



Missouri
Department of
Natural Resources

Nutrient Criteria Stakeholders Meeting
9/21/2011
Nightingale Creek Conference Room
Lewis and Clark State Office Building
Jefferson City, MO

In Attendance: Greg Anderson, DNR-WPP; Bob Bacon, ERC; Claire Baffaut, FAPRI (on conf. phone); Nick Bauer, St. Louis MSD; Dorris Bender, City of Independence; Gopala Borchelt, Table Rock Lake Water Quality; Georganne Bowman, Boone County; Robert Brundage, Norman, Connelly & Ruth, PC; David Casaletto, Ozarks Water Watch; Cindy DiStefano, MDC; Mohsen Dkhili, DNR-WPP; Eric Dove, Olsson Associates; Suzanne Femmer, USGS; Judy Grundler, MO Dept. of Agriculture; John Hoke DNR-WPP; Soojung Lim, DNR-WPP; John Madras, DNR-WPP; Colleen Meredith, DNR-SWCP; Steve Meyer, City of Springfield; Rob Morrison, Barr Engineering; Daniel Obrecht, MU; Mark Osborn, DNR-WPP; Michael Pessina, HDR, Inc. (on conf. phone); Tim Rielly, DNR-ESP; Jeffery Robichaud, US EPA; John Rustige, DNR-WPP; Trent Stober, Geosyntec; Tony Thorpe, MU; John Waitman, City of Springfield; Tom Wallace, Geosyntec; Mary West-Calcagno, Jacobs Engineering; Patrick Young, HDR, Inc.

Jeff Robichaud presented an explanation of why EPA chose to deny approval of most of the segment concerning nutrient criteria in lakes from the November, 2009 submission of Water Quality Standards for the State of Missouri. He began with a quick review of the nutrient issue, noting that “nutrient pollution” results from excess nitrogen (N) and (P) entering waters. He briefly went over the consequences, mentioning how harmful algae blooms, oxygen depletion, and turbidity negatively effect waters that are used for drinking, fishing, swimming, and other purposes. He acknowledged that the group was already familiar with these issues.

He then described EPA’s approach to addressing the issue. The agency believes that the states are best suited to address nutrient pollution, and works closely with state and local partners to address the technical issues. They have worked with 25 states to develop and approve numeric criteria. They believe that numeric nutrient work to keep all parties concerned accountable through specific, measurable guidelines to maintain and restore surface water quality.

With that background set up, Jeff then went into the reasoning for the denial. After specifying the portions that were approved (10 CSR 20-7.031(4)(N)(3) Table M) and disapproved (the remaining portions of 10 CSR 20-7.031(4)(N)(3)), he stated the documents that were used by the agency to reach its decision. These were: the rule, the rationale, the MDNR response to comments document, and the dataset that MDNR provided to the EPA. There were two overarching issues: they were unable to reproduce

the numeric criteria from the data, and the criteria were not demonstrated to adequately protect the use.

Jeff acknowledged the extensive work that the stakeholders had put into making the rule and he stressed that he had no desire to discount those efforts. Much of the rule only needs to be marginally modified. The area where they had the biggest problem was the numbers for the lakes in the Plains region, particularly those that followed the prediction line.

There are a few issues to keep in mind as the group moves forward from this point. In consideration of the reference approach, there must be some assurance that the waters have minimal anthropogenic impacts. Modeling approaches need to produce criteria that protect the use. Further statistical relationships, particularly involving TN and Chl, can be evaluated along with other lines of evidence to provide a more robust scientific rationale.

Jeff repeated the general belief at EPA that the states are the best entities for addressing nutrient pollution. Numeric criteria constitute one of the eight recommended elements in a state framework for managing the problem.* EPA looks forward to working with MDNR in the continuing effort to refine lake and stream criteria.

There is a website www.epa.gov/nutrientpollution which serves as a general clearinghouse of information for states and other interested parties. It includes a link to the site that describes progress among the states in developing nutrient criteria. Currently the page for Missouri indicates that nothing has been done. Jeff expressed the hope that that will be updated at least to acknowledge that portion of the rule that has been approved.

In conclusion, Jeff mentioned that since 2008, when the rule was assembled, there are new data, studies, and models that may be available to enhance the analysis in refining the rule.

* These were listed in an attachment to a March 16, 2011 letter to the EPA regions from Nancy Stoner, Acting Assistant Administrator at EPA headquarters. Headings are as follows:

1. Prioritize watersheds on a statewide basis for nitrogen and phosphorus loading reductions.
2. Set watershed load reduction goals based upon best available information.
3. Ensure effectiveness of point source permits in targeted/priority sub-watersheds.
4. Agricultural Areas.
5. Storm water and Septic systems.
6. Accountability and verification measures.
7. Annual public reporting of implementation activities and biannual reporting of load reductions and environmental impacts associated with each management activity in targeted watersheds.
8. Develop work plan and schedule for numeric criteria development.

Discussion

Robert Brundage opened up expressing the general frustration of many, which was that the group had worked for five years on the project, and the denial took many by surprise. He felt that the August 16th letter from EPA was long on conclusions, but short on analysis. He mentioned Lake of the Ozarks as an example, an area where there is a high degree of development, and the rule that was denied would have partially listed the lake as impaired. If the limit were lowered, the resulting TMDL might require more severe restrictions. Many people use the lake for boating, swimming, and fishing. How has the use been impaired?

A question was raised about using the reference approach. Given that virtually all the lakes in the state (outside the big river floodplain) are actually reservoirs, how are we to find any with “minimal human impact”? Jeff replied that it is a matter of what kind of anthropogenic activity is occurring in the watershed. Obviously, pre-Columbian conditions will not be found in the state, but there are watersheds where, for example, there is virtually no row-crop farming.

Eric Dove asked whether it was appropriate to rely on a stoichiometric relationship between nitrogen and phosphorus in determining the nitrogen limit. If phosphorus is the limiting nutrient to eutrophication, does a higher concentration of nitrogen really matter? Answer: Nutrient imbalance can be detrimental to aquatic life. However, using a simple ratio, as is done in the rejected rule, may not be the best fit. Further statistical relationships should be explored.

John Madras informed the group of the nutrient management strategy for the state that will be under development. A committee will be convening over the several months.

David Casaletto asked why the part of the rule concerning the upper branches of large reservoirs was not approved. He is particularly concerned about Table Rock Lake where, even when the normal monitoring site, near the dam, is within compliance of the rule, there can nevertheless be severe algae growth and other detrimental effects in the upper branches. This is what happened with the James River Arm of Table Rock Lake in 1999. Jeff replied that the rationale for that part of the rule had not been entered into the record, but it can be included with a revised rule. Mark added that, while the segmentation part of the rule would be good, this may also be addressed through stream criteria. For example, placing the right limit on the James River would go a long way toward protecting the James River Arm.

Dan Obrecht was mystified that EPA requested the lake data that had been used to develop the rule more than a year and a half after the rule had been submitted. Jeff explained that, because of litigation that was occurring at the time, action on the rule had to be delayed. Because of the litigation, EPA was required to make an up or down decision on each segment of the rule. They would have preferred to have more flexibility in addressing their concerns with DNR’s nutrient criteria submission, but circumstances did not allow it.

Trent Stober suggested that the rule that had been submitted was flawed because it could require implementation measures in lakes that may have high nutrient numbers but do not show any significant sign of eutrophication. Jeff replied that numeric nutrient criteria are intended to address the probability that, at a certain concentration of N and P, there is a higher risk of impairment of the use. Mark added that attention has to be paid to downstream effects, although that may be more relevant for streams than for lakes.

Mary West-Calcagno asked about the timeline in which MDNR is required to take corrective action in response to EPA's letter of August 16. John Hoke replied that that is 90 days. Obviously, MDNR will not be able produce a satisfactory nutrient rule within that time. They will write a letter describing the steps that are planned that includes a timeline to address the issue. She also raised the concern that the design of some reservoirs may conflict with the proposed criteria.

John Madras informed that discussions will continue between MDNR and EPA staff to resolve the outstanding issues with the nutrient rule. Subsequent rulemaking will be done on this outside of the triennial review schedule so that we will not have to wait until 2015 to have a rule in place.

Mark summarized the following steps. MDNR and EPA staff will meet as many times as needed over the next few months to develop a framework that all parties can agree on. This will be followed by a meeting with the technical subcommittee. Once consensus is reached there, the entire stakeholder group will reconvene to consider the newly proposed rule.