

Comments on the May 2012 Draft Nutrient Criteria Development Plan

Nutrient Criteria Development Advisory Workgroup, November 7, 2012
Texas Commission on Environmental Quality (TCEQ)
Texas Surface Water Quality Standards (WQS)

- EPA's Comment Letter
- TPWD's Comment Letter
- City of Austin Comment Letter
- Texas Water Conservation Association

I. EPA's Comments

From: Mike Bira [<mailto:Bira.Mike@epamail.epa.gov>]

Sent: Friday, June 22, 2012 1:26 PM

To: Standards

Cc: Philip Crocker; Diane Evans; Melinda McCoy

Subject: EPA Comments: TCEQ Nutrient Criteria Development Plan Draft Dated 5/25/12

TCEQ Staff-

We have completed review of this draft version of the Nutrient Criteria Development Plan, and offer the following comments.

1. Overall, EPA believes this Plan revision is a well done update, and gives better understanding to many of the State's past efforts and progress. The document format is easy to navigate, and information is clearly presented.
2. EPA Region 6 supports TCEQ's rationale of approach to developing numeric nutrient criteria. The prioritization scheme of reservoirs, rivers/streams, and near coastal waters, wetlands and boundary waters is a sound, logical method. While development of these criteria to address nutrient pollution is a national EPA priority, and EPA is dedicated to assisting states in accelerating this process, we also appreciate the many challenges in developing sound science and in promulgating these criteria. EPA continues to prefer that states develop numeric criteria for causal variables, i.e., total phosphorus (TP) and total nitrogen (TN), with the use of response variables such as turbidity, Secchi Disk, chlorophyll a, and dissolved oxygen as secondary criteria to build a "weight of evidence" in addressing nutrient loading.
3. EPA Performance Activity Measures (PAMs) continue to evolve, in response to the federal Office of Management and Budget (OMB) reviews. Currently, WQ-1 a, b, and c address measurements of state progress toward numeric nutrient criteria development, as indicated by the following definitions:

WQ-1a: Number of numeric water quality standards for total nitrogen and for total phosphorus adopted by States and Territories and approved by EPA, or promulgated by EPA, for all waters within the State

or Territory for each of the following waterbody types: lakes/reservoirs, rivers/streams, and estuaries (cumulative, out of a universe of 280).

WQ-1b: Number of numeric water quality standards for total nitrogen and total phosphorus at least proposed by State and Territories, or by EPA proposed rulemaking, for all waters within the State or Territory for each of the following waterbody types: lakes/ reservoirs, rivers/streams, and estuaries (cumulative, out of a universe of 280).

WQ-1c: Number of States and Territories supplying a full set of performance milestone information to EPA concerning development, proposal, and adoption of numeric water quality standards for total nitrogen and total phosphorus for each waterbody type within the State or Territory (annual). (The universe for this measure is 56.).

For 2013, EPA will continue to use WQ-1a, however WQ-1b and WQ-1c will be replaced with a new measurement, WQ-26, which reads :

WQ-26: Number of states making strong progress toward reducing nitrogen and phosphorus pollution by setting priorities on a watershed or statewide basis, establishing nutrient reduction targets, and continuing to make progress (and provide performance milestone information to EPA) on adoption of numeric nutrient criteria for at least one class of waters by no later than 2016.

EPA views the nutrient criteria development plans and their included milestones as a method of clear communication from the states regarding plans and progress toward numeric nutrient criteria development. These milestones should clearly indicate activities relative to the major waterbody types. These activities include, at a minimum,

- planning for criteria development;
- collection of information and data;
- analysis of information and data;
- proposal of criteria; and
- adoption of criteria into the state's water quality standards

4. Based on review of the Plan and milestones, and the above definitions and criteria, EPA recommends the following revisions to the milestones:

a. pages 29 - 30, D Tables

Re-label Appendix D tables for clarification as follows: Table D-4 Estuary (Tidal Stream) Criteria Development Schedule (no change); Table D-5 Wetlands Criteria Development Schedule (also identified as D-4 in draft), and, add Table D-6 Border Waters Criteria Development Schedule

b. pages 29 - 30, Tables D-3 and D-4

While 2016 is given as targets to "consider" criteria for rivers and streams, and proposals of criteria for estuaries, WQ-26 requires adoption by states of criteria for at least one class of waters by 2016. Criteria adoption projections should be added to all tables as the last activity.

c. pages 29-30, Appendix D Tables'

These table should incorporate key actions as described above (planning for criteria development,' collection of information and data, analysis of information and data, proposal of criteria, and' adoption of criteria into the state's water quality standards). Note that these actions and dates are not' absolute commitments for completion, but are meant to serve as general targets for planning purposes,' and can be revised at any time by the state.'

d. page 31, Appendix E'

This timeline for standards revision is helpful in understanding the process in Texas. This information' can also be used to derive projected months/years for of criteria adoption, for inclusion into the D' Tables.'

5. Page 8, middle paragraph'

There may be a missing word in the first sentence. Should it be revised to read something such as: "A' number of participants in the nutrient advisory group recommended..."?"'

6. Page 19, last paragraph

The last sentence discusses development of screening levels for total phosphorous and nitrogen in reservoirs. However, it's not clear if this relates to part of the process for identifying least impacted reservoirs (i.e., weight of evidence approach included in previous sentence of the same paragraph) or whether it refers to screening values which were proposed, but not adopted, in the 2010 WQS. EPA supports the adoption of criteria for nitrogen and phosphorus and also agrees that this data could be useful in grouping reservoirs for analyses. As noted in EPA s comments on the 2010 proposed WQS, use of screening values to confirm impairment in a water body, prior to listing under Clean Water Act §303(d), would not be appropriate.

7. Page 22, first paragraph

We believe that the plan references EPA s 2006 draft guidance manual for wetlands nutrient criteria development. EPA published a final guidance document for wetlands in 2008. Please see the document and a summary fact sheet at the following link:

<http://water.epa.gov/scitech/swguidance/standards/criteria/nutrients/wetlands/index.cfm>

Although It may not be possible to complete a thorough review of EPA s 2008 document and develop an approach for wetlands criteria for the 2012 Plan, this paragraph should be modified to reference the 2008 guidance and future work on evaluation of nutrient criteria development in wetlands. Appropriate modifications should also be made to the table for wetlands criteria development in Appendix D.

Thank you for the opportunity to review this draft. We look forward to TCEQ s next version, and feel that this Plan will be very useful at the state and federal levels in understanding TCEQ s significant efforts, and in the eventual adoption of numeric nutrient criteria for the State of Texas.

Mike Bira
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II. Texas Parks and Wildlife Department Comments

From: Patricia Radloff

Sent: Wednesday, June 20, 2012 5:27:42 PM (UTC-06:00) Central Time (US & Canada)

To: Standards

Cc: Debbie Miller; Patricia Radloff

Subject: TPWD Comments on material presented at SWQSAWG meeting May 25, 2012

Dear Ms. Miller,

Texas Parks and Wildlife Department (TPWD) appreciates the opportunity to offer informal comment on material presented at the Surface Water Quality Standards Advisory Work Group (SWQSAWG) meeting held on May 25, 2012.

2. Nutrient Criteria Development Plan – Although the plan is considerably more detailed than previous versions, it is still nonetheless quite conceptual, and TPWD can offer only general comments at this time. We note and support that periphyton and macrophytes are mentioned as potential response variables. We suggest including one additional document in Appendix A (EPA Relevant Guidance and Important Reports), "Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities - Unified Guidance. March 2009 (EPA 530/r-09-007)." The document appears to address issues similar to those faced in surface water monitoring, including how to deal with non-detects.

We appreciate the opportunity to comment. Please let me know if you have any questions or need further information.

Thank you.

Pat Radloff
TPWD Water Quality Program Leader

III. City of Austin

From: Bhattarai, Raj [mailto:Raj.Bhattarai@austintexas.gov]
Sent: Tuesday, July 17, 2012 4:31 PM
To: Laurie Eng-Fisher
Cc: Jill Csekitz
Subject: Comment on the May 25, 2012 Draft of the Nutrient Criteria Development

Laurie,

Better late than never! I meant to provide very detailed comments on the May 25, 2012 Draft of the Nutrient Criteria Development Plan, but I must say you did a superb job of writing it. After a lot of reviews and searches, all I have is one nit-picky comment:

Page 5, Section E. History of Nutrient Criteria Development in Texas, Second Sentence – The plan was revised in **2004 (not 2005)**, and in November 2006.

See this link:

http://www.tceq.texas.gov/waterquality/standards/stakeholders/nutrient_criteria_group.html#plans
which has a copy of the December 20, 2004 Draft of the Nutrient Criteria Development Plan.

Also, see the November 27, 2006 letter from L'Oreal Stepney of TCEQ to Jane Watson of EPA Region 6 transmitting the November 3, 2006 Draft of the Nutrient Criteria Development Plan. That letter mentions the Plan was updated in December 2004.

That's all. If I find anything else, I will let you know.

Congratulations on producing such a wonderful document! Thank you.

Best regards,

-Raj

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IV. Texas Water Conservation Association



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Greetings,

At the Water Quality Standards meeting on May 25, 2012, the Texas Commission on Environmental Quality (TCEQ) presented a Nutrient Criteria Development Plan (PLAN) and requested comments by interested parties. The Water Quality Committee of the Texas Water Conservation Association (TWCA) is pleased to provide the following comments on the PLAN.

The draft PLAN treats nutrients as a water quality problem and proposes to address the problem by adoption of numerical criteria to limit or reduce nutrient concentrations in Texas water bodies. The PLAN calls for developing nutrient criteria for streams first followed by estuaries and then wetlands. TWCA recognizes that this approach has been developed in response to recent pressure from the Environmental Protection Agency (EPA) in such documents as the March 16, 2011, memorandum (the Stoner memorandum); and that TCEQ is attempting to work with the EPA on the issues associated with nutrient criteria.

The committee understands the TCEQ's situation. However, we have some specific concerns with the current direction of the effort. There is a great need in the state to take a balanced approach to dealing with aquatic plant problems and the potential need for nutrient limitations. Furthermore, we need to focus on aquatic plant problems using a watershed approach, rather than using a water-body type approach.

Need for Balanced Approach

The PLAN does not recognize that a proper balance of nutrients is needed. Nutrients are necessary to support a healthy aquatic community. It is, however, worth noting that while excessive nutrients in water can lead to excessive plant growth and eutrophication, excessively low nutrient concentrations can harm biological productivity and aquatic life. The committee's concern is that the current one-direction approach can, in some cases, be damaging to the environment, as well as costly to the community.

Need to Focus on Problems

Aquatic plants (algae or vascular plants) in either too high or too low a level can be an aesthetic or biological problem. Nutrients are simply one of many factors that influence plant growth. Other factors include shade, turbidity, water temperature, geomorphology, soils, etc. Therefore, nutrients should not be viewed as a problem in isolation, but rather as a tool that may help address some aquatic plant problems. The water quality standards need to result in solving problems rather than dictating the tools to be used. Problems should be identified first before actions such as criteria or targets are developed.

Attachment A is a brief discussion of aquatic plant conditions in Texas watersheds, which indicates there is a wide degree of variation that must be considered.

A Watershed Approach is Needed

In the early years of dealing with this topic regulators and the regulated community both agreed that it was best to address aquatic plant and eutrophication problems in reservoirs first, deferring other types of water bodies until later. There were several reasons for this approach, notably that the chlorophyll-a database for reservoirs was much more robust than measures of aquatic growth in other types of water bodies. To a large extent, that is still the case today.

However, we believe the current PLAN recommendation of a sequential approach in dealing with streams first and then with estuaries to be flawed. The state of Texas contains a great deal of variation, as indicated by Attachment A. A single approach to establishing river and stream nutrient standards followed by estuary nutrient standards will not work in a state with this much ecological diversity. We believe the appropriate approach is to address the issues on a watershed basis, focusing first on identifying problems and then on finding the most effective actions. This approach would better enable consideration of the effects of upstream sources on downstream water bodies. This is a more holistic approach to addressing nutrients on a quantitative basis.

Furthermore, the Stoner memorandum notes that “Of most importance is prioritizing watersheds on a state wide basis, setting load-reduction goals for these watersheds based on available water quality information...” We believe that the EPA is encouraging a watershed-level approach to the issue.

Prioritization of watersheds should also be based on the problems identified, which can include a wide range of possibilities. For example, a priority need might be identified as solving a specific nutrient problem in an urban watershed. Alternatively, need could also be identified as a focus on ensuring long-term preservation of a pristine river.

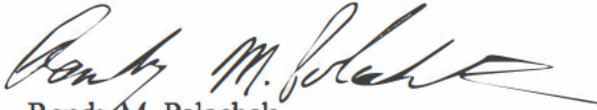
The committee suggests that implementation of this watershed approach could be facilitated by establishing a watershed advisory group. These could be similar to the state-wide nutrient water quality advisory group, but focused on specific watersheds. The function of such a group would be to provide input to the TCEQ regarding specific needs of the watershed with respect to nutrient issues and feedback on ongoing TCEQ deliberations related to establishing nutrient standards or targets.

TWCA Support

The TWCA membership recognizes that with the limited funding likely to be available, working cooperatively with TCEQ on this topic would be far preferred. The membership stands ready to support TCEQ and EPA in a process that is balanced, problem-focused, and watershed-based.

Thank you for the opportunity to present these comments on behalf of the TWCA Water Quality Committee. Please contact me or Paul Jensen (512.342.3302) if you have any questions.

With regards,

A handwritten signature in black ink, appearing to read "Randy M. Palachek". The signature is fluid and cursive, with a long horizontal stroke at the end.

Randy M. Palachek
Chairman, Water Quality Committee, TWCA

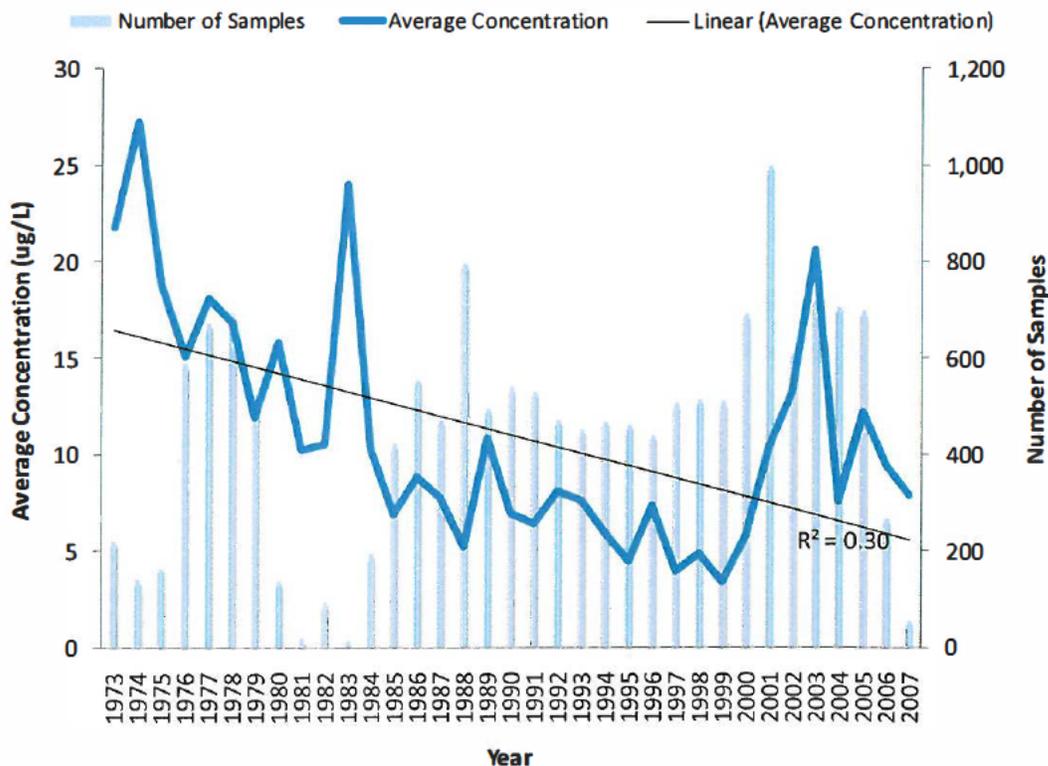
cc: Luana Buckner, President
Leroy Goodson, General Manager
Dean Robbins, Assistant General Manager

Attachment A--Discussion of Aquatic Plant and Nutrient Issues by Basin

Here is a quick look at some of the aquatic plant and nutrient issues by basin. This is not intended to be comprehensive but rather to illustrate the diversity of conditions in Texas.

Sabine-Neches There have been substantial reductions in flood flow magnitude and frequency from the reservoirs built in the basin, and the Sabine Lake system has been greatly changed by navigation channels. The flood flows convey organic matter and sediment to the estuary that is an important source of biological productivity. While Sabine Lake is quite different in terms of salinity and nutrient supplies from its condition a century ago, there appear to be no reports of significant plant problems.

Trinity-San Jacinto—This basin is probably the most intensively developed in the State and Galveston Bay has shown a significant decline in chlorophyll *a*. The degree to which this decline in the food supply has negatively impacted the estuarine community and sport and commercial fishing uses is difficult to assess because there are many variables in play. While the precise nature of the impact to each part of the food web is hard to define, the overall negative effect seems clear.



Source: Galveston Bay Estuary Program

Brazos—There are golden algae issues in some reservoirs and in recent years golden algal blooms have extended down the Brazos River to near the tidal reach. While

dissolved solids are a factor, limited nutrients may influence the toxic effect from these blooms. There is a very limited area in the Brazos that can be called an estuary and no reports of significant nutrient concerns in this reach.

Colorado-Lavaca—Maintaining the productivity of Matagorda Bay is an objective of the environmental flow standards being developed under Senate Bill 3. One component of the adopted flow criteria is based on maintaining nutrient supplies to Matagorda Bay.

Guadalupe-San Antonio There are significant concerns with water hyacinth in the Guadalupe River impoundments and the Guadalupe River delta and there are filamentous algae issues at times in portions of the San Antonio River.

Nueces—there have been substantial reductions in freshwater inflows and nutrient supplies to the Nueces and Corpus Christi Bay systems as a result of reservoirs in the watershed.

Lower Laguna Madre – This system historically received very little freshwater inflow or nutrients, but modifications have introduced more inflow and nutrients via the Arroyo Colorado to the Lower Laguna Madre. The nutrient input is viewed as a problem in that it supports growth of planktonic forms, epiphytes that attach to the seagrass, and macroalgae that shade and harm the established seagrass community. The Lower Rio Grande Bay and Basin Expert Science Team (BBEST) under Senate Bill 3 is expected to recommend reductions in nutrient loading from freshwater inflows to the Lower Laguna Madre.

It can be seen from this brief review of aquatic plant and nutrient conditions in the major river basins that there is a wide variety of conditions. There are examples where nutrients are a problem with a need to limit supplies, possibly with nutrient criteria. There are also examples where major reductions in nutrient supplies have occurred that may be having an adverse environmental effect. All of these issues would be better addressed with a watershed approach rather than with a sequential water-body (reservoir, stream, estuary, wetland...) approach.