

GENERAL COMMENTS:

In the May 23, 2018 BMAP public meeting, and in meetings on May 15, 2018 with Orange County Commissioners and homeowner representatives, Drew Bartlett, FDEP Deputy Secretary communicated that no BMAP actions will proceed until the following occurs:

1. Beginning July 1, 2018, feasibility studies, funded by FDEP, will be conducted by affected counties. Counties will have up to five years to complete the study which will identify areas suitable to connect to existing and planned sewers and those areas suitable to replace septic systems with nitrogen reducing systems.
2. Funding mechanisms and sources would be in place to cover build-outs to properties and the differential costs of converting a conventional septic system to a nitrogen reducing onsite system, or the cost of connecting a home to a sewer system.
3. Department of Health completes rule-making for the use of passive (non-electric) nitrogen reducing technologies to align their permitting regulations with the BMAP septic system remediation plan. It is important to note that a review of current rule-making activities by DOH indicate that the agency has not made a "good faith" effort to make the promised passive nitrogen reducing alternative a viable alternative. Unless the rule is amended significantly, the woodchip passive system will not be an alternative that is either affordable or acceptable.

Further, homeowners were reassured during the May 15 and May 23 meetings that during the transition period, if existing conventional septic system fails and is not scheduled for sewers, the homeowner may repair a septic system to conventional standards and not be required to convert to an approved nitrogen reducing system until the repaired system either fails again or reaches the end of the 20-year BMAP cycle.

We have reviewed the BMAP plan and find that the above three points are inconsistently applied in the BMAP document. As such, these are statements of policy and intent, but are not subject to implementation or adherence unless they are included in the relevant sections. Inclusion of these points is imperative for counties and homeowners if they are expected to support, commit resources to, and move forward with BMAP implementation.

Additionally, review of the load allocations reveals significant gaps in identifying and properly allocating important sources of nitrogen. In fact, based on literature research, every citizen of the Wekiva Priority Focus Area, not just those on septic systems, should be assigned with contribution values. Apartments and existing homes with sewers all contribute nitrogen to groundwater and the aquifer due to exfiltration, the use of wastewater plant rapid infiltration basins, and the impact of over 400 known injection wells in Orange County alone. These sources all contribute to higher vent readings.

Even though exfiltration is a known contributing factor to ground, and therefore groundwater, there is no percentage allocation in the official pie-chart. Even though injection wells carry fertilizer, decaying vegetation and waste (all sources of nitrogen) directly to aquifer, there is no allocation. Either unallocated source, if accounted for and properly assigned, would reduce the load allocation and the required reductions for septic systems and prevent unproductive spending of millions taxpayer dollars.

These known sources of nitrogen should be accounted for so that a proper allocation of improvements to spring values is credited to the efforts of removing or improving OSTDS. Excluding these sources transfers to septic systems a nitrogen reduction burden that will never be resolved by the BMAP OSTDS remediation mandate. Excluding these known sources of nitrogen puts into question the relevancy of any effort to justify, measure, or evaluate the results of the OSTDS remediation efforts.

LINE ITEM COMMENTS:

Page 2 does not list the Homeowners as one of the OSTDS Remediation Committee stakeholders.

Page 14 indicates that the BMAP plan will achieve a .286 mg/L reading of total nitrogen at the vent of Wekiva Springs and Rock Springs by eliminating 308,644 to 398,778 lb-N/yr. Units are not compatible. Spring vent readings in mg/L are subject to dilution.

The BMAP plan should include the testing/formula that determined the number of pounds entering groundwater and how they are converted to mg/L.

Additionally, missing from the plan is exactly how the .286 mg/L will be determined. If one looks at the sample readings from the St John's Water Management District, values from 2002 to present vary monthly from values as high as 1.38 in 2006 to as low as .0117 in May of 2018. While the average has been 1.05, recent years have already indicated a trend downward without a plan in place. Monthly values bounce considerably up and down.

With this kind of variation and the number of variables that influence vent readings, the BMAP should state how a comparative value to .286 mg/L will be calculated, so that the standard for measuring BMAP's progress and/or success of mandated actions is known and consistently applied.

Page 21, 22, 1.5.2.1 discusses the monitoring of septage disposal (waste from pump outs). The BMAP document only addresses land application processes and prohibitions. It does not address tracking from source to delivery point. Monitoring the process of delivery will require creating a manifest process by which firms supplying such services can prove they safely disposed of the waste from a pump out to an approved location. Manifests should be dated and signed by the receiving entity, recorded and a copy returned to the home owner. It is the home owner's right as "Stakeholders" to know that after the funds and effort of BMAP is in effect, that their waste has been properly disposed of. Trusting without verification is not a reasonable option that can be managed via "Best Practices."

The delivery of biosolids from a pump out to an approved site must be documented, and the Wekiva BMAP language should include such a mandate.

Page 22-23, 1.7 states that stakeholders were invited to participate and that all provided input. Regarding participation, the homeowner representative that served on the OSTDS Remediation Committee is not listed in Table A-1. This omission reflects the reality of the BMAP Committee function. Homeowners were never invited to present their concerns publicly to the stakeholder group. Homeowners were only allowed to ask questions of the moderator or the other participants. Even the questions that were formally submitted to the BMAP coordinator were never addressed. Yet, government organizations, industry lobbying groups and environmental organizations all were given time on the agendas. It is disingenuous to state, all stakeholders received equal treatment because they did not.

Page 25, 2.1.2 Table 3 and 2.1.3 assigns 29 percent contribution to OSTDS and discusses how the calculation was derived from the per/capita contribution. The BMAP document states the values were derived from literature adjusted for land use and recharge conditions. Yet an FDEP sponsored study of actual homeowner sites using lysimeters indicated that, at 24 inches below the drainfield, systems in the Wekiva Study had an average attenuation rate of 50%.

It is unclear whether the required reductions are based on FDEP information or that provided by FDOH which assigns a 25-30% attenuation to conventional systems. There is a 20% discrepancy between FDEP's attenuation calculation and that provided by FDOH. This calculation drastically influences the reductions being required from OSTDS. Unfortunately, choosing one over the other represents an arbitrary assignment of load to groundwater that carries with it a staggering cost to taxpayers.

Further demonstrated in the FDEP homeowner study is the fact that beyond 24 inches, the nitrogen reduction continues to occur, reaching near zero at 13 ft. below the drainfield. The Wekiva Homeowner Study released in January 2018 states that only the readings at 24" below the drain fields were treated as input to the computer model FDEP is using. Why isn't all the known public science being used to create this BMAP plan?

In the 2015 FDOH Nitrogen Reduction Study final report, it clearly states that most attenuation takes place just prior to reaching the groundwater. If that is the case, testing for TN to groundwater is the most reliable means of determining with the greatest accuracy what OSTDS in a specific neighborhood/area are contributing to groundwater. This data would also dramatically influence reductions required from OSTDS in a geographic area and help counties plan for cost/effective best results.

Discrepancies and concerns of this magnitude must be addressed before the BMAP document is finalized.

Page 29, 2.2 lists an aggressive set of management strategies all aimed at nitrogen reduction. However, noticeably missing is a natural strategy to assist in nitrogen removal from Rock Springs Run and the Wekiva River. It is well documented that an average mature tree can remove 10 pounds of nitrogen per year. In the history of our watershed, logging out large mature cypress trees was an industry. There should be credits, and possibly state funding, given to counties who adopt a plan of restoring the Wekiva River to its original state through re-planting native cypress that existed. Simply stated, trees planted now will become a significant source of nitrogen removal by the end of the 20-year period, adding value to the BMAP that exists for the Wild and Scenic River status. Additionally, State funding should be allocated to the restoration of river banks and shorelines to benefit from this natural process of nitrogen removal.

Page 33, Paragraph 2. Costs of \$10K-\$20K for either alternative nitrogen reducing systems or sewers cannot be considered realistic for either. Estimates do not reflect known capital costs or the annual cost of ownership. Further, the idea that costs can be "redefined at a later date" means county and homeowner planning is impossible and will cause serious budget shortfalls for both counties and homeowners when the actual costs are established. The promise to homeowners of FDEP funding for differential costs cannot be kept under this scenario, nor can long-term county plans be assured of adequate funding. The counties will be forced to raise taxes to cover the short-fall, again negatively impacting homeowners' financial well-being. With average annual income for the WSA in the \$55,000

range, and approximately 30% of the WSA homeowners on a fixed income, this “moving cost” management method may prove to have disastrous consequences for homeowners, as all direct or indirect cost adjustments will filter down to the homeowner.

FDEP has a fiduciary and moral responsibility to formulate a plan that reflects economic feasibility for both the actual costs of a project and its financial impact on those who are expected to absorb those costs. To say the plan does not raise taxes does not mean there will be no taxes or there is no economic impact.

Page 34, Table 8 indicates that storm water is a principle source of nitrogen. Since revised ordinances prohibit the dumping of grass clippings into storm drains (further credits from fertilizer), where is the nitrogen contribution allocated that comes from the 11 square miles of woodland floor that exists just in the Wekiva State Park alone. Additional woodland contributions exist in the Rock Springs area, which impacts TN readings in Wekiva Springs. Ample research exists documenting that , wildlife, rotting vegetation, decaying leaves, etc. are principle sources of nitrogen to both the spring vent as well as the river and should be addressed in the load calculations. Misappropriation of load allocations means TMDL targets will not be achieved. (See the Suwannee River comment below.)

Page 41, 2.8.2 *“To demonstrate reasonable assurance, the utility/entity shall provide relevant water quality data, physical circumstances, or other site-specific credible information needed to show their facility would not cause a nitrate concentration that would be greater than 0.286 mg/L at the spring vent. This demonstration may include factors such as dilution, site-specific geological conditions, research/studies, including dye tracer tests, and groundwater transport modeling. Should DEP concur with the reasonable assurance demonstration request, the TN effluent requirements established here may be modified for the applicant or waived.”*

Management strategies and allowances for WWTF provide that successful demonstration of acceptable nitrate concentrations reduce or eliminate reduction requirements. It is unacceptable that a wastewater treatment plant would be allowed to demonstrate reasonable assurance that the plant will not impact the spring vent reading and homeowners are not afforded the same consideration, using the same factors and site-specific credible information.

The “Suwannee River” experience is a prime example of what happens when OSTDS are blamed for unacceptable nitrogen in the river and replaced by sewers without the reassurance provided by proper testing. No change to the nitrogen levels was documented after the conversion. The conclusion in the follow up report on this septic-to-sewer conversion was that wildlife and inputs other than septic systems were the source of the unacceptable nitrogen levels. The millions of dollars that were spent accomplished nothing of value to water quality. This is evidence that relatively simple and affordable inspections and scientific testing avoids this total waste of taxpayer dollars.

To avoid repeating the Suwannee River scenario, and to provide a basis for a successful outcome, the Wekiva BMAP plan should include a recognition that not all septic systems in the Priority Focus Area may need to be converted. The Wekiva BMAP, and all BMAP’s in the state, should include pre-conversion, statistically sound sampling to groundwater to assure results and accountability. This provides a demonstration of “reasonable assurance.”

Page 43, 2.11 states an assumption: *“Maintaining land at lower intensity uses through land purchases or easements for conservation and recreational use is one strategy that can help reduce water quality impacts in the Wekiwa Springs/Rock Springs BMAP.”*

How does FDEP know that acquired land with a typical woodland floor or grass field and animal life does not contribute nitrogen? What studies show this? See the recommendation in line item P.41,2.8.2.

Page 46, 2.12 makes the BMAP plan dependent upon funding. The implementation policy communicated by FDEP in May 2018 meetings also states the BMAP plan will not go forward without funding in place. Most funding appears to be coming from a dependency on a stable economy. What happens to the plan, if for economic reasons, no funding is available to cities, counties and homeowners? Homeowner property values will be significantly and negatively impacted if the promised conversion assistance is not available to homebuyers who be subject to a conversion expense. Counties operating under a submitted BMAP conversion plan will suffer major budget impacts, or be obliged to increase taxes to comply with the BMAP mandates, and be obliged to do so on an ongoing basis to respond to any failure to achieve the TMDL standard.

It is an unrealistic and dangerous assumption that the overall economy will remain stable over the 20-year BMAP plan. Responsible planning requires that contingency plans be included in the BMAP plan to deal with fluctuations in funding availability. If a contingency plan is not included in the final BMAP, severe financial consequences to homeowners and counties will result.

Page 47-48, 3.2 and 3.3 states Adaptive Management involves making adjustments in the BMAP when monitoring indicates the need for additional or more effective restoration strategies. As an example, for the year 2002, average Wekiva Springs vent readings were 1.37 mg/L. Most recent readings are 1.01 mg/L. The 15-year trend is downward even though many new septic systems have been added and development has supposedly introduced more impact from fertilizers and hardscape run off. Logic says the vent readings should be higher, not lower if septic systems and development were the problem.

Further, in previous FDEP documentation, the .286 TMDL goal was set and defined as a level that should “prevent harm”, and as such, cannot be described as a target aligned with any known data established for Wekiva Springs, but an ideal level reached by comparing Wekiva’s level to that of springs in uninhabited areas. It is, by FDEP definition, a derived standard, not one established by any science. As such, it may be an unreachable target that carries with it a consequential financial burden to counties and homeowners, and the very real possibility of unproductive expenditure of taxpayer funds.

FDEP seems to agree that it may take many years to see the results of the remediation effort and has stated so (page 49) in the BMAP that a “significant time” may be needed to observe changes in water chemistry. The BMAP 5-10-20 implementation plan does not reflect this, however. The plan states “adaptive management” will be applied at the five-year increment even though counties have been given up to 5 years after BMAP adoption just to generate a plan. The plan outline and time-line is in conflict with FDEP statements that the agency (FDEP) knows the vent readings may not reflect the real impact of any mandates until years in the future. In other words, the BMAP plan says “Adaptive Management” will occur before any reliable documentation exists to justify it.

Additional concerns exist over how “Adaptive Management” actions will be documented to support changes and how changes in the plan will be communicated to counties and homeowners.

The BMAP “Adaptive Management” plan seems to go through constant iterations without the benefit of having actual results that will determine what further actions need to be taken. As such, BMAP implementation will be disruptive, not adaptive. Since all actions and adaptive actions have consequential costs that impact the planning process, BMAP should follow the same process of notification, comment period, and approval as the original plan.

Page 48. Secondary Objective: Groundwater Data. Groundwater data sampling is listed as a Secondary Objective.

Since Septic systems are considered to be a major contributor of nitrogen to groundwater, it would seem prudent to make groundwater testing results rank #1 and results of that testing apply to Adaptive Management decisions about septic systems. To do otherwise invites inappropriate decision-making and waste of taxpayer dollars.

Page 49, 3.3.2 Water Quality Parameters (frequency and network considerations). Flow monitoring stations are presented as supplemental data. According to the CRISP report (sponsored by SJWMD and conducted by the University of Florida), nitrogen reduction alone will not solve the nuisance algae problems. It stated emphatically that flow was the most important consideration for biological health of the springs and river. In addition, nitrogen readings due to dilution at the vent are significantly impacted by flow. Given that conclusion, the two parameters of nitrogen and flow should be considered as equal and simultaneous forces impacting water quality.

If FDEP is intending to rely on computer modeling to measure success, the input of accurate and influential data is of utmost importance. To subject the success of septic system contribution and remediation measures to one parameter is a disservice to science, accuracy, and puts adaptive management process in question.

Page 79, Project #OC-39. Orange County reported to BMAP the details of a project. \$11 million dollars was spent replacing leaking sewer lines. Curiously, the nitrogen source impacted by the project is listed as the Waste Water Treatment Plant. No credit for nitrogen reduction is given even though it is clear the nitrogen that exists in wastewater was exiting the leaking sewer lines and, obviously was going into the ground and therefore, groundwater. In the BMAP OSTDS Remediation Committee process and elsewhere, citizens and professionals alike have pointed to the fact that exfiltration from sewer lines is a reality and not included in the official pie chart of nitrogen contributions. The wastewater industry estimates that 10-40 percent of wastewater never reaches the WWTP. However, no segment representing this contribution to groundwater is established in the reduction allocation pie chart. All wastewater nitrogen contributions to groundwater are assigned to Septic Systems. Avoiding this reality does not change reality, but it does impact the reduction mandates, actions and financial impact of the BMAP plan.

It is illogical to assign no nitrogen reduction load to this groundwater source and assign the impact to the Waste Water Treatment Plant. In fact, in previous BMAP's, relining sewer lines and manholes was given a “high priority” ranking in reducing nutrient loads. To be fair, Orange County should be given nitrogen reduction credit for an estimated nitrogen load since the leakage is going into the ground and groundwater. Logically, the required reduction from septic systems should be reduced by an equivalent amount.

Page 90, Appendix D, OSTDS Remediation Plan. *“Irrespective of the percent contribution from OSTDS, FDEP has determined that an OSTDS Remediation plan is necessary.”* Essentially, this is a statement of executive decision making, reflecting that the OSTDS Remediation Committee input and science was not going to impact the BMAP plan. This statement contradicts other statements in the BMAP plan that the committee process included and responded to stakeholder concerns and that adequate science was an important component of the BMAP plan.

Comment withheld.

Page 91, D.1.2 and Page 91 are in conflict regarding Repair of Existing Systems. FDEP has publicly stated that existing systems will be allowed repair permits during the time allotted to counties to develop a feasibility plan, and that existing systems will not be required to convert to Nitrogen reducing systems until the existing, repaired system fails, or until 20 years has elapsed. The BMAP document states FDEP policy begins no later than five years after BMAP adoption, but there is no statement of the assurance that existing systems are grandfathered until the feasibility plan is complete.

In order for this conflict to be resolved, BMAP language should be changed to include a statement that systems in need of repair before the feasibility plan is complete are exempt from nitrogen reducing remediation until such time as they fail.

Page 93. Statement in the BMAP document states that St. Johns Water Management District is given the role of evaluating new and emerging technologies. This represents a transfer of responsibilities from the Dept. of Health, Bureau of Onsite Sewage to SJWMD. There appears to be no legislative approval or involvement in this statement, nor does it seem to be subject to the usual oversight of TRAP or RRAC that the legislature put in charge of evaluating the rules and statute changes that usually accompany the approval of a new technology.

FDEP needs to remove this statement from the BMAP plan until such time as it is vetted and approved by the legislature, as initiation and oversight of this activity is, in statute, assigned to FDOH and funding for this activity is subject to legislative appropriations. This function is not by statute undertaken at the discretion of the Water Management District.

Page 105. “Table E-1. Range of environmental attenuation of nitrogen from a detailed literature review

* STUMOD was used to determine attenuation factors in this analysis

** Each OSTDS unit was assigned an individual attenuation factor based on site specific information. There was not a sole attenuation value applied to this category”

FDEP conducted a study of nearly one dozen septic systems in the Wekiva Priority Focus Area. This study is referred to in another section of this BMAP plan and the inference is that the data was incorporated and affected the BMAP document. According to this chart the averaged attenuation factor of 50% documented in the study is not included in this chart. Neither is the BMAP statement of additional attenuation in the aquifer included. The resulting chart indicates that only 28% of the nitrogen from septic systems is assumed to be attenuated, based on literature review. No site-specific data seems to be included in the STUMOD model.

Comment withheld