Florida Department of Environmental Protection (DEP)
Upper Wakulla River and Wakulla Springs Basin Management Action Plan (BMAP)
Question and Answer (Q&A) Summary
Public Meeting on April 9, 2024
10:00 am – 12:00 pm
In Person and Via GoToWebinar
DEP Carr Building
3800 Commonwealth Ave, Tallahassee, Florida

Attendees

Richmond Abellera, DEP
Kelly Aue, UF
Lisa Bally, Applied Technology and Management
Michael Barr, DEP
Evelyn Becerra, DEP
Maria Berteli, DEP
Adam Blalock, DEP
Eric Blount, City of Palm Bay
Mona Brittingham, Citizen
Ian Burse, DEP
Tiffany Busby, Wildwood Consulting
Jodie Cahoon, City of Tallahassee
Lauren Campbell, DEP
Stacy Cecil, SJRWMD
The Florida Channel,
Kathleen Coates, NWFWMD
Chris Colson, Talquin Electric
Melissa Corbett, Wakulla County
Tony Countryman, NWFWMD
Kevin Coyne, AMP
Kelly Crain, City of Tallahassee
Chris Denmark, FDACS
Chloe Dougherty, Florida Springs Council
SB Dyer, DEP
Zachary Easton, DEP
Yesenia Escribano, FDACS
Julie Espy, SAS
Amanda Exposito-Ferree, Atkins Realis
Nawfal Ezzagaghi, Leon County
Jessica Ferris, Citizen
Jessica Fetgatter, DEP
Kelly Flowers, Jones Edmunds
David Frady, DEP
Pauline Frendreiss, Citizen
Ken Friedman, NWFWMD
Anthony Gaudio, Wakulla Springs Alliance
Tina Gordon, Wildwood Consulting
Tiffany Grantham, Citizen
Trisha Green, DEP
Jade Greene, DEP
Raichel Gulde, RES
Terry Hansen, Citizen
Chad Hanson, Citizen
Maddy Hart, FDACS
Mark Heidecker, City of Tallahassee
Margarita Hernandez, DEP
Alicia Hogue, DEP
Robin Holland, FDACS
Phil Homann, DEP
Moira Homann, DEP
Dana Hutchinson, Citizen
Jason Icerman, City of Tallahassee
Garrett Iflad, NWFWMD
Joy Jackson, DEP
Thomas Jacobs, Citizen
Nathan Jagoda, DEP
Cal Jameson, Wakulla Soil and Water Conservation District
Chandler Keenan, DEP
Kellie Keys, Coastal Plains Institute
Angela Knecht, DEP
Tricia Kyzar, UF
Debbie Lightsey, Wakulla Springs Alliance
Jen Lomberk, Matanzas Riverkeeper
Mary Beth Lupo, FGS

Celeste Lyon, RES for FDOT
Amanda Marshall, FDOT
Sean McGlynn, McGlynn Labs
Stephen Monroe, FDACS
Jessica Mostyn, DEP
Ryne Nimmo, DEP
Jarek Nowak, FDACS
Kevin ODonnell, DEP
Melanie Orozco, DEP
Anna Padilla, Leon County
Amanda Peck, DEP
Somer Pell, Wakulla County
Elizabeth Perison, Cameron Cole
Nicolas Pisarello, Geosyntec
Benjamin Ralys, DEP
Roderick Reardon, Reardon Engineering
Allyson Reinert, DEP
Johnny Richardson, Leon County
Danielle Rogers, SWFWMD
Donald Rogers, FDOT
Thomas Rogers, FDOT
Zack Sampson, Tampa Bay Times
Jerrick Saquibal, NWFWMD
Charles Sardisco, DEP
Christopher Seufert, Jones Edmunds
Kim Shugar, DEP
Ryan Smart, Florida Springs Council
Caitlin Snyder, DEP
Jennifer Spain, Volusia County
Anita Stine, DEP
Jay Stodghill, Stantec
Kaitlyn Sutton, DEP
James Sutton, NWFWMD
Paul Thorpe, NWFWMD
Paul Thurman, NWFWMD
Riley Timbs, SJRWMD
Debby Tipton, DEP
Wayne Toothman, Leon County
Lisa VanHoudt, DEP
Shreya Vuttaluru, Tampa Bay Times
Edgar Wade, Leon County
Lanita Walker, City of Tallahassee
Brandon Wanner, Stantec
Lindsay Weaver, DEP
Ken Weaver, DEP
Nia Wellendorf, DEP
Brenda Wells, Florida Springs Council
Scott Wesson, Atkins Realis
Benita Whalen, Dispersed H2O
Jessica Woodham, FDOT
Katrina Yancey, DEP
Kelly Young, Volusia County

BMAP Updates

Q: Could the nitrate water quality graph scale be adjusted to make the differential clearer in the future by using 0.3 to 0.7 milligrams per liter (mg/L) as the range? Also, the data being presented looks very different from the data that his organization (the Wakulla Springs Alliance) has measured and uploaded to the DEP Watershed Information Network database. They only see 0.35 mg/L or lower nitrate in their samples when there is a large volume of water. What stations/data were used for the graph that was shown?
A: The data presented in the water quality graph are from Station 67/Wakulla Main Composite. This station is the DEP spring vent site. The data were downloaded from Watershed Information Network and represents an aggregate of the approved data used for assessments.

Q: Is the Florida Geological Survey (FGS) still sampling the individual conduits from the permanent tripods or have some Wakulla conduit stations been discontinued?
A: Dr. Mary-Beth Lupo, FGS, commented that FGS is currently removing some dysfunctional equipment from the Wakulla conduit stations. FGS has remained in constant communication with their sister divisions and research colleagues, and at this time intend to only remove non-

functional equipment. The tubing used by university researchers, DEP Division of Environmental Assessment and Restoration (DEAR), Northwest Florida Water Management District (NWFWMD), and FGS will remain deployed unless it needs to be replaced. FGS remains dedicated to collecting and maintaining quality scientific data for their agency and stakeholders and intend to support FGS's ongoing initiatives. If there are any additional questions regarding FGS activity in the basin, Dr. Lupo encouraged participants to reach out to her directly as an administrator for the Applied Geoscience Services section at FGS at Mary.Lupo@FloridaDEP.gov. DEAR's Tallahassee Regional Operation Center (ROC) continues to monitor the tunnels on a quarterly basis.

Nitrogen Source Inventory Loading Tool (NSILT)

Q: How did DEP derive the 90% attenuation factor used for livestock waste?
A: The attenuation factors used in the NSILT are literature-derived values that consider plant uptake, soil denitrification, and volatilization of nitrogen specific to sources. These rates are also consistent with what was used in the previous NSILT. Maddy Hart from Florida Department of Agriculture and Consumer Services (FDACS) added that FDACS supports the attenuation number for livestock because it is limited to specific areas. These areas are calculated separately from pasture lands which also have a separate fertilizer application rate applied. Maddy Hart (FDACS) offered to provide additional information on the livestock attenuation rate if needed.

Q: In the first NSILT iteration, sinking streams/lakes from Lake Munson and Lost Creek were included as a source, which originally showed loading around 3% of the total loading. The second version of the NSILT included all the sinking lakes which came to around 12% of the total load, but the final analysis removed them completely. Why are these sinking streams and lakes no longer considered?
A: Sinking streams and lakes were removed based on comments from the original NSILT because the loading in those lakes and streams is from the anthropogenic sources like urban turf fertilizer (UTF), agriculture, etc., which are already estimated in the NSILT. Since the original loading source is included in the loading estimates, adding the loading from the streams would double count it. Additionally, some of the sinking streams are located in areas with a lot of natural land cover, so the sources to some streams are not anthropogenic. Further, there was a lack of data to tie the loading from the sinking lakes to the spring vents. Based on all of these considerations, the categories were excluded from further NSILT estimates to avoid double counting loads.

Q: Since atmospheric deposition is the second highest source and Wakulla County was the third fastest growing county in the state last year, how does DEP account for attenuation changes when there will be urban development where some natural lands or agricultural lands are now?
A: The NSILTs are an estimate of current loading, not a future loading projection. Land use will be updated in future iterations and the source-specific attenuation factor for the change in land use will be applied to those updates.

Q: Do the fertilizer assumptions consider local ordinances?

A: Yes, these were taken into account in the NSILT calculations.

Q: Has DEP updated the attenuation factors for current and future land uses in Wakulla County? If DEP is not looking at ongoing land use changes, how can DEP estimate reductions of the current and ongoing projects?
A: The NSILT tool looks at land use and loading as a snapshot in time. The loading in the NSILT reflects the most current land use data available. Future growth is not estimated in the NSILT, but DEP is looking at how to include future growth considerations in the BMAP approach. The total reductions specified in the presentation were limited to completed and ongoing projects; planned and underway projects were not. Ongoing projects refer to those that have already been implemented but need to continue each year to continue providing nutrient reductions. An example of an ongoing project type is street sweeping where you are removing nutrients, but the activity needs to be continued every year, unlike a completed structural project like a stormwater pond where the implementation happens once but continues to provide nutrient benefits. Projects with a status of "Ongoing" have been implemented, but they must be done continuously to continue to be counted. The crediting procedures DEP uses are conservative and use a long-term average estimate to avoid overestimating project reductions when tracking progress towards meeting the TMDLs.

Q: Is silviculture included in the fertilizer estimates?
A: No, because it is considered to be a low intensity land cover in terms of a nitrate source.

Q: Spring Creek reversed flow several times last year and when it reverses flow, it goes into Wakulla springshed. When Spring Creek flows the other way, the loads flow to the ocean. There are several septic systems around Spring Creek. Can DEP change the NSILT when the flows change to account for the changes in loads?
A: No, the NSILT is an overall estimate of loading based on a variety of conditions and is a snapshot in time. The Spring Creek area is within the Wakulla BMAP, springshed, and Priority Focus Area 2 and is therefore being captured in the NSILT. All loading within the springshed boundary applies to the load to groundwater going to the spring vent.

Q: Is there a comparison of how the loading percentages have changed from the previous NSILT?
A: A direct comparison of the two results can be confusing because not just the sources changed in the analysis. There were a number of methodological changes as well as updated data that makes the direct comparison more difficult. DEP feels that the latest estimate is an improvement and should be used as a snapshot in time of the nitrogen loads. Due to the changes in the methodology, a comparison is not "apples-to-apples" of the changes in sources over time.

Q: Are the assumptions of the NSILT loading calibrated via collection of sample data from various sources?
A: No, the NSILT is not currently calibrated with sampling data. However, the required reductions will be based on the measured spring vent loads, so there will be a direct relationship

between the measured data and the required reductions. DEP will use measurements to calculate the percent reduction needed to meet the TMDL and use the NSILT loading for the loading estimates.

BMAP Allocations

Q: Are there plans to better constrain the loading contributions to the system via a calibrated approach going forward?
A: At this time, the NSILT is not currently calibrated with sampling data. DEP does have a groundwater monitoring network that is used to track groundwater quality throughout the spring BMAPs. DEP is receptive to suggestions on how to better estimate the loading from the springshed in future NSILTs. Comments can be submitted via email to BMAPProgram@FloridaDEP.gov.

Q: Are the NSILT spreadsheets and report available online?
A: Additional details about the NSILT are available upon request. Requests can be sent to BMAPProgram@FloridaDEP.gov. DEP will also publish a technical support document for the NSILT.

Q: Is the TMDL parameter nitrogen or nitrate? Can the constituent be clarified in the future presentations?
A: The TMDL is a monthly average of nitrate concentration in units of mg/L, but the allocations and project reductions are represented in terms of total nitrogen loads in pounds per year. Thank you for the suggestion for future presentations.

Q: Will DEP be giving one allocation to each entity, regardless of source? If so, does that mean that a lead entity can use reductions from one source, like septic systems, to achieve their entire allocation? When does DEP anticipate sharing the allocations?
A: Yes, one allocation number will be given to each responsible entity in the BMAP. The source information can inform each entity from where loading is generated, but entities can use reductions from any source to meet their allocations. DEP and stakeholders may work to explore ways to address sources and to have tools and mechanisms to address them. However, how to meet the allocation will be up to the entity. DEP will be reaching out in the next few months to review the allocations and will meet with each entity to discuss allocations, milestones, and project plans.

Q: Is anyone at DEP reviewing if the in-ground nitrogen-reducing biofilter (INRBs) being permitted have the same characteristics as the INRBs that were studied by Florida Department of Health?
A: We can check on the status of the INRB permitting process and performance reviews. You can also direct specific questions on INRBs to the DEP Onsite Sewage Program (https://floridadep.gov/water/onsite-sewage).

Q: If the milestones will be based on required reductions, will a 30% reduction be realized by 2028?
A: Based on the project information provided by the lead entities, DEP will estimate the expected reductions and assess if we are expected to meet milestones or not. Concurrently, DEP will continue to conduct water quality and biological monitoring. The final goal is based on the TMDL and if the reductions are not met or the biological response is not met, the BMAP will be adjusted using the iterative process. Entities will be required to submit projects to demonstrate that they can meet their entity allocation, as defined by 2023 House Bill (HB) 1379.

Q: Would DEP consider lowering the TMDL nitrate concentration because Wakulla is a clear spring and not tannic? Some springs have lower TMDL concentrations.
A: DEP had more specific data on the three springs BMAPs where the TMDL target is lower, but DEP did not have information to support that approach for Wakulla Springs. Currently, we are seeing some improvements in biology, and that appears to be related to the recent load reductions, which is a good sign. If ultimately the biology does not recover when we are meeting the Wakulla TMDL target concentration consistently, that situation would be a reason to revisit whether the TMDL concentration is protective.

Q: Why did DEP not use 2012 to 2014 data for concentration but did for flow?
A: The period of record being used statewide for the springs analysis was 2012 to 2022, so that period of record was used for flow for Wakulla. A long timeframe was desirable to represent a wide variety of rainfall conditions. For Wakulla, the concentration data for 2012 to 2014 was excluded because there was a large wastewater treatment facility upgrade project in that period. The changes in water quality were observed starting in 2014, so the years of higher concentrations prior to the upgrade were removed specifically for Wakulla, because the 2012 to 2014 data are no longer representative of the Wakulla Springs loads.

Q: Can the allocations and project reduction estimates be made public so that they can be reviewed? Also, can the information on biological impairments be simply summarized for the public--in non-scientific terms--and accessible?
A: Yes, the public are welcome at the BMAP meetings. There will also be a BMAP document that will explain these items in detail. Also, the Statewide Annual Report (STAR) will contain annual updates on projects and will be posted by July 1 each year.

Q: How can materials from the meeting be accessed?
A: An email will be sent to participants via the GovDelivery system once the materials are posted online. To manage your DEP GovDelivery notifications, please visit https://floridadep.gov/dear/dear/content/subscribe.

Q: Will the BMAP require limitations to fertilizer, land use, or accounting of nitrogen loading in the land use comprehensive plan change process to address future growth and land use change?
A: Those entities with BMAP allocations will be required to provide project lists and management actions to meet their own BMAP milestones. Local governments may determine

that amendments to their local comprehensive plans are part of the approach that is necessary to implement their projects and to meet their load reductions. The nitrogen loading reductions from these projects and management actions in the BMAPs will be calculated. The BMAP updates will also include a future growth component to address this future loading. Further, HB1379 has a Capital Improvement Element that amended section 163.3177, F.S., to require any county or municipality within a basin management action plan (BMAP) within its jurisdiction to include in its comprehensive plan a list of projects necessary to achieve the pollutant load reductions attributable to the local government as established in the BMAP.