

June 4, 2018

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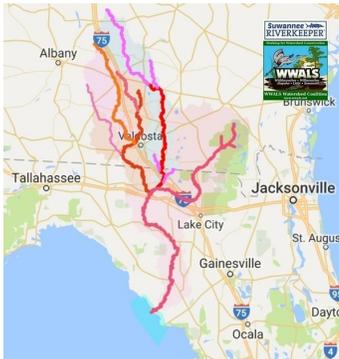


Re: Suwannee River Basin Management Action Plan (BMAP)

Dear Secretary Valenstein and Coordinator Hansen,



Please pardon the hastiness of this letter, which is because we do not seem to have gotten any notification from your department that it released its Final Basin Management Action Plans (BMAPs) on 22 May 2018,¹ nor are we listed as a stakeholder in that document, despite assurances at FDEP BMAP meetings that WWALS, as a watershed organization for the Suwannee River Basin, would be so notified and so listed.



In the Suwannee River Basin, as FDEP and DCACS noted for the one BMAP study previously completed, for the Santa Fe River Basin:²

"The main source of elevated nitrate-N concentrations in groundwater and spring water is inorganic fertilizer, based on chemical data for nitrate isotopes, potassium, chloride, and bromide. There was a statistically significant ($p < 0.05$) correlation between nitrate-N and potassium concentrations in wells near irrigated sites. In contrast, at nonirrigated sites there was a statistically significant inverse correlation between nitrate-N and potassium concentrations."

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The situation is similar for the Lower Suwannee, Middle Suwannee, and Withlacoochee River Priority Focus Areas (PFAs) and BMAPs: agricultural nitrate runoff is the problem, and overuse of fertilizers and irrigation need to be addressed.

WWALS Watershed Coalition advocates for conservation and stewardship of the Withlacoochee, Willacoochee, Alapaha, Little, and Suwannee River watersheds in south Georgia and north Florida through education, awareness, environmental monitoring, and citizen activities.

At previous state meetings about the Suwannee BMAPs, we have heard FDACS propose cover crops and crop rotation as exciting new Best Management Practices (BMP). While we are in favor of those BMPs, it is a little hard to see them as novel, since they have been in use for generations. We also hope they were already among the recommended BMPs.



The movement of nitrate to the springs is primarily due to leaching of nitrate to shallow groundwater and subsequent movement with the groundwater to springs. The soils in the region are highly permeable and prone to leaching of water soluble substances such as nitrate, potassium, and chloride. Once in groundwater they can move rapidly to springs through the karst aquifer system. Management practices are needed that minimize leaching (for example, irrigation scheduling, split fertilizer applications) and or provide edge of field groundwater treatment (such as denitrification bioreactors). Many studies indicate that cover crops have little or no impact on controlling nitrate leaching. However cover crops should be encouraged for other benefits, such as preventing dust storms.³

¹ "Final Suwannee River Basin Management Action Plan (Lower Suwannee River, Middle Suwannee River, and Withlacoochee River Sub-basins)," Division of Environmental Assessment and Restoration Water Quality Restoration Program, Florida Department of Environmental Protection, with participation from the Suwannee River Basin Stakeholders, May 2018, http://publicfiles.dep.state.fl.us/DEAR/BMAP/Suwannee/Suwannee_2018_BMAP/

² "Four-Year Progress Report, January 2013–December 2016 Implementation of Best Management Practices in the Santa Fe Restoration Focus Area: Nitrate-N Concentrations in Groundwater, Springs, and River Water," A Joint Document Prepared by the Division of Environmental Assessment and Restoration Florida Department of Environmental Protection Tallahassee, Florida and Office of Agricultural Water Policy Florida Department of Agriculture and Consumer Services, Tallahassee, Florida, June 2017, <http://www.wwals.net/pictures/2017-06-01--BMA-Santa-Fe-RFA-Nitrate-Implementation/>

³ "Dust storm in Hamilton County, FL 2017-10-29," John S. Quarterman, WWALS, 31 October 2017, <http://wwals.net/?p=38313>

It would appear that BMPs alone are not sufficient, since that same Santa Fe study also concluded (page vii):

"No significant decreases in nitrate-N concentration were observed over the four-year period in the sampled springs or Santa Fe River sites. This lack of response may be related to

- (1) insufficient time for changes in agricultural practices to affect groundwater quality (a lag effect between when BMPs are implemented and when improvements in water quality are seen);*
- (2) legacy nitrogen in soil and shallow groundwater from past practices;*
- (3) possible compliance issues in the implementation of BMPs (although BMP compliance will be verified with implementation assurance visits by the OAWP); and/or*
- (4) the limitations of BMP effectiveness because of soil conditions, cropping rates, fertilization rates, and irrigation needs that may warrant additional measures (if water quality problems are observed despite BMP implementation).*

At a previous BMAP meeting, we heard verbal confirmation that over the last decade, when most of the same BMPs were in use as were used in that Santa Fe study, that there were no significant decreases in nitrate runoff. This would seem to indicate that (4) is likely correct: BMPs are not sufficiently effective.

None of this is to say there are not septic tank problems in the Suwannee River Basin: there are, and the BMAPs do address those.⁴ However, even removing all septic tanks would not significantly affect the larger problem, according to the BMAPs themselves.

Perhaps we missed it, but we would like to see in any BMAPs recommendations to go further than such BMPs, including for example:

1. Using seeds that are bred for local conditions to use less fertilizer and less water, not just engineered for pesticide resistance;
2. Grazing cattle as part of crop rotation, gaining natural fertilizer.
3. Use of terraces and vegetative buffers to prevent runoff;
4. Edge of field groundwater treatment (such as denitrification bioreactors);
5. Conversion of marginal cropland into other uses, including for example solar panels, which both Duke Energy⁵ and FPL⁶ are now building throughout Florida, with Duke's first 75 megaWatt solar farm in Hamilton County that converts center pivot fields to solar panels in the Middle Suwannee River BMAP;⁷
6. Significant funding from the state of Florida for such conversions;
7. Recruiting local landowners with deep pockets, especially those investors from the west coast who purchased thousands of acres in recent years, to help fund conversion along the above and other lines;
8. Further updates to county comprehensive plans and land development regulations to assist with some recommendations, such as vegetative buffers; and
9. Funding and implementation of more frequent and closely-spaced water quality monitoring.

These may or may not be the most relevant, most important, nor sufficient measures. However, the BMAPs as written are also not sufficient to meet the goals they identify for reducing nitrate runoff in the Suwannee River Basin.

⁴ "New Septic Rules for small lots in Gilchrist," Gilchrist County Journal, 31 May 2018,

<https://gilchristcountyjournal.net/2018/05/new-septic-rules-for-small-lots-in-gilchrist/>

⁵ "Duke Energy goes big on solar, drops nuclear charge for customers," Kevin Spear, Orlando Sentinel, 29 August 2017,

<http://www.orlandosentinel.com/news/os-duke-energy-solar-embrace-20170829-story.html>,

⁶ "Florida Power & Light opens four new solar power plants and closes another coal plant," FPL, PR, 8 January 2018,

<http://newsroom.fpl.com/2018-01-08-Florida-Power-Light-opens-four-new-solar-power-plants-and-closes-another-coal-plant>

⁷ "Hamilton Solar Farm by Duke Energy at Sabal Trail pipeline," John S. Quarterman, WWALS, 8 November 2017, <http://wwals.net/?p=38568>

Some of the above suggestions are listed as future possibilities in Section 2.10 (cattle, comprehensive plans) or at the very end of the Suwannee BMAP, in Table F-6 (denitrification bioreactors). They need to be moved up to implementation now. Others (seeds, terraces, solar, deep pockets, etc.) are not mentioned at all. Tinkering at the edges of the agricultural system as currently practiced is not enough. More basic change is needed.

Therefore we recommend rejecting the BMAPs as written and revising them to include further measures that have a better chance of actually meeting the goals.

Sincerely,

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