

Public Comments on FDEP's Wekiva TMDLs

Dear Mr. Mandrup-Poulsen:

Somewhat delayed, I submit the following comments on the draft TMDL report recently released for the Wekiva River and Rock Springs Run. Nutrient TMDLs for the Wekiva River (WBIDs 2956, 2956A, and 2956C) and Rock Springs Run (WBID 2967) by Xueqing Gao. I hope they can still be of use to you.

Regards,

Eberhard Roeder

TMDL expressed as concentration

P. 19 FDEP proposes a TMDL based on 0.286 mg/L nitrate as monthly average concentration. The discussion gives the impression that this would be considered the maximum monthly average. What is the estimated annual average concentration for such a maximum monthly average? The proposed concentration is based on the lowest number of several criteria resulting in similar concentrations (0.286 change point analysis of cell density in Suwanne River Basin compared to long-term average condition; 0.3 Lyngbia Wollei in Rainbow Springs compared to experimental concentrations and changes occurring after two weeks, 0.293 summer ecological efficiency in Alexander and Juniper springs over an experimental time frame of one month). The concentration value is higher than the 0.216 mg/L and 0.221 mg/L recommended by the SJRWMD PLRG analysis for the Wekiva River and Rock Springs Run, respectively (Mattson et al., 2006), which were arrived via a variability analysis of measured data to provide 90% likelihood of non-exceedance. The TMDL report suggests that a monthly average criterion is fulfills the same purpose, and a maximum average monthly concentration indeed results in a very similar 92% non-exceedance. The drawback is that the TMDL concentration (monthly average) and the PLRG concentration (yearly average) are not directly comparable.

The PLRG nitrate toxicity discussion mentions "aquatic insects, amphibians, and mosquitofish" (p.44). Are these organisms relevant to "benthic macroinvertebrate communities" mentioned as evidence for the lack of toxicity effects on p.20 of the TMDL report?

FDEP proposes a TP limit of 65 ug/L as monthly average (based on a reanalysis of attached algae data in the Wekiva area (p.22). What is the expected annual average TP concentration that would meet such a criterion? The numerical value is higher than the PLRG suggestions of 59 and 61 ug/L as annual averages for the Wekiva River and Rock Springs as, respectively, which were based on a 90% likelihood of meeting a 90ug/L threshold.

The change point analysis approach appears to be a promising tool to analyze data with the goal of finding a threshold limit value.

Load Assessment

The focus on nitrate in the load assessment causes inconsistencies. This focus assumes that TKN and ammonia that are discharged can not be converted in the water body to nitrate and are not effective generally in providing nitrogen for aquatic plant growth in general. Both

assumptions should be stated more clearly, and, if applicable, used throughout the assessment. Anderson (2007) raised this issue relative to the MACTEC assessment of nitrate and input loading to the Wekiva River and suggested that TN releases be considered throughout. Springs discharge is predominantly in the form of nitrate but further downstream the fraction of TKN increases to become more than half (e.g. comparing station at SR46 and Springs discharges in appendix E of WSI (2004). Is this shift due to conversion of nitrate into TKN or due to dilution by more TKN-rich water? Such an analysis would provide insights if springs or surface water tributaries are more important sources of nitrates.

Fate and transport of nitrate is treated differently for point and non-point sources. For point sources attenuation between the effluent discharge point and the point of entering into the main stem of the water body of interest is considered, but for non-point sources, any release is counted as load. On the one hand, the impact of this is limited because the TMDL is expressed as a percent reduction of concentration. On the other hand, a focus on tributary concentrations and loadings could provide a clearer picture than the bulk stormwater model of where significant loads of nitrate and TP are coming from. Is this going to be implemented in the BMAP-process?

For point sources, monitoring of receiving environments is used as the key input for loading assessment. The SCES plant is determined to be not a source of nitrate and TP based on the lack of a detectable increase in concentrations between upstream and downstream monitoring locations (p. 28).

The Altamonte Spring facility is not assigned a nitrate load initially due to the lack of monitoring data), but a TP load is determined (p. 28-31). But on p.56 nitrate data are provided. It would be clearer if the available nitrate effluent values were already discussed at the first opportunity.

The Wekiva Hunt Club facility was assigned a load based on discharge monitoring report. This load is subsequent reduced to account for concentration ratios observed downstream of the discharge site. The attenuation rates given on p. 33 and p.54 are only valid as a removal mechanism if there is no dilution of the effluent between the point of discharge and the station #5. In contrast , figure 4.3 (not labeled) shows several creeks joining the stream between stations #2 and #5, in particular from station #6 with lower concentrations. This suggests that a large part of the attenuation is dilution with water from other sources rather than removal and that station #2 might be a more appropriate station to estimate attenuation of effluent. An assessment of dilution vs. removal would help clarify the important processes in the small tributaries to the Wekiva River. This could be accomplished by comparing the sum of estimated non-point and point source loadings at station #5 with discharge and concentration measurements or estimates at that station.

For non-point sources, section 4.2.2.1 estimates rainfall-runoff contributions to the Wekiva River based on nitrate, not total nitrogen, event mean concentrations. This results in an estimated 380,000 lbs of nitrate per year, and an estimated runoff of about 14"/year (table 4.9). Compared to other non-point sources, this estimate is very likely to be too high due to attenuation (such as stormwater BMPs) along the flow path toward the water bodies of interest. For the purposes of the draft TMDL the absolute value of the stormwater load is irrelevant.

In contrast, septic system contributions are based on the assumption of discharge of 55% of total nitrogen (not nitrate) and 30% of TP of systems within 200 meters of surface water. The task 4 report of the Department of Health Wekiva Study contains references to more recent literature sources for nutrient discharges from septic systems. It appears likely that the TP discharge has decreased relative to the numbers given in table 4.10 due to reformulation of detergents. Why were only septic systems within 200 meters considered, but not the runoff and groundwater discharge from fertilizer, lawns, fields, grazing cattle and horses, which may also contribute directly to surface water bodies? If 200 meters is a good estimate for a contribution distance would it not apply to all land uses? As the final non-point source, springs contributions are estimated based on discharge and concentration data at 511,433 lbs/year nitrate and 78,952 lbs/year TP (p. 42). This number should be fairly accurate.

Table 4.13 (p.46) compares the estimated loads for the above three non-point source categories, which were obtained by very different methods. This table could become more meaningful if the point source loads were included and estimated loads were compared to measured discharges at the downstream monitoring stations of the water bodies. This would provide an estimate of the attenuation achieved in the water body itself and allow to bound the estimated stormwater contributions. Will this be implemented during the BMAP process?

The wasteload allocations for NPDES facilities given in table 6.1 are not clearly related to the numbers provided in section 6.2. Please clarify. Should the fraction reduction in the column "WLANPDES Stormwater" apply to both stormwater and spring discharge?

Section 6.2 (p. 53) appears to contain a typo: 250 ug/L rather than 286 ug/L is given as the target concentration

Anderson, D.L. 2007 Review of Phase 1 Wekiva Basin Nitrate Sourcing Study. Memorandum May 23, 2007 WSI Inc. 2004. Work Plan. Pollutant Load Reduction Goal (PLRG) Analysis for the Wekiva River and Rock Springs Run, Florida. Report prepared for the St. Johns River Water Management District, Palatka, FL. Pp. variously numbered.

Eberhard Roeder, Ph.D., Prof. Eng. III
Bureau of Onsite Sewage Programs
Florida Department of Health
4052 Bald Cypress Way, Bin# A-08
Tallahassee FL 32399-1713

Phone: (850) 245-4070 Ext. 2698 or SunCom 205-4070
Fax: (850) 922-6969 or Suncom 292-6969

From: Dominique Buhot [mailto:greensorlando@hotmail.com]
Sent: Monday, December 17, 2007 2:58 AM
To: Mandrup-Poulsen, Jan
Subject: FW: TMDL

From: greensorlando@hotmail.com
To: jan.mandrup_paulsen@dep.state.fl.us; valdom_peanut@hotmail.com; pamtucker01@aol.com; jclark31@cfl.rr.com; greensorlando@hotmail.com
Subject:
Date: Mon, 17 Dec 2007 02:50:47 -0500

Hello sir

I assisted to the seminole county TMDL presentation and I have a few issues I want to present. AS A master septic tank contractor doing business in central Florida for 15 years,I was a bit amazed to hear that 10 % of septic system are in failure.Actually ,the record from Florida DOH are showing 1% to 2%.The DOH record is based on the permit application for existing homes for drainfield repair and Florida is one of the leader state regarding on site sewage rules and record keeping.Also you must understand that among these failing systems ,only 10% has sewage pounding on the ground and very few of these has sewage running to a near lake,sink hole,river ,pond...actually,i never saw one in 15 years may due to the existing set back required!!!!Most of the failing systems experience back up in the house .Also, I am concern to hear the conclusion regarding the contribution of septic system for nitrate and phosphorus is based on a national literature study and not on a local level,at least on a state level .A study is supposed to be performed regarding the issue,I think it would be wiser to wait for the result.And how about fertilizer,the biggest contributor which might again escape the worse scenario! We do not need the St Augustine grass in Florida,It takes too much water to irrigate and too much fertiliser.Also ,are we going to finally severely penalize the homeowners who use too much water to irrigate. Dilution is an important part of pollution control when it comes to nutrients. Beside,we are talking about the ocean rising,may we could start pumping there!!!Country like Israel,Saudi arabia are doing so to get fresh water.I also would like to mentioned that Israel use solar water heater to get hot water and no exception to the rule,It allows them to reduce by 8 pound per house per year the discharge of nitrate in the atmosphere from power plant .For a cost of \$2300 per home in Florida after state and federal rebate ,we could get solar water heater and it takes 4 years average to amortize the unit.

IN conclusion,I would say that we need to have cost effective solution to have the public support initiative of this amplitude,and I do not think to have performance based septic system at \$15000 or more plus an average of \$150 monthly maintenance,depreciation(according to some research previously performed) is the solution.

Thank you for allowing me to comment on your presentation

Mr Dominic BUHOT
Master septic tank contractor

December 13, 2007

Florida Department of Environmental Protection
Division of Water Resource Management
Bureau of Watershed Management
2600 Blair Stone Road, Mail Station 3565
Tallahassee, Florida 37399-2400

RE: Comments on Fecal Coliform TMDLs for Little Wekiva River and Little Wekiva River Canal

Dear Sir:

The City of Altamonte Springs is proud of our environmental record, and we are extremely pleased to see the Report reflect that record with regard to our Regional Water Reclamation Facility (RWRF). The City of Altamonte Springs is committed to further reduce our discharge to the Little Wekiva River with the ultimate goal of totally eliminating river discharges.

In reviewing Figure 4-1, it is very apparent that the Little Wekiva River is heavily populated with flow-through surface water bodies that are a haven for water borne birds. It has been our experience that the large population of migratory birds results in monthly spikes in fecal Coliform. While the discussion on dog feces was interesting, we would have appreciated a more thorough analysis of impacts by migratory birds.

If you have any questions, please do not hesitate to contact me.

Sincerely,

John A. Peters, III, PE
City Engineer

cc: Bill R. Baer, Director of Public Works
Larry Dolamore, Division Director for Plant Operations
Shannon White, Division Director for Field Operations

December 13, 2007

Florida Department of Environmental Protection
Division of Water Resource Management
Bureau of Watershed Management
2600 Blair Stone Road, Mail Station 3565
Tallahassee, Florida 37399-2400

RE: Comments on Nutrient TMDLs for Lake Florida, Lake Orienta and Lake Adalaide

Dear Sir:

While the City of Altamonte Springs appreciates the concerns that all stakeholders have to complete this report prior to federally imposed deadline, we are extremely concerned with the level and range of corrections required to achieve model results that mirror actual sampling data. As stated on page 58, "the Department recommends that further studies be conducted to determine the actual TP (total phosphorus) sedimentation rates in these lakes and factors that may influence sedimentation rates." The City of Altamonte Springs is committed to achieving TMDL limits in Lake Adalaide, Lake Florida and Lake Orienta, but we have a fiduciary responsibility to our residents and tax payers to pursue the most prudent course of action to achieve the TMDL limits. To that end, the City of Altamonte Springs has proceeded with our own study on TMDLs on these three lakes to obtain more accurate data.. With the more accurate data, we can determine the best methodologies to reduce nutrient loading necessary to achieve the TMDL prescribed for these three water bodies.

If you have any questions, please do not hesitate to contact me.

Sincerely,

John A. Peters, III, PE
City Engineer

cc: Bill R. Baer, Director of Public Works
Larry Dolamore, Division Director for Plant Operations
Shannon White, Division Director for Field Operations

From: Julie.Bortles@ocfl.net [mailto:Julie.Bortles@ocfl.net]
Sent: Monday, December 10, 2007 5:27 PM
To: Mandrup-Poulsen, Jan
Subject: FW: Wekiva TMDL Public Workshop

Jan,

I have a question about the table on page 5 of the Nutrient TMDL document for the multiple lake impairments. Specifically on Lake Lawne, there are only two Annual TSI's listed, but on page 70, there are four calendar quarters of data listed as historic data for many of the years marked with N/A on page 5. Why was this data not included in the TMDL calc on page 5?

Thank you,

*Julie Bortles
Environmental Program Supervisor
Ecological Assessment
Orange County
Environmental Protection Division
800 Mercy Dr.
Orlando, FL 32808
407.836.1456*

Dive into the water atlas at www.orange.wateratlas.org

Please note: Florida has a very broad public records law. Most written communications to or from county and state officials regarding official business are public records available to the public and media upon request. Your e-mail communications may be subject to public disclosure. Any laboratory data submitted by email is unofficial. Please contact our office for official copies.

-----Original Message-----

From: ed festa [<mailto:efesta.eco-pure@juno.com>]

Sent: Friday, December 07, 2007 9:11 AM

To: Mandrup-Poulsen, Jan

Subject: septic tanks

I have read some of your studies concerning coliforms from septic tanks , it seems you make no distinction between septic tanks and septic systems .

As you are aware a properly installed septic system is a viable alternative to sewers , however I have been made aware that many approved plastic septic tanks on newer installations are collapsing , I have brought this to the attention of DOH as well as other stake holders to no avail.

The approval of these tanks did not in fact meet the requirement of the code when approved with regard to air space and liquid level at the time and the rule was changes over the objections of the trap committee.

It would seem prudent to include in your study why these approvals did in fact take place and how many of these tanks are currently in failure as it clear the DOH is and was remiss in their duties .

Septic tanks are but one issue in the long chain of events that may contribute to pollution but are the easiest one to correct if the departments are doing their jobs.

Ed Festa

From: Fred.Brummer@ocfl.net [mailto:Fred.Brummer@ocfl.net]
Sent: Monday, December 03, 2007 8:02 AM
To: Mandrup-Poulsen, Jan
Cc: fredbrummer@embarqmail.com; John.Byrd@ocfl.net; Gao, Xueqing
Subject: Question

3 December 2007

Mr. Mandrup-Poulsen:

Paragraph 1.1 of the Nutrient TMDLs for the Wekiva River and Rock Springs Run indicates that by Secretarial order on January 3, 2007 the Wekiva River and Rock Springs Run were added to the Verified List of impaired waters for the Middle St. Johns River Basin. Would you please have someone advise me of the basis and source documentation for the Secretary's decision in that action?

Thank you.

Fred Brummer
Orange County Commissioner District 2

Dear Mr. Mandrup-Poulsen:

I would like to make official comments:

I attended the TMDL meeting yesterday, the presentation was very easy to understand and informative. I was impressed by the amount of data collected and analyzed...it is tremendous. I was surprised to see the results of the research incomplete though. I understood you to say that the rule was already filed and are taking comments until Dec. 17, 2007.

I attended and signed the check in sheet as a member representing FAR. I serve as a RRAC panelist and alternate for TRAP for FAR and ORRA. Since the organizations have not been involved with this aspect of the Wekiva River Project, I am writing to you personally, not as their representative.

As a homeowner in the Wekiva Study Area in Orange County concerned about the conditions of the water bodies locally and statewide, I must say that I oppose such a rule that would set standards of TMDL's and pollution removal that is an enormous cost to the government, in turn the tax payer/homeowner. The major problem I have is; making rules without completed studies, in any circumstances is wrong.

While your department may have a deadline to meet, I do not agree it should be met and a rule approved until all the research is complete and the percentages are accurate. It is ludicrous to use 70-80% reduction percentages when no test were completed in many of the lakes that would effect the numbers. During the presentation, it was said that there were many uncertainties and collection of more data is needed.

There were a few public comments that need your further attention, for example regarding the 10% septic system failure rate may not be accurate, using Forest/Rural when it should not, the number of samples may have not been comparable and consistent throughout the studies, wildlife is not in the equations, just human and household pets, the results for the surface runoff do not include sewage seepage (leakage) or spills and treatment plants...which could drastically effect the results. There was much discussion about the onsite septic systems failure rates and loadings, but those numbers were inflated from 2% to 11%, just to be on the safe side. The studies were not at all in the Wekiva River Area.

I remember hearing that Dr. Gao was only using "concentration" and not "loading". that being the case, why then was there so much discussion about onsite septic systems in these TMDLs and additionally there was no discussion about synthetic fertilizers?

The TMDLs were "purposely overshoot" when coming up with the numbers. That is not the way science works, the numbers need to be based on the science, not assumptions. This can not be "conservative and on the margin of safety", it seems to be quite the opposite.

Thank you kindly for your time and consideration to check into my concerns. I welcome a response.

Pam Tucker

VETERAN REAL ESTATE

PO Box 608639 Orlando, FL 32860-8639

Office: 407-294-7434 Fax: 407-295-9387 Cell: 407-341-6420

Email: pamtucker01@aol.com

Website: <http://pamtucker.mfr.mlxchange.com>