeholders and the Department; therefore, this will be worked on throughout the month of July.

Debbie stated that the Leon County sewerage project is \$58 million, which will be paid for through the sales tax if it passes. Debbie noted that she is assuming the Wakulla County projects depend on BP funding. It is problematic to look at projects that would only occur through extraordinary income as opposed to a regular revenue source. Debbie noted that she heard that

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Wakulla County has approached Tallahassee about sending some of the wastewater to the city for treatment, but Theresa was just asking how they could expand the facility. Steve responded that these are all good points and these are the reasons that led the Department to decide that the strategies are not sufficient to ensure adequate reductions even though they are commendable efforts. Therefore, the Department is looking at what can be done going forward to ensure reductions from OSTDS sources. Amy asked if the stakeholders were able to provide information on the number of advanced onsite treatment systems there were added since the TMDL period. Steve responded that this is not something that was requested yet but will be considered as part of the initiative that will be developed to address OSTDS. Laura Youmans asked why FDOH, which is the OSTDS permitting entity, was not listed as a stakeholder. Steve responded that the presentation only includes OSTDS actions that were submitted by the local governments. The Department is planning to work with FDOH on the path forward for addressing OSTDS loading. Debbie stated that one point of concern is that even if the sales tax is approved and Leon County can add sewer lines, there needs to be some way to require people to connect to the sewer system and remove OSTDS. Therefore, there is no guarantee that even if the money is spent to expand sewer that the reductions will occur. Steve responded that these are excellent points that have to be considered.

Charlie stated that there is a lot of work related to OSTDS that needs to be done between now and the August meeting. The Department recognizes that this will not be a successful BMAP without a focus on OSTDS, especially south of the Cody Scarp. Between now and the next meeting, the Department will work to obtain a better understanding of the number of OSTDS in the basin and expected in the future. A lot of the stakeholders provided good input on the need for a coordinated strategy to address OSTDS loading, and these stakeholders were interested in an umbrella approach. FDOH has a study, which will be completed in 2015 that will likely be followed by legislative action. In addition, there are some funding options in play. There are a lot of moving parts that will take some time to work out and this can occur as part of the BMAP process. Charlie stated that the Department will work with the stakeholders and FDOH over the next couple of months and information on the OSTDS initiative will be presented at the next meeting. Pam stated that since the Department acknowledges that one of the OSTDS strategies is an umbrella management group, this should be included on the list of strategies.

Debbie stated that without a master wastewater treatment plan and a management entity, this would not be a sustainable plan. Catherine asked what parts of the BMAP are the stakeholders bound to and which parts are a wish list. The language in the BMAP is important so that the stakeholders are not open to third party litigation. Charlie responded that the BMAP program entered into law in 2005 and the first BMAPs were completed in 2008, so they are just reaching the end of the first iterations. The Department is still working out the best way to list responsibilities in the BMAP. In the Lower St. Johns River Basin, the Department has sent compliance letters to the stakeholders if they are not meeting the BMAP requirements. It is important to be precise about which are the enforceable elements. Tiffany added that the BMAP language is enforceable. If there are comments or concerns about the BMAP language when the draft is provided, the Department would appreciate comments. Debbie noted that since enforcement is important she does not understand why the Department eliminated the option of an allocation approach that sets out each entity's responsibilities. She hopes that when the BMAP does come out, it will require real actions to help the springs.

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Elke stated that one of restrictions for OSTDS is that the current legislation does not allow for nitrate reducing system until the FDOT study is completed. Pam asked what could occur if a sewer line or cluster system is added, since these are not nitrate reducing systems in a person's yard. Charlie responded that the local governments have the authority to require hook up if a sewer line is available; however, this is a hardship on the citizens. The legislation just prohibits performance based treatment systems at this time.

Public Comments and Wrap Up

Tiffany stated that the next meeting would be held on Thursday, August 15th at 9:30 AM at the Woodville Community Center.

Ron stated that one of the main issues is political will. The Wakulla Springs Alliance staff have talked with commissioners in the basin but they need the will to take things forward. The Department has mentioned that they met with staff but Ron asked if the Department has also met with the commissioners. Ron noted that a Wakulla County commissioner has attended several BMAP meetings but he has not seen any Leon County commissioners. Tiffany responded that the list of items for the OSTDS initiative includes different types of education for the public and commission. Once the draft BMAP is available, the Department will also brief the commissioners on the BMAP. Ron stated that the Department should also ask Leon County to schedule a workshop to discuss the BMAP with the commissioners. Rob noted that one portion of mustering political will is having a target, which is where the numerical part comes in. It is one thing to have a plan that is sufficient versus having a plan that will save the springs by meeting the 0.35 mg/L of nitrate target.

Adjourn

The meeting was adjourned at 12:03 PM.

Action Items

1. Anita Nash will determine what frequency the continuous nitrate meter for the spring vent will collect data.
2. The stakeholders should submit additional research items to Anita by July 2nd.
3. Steve Cioccia will post the calculations for Spring Creek contributions from John Folks to the FTP site.
4. The Department will add a research item to evaluate color in the river and springs.
5. Steve will provide Pam Hall's contact information to Kirstin Eller for any questions on the FDOH model.
6. Aquifer Watch's data should be considered as part of the saltwater intrusion research item.
7. The stakeholders should send Steve information on existing research related to the research items list.
8. Steve will follow up with Elke Ursin about when the FDOH map of septic tank locations is posted online.
9. Steve will send Amy Tracy information on the date of the Winco WWTF permit renewal.
10. The Department will provide information about its authority for permitting WWTF capacity at the next meeting.

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11. Steve will post the management strategies spreadsheets to the FTP site after the meeting.
12. The Department will present the OSTDS initiative at the next meeting.
13. The Department will consider requesting a workshop to present the BMAP to the Leon County Board of County Commissioners.