Meeting Minutes
Surface Water Quality Standards Advisory Work Group Meeting
June 29, 2020

Location: Online Webinar

Time: 9:00 am – 11:30 am

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9:00 a.m. Welcome and Webinar Instructions, presented by Debbie Miller

- Call to order and general welcome.
- Instructions regarding the webinar and how attendees may ask questions of the presenters.

9:15 a.m. Evaluation of a qPCR Method for Measuring Bacteria on the Texas Coast, presented by Dr. Jeff Brady, Texas A&M AgriLife Research

- Dr. Brady gave a presentation regarding contract work he performed in 2018 for TCEQ regarding the evaluation of a quantitative polymerase chain reaction (qPCR) method for measuring bacteria on the Texas coast. Please see slide show entitled "Evaluation of a qPCR Method for Measuring Bacteria on the Texas Coast" for details.
- For more information, contact Kate Lavelle, Bacteria Coordinator, at: kate.lavalle@tceq.texas.gov; 512-239-6011.

General Discussion

ATTENDEE: What is the cost difference between the two methods (qPCR versus IDEXX)?

DR. BRADY: The qPCR method is about three times as expensive. It's technically easier to conduct IDEXX and more challenging to conduct qPCR.

ATTENDEE: I had a question about the costs when you were talking about it being three times as expensive. Is that just for the reagents, or are you including the initial startup? And if not, what is the difference in the cost to get the equipment to run the different tests (qPCR versus IDEXX)?

DR. BRADY: Once you're an established and functional lab, there would be about three times the difference in cost for each individual sample that you process. A qPCR instrument runs from $20,000 to $50,000, depending on which one you purchase. If

you're just starting qPCR in an existing lab, it would probably take one to three months to be up, running, and comfortable with the method.

ATTENDEE: I think the information in his presentation and in the final report associated with this study would be valuable information for the Texas Beach Watch program as well as beach watch programs of other Gulf States. Will this information in the final report be available publicly?

TCEQ: Yes, I think it would be a good idea to share the results of this report.

ATTENDEE: What is the processing time of qPCR versus IDEXX?

DR. BRADY: That depends on how much phytoplankton and/or debris is in the water sample itself. Cloudier, dirtier water sample would take much longer to filter. You could have a manifold set up to shorten the filtration time, though.

ATTENDEE: How long does it take to get the results when using qPCR versus IDEXX?

DR. BRADY.: With qPCR, you can take about 10 water samples from collection to final results in about six hours. Since you must incubate IDEXX samples, it takes 24 hours.

ATTENDEE: Is the qPCR method accredited, or is it currently on a list of methods that can be accredited?

TCEQ: I don't know. However, if we were to start using qPCR, we would make sure the accreditations are all in order.

9:45 a.m. Site-Specific Criteria Changes, presented by Elizabeth Malloy
Handout: Site-Specific Criteria Changes

- Ms. Malloy gave a presentation regarding possible site-specific changes to Appendix D. The above referenced handout was discussed with the group. Please see slide show entitled "Site-Specific Criteria Changes" for details.
- Elizabeth Malloy's contact information: elizabeth.malloy@tceq.texas.gov; 512-239-3166.

<u>General Discussion</u>
ATTENDEE: For both streams you covered today, you mentioned there being very limited human influence on the dissolved oxygen levels. Did you look at non-direct (nonpoint source) discharges or changes in land use, like those associated with oil and gas? Oil and gas production could possibly impact runoff and dissolved oxygen. Is that something that you looked at in either the two locations as part of this study?

TCEQ: Oftentimes we are basing much of our idea about what's in the watershed by looking at the National Land Cover Database, but we also look at Google Earth. Information we get from those two sources can also be verified to some degree when we're traveling to and from the sampling locations.

ATTENDEE: Are there currently any direct dischargers into either of these streams, or are there any facilities asking for future new permits to discharge in either stream?

TCEQ: There are currently no direct dischargers in either watershed. New discharge permits are evaluated by a different division of the agency, but we are not aware of any at this time. These studies were conducted to address 303(d) listings. The low dissolved oxygen levels appear to be a result of natural conditions, and we do have other papers and studies from this general area that show that dissolved oxygen levels tend to be very low in this region of the state.

ATTENDEE: Regarding Little Pine Island Bayou, what were the rainfall amounts in 2018 and 2019 like with regards to a typical year?

TCEQ: For 2018, the rainfall levels were similar to historic conditions — or at least the 30-year climate normal — if not slightly on the dry side. 2019 was wetter than the 30-year normal. However, much of that rainfall fell outside of the two-week period for our sampling dates.

ATTENDEE: What are the implications of making these changes? Will they result in delisting either water body?

TCEQ: Neither of these two streams will immediately delist as a result of this study. We haven't had enough recent routine monitoring data collected to immediately delist them, and it will likely take a few years of sampling to have enough new data for the assessment. EPA approval of these revised criteria will also be necessary.

ATTENDEE: Has there been any interaction with the public, including the national preserve, about the sampling of or possible changes to criteria for these streams?

TCEQ: Not specifically, but right now these are not proposed changes to the rule. We are currently in the recommendation phase and discussing the recommendations with the work group is the first step in presenting the study results publicly.

ATTENDEE: Can you further explain the recommended split between the upper and lower sections for Piney Creek? How does that relate to the current assessment unit (AU) descriptions and uses?

TCEQ: We are recommending different section breaks for standards criteria. The results of the use-attainability analysis (UAA) suggest the stream may be better described if AU boundaries are adjusted to better align with our recommended section breaks. That’s ultimately going to be our monitoring and assessment team’s call as to how they want to split up AU boundaries, including whether they want to retain three AUs versus two AUs. We have not had a conversation yet about this possibility.

ATTENDEE: Can you send us a copy of the UAA reports?

TCEQ: Yes. Please send me an email, and I can get those to you.

ATTENDEE: Have you had any meetings with people who live in those areas about the study results, or is that still to come?

TCEQ: We are starting that initial process with these work group meetings. We will also have an official public comment period once the rule changes are proposed. Holding public meetings in the study area is not typically part of an aquatic life UAA.

10:20 a.m. Possible Revisions to Temporary Water Quality Standards Language by Debbie Miller

Handouts: Current Temporary Standards Rule Language (30 TAC §307.2(g))
Current Federal Regulations for Water Quality Standards Variances (40 CFR §131.14)

- Ms. Miller gave a presentation regarding possible revisions to the temporary standards language based on preliminary comments from EPA. The above referenced handouts were discussed with the group. Please see slide show entitled "Possible Revisions to Temporary Water Quality Standards" for details.
- Debbie Miller's contact information: debbie.miller@tceq.texas.gov; 512-239-1703.

<u>Authorizing Provision Discussion</u>
ATTENDEE: I don't see any good reason to wait. I think using Option 3 — going ahead and revising §307.2 to include all three options — is a good idea, and I don't see any downside. The process does work. It's being used in several other states, usually on things like mercury, but also in Illinois for dissolved oxygen and temperature on a river that's essentially comprised of 100% effluent from the City of Chicago. However, it would not be best to just simply reference the federal regulation. The better option is to list all three options.

ATTENDEE: I think Option 2 — simply including a reference to the federal language — is the best option. The federal rule will be clear on what's applicable.

ATTENDEE: I also think Option 2 is the best way to go. That way, if the federal rules ever change, it is automatically updated in the Water Quality Standards as well.

ATTENDEE: I agree with others about going with Option 2. I think it eliminates a lot of the uncertainty and can eliminate some of the potential conflicts.

ATTENDEE: I was just curious if you had a reason why we would not adopt the full range of possibilities? This would give more flexibility to move toward compliance with some of the newer and stricter water quality standards, such as for ammonia, that permittees can't comply with initially.

TCEQ: I have no specific reason why we shouldn't go ahead and address this. Our management had asked us to consult with the stakeholders to get their thoughts. We also have consultants who have dealt with issues in other states that may already be

using what the federal rule calls “variances”, and we just wanted to take the opportunity to get everyone's input. I see no specific reason why we shouldn't go ahead and address this issue.

ATTENDEE: I was involved in developing this federal language, which seemed to be very popular with states, to get the full range of options. That doesn't mean that you're going to do it all the time or in an inappropriate situation. It just gives you the option.

ATTENDEE: You mentioned you are still waiting for EPA to approve the 2018 changes made to the temporary standards language. I believe you can potentially implement what's in the 2018 revision because it's consistent with EPA regulations. Did EPA point that out?

TCEQ: The Alaska rule basically says that, even if states are moving to something more stringent, states can't use that portion of the standards until EPA approves it. Even if you're straight adopting their federally recommended language, EPA would still need to approve it first. I would have to double check with Diane Evans in EPA Region 6, our Standards coordinator, to make sure we could go ahead and do that. It's always been my understanding that even if you're moving in a more stringent direction, states cannot use those for Clean Water Act purposes until EPA approved them.

ATTENDEE: Do you know if anything is happening in other states within EPA Region 6? I thought New Mexico was doing something on phosphorus.

TCEQ: I’m not aware of any federal variances there.

EPA: Diane Evans with EPA Region 6 commented that she understood that New Mexico does have a temporary standard related to nutrients, but she doesn’t remember for which water body. That variance request is under review, and that is the first variance (called a temporary standard in Texas) in EPA Region 6. Ms. Evans also commented that while the 2018 revisions to the temporary standards language is still under review by EPA, she doesn't think that would preclude a facility from pursuing a temporary standard. A temporary standard could be adopted and submitted before EPA acts on the revisions on the 2018 Standards.

<u>EPA Approval Discussion</u>
ATTENDEE: §307.2(h) has to do with EPA approval for the entirety of the standards regulation. I think the real meaning of EPA’s comment is that each temporary standard is not effective until approved by EPA, which would be appropriate to say in §307.2(g)(2).

<u>Expiration of a Temporary Standard Discussion</u>
ATTENDEE: Permits are issued for no more than five years, so I don't know if you really need to make any changes to the current rule language.

ATTENDEE: I believe you should add the language because, in many of these cases, it's not only one permittee asking for the temporary standard — it's usually for multiple permittees. A temporary standard could also be for a water body that does not include any permittees at all. The purpose of adding this language is to give a "heads up" that work to reevaluate the temporary standard must be done by everyone involved, not only the state, to justify the continuance of the temporary standard.
If, as discussed on the earlier option (regarding an authorizing provision), you just defer in the federal rule in the temporary standards language, you've probably got this covered without having to specifically spell it all out in the Texas rule language.

EPA: Diane Evans with EPA Region 6 commented that the reevaluation could occur through either the permitting process or through a triennial rule revision, and those may be on different cycles. When EPA published the final 2015 federal regulation, they gave a series of webinars. The webinar on EPA's Virginia variance has a good graphic on one of the slides that illustrates the different options for reevaluation and a timeline on how those could occur through the permitting process or the standards revision process.

Impairing an Existing Use Discussion
ATTENDEE: I think we should go with Option 2.

General Discussion
ATTENDEE: Just out of curiosity, have you identified any water bodies where anyone wants to or should have a temporary standard? I'm not aware of anything that would trigger the need for a temporary standard. That's not to suggest that we don't want the language. I'm just curious.

TCEQ: No, but as we move forward with developing more nutrient criteria or possibly other criteria, I can certainly see where this would be a valuable tool.

10:20 a.m. Update on Contracts Regarding Nutrient Criteria Development by Jeremy Walls

- Mr. Walls gave a presentation summarizing contracts regarding nutrient criteria development completed since the last triennial revision. Please see slide show entitled "Updates on Contracts Regarding Nutrient Criteria Development" for details.
- Jeremy Walls's contact information: jeremy.walls@tceq.texas.gov; 512-239-3164.

General Discussion
ATTENDEE: I have several comments, first starting with your reservoir studies. I would recommend that you consider very carefully the possibility of developing criteria for reservoirs, particularly very clear water reservoirs, with a history of oligotrophic conditions. Lake Travis is my best example. Lake Travis has been seriously degraded by nutrient loading in the last two years, and even prior to that over a longer period of time. There is extensive algal growth on the shoreline where light can reach the

bottom, and those conditions did not exist historically. None of that would be captured by water column chlorophyll *a* criteria. I think that that probably applies to similar reservoirs that are clear and historically have low nutrient loading rates. Once the system is degraded, it becomes very difficult to try to work backwards to historic conditions. In the case of Lake Travis, the October 2018 flood had a dramatic impact with respect to nutrients.

Moving on to estuaries, I'm wondering why you didn't start your studies in more nutrient sensitive estuaries. The estuaries that you mentioned are not the most sensitive estuaries on the Texas Coast to nutrient inputs. I'm wondering specifically why you didn't look at Redfish Bay or upper/lower Laguna Madre, for example. In other words, estuaries with high water clarity and seagrasses. I would think these would be very good candidates for an early look at the effects of nutrient loading. Baffin Bay has this strange thing going on, which apparently is related to nutrient loading. Baffin Bay would also be an excellent candidate.

TCEQ: I think you raised some excellent points. Water clarity is something we should consider when we're developing further criteria for reservoirs like Lake Travis.

In reference to your question about the estuaries, the in-depth models that we produced took a lot of data, especially beyond just typical water chemistry data, so we focused on the bays that had the most data for the model development. As I mentioned during the presentation, we needed high frequency data taken over a short amount of time. From this data, we were able to develop generic models for those two bay systems. Now that we have the model developed, we can expand beyond that and use those generic models on other bay systems provided we have data in those other systems to calibrate the generic models.

ATTENDEE: I just wanted to follow up on the previous commenter and throw a huge monkey wrench in the works. I think we would be very remiss in not factoring in zebra mussels because we, specifically, in the Trinity Basin have had zebra mussel-positive reservoirs. I think that's going to be something that becomes more problematic in the future, not just in our basin, but in other basins too. Obviously, zebra mussels have been shown to increase clarity. If we have increased clarity in these reservoirs with a lot of nutrients, we're going to have algal growth problems. Also, zebra mussels selectively reject blue-green algae, so we could start having blue-green algae blooms. I think that we really should consider zebra mussels. In order to do that, I think we need to start having some sort of zebra mussel monitoring programs attached to the Clean Rivers Program (CRP).

TCEQ: You make a good point as far as zebra mussels and their effects on water clarity. I'm not exactly sure on the plans for incorporating zebra mussel monitoring into our routine monitoring or with partner programs through CRP. However, that is something we can consider, especially when developing further criteria. It's an issue that's occurring more often, so it's a good point to bring up.

ATTENDEE: Will the upcoming nutrient criteria meetings include discussion topics regarding rivers and streams in addition to any reservoir discussion?

TCEQ: Yes, we will talk about all of the facets of our current working nutrient criteria development plan, including reservoirs, rivers and streams, and estuaries. We will provide updates on our contracts and allow stakeholders to give feedback as well. We haven't developed a specific agenda yet, but we plan to cover all involved water bodies.

ATTENDEE: Has there been any discussion focusing on Hill Country streams? There's a lot of attention and concern about nutrient impact on those streams, and they have very, very low nutrient levels.

TCEQ: Some Hill Country streams were included in our periphyton studies. We also contracted with the University of Arkansas to perform a large database analysis of all our nutrient data, and that involved streams from the Hill Country as well. We haven't specifically targeted Hill Country streams only yet, but they are of increased interest given their higher water clarity. The higher water clarity could potentially result in greater impacts from nutrient loading through increased chlorophyll *a*.

ATTENDEE: I just wanted to amplify that last comment. It could be very important to analyze the Hill Country streams separately from all other water bodies in Texas. I'm fairly well convinced, though I don't have the data to prove it, that many Hill Country streams that are receiving elevated nutrient loads are, in fact, being degraded. If you just include them as part of a statewide analysis, I think that those relationships are going to be masked.

TCEQ: I acknowledge your point about statewide analysis, and I think it was made clear from both our previous approaches and our understanding of the diverse ecoregions of Texas between East Texas and West Texas how different the nutrient patterns are when considering the overall ecology of these different systems. The surveys we sent out for previous advisory workgroup meetings showed stakeholders are mostly in support of an ecoregional or site-specific approach to criteria development, especially given the ecoregional differences in the water bodies, regardless of reservoirs versus streams in Texas.

ATTENDEE: You said that they used the existing database for your turbidity compared to the chlorophyll *a* section. However, this kind of goes along with the Hill Country questions earlier. Every time we personally go out and do our sampling, it’s always greater than 1.2, which I know is kind of the standard for most streams — not just in the Hill Country, but also going to West Texas. How does that compare considering we're normally going with extremely low turbidity? How was that considered when turbidity was greater than 1.2? Some of these streams aren't even half a meter in depth.

TCEQ: For the periphyton contract, because some of the streams weren't extremely deep or were deep enough that you could see the bottom, they used a Secchi tube to measure the Secchi depth, which was sometimes deeper than the stream bottom itself.

As far as considering the variability among the ecoregions, with that contract we were specifically focused on the mid-Colorado and mid-Brazos River basins. Those methods might have to change if we broadened to a statewide study or to other ecoregions, but that was what was selected for the study sites of interest.

ATTENDEE: That makes me think about Secchi depth in general, especially in streams. There are a lot of issues and problems with the use of Secchi depth in a very clear stream. Might it not make more sense to measure photosynthetically active radiation in instead? I know that would add cost because those instruments are not cheap.

TCEQ: I think that's a great point. I know that's often what's used for estuaries and seabed monitoring, and I think that would be something great to include in a future contract. However, because we don't have much data collected using photosynthetically active radiation (PAR), it would be very limited in its scope and its utility when compared to Secchi depth, which is a routinely collected parameter across all water bodies. I think that's something to consider, too. But going forward, collecting PAR might be an important variable to collect as far as eliciting that response with water clarity without having a turbidity rating through Secchi depth.

ATTENDEE: Can I contact you later about getting the estuary reports?

TCEQ: Absolutely.

ATTENDEE: Is it possible that TCEQ would be reconsidering the current plan that they submitted to EPA for the development of criteria? Or are you all happy with that current version of the development plan?

TCEQ: We haven't had talks about updating it yet. Currently, we're still working on our ongoing contracts in support of that plan. However, that may change once we meet later this year with stakeholders of the Nutrient Criteria Development Advisory Work Group (NCDAWG). For now, there are no plans to update the development plan.

ATTENDEE: I know the standards adopted for reservoirs are based on stations from the main pool, but is there a plan for moving forward with addressing the development of nutrient criteria on other parts of the reservoir, like shoreline areas or coves? Is there a specific plan for how that might be approached?

TCEQ: We don't have any plans for that now. We've had discussions about it, and we may be able to talk more about that in the NCDAWG meeting.

General Water Quality Standards Questions

ATTENDEE: Have you done anything in the last 10 years to try to advance the seagrass propagation use — specifically designating segments and developing criteria? My recommendation would be that you plan to do so. Seagrasses are extremely valuable coastal resources. They are extremely sensitive to water quality degradation, and there are lots of impacts going on and threatening to happen in the future, specifically on the Lower and Middle Texas coast, that either have or will impact seagrasses. That could potentially be addressed with a good water quality management component devoted to their protection.

TCEQ: We are not planning to do that in this triennial revision. That would require some work to put together, but it's certainly something that we can consider for future triennial revisions. I hear your point, and you are correct that those are valuable resources to us.

ATTENDEE: This question is more generally geared towards the communication of the State's progress towards meeting water quality standards, such as in the Integrated Report, and not necessarily on the standards themselves. We believe that stakeholders and the public at large would benefit from better communication of the state of water quality in Texas. We're often in the position of translating how the state is performing overall to both members of Texas Water Conservation Association (TWCA) and legislative staff. In regard to water quality, it's difficult to find summary data on the percentage of water bodies that don't meet quality standards.

Trend information at both the State and the regional level would be helpful to us and other stakeholders in understanding patterns, emerging issues, and success stories. Individual members of TWCA often understand the water quality issues within their own water bodies, but we would benefit from additional statewide and regional summary data to put those issues and better context. While we've been able to find some summary data in the commission briefs when the Integrated Report is proposed for adoption, we think TCEQ could do a better job of communicating water quality information in the report itself or on your website. I would point to the Air Quality section of the TCEQ website. They've got great trend data there that tells the story of air quality in Texas. However, it's more difficult to figure out what the story of water quality is. Is there any way TCEQ could do a better job communicating the big picture summary data of how the state is doing?

TCEQ: Thank you, and you're right that this question is geared more towards our Surface Water Quality Monitoring staff because they do generate the Integrated Report. I can tell you members of that group are on this webinar today, so they hear your question.

EPA: Diane Evans from EPA Region 6 commented that while she is not part of the monitoring and assessment program, she did want to make note that EPA headquarters have recently released a new tool called “How’s My Waterway”. It incorporates the data from every state, and you can obtain information about the water quality of a water body by entering its name into the tool.

ATTENDEE: Do the implementation procedures include procedures for ensuring that the strong language in the narrative portion of the standards regarding salinity in estuaries is properly evaluated and met in the process of drafting point source discharge permits?

TCEQ: The *Procedures to Implement the Texas Surface Water Quality Standards* (RG 194) are housed in a different division of the agency, and they will be presenting tomorrow to talk about changes that they're considering for the implementation procedures.

ATTENDEE: It would have been helpful to have the slides available a little bit ahead of time, especially regarding site-specific changes. It was a lot to digest and assess on the spot. Could the slides be made available ahead of time for any future meetings?

TCEQ: Before these meetings, we typically post the handouts and agenda ahead of the meeting so participants can familiarize themselves with that information. However, we typically do not post the slideshows ahead of time. I'll take that into consideration for future meetings.

ATTENDEE: Do you have a "big picture" of the general schedule for the rule revision? Will there be any more meetings with the stakeholders?

TCEQ: We did talk about the overarching schedule at our March meeting, but that was quite some time ago. A timeline that has all our major milestones is posted on our Revising the Texas Surface Water Quality Standards webpage. Right now, we are still sticking with those dates for proposal, public hearing, and adoption. As of now, we are not planning on having another SWQSAWG meeting after tomorrow's meeting regarding the implementation procedures.

11:30 a.m. Adjourn