

**Wekiva River and Rock Springs Run TMDL  
Basin Management Action Plan (BMAP) Kick-off Meeting**  
March 6, 2009 – 1:30 pm – 4:00 pm  
Sylvan Lake Park, 845 Lake Markham Road, Sanford, Florida 32771

**Attendees**

<b>Affiliation</b>	<b>Names</b>
AECOM	Joe Howell
Altamonte Springs	Bill Baer, John Dennis, Danielle Marshall
CDM	Danielle Honour, Leslie Turner
Citizen - Zellwood	Peter Counsell
DOH/EVH/Seminole County	Kim Dove
DOH/Lake County Health Dept.	Paul Butler, Russ Melling
DOH/Orange County Health Dept.	Gary Smith
E-Sciences	Robert Potts
FDEP – Central District	Natalie Ayala, Crystal Cook, Chris Ferraro, Day McClanahan
FDEP - Tallahassee	John Abendroth, Jennifer Gihring
FDEP - Wekiva MSJ Aquatic Preserve	Deborah Shelley
FDOH - Tallahassee	Eberhard Roeder
FL Fish and Wildlife Commission	Nathalie Visscher
Friends of Wekiva	Nancy Prine
Green's Environmental Services	Dominique Burot
Inwood Consulting Engineers	Tom Amstadt, Mark Ellard
Lake County	Mike Bowers, Mary Hamilton, Fred Schneider
Leesburg	Darel Craine, Ray Sharp
Maitland	Marissa Rodriguez
Markham Woods Association Inc.	Quentin (Bob) Beitel, Jack Fitch, Jack Hannahs, John Higgins, Ken Jones
Orange County EPD	Rick Baird, Julie Bortles, Shane Benner, Dan Homblette, , Bill Hurley, Penny Post
Orlando	Robert Cadle, Lisa Lotti, Kevin McCann
Panattoni Development	Thomas Palmer
PBSJ	Dave Tomasko
PEC (Ocoee)	April Breen
Royal Consulting Services	Joel Jordan
SAIC	Kathleen Harrigan, Robert van den Akker
Seminole County	Gloria Eby, Mark Flomerfelt, Tony Matthews, Kim Ornberg
SJRWMD	Mary Brabham, Erich Marzolf, Robert Mattson
UF/IFAS	Juanita Popenoe
Wastewater Technologies, Inc	Mark Repasky
Winter Garden	Don Cochran
Winter Park	Tim Egan

## **Welcome and Introductions (Kathy Harrigan, SAIC)**

Materials: None

Kathy Harrigan opened the meeting. Kathy supports DEP in the BMAP process and will facilitate group discussions.

Groups represented at the meeting included cities, counties, state agencies, Lake Markham Woods Homeowners Association, and others.

Kathy introduced the DEP BMAP staff:

- Jennifer Gihring (DEP- Tallahassee)
- John Abendroth (DEP- Tallahassee)
- Chris Ferraro (DEP- Central District)
- Kalina Warren (DEP- Central District)
- Natalie Ayala, Crystal Cook, & Day McClanahan (DEP-Central District)

Rob Mattson announced Wekiva River Fest – Saturday March 7<sup>th</sup> at the State Park.

## **TMDL and BMAP Basics (Jennifer Gihring, DEP)**

Materials: Powerpoint presentation

Jennifer Gihring provided an overview of the TMDL program, BMAP development, and details specific to the Wekiva Basin. Highlights:

- TMDL development includes determining the restoration target and then calculating the pollutant reductions needed to meet the target.
- This group is to focus on nutrient TMDLs for Wekiwa and Rock Springs. Wekiva Basin TMDL targets were based on studies from Wekiva, Rainbow, and Suwannee. These targets are 0.286 mg/L nitrate & 64 ug/L total phosphorus. Every TMDL parameter does not need to be addressed in a BMAP. The BMAP Working Group (Group) may determine which TMDL pollutants (Nitrate, Total Phosphorus) need to be addressed.
- Percent reductions in the TMDL were calculated by directly comparing current conditions to the restoration targets. The TMDL identifies specific reduction requirements for Yankee Lake WRF, Wekiva-Hunt Club WWTF, and Altamonte Springs WRF.
- BMAPs are enforceable through NPDES wastewater permits and Municipal Separate Storm Sewer System (MS4) permits. These permits may be modified to assist in reaching the pollutant reduction goals. Non-permitted, non-point sources (mostly agriculture) must implement state-adopted BMPs or demonstrate that they are not contributing the pollutant of concern, per F.S. 403.067.
- The goal of the group is to work to the adoption of a BMAP, and the input and support of all stakeholders and agencies involved is critical.
- This is a unique BMAP in that it has both springshed and basin input. Current considerations for this Group include identifying a planning area (a springshed which includes travel time and natural attenuation processes), and evaluating information about pollutant sources.
- The current schedule is to meet every other month with this group for two years to gather information from all of the stakeholders and develop this BMAP.
- BMAP considerations unique to the Wekiva include groundwater (travel time and natural attenuation processes), identifying a planning area, source id, relationships to Wekiva Parkway. Source ID is difficult to determine and a group agreement is

necessary to move forward. We are building on work already completed on the Wekiva Basin.

Q&A:

Do the reference springs/spring runs used for verification of impairment have similar population and land use characteristics as the Wekiva?	Jennifer: Numbers are not at-hand, but Juniper and Alexander springsheds are much more undeveloped than Wekiva. This is consistent with the purpose of using reference streams that they are relatively undeveloped and thus represent unimpaired conditions.
Where are the state water quality standards used to impairment verification published?	Jennifer: FAC 62-302
Can DEP adopt this BMAP without stakeholder support?	Jennifer: Yes, but DEP prefers to move forward with documented stakeholder support.
Does DEP have money to pay for this?	Jennifer/John Abendroth: There are funding sources available such as 319, but most BMAP implementation is paid for with local funds.
Is the amount of money settled when a mutual understanding agreement occurs? Or is the cost a hard number when the BMAP is adopted?	Jennifer: Agreements are based on projects and final costs are identified when projects are "shovel ready."
Are agriculture Operators required to sign on for the BMAPs or are they voluntary?	Jennifer: An individual landowner will not be pinpointed, but DACS works with ag landowners to implement BMPs.
Will the presentation be available online?	Jennifer: The FTP site, on the bottom of the agenda, will have notes, powerpoints, and all information/handouts.
Why are we going to move faster on this one than other BMAPs?	Jennifer: We are able to move faster because we've learned from the other BMAPs.
Is the former Wekiva working group still around?	Chris Ferraro: Since Barb Bess has left the Department, it's unclear if the meetings will continue.
Is DOH moving prematurely on unfounded science (NOTE – In reference to the recent proposed septic tank rule)?	Jennifer: We cannot comment on the DOH rule.
Will this study be influenced by DOH study? Can this study move forward objectively with the BMAP process?	Jennifer: Although the efforts are related, the BMAP process is independent of these other efforts. Similarly, BMAP development will not necessarily affect other entities moving forward with their own actions.

Action Items:

Responsible Party	Item	Deadline
-------------------	------	----------

Jennifer	Send Quentin Beitel published water quality standards and information about verification of impairment.	ASAP
Deborah Shelley	Look into the Wekiva working group coordination efforts, since there is still an interest for it. Share findings with Chris Ferraro/Jennifer.	ASAP

**Wekiva BMAP Approach (Kathy Harrigan, SAIC & Jennifer Gihring, DEP)**

Materials: Mission & Sunshine Law handouts

Kathy reviewed the group's mission and goals. This group will be asked to make formal recommendations to the DEP about specific waterbodies for Wekiwa Springs, Rock Springs, The Wekiva River, Rock Springs Run, and Little Wekiva Canal. Meetings will be every other month and focused on things needed to be done face-to-face.

Kathy and Jennifer reviewed the Sunshine Law and how the BMAP process operates within that law. Wekiva BWG meetings will be more formal to make sure everyone is heard (including a formal public comment period, and a clear distinction between working group and public attendees).

The next step is finalizing a list of representatives. Because BMAP issues include surface water and wastewater, representatives that can talk for both sides will be needed.

**Q&A:**

Is there relationship between this BMAP and the lake TMDLs?	Jennifer: At the moment there are no plans to start a BMAP for the lakes. If they are related to point source in the TMDL, they will get addressed during permit renewal. Kevin McCann: The lakes may work themselves out as municipalities work on projects upstream of lakes that satisfy both TMDL issues in spring runs and also lakes themselves.
Have you already contacted private utilities?	Jennifer: Not yet. Will send out preliminary list for assistance in identifying who's missing.
There will be a basin and technical working group?	Jennifer: We hope to do everything within the sunshine group. We will determine the best way to conduct technical analyses as we go forward.
By what date will the BMAP be completed?	Jennifer: We hope to have the BMAP completed within two years.

**Action Items:**

<b>Responsible Party</b>	<b>Item</b>	<b>Deadline</b>
Jennifer	Add Little Wekiva Canal to mission statement	ASAP
Kim Ornberg	Send Jennifer Seminole Co surface water delineations	ASAP
Jennifer/Kathy	Distribute preliminary BWG representative list	3/20

Break from 2:45 PM- 3:00 PM

**BMAP Foundation (Jennifer Gihring, DEP and Dave Tomasko, PBSJ)**

Materials: Powerpoint presentation & “Planning Parameters” handout

Jennifer Gihring reviewed the BMAP planning parameters handout. The BMAP will address all sources of nutrient loads- storm-water, septic tanks, wastewater, etc. NPDES permit modification may be required by the BMAP (storm-water MS4 and wastewater). Because of the concern over recreational impacts on the springs, we may need to discuss more than just nutrient reductions to meet restoration goals. All jurisdictions in the planning area will be expected to participate, but level of participation will be reflected in the BMAP per the concept of “reduce in proportion what you contribute.”

**Q&A:**

Is point source identification a part of this BMAP, including centralized sewer leakage?	Jennifer: Yes.
The Wekiva study area was written out as the area we have to focus on, including surface and groundwater. Because the law says that’s where we have to work, does that define where we have to work in terms of the BMAP?	Jennifer Gihring: The Wekiva study area does not have a direct impact on the BMAP plans.

Dave Tomasko(PBS&J) gave a presentation about what is “known and unknown” in the Wekiva Basin. Highlights:

- There are three different springshed delineations from three different studies. It is unknown to what extent the far reaches of the springsheds affect the springs. The approach for determining the springshed for the BMAP was to identify areas of consensus among the three different efforts.
- The TMDL targets (nitrate and total phosphorus) are scientifically sound.
- It is unknown to what extent we should focus on phosphorus, but focus on nitrate makes sense. Focusing on nitrate would also affect phosphorus levels because actions on nitrate will lower phosphorus as well.
- Nitrate levels decrease the further downstream from the Wekiwa springhead, and TKN increases. In Rock Springs Run, nitrate isn’t a problem until the lower reaches of the run. Nitrate is converted into different forms downstream, demonstrating that it is having an effect on the biological system. As opposed to phosphorus which does not appear to change form longitudinally down the spring run.
- Wekiva has Vaucheria, which is correlated with nutrients. The average age of the water coming out of the springhead is 17 years, so we will see water quality conditions representing former land uses, such as legacy citrus that is impacting today’s water quality.
- Nitrate is showing a decreasing trend over the last few years, but since it is reflecting a lag in time we may see the trend level off as the water quality benefits of reductions in citrus work their way through the system. Regression calculations show that even in the absence of citrus impacts, nitrate levels will be well above the TMDL target.
- The existing nitrogen isotope value can be interpreted in different ways, we are going to talk later on how to fix that. We should act on obvious sources.

- Rob Mattson: Found a data set from 1924 which shows nitrogen levels down to the 0.02 or 0.04 PPM.
- Dual isotope study: There are two stable isotopes of nitrogen and sewage has a different signature from fertilizers. Fertilizer can look like sewage, so we need to look at the oxygen as well as the nitrogen since oxygen is part of the nitrate model. Viruses, caffeine, and boron are indicators of sewage. Atrazine is an indicator of fertilizer. Can use the absence of these indicators to rule out sources. Water quality may not be enough to obtain an “unimpaired” status, algal growth must be considered.

**Q&A:**

Is nitrate going down because citrus has been going down last 15 years?	Dave: Yes, to an extent. The reduction in nitrate is more than a reduction of flow. Agriculture has been converted mostly into urbanization. So what is the affect of urbanization and the previous land use? There are also land- uses that aren't maintained, such as the out-of-business citrus grower who is no longer fertilizing his land. There is a 17 year relationship with land use and nitrogen concentrations.
At what level would algae go away?	Dave: Unknown, but it appears to grow faster with more nitrate. The amount of algae in the stream may still be a problem because dealing with algae may require more than water quality alone. Rob Mattson: Through the PLRG work, a target of 0.286 mg/L nitrate was identified to help restrict algal growth.
Possibly attributed to the type of algal species too?	Dave: A carrying capacity study was conducted at Silver Glen addressing the reduction of the algae (Lyngbya). Native vegetation competes with algae for space and light. Both vegetation and water quality must be considered.

**Action Items:**

<b>Responsible Party</b>	<b>Item</b>	<b>Deadline</b>
Jennifer	Add Blackwater Creek to BMAP planning area.	ASAP
Jennifer	Add “NPDES” modifications to the Planning Parameters handout	ASAP
DEP/USGS/Jennifer	Continue dual isotope study; provide status report at next meeting	4/15 BWG meeting

**Wekiva BMAP Project Plan (Kathleen Harrigan, DEP and Jennifer Gihring, DEP)**

Materials: None

Kathy Harrigan reviewed details of the project plan for the Wekiva BMAP. Materials will be posted on the FTP site, including PowerPoint presentations. The next scheduled meeting is April 15<sup>th</sup>. We will try to hold future meetings on the third Wednesday of every other month. Short-term next steps include: 1) research boundary issues for surface water and Blackwater Creek, 2) contact local stakeholders who were not at this meeting, 3) identify specifically who will be representing each jurisdiction/entity, 4) project identification (wastewater collection, treatment, programs, ordinances, initiatives, septic vs. centralized treatment, etc.), and 5) find out what percentage of ag land is already involved in BMPs.

**Q&A:**

Is point source identification a part of this BMAP, including centralized sewer leakage?	Jennifer: Yes.
The Wekiva study area was written out as the area we have to focus on, including surface and groundwater. Because the law says that's where we have to work, does that define where we have to work in terms of the BMAP?	Jennifer Gihring: Wekiva study area does not have a direct impact on the BMAP plans.
Are we looking at reclaimed water in the BMAP?	Jennifer: That is another consideration. Central sewage leaks will be incorporated, but don't know how yet.
Sometime in the future, will there be a list of suggested persons for the basin working group?	Kathy: There email early next week to test the new e-mail addresses we've collected today.
Who's expected to be at the next meeting? Just a formal representative or other entities also?	Kathy: Have an official member at the meeting, but additional staff are welcome and encouraged to attend as well.
What about homeowner associations?	Jennifer: They could potentially be in the working group, but this remains to be decided.
What is the location of the next meeting?	Jennifer: We are considering other meeting locations. To be announced.

**BWG Consensus Items**

None

End 4:17 PM

Notes submitted by: C. Cook with contributions from N. Ayala, D. McClanahan, R. van den Akker, & J. Gihring