

Upper Wakulla River and Wakulla Springs Basin Management Action Plan

Technical Meeting Summary

Friday, January 18, 2013

10:30 AM – 12:00 PM

Wakulla County Public Library

4330 Crawfordville Highway, Crawfordville, Florida 32326

Attendees

Joseph Addae-Mensa, DEO	John Kraynak, Leon County
Craig Barkve, Tallahassee	Rob Lacy, FDEP
Kris Barrios, NFWFMD	Sean McGlynn, MLI
Kathy Burke, Leon County	Marcy Policastro, Wildwood Consulting
Tiffany Busby, Wildwood Consulting	Jennifer Portman, Tallahassee Democrat
John Buss, Tallahassee	Katherine Milla, FAMU
Steve Cioccia, FDEP	Shannon Miller, Citizen
John Cox, Tallahassee	Anita Nash, FDEP
Hal Davis, USGS	Keith Parmer, KDP R&D
Rance Ellis, FDACS	Steve Peene, ATM
Eric Etters, Tallahassee	Dan Pennington, 1000 Friends
John Folks, FAMU	Ronald Potts, ECT
Tabitha Frazier, Leon County Soil and Water Cons.	Johnny Richardson, Leon County
Tom Frick, FDEP	Bruce Ritchie, Florida Current
Bob Fulford, Citizen	Eberhard Roeder, FDOH
Charlie Gauthier, FDEP	Peter Scalco, FDEP
Doug Gilbert, FDEP	Luis Serna, Wakulla County
Katherine Gilbert, Citizen	Will Sheftall, IFAS
Joe Glisson, Wakulla County Soil and Water Cons.	Harold Shenk, USFS
John Glunn, FDEP	Lee Smith, ECT
Blas Gomez, Tallahassee	Ed Steinmeyer, Leon County
Wendy Grey, Citizen	Koren Taylor, Tallahassee
John Hallas, Talquin Electric Cooperative	Herb Thiele, Leon County
John Hamilton, ECT/FSU	Bob Thompson, FPS
David Hammonds, FDOH	Amy Tracy, ETM
Kenny Hayman, FDEP	Steve Tullar, NRCS
Theresa Heiker, Leon County	Brian Wiebler, Tallahassee
David Henry, Tallahassee	Richard Wieckowicz, Consultant
Cal Jamison, Friends	Mark Yelland, DEO
Bryant King, DRMP	Laura Youmans, Leon County

Welcome and Opening Remarks

Tom Frick welcomed everyone to the Upper Wakulla River and Wakulla Springs Basin Management Action Plan (BMAP) meeting. He stated that he is Chief of the Florida Department of Environmental Protection (FDEP) Bureau of Watershed Restoration. This bureau both develops total maximum daily loads (TMDLs) and implements them through basin management action plans (BMAPs). Tom stated that he knows many of the participants have been involved in other efforts related to Wakulla Springs, and that activities have been going on in the basin for many years. The purpose of this meeting is orient everyone to what a BMAP is, what the law

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allows FDEP to do, and how this BMAP will move forward. The BMAP process is very collaborative and stakeholder driven. FDEP is facilitating the BMAP process and they will take the BMAP to the FDEP Secretary for adoption. However, how the BMAP is developed and the information included in the BMAP involves a very collaborative process. FDEP needs the stakeholders to help inform the process and determine how best to move forward.

Charlie Gauthier welcomed everyone to the meeting and noted that this is a great turnout. This is the kickoff meeting for the BMAP, and is the first step in a series of building blocks to develop the BMAP. The BMAP program is very active and is the primary vehicle for waterbody restoration in Florida. There are currently 13 adopted BMAPs with several others underway. In addition to this kickoff for the Upper Wakulla and Wakulla Springs BMAP, FDEP will be kicking off the Silver Springs BMAP next week and the Lake Okeechobee BMAP in February. The BMAP process is highly dependent on stakeholders, and FDEP and the stakeholders will work collaboratively to achieve the TMDL, which is the target for restoration, by looking for management strategies to achieve the reductions. A tremendous amount of work has already been done in the basin to date, and FDEP wants to build upon the good work and research as part of the BMAP. The BMAP process will involve a series of stakeholder meetings that will occur about monthly, and FDEP is also available to brief policy makers on the process. Once the BMAP is adopted, meetings will be held every year to determine progress towards the TMDL. In addition, every five years, a new iteration of the BMAP will start. Getting the BMAP in place is one part of the process but the real work is everyone working together to implement, monitor, adapt, and adjust to meet the TMDL targets.

Charlie introduced Steve Cioccia who is the FDEP Basin Coordinator for this BMAP and northwest Florida. Steve is the main point of contact for the BMAP. Anita Nash is an Environmental Consultant with FDEP and she will assist with the BMAP, mainly on the monitoring plan. Kenny Hayman is the attorney for the FDEP BMAP group. Tiffany Busby and Marcy Policastro are with Wildwood Consulting and they are under contract to provide facilitation and meeting support for the BMAP. Both Tiffany and Marcy have tremendous experience working with BMAPs around state. The participants introduced themselves and the entity they represent.

TMDL Being Implemented

Steve stated that he would like to thank everyone for their cooperation in developing what he hopes will be an effective plan for restoring the Upper Wakulla River and Wakulla Springs. It is gratifying to see such a good turnout at the meeting because the BMAP process is collaborative, and FDEP will solicit that stakeholders' knowledge in creating an effective plan.

Steve stated that he would first like to convey the scientific basis for this effort, which is the development of the TMDL for the Upper Wakulla River. The BMAP also includes Wakulla Springs since the river and springs are intricately related and inseparable. A TMDL is the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. A TMDL establishes the numeric water quality goals to restore the health of a waterbody. The purpose of the TMDL program is to identify scientifically based goals for restoration of waterbodies that do not meet State of Florida water quality standards, and then implement a scientifically based plan to achieve those goals. Local information and stakeholder

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involvement is the foundation for development of restoration goals, which will achieve success. For the Upper Wakulla River, the TMDL target is to achieve restoration of the biological community showed to be impaired. Each TMDL is specific to a waterbody and pollutant, which is nitrate in the Upper Wakulla River. The steps to develop a TMDL include identifying the effects of the impairment and specifying current water quality conditions, identifying potential sources, determining the assimilative capacity or water quality restoration target, and calculating the pollutant reductions needed to meet the target.

Steve stated that the TMDL process begins with the water quality problem or impairment, which in the Upper Wakulla River is the inability to meet state water quality standards for a healthy biological community. Nitrate was identified as the cause of the impairment, and high nitrate levels have caused algal blooms and low dissolved oxygen (DO), which stresses the biological community. The Clean Water Act is the federal statute that requires that a TMDL be developed for an impaired water.

Some of the water quality factors that are stressing the Upper Wakulla River include elevated nitrate levels, low DO, excessive algal mats causing low DO and shading out desired submerged grasses, and less beneficial vegetation (hydrilla) replacing native vegetation. The biological effects of these factors are shown by the fact that 20 of the last 27 biological sampling events have scored as unhealthy. These factors have also hindered system health through algal blooms, hydrilla, loss or greatly reduced species presence and richness, and loss of native submerged aquatic vegetation (SAV). The problems exhibited in the system include replacement of native grasses with invasive grasses such as hydrilla, which is fairly widespread in Wakulla Springs and the Upper Wakulla River. There has also been the presence of lyngbya, which causes swimmer's itch, and excessive growth and cover of *Vaucheria* has negatively affected SAV.

Steve noted that the TMDL included a fairly exhaustive review of known and potential sources of nitrate in the basin. These sources include wastewater treatment facilities, domestic wastewater residuals, municipal separate storm sewer systems (MS4s), septic tanks, agriculture, fertilizer, atmospheric deposition, and sinking streams. The next step in the TMDL process is to determine what level of pollutants harm the biological community, to determine the system's pollutant assimilative capacity. This information was derived using the most current science available at the time of the TMDL development. The TMDL consists of several components including a wasteload allocation (WLA) for point sources, load allocation (LA) for nonpoint sources, and a margin of safety (MOS) that takes into account scientific uncertainty. The Upper Wakulla TMDL was calculated as an in-stream nitrate target of 0.35 mg/L as a monthly average. The percent reduction is calculated based on inputs from the time when the TMDL was developed. Steve noted that loadings from that time have been reduced; therefore, the nitrate concentrations could be lower and the reductions required as part of the BMAP would also be lower. The BMAP will take into account reductions in nitrate that have occurred since the TMDL was developed.

Bob Fulford asked what is FDEP's definition of the Upper Wakulla River. Steve responded that the Upper Wakulla River starts at the upper bridge and extends to the boundary used in TMDL development. There is a map of this area later in the presentation. Tabitha Frazier asked how close to the point of pollution or pipe will the target this be assessed. Steve responded that

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individual pipes would not be measured. The focus will be on the Upper Wakulla River and Wakulla Springs, and the entire springshed will be assessed for restoration success. Joe Glisson asked what the current nitrate concentration is that will be reduced by 56%. Steve responded that the TMDL used data through 2008 and the number in the TMDL was based on loading at that time. Since then, a lot of reductions have been made and he is unsure of the current concentration. Doug Gilbert added that the starting concentration in the TMDL is 0.8 mg/L. The question was asked what was included in the biological assessment that resulted in 75% of the events scoring as unhealthy. Tom responded that the biological assessment used was a stream condition index (SCI), which includes macro-invertebrates. Amy Tracy asked how the TMDL is expressed in rule and whether it is shown as a percent reduction or load reduction. Steve responded that the TMDL is expressed in rule as a percent reduction since the focus is on nonpoint sources. Charlie added that the target nitrate concentration is also included in the rule.

Richard Wieckowicz asked if FDEP is assuming that all sources are upstream of the Upper Wakulla Basin. Steve responded that FDEP is not assuming this and one of the issues they have tackled is what area should be used for the springshed. This area is a subsurface water dominated system, which makes it difficult to identify the basin. Richard asked if the basin includes the tidal part of the river as well as Spring Creek. Steve responded that he would show the basin map shortly. The initial point of interest will be the area that is generally agreed upon as being considered the most important contributor. FDEP talked with the Florida Geological Survey (FGS), and there are a lot of factors that affect the springshed boundaries. These factors will be taken into account in the BMAP process. Tom added that one of the first steps would be to identify the basin boundaries for the BMAP.

BMAP Components and Development Process

Steve stated that the BMAP is the process in which a management plan will be developed to achieve the target for nitrate reductions. The BMAP components include specifying water quality restoration goals (based on the TMDL), identifying existing and needed projects to reduce pollutant loadings, identifying restoration commitments, evaluating future growth impacts on achieving restoration goals, and considerations for the next BMAP phase. A BMAP identifies actions needed to achieve the TMDL and who is responsible for implementing those actions. A BMAP is guided by provisions of Section 403.067(7), Florida Statutes; developed collaboratively with stakeholders, integrates the best available scientific information; includes completed and planned projects; involves critical evaluations, studies, and research; includes an adaptive management component; and provides equity among stakeholders and sources. Steve reviewed the list of anticipated BMAP stakeholders, and noted that it will be very important to have contributions from these stakeholders and others in the community during the BMAP process. The emphasis in the first phase of the BMAP will be on nonpoint source reductions.

Tabitha asked how the determination was made to focus on nonpoint sources. Steve responded the TMDL addresses an area called a waterbody identification (WBID) number. In this area, there were no point source discharges, only nonpoint source inputs to the Upper Wakulla River. Tom added that there are no pipes that discharge directly into Upper Wakulla River. Those pipes would fall under the WLA in the TMDL, which is for point sources that discharge. Any of the other sources that are contributing to the Upper Wakulla River, not through direct pipes, would be considered under the LA, which is for nonpoint sources. Even though there may be point

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sources that are contributing to the groundwater loading, these are considered a nonpoint source because they are conveyed through the groundwater. These definitions are based on how the federal and state laws are written. Steve Peene asked if this same situation applies to the MS4s. Steve Cioccia responded that it does apply to the MS4s. Bob stated that there is a pipe that goes from the wastewater facility to the sprayfield and he does not know why this is not considered a point source. Steve responded that the Clean Water Act includes a specific definition for point sources. Since the wastewater is being sprayed onto a field, it is no longer a point source but a nonpoint source. The input from the sprayfield is taken into account in the TMDL and will be addressed in the BMAP.

Upper Wakulla River and Wakulla Springs BMAP Approach

Steve presented a map that was created by Todd Kincaid that shows the interconnections in the area. The underground conduits that flow to Wakulla Springs are shown in red on the map. This area has a complex underground network that conveys groundwater, which is the primary source for the springs and river. The area of interest is from Tallahassee to the Gulf, and there are more studies underway to determine how water flows in this karst system. FDEP and the stakeholders will establish a springshed area that will be the initial focus. FDEP will bring in as much scientific information and experts as possible to provide advice on how water flows under different conditions and which areas should be focused on as primary sources. The initial BMAP will focus on the most important input areas and then sources further away will be addressed. John Buss asked how the Kincaid map was developed. Steve responded that it was created from a dye tracer study. The map does not show the entire springshed, but is focused on the karst areas with the highest flows (below the Cody Scarp). Joe noted that this map and study are available on Todd Kincaid's website and this information was also brought to court as evidence.

The question was asked if the springshed just happens to stop at the state line. Steve responded that the springshed does not stop at the state line but, by Florida statute, the BMAP only has regulatory authority within Florida. This does not mean that the BMAP cannot contain information about inputs outside the state; however, FDEP does not have the regulatory authority to address those sources. The question was asked if any of the sources outside of Florida are being taken into account. Steve responded that this is not the initial focus of the BMAP, but sources in Georgia are on the list of things that need to be considered. FDEP will be looking for stakeholder input on this issue to determine if there is scientific information about these inputs and whether the inputs are large enough that they need to be considered to help achieve the targets. Tom added that the inputs to the state will be considered in the BMAP but the focus for the first five years is on sources proximal to the springs.

Steve stated that the BMAP would be developed through open meetings with the public and joint decision making with local partners. Local information and stakeholder involvement is the foundation for development of effective restoration actions, which will achieve a successful BMAP. Steve noted that this is not just rhetoric but one of the tenants of FDEP's BMAP section. Technical meetings will be held about monthly and the distribution list will be notified of these meetings. Steve encouraged the participants to let him know if anyone else should be added to the distribution list. Other types of meetings, such as briefings and workshops, may be held. Separate meetings may also be held with management level representatives so that FDEP can brief the decision makers on the BMAP process and obtain feedback on the BMAP approach.

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The BMAP will proceed within the provisions of Florida's Government-in-the-Sunshine Law, which provides a right of access to governmental proceedings. The BMAP process will adhere to the applicable requirements of the law, which includes giving notice of the meeting not less than seven days in advance, assuring the meeting is open to the public, and recording minutes of the meeting. The minutes, handouts, and presentations will be posted to the FTP site, which is listed on the handout.

Steve stated that this basin involves nonpoint sources that are diffuse with complex interactions. Given the difficulty in estimating loading from different sources to the springs, detailed allocations are not anticipated in the BMAP. Instead, a sufficiency of effort approach will be used. This approach involves the comparison of efforts to identified hotspots to ensure that actions will address the hotspots. If a hotspot is not sufficiently addressed, FDEP and stakeholders will discuss other potential action to address the source. John Buss asked for a more detailed explanation of the hotspot concept, what is considered a hotspot, and how is it considered addressed. Steve responded that he is unsure of where the hotspots are in the basin at this time. Based on current information, there are some areas in the basin that contribute higher loading. One of the initial BMAP efforts will be to determine where those areas are with the highest concentrations. This process will identify areas that should be focused on to reduce nitrate in groundwater to the river and springs. Tom added that they would look at sectors, such as agriculture, and the associated contributions of nitrate loading to the springshed. Once the sources are identified, FDEP and the stakeholders will determine what could be done to address the sources. John Buss noted that the approach seems to be more focused on categories of sources and not locations. Tom responded that the approach would be a combination of both.

The question was asked how disperse nonpoint source inputs, such as septic tanks and fertilizers, could be addressed through this process. Steve responded that there are a lot of actions that have either been proposed or implemented to address the inputs. These include the City of Tallahassee's upgrade to reduce the amount of nitrate in the effluent at their sprayfield, and Wakulla County's ordinance for high performance septic tanks in areas that contribute the most to the springs. The question was asked how nonpoint sources could be addressed because they do not have a permit like a point source. Steve responded that part of the BMAP process is to determine what actions have been done, identify hotspot areas, and identify what types of actions are effective in addressing the sources. Tom added that the BMAP process is the way to address the nonpoint sources. As sources are identified, FDEP and the stakeholders will work towards identifying how to reduce nitrates from the system. The BMAP process is iterative and adaptively managed to allow time to implement activities and see how the springs respond. The BMAP process gives the state the ability to work with nonpoint sources.

The question was asked how the BMAP process says what may or should be done to address sources, such as through local government ordinances. Steve responded that there are ordinances that can be proposed by a local government for inclusion in the BMAP, and these then become an action in the BMAP that helps achieve the target nitrate reduction. The entity that proposes the action is held to conducting that activity to help reduce nitrate. Joseph Addae-Mensa asked if the BMAP would define these actions. Steve responded that it would be up to the stakeholders to tell FDEP what actions are needed. For the sufficiency of effort approach, FDEP is looking for projects that are feasible and fundable and will help meet the target. Amy asked if

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stakeholders put forward a structural best management practice that should help reduce overall loading, would the credit for that project be calculated and be included in a table that shows credit towards the total reductions. Steve responded that this is the type of effort that would be included under the sufficiency of effort approach.

Will Sheftall stated that there was a note about technical meetings and other ad hoc meetings. He stated that decision makers were also mentioned and he asked for a definition of these types of people and how information will flow upwards to decision makers. He asked if the stakeholders agree to something by consensus, if that would be considered by the decision makers. He also asked what the timeline is for achieving the 56% reductions. Steve responded that the initial decision makers are the stakeholders, and they will determine what is and is not appropriate for the BMAP. Ultimately, FDEP is responsible for developing the BMAP and what is included in the plan. The BMAP needs to have elements that are reasonably considered to meet targets. Will asked who makes the final decision on approving the plan. Steve responded that the BMAP will be developed in phases and the stakeholders will determine what is feasible for the first phase. Once a BMAP has been drafted, the stakeholders will review the plan and have the opportunity to comment. The regulations stipulate that FDEP develop the BMAP with as much consensus as practicable. Tom added that stakeholders are the decision makers. FDEP ultimately must abide by the law and will work collaboratively with the stakeholders to come up with projects to reduce nitrates. In terms of a timeline for achieving the reductions, it took a long time for the river and springs to become impaired and FDEP is unsure of how much time it will take to restore these waters. At the end of the first five years of the BMAP, FDEP and the stakeholders will determine what else needs to be done.

Will asked how long FDEP would let the sufficiency of effort approach run if it were not working before quantifying the reductions each stakeholder must achieve. Tom responded that this could be discussed during the meetings. These are just FDEP's initial thoughts on the process and once there have been more discussions about what sufficiency of effort means, there can be discussions about what to do if this approach does not work. Tom noted that people start to look at the math of allocations and forget the overall goal, which is to reduce nutrients to Wakulla Springs. The more the process can focus on the reductions and projects that lead to restoration, the better off it will be. Steve noted that there are planned annual updates to the BMAP, in which all of the stakeholders will be asked to provide an update on their actions. Therefore, this process will not continue for five years before realizing that the plan is heading in the wrong direction. Blas Gomez asked how long FDEP envisions the BMAP process will take. Steve responded that although the BMAP is in the initial stages, a lot of work has already been done. The hope is to have a first draft BMAP within the first year.

John Buss noted that the Kincaid map shows flow at times from below the BMAP's southern boundary. He asked why FDEP decided to exclude this area. Steve responded that this is the initial BMAP boundary. However, it is a dynamic boundary and FDEP is already considering the fact that this boundary could change.

Public Comments and Wrap Up

Tiffany stated that the next meeting would be held on Thursday, February 21st. The agenda has a link to the FTP site where the meeting information will be posted. Steve's contact information is

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also included at the bottom of the agenda and on the contact handout. If anyone has questions before the next meeting, they can contact Steve.

Tom stated that the purpose of this meeting was to start laying out the BMAP process to get everyone on the same page. Future meetings will delve more into the details. Charlie added that he envisions the next meeting will be to discuss the springshed boundaries and to gain an understanding of the research done to date. Steve noted that there would be a presentation later this month on the Lombardo report, which would be beneficial for the stakeholders. Kathy Burke added that this presentation is on the January 29th agenda for the Leon County Board of County Commissioners meeting.

Tom stated that as technical or process questions come up, the stakeholders should contact FDEP. There is no need to wait for a public meeting to ask questions.

Adjourn

The meeting was adjourned at 12:09 PM.