

High Rock Lake Nutrient Rules Process

Wastewater TAG, meeting 4

May 4, 2023 / 10 am - Noon / via Zoom

Meeting Goals

For Wastewater TAG members to address the following questions:

1. Is the proposed nutrient reduction goal fair and achievable?
2. What stages of implementation do you support?
3. Do TAG members intend to recommend a watershed permit option?
4. Do the same end-of-pipe (EOP) limits apply equally to all dischargers, or are different limits required for differently sized operations?

Participants

TAG Members: Bill Brewer, James Brown, Bill Kreutzberger, Grace Messinger, Matthew Nevills, and Andy Smith

DWR Representatives: Joey Hester, Michael Montebello, Matthew Nevills & Sylvia Chen

DSC Facilitation Team: Will Dudenhausen, Paura Heo & Laura Swartz

Meeting Summary

Agenda Overview

- ❖ Welcome and agenda review
- ❖ Identify magnitude of possible load reductions
- ❖ Explore rule elements and requirements
- ❖ Identify next steps
- ❖ Closing

What's Next / Action Items from the meeting

1. Joey Hester will synthesize feedback from this meeting to summarize proposal and give everyone another opportunity to evaluate and share feedback via email.
2. Everyone is invited to an in-person All Stakeholders meeting on May 31, 2023, from 2 – 5 pm in Salisbury, NC.
3. At this point, this TAG will communicate via email and does not need to schedule a future meeting.

Key Links

- [Wastewater TAG Report](#) to the Steering Committee, for February 15 deadline
- [TAG Charge](#) document
- Division of Water Resources [PPT for this meeting](#) from Joey Hester
- [Video recording](#) of the meeting

Details on Discussion Topics

Identify Magnitude of Possible Load Reductions, information and updates from Bill Kreutzberger

Key Points

- Bill took information from Joey to figure out what is in the watershed model, and then estimated 2006 Nitrogen and Phosphorus loading to the lake. He also examined the Phosphorus and Nitrogen Reduction curve and potential targeted adjustments based on uncontrollable sources. All of this is still a work in progress.
- Bill shared Tetra Tech's 2010 documentation for High Rock Lake modelling. There are 18 major dischargers in the model, and there are no major dischargers that are not in the model. There are 15 minor dischargers in the model.
- Some dischargers are no longer active, since 2006. We did our best to estimate loading of minor dischargers in the watershed.
- Slides show the major dischargers in the model and highlighted which dischargers are currently closed. Some treatment plants have been consolidated or have closed entirely.
- Slides also show the minor dischargers in the model. The town of Jonesville is now part of Yadkin Valley, as is Town of Elkin plant. Town of Mocksville, Bear Creek plant has also been consolidated with others. Smaller dischargers have been consolidated with others.
- Point Source Summary:
 1. The watershed model has a total of 36 facilities, and a total permitted flow of 137 mgd (millions of gallons per day).
 2. 106 facilities are not in the watershed model, and they have a total permitted flow of 2.36 mgd (millions of gallons per day).
 - This includes many with no flow limits (cooling water)
 - Includes several water treatment plants
 - These flows need to be updated
 3. This information is slightly different than the Tetra Tech information.
- Point Source Loading Analysis:

1. Jacobs estimated loads for YPDRBA Members from 2000 – 2010.
 2. Some of the small discharges we didn't have enough recent data. Then used delivery factors for the DWR spreadsheet.
- Color-coded chart was shown of the Total Nitrogen and Total Phosphorus Delivery Factors.
 - Higher delivery is associated with being closer to the lake, and closer to the mainstem. This is true for both Nitrogen and Phosphorus.
 - Shared a summary of delivered loads:
 - 80% of Nitrogen discharged is delivered to the lake approximately.
 - Approximately 75% of Phosphorus discharged is delivered to the lake.
 - Since the baseline year of 2006, there has been a 24% reduction in Phosphorus and a 4% reduction in Nitrogen.
 - Evaluating the Nutrient Reduction Curve
 - Modelers said the model is most accurate within the range of the current Nitrogen & Phosphorus ratio. We do want to shift the N & P reduction to the left of the line on the Nutrient Reduction Curve.
 - We should prioritize reductions that get away from the 0-0 point of the curve.
 - **We need to have both Phosphorus and Nitrogen removal.**
 - Impact of uncontrollable loads:
 - The Steering Committee has yet to make a decision on uncontrollable loads.
 - If we assume forested lands, septic systems and atmospheric loads to water are uncontrollable, then:
 - 30% of the total Phosphorus load comes from uncontrollable sources. Phosphorus only removal target for all sources of 37% becomes approximately 53% for controllable sources.
 - 29% of the total Nitrogen load comes from uncontrollable sources. Nitrogen only removal target for all sources of 50% becomes 70% for controllable sources.
 - Range finding for potential Total Phosphorus Reductions (see chart in slides)
 - Similar information to this is shown in the White paper.
 - Range finding for potential Total Nitrogen Reductions
 - 6mg/L is an achievable total nitrogen reduction → that would be double what was allocated in the Neuse.
 - For the small secondary plants, we assumed little or no reductions.

Key Questions

- *Relating to the final few slides in this section, Bill Brewer asked if these numbers included water treatment plants?*

- Bill Kreutzberger explained that these numbers include the 36 dischargers that were in the model.

Reduction Targets/ Scenarios, information from Joey Hester

Key Points

- Joey showed where we are today and where the target reduction lines are on a slide entitled “Reduction Targets/ Scenarios:”
 - Anywhere from 30 – 70% over time. It would be reasonable to settle on anywhere in between there.
 - At current average flow, if we applied an end-of-pipe concentration limit, then we would already achieve a 70% reduction. We would exceed expectations at the short-term range. Some comparisons can be useful.
- Take home lessons – people are not close to permitted flow at the moment and won’t be for a long time. Most facilities are shrinking. Winston Salem might be the only area growing at such a rapid pace.
- The target reduction range with Nitrogen would be an either / or scenarios. If we choose Phosphorus first or Phosphorus only strategy, it would be choosing that one instead of this one.
- We are skeptical about the scale of reductions we can achieve from the other sectors and wastewater is the “low-hanging fruit.” We may need to lean on wastewater to help pull us through the early stages of this process. We won’t want you to think we are picking in you!
- **DWR Reduction Proposal**
 - Year 1:
 - 40+% Phosphorus reduction
 - Year 5:
 - 70+% Phosphorus reduction
 - 13 mg/L Nitrogen limit at average flow + 10% for all dischargers > 0.1 MGD
 - Year 10:
 - 6mg/L Nitrogen limit @ average flow + 10% for all dischargers > 0.5 MGD
 - Joey explained that it would be good to get into Phosphorus reduction early. In year 5, we would expect 70% reduction in Phosphorus, which feels achievable. Limits would be applied at average flow plus 10%, this is different from the scenario building we previously floated. This may be more aggressive than folks expected. What are your thoughts?
 - We can discuss when permits kick in and what defines “year 1.” I think Year 1 is within the first new year of your new permit.
 - We also need to discuss whether there will be group permits. The Yadkin Pee-Dee would be interested in group permits; which would give the group a lot of “wiggle-room” with the targets.

Key Questions

- *Bill Brewer asked if year 1 is once the rule has been implemented and a new permit is required? Yes, according to Joey Hester.*
- *Andy Smith asked when the non-point folks will be hit a little harder, given that us Wastewater folks are taking the initial hit?*
 - *Joey Hester noted this is a hard question to answer and added that it's important to share the burden proportionally, and the Agriculture TAG will be surprised by the suggested reduction targets.*
 - *Overall, Andy Smith said he likes the proposal and this information will help him go to his elected officials to get money for a plant upgrade.*
- *Grace Messinger added that she hopes to connect with the other TAGs to brainstorm solutions across sectors. Maybe we can at least stop the finger pointing at the plant, and that's the hope for the One Water process for High Rock Lake.*
- *Laura Swartz added that there will be opportunities for cross-TAG conversations at the All Stakeholder Meeting, in person, in Salisbury NC, on May 31, 2023.*
- *Bill Kreutzberger added that we can "overshoot for Phosphorus on point-sources" On the Nitrogen, let's not set strategy in stone until we get more data. We can likely get 20% Nitrogen reduction at a later point. Exact details will follow.*
 - *Joey Hester added that the Steering Committee will need to make a formal recommendation as to what the reductions should be. Cost analysis will have to come later.*
- *Bill Brewer asked what this all means from a group-permitting perspective? How will this translate to in a group permit? What does that mean for timelines as they relate to capacity and growth in the region?*
 - *Looking at capacity upgrades in 2035. The timing of this might run in parallel with the ten-year Nitrogen limit.*
- *The Importance of Cost Analysis:*
 - *David Saunders added that cost curve updates do take time, and they are waiting for the full go ahead from the Basin association to spend the money.*
 - *The Steering Committee can make the recommendation to review the numbers before finalizing the drafted rules.*
 - *The TAG will still be able to review draft rules given cost analysis.*
 - *Cost curve analysis will take 5 - 6 weeks after group is given notice to proceed.*

Rule Elements and Requirements

Description: Joey Hester outlines terms of rule proposals.

Key Points

- Allocations and Limits
 1. Pounds delivered used to calculate NEW total annual mass load allocation.
 2. All allocated load will be distributed to all dischargers, adjusted by the delivery factor.
- Permit limits will be defined as an annual mass limit defined as end of pipe (EOP) "equivalent concentration."

1. Will be applied as a at specified flow, increases with reduced flow.
 2. Limit options:
 - Universal OR.
 - Apportioned to be “Fair and equitable.”
 - Only facilities above certain size.
 3. Smaller facility options:
 - No limits.
 - Group annual mass local allocation cap w/ contingency options for exceedance.
 - Higher EOP limits by facility.
- New and expanding dischargers must purchase unused load allocations
 - *Andy Smith asked who sets the price for the allocation?*
 - *Joey Hester responded that the seller sets the price as it's a free market.*
 - *Price will depend on difference between purchasing allocations or uploading plants.*
 - What is our minimum applicability – Minimum Discharger Size
 - Options:
 - 0.5 MGD
 - **0.1 MGD – is everyone okay with a 0.1 MGD applicability?**
 - Bill Brewer is okay with 0.1 MGD.
 - Andy Smith is also okay with 0.1 MGD.
 - **DWR would like to recommend 0.1 MGD applicability.**
 - Bill K thinks 0.1MGD is good for Phosphorus, but not for Nitrogen (0.5 MGD is better for Nitrogen).
 - **Michael Montebello added that there could be both a FLOW and Equivalent concentration associated with this.**
 - Group NPDES Permit:
 - If a discharger joins a compliance group, individual limits are superseded by the group allocation sum (i.e. deemed compliant)
 - Not-for-profit association must apply for group NPDES permit.
 - If group exceeds allocated annual load, EOP concentration limits apply to all members.
 - If a discharger leaves the compliance group, EOP concentration limits apply to departing member.
 - Changes can be made to group permit by minor modification.
 - Groups will have to police their own members
 - *Andy Smith asked about how much authority the Yadkin Pee-Dee would have on a group.*

- *Michael Montebello added that there is an agreement between the parties. All parties would need a useful contract document to control relationships between the members.*
- Limits can be increased only via regionalization.
- Trading:
 - Unused allocation can be bought/sold/leased
 - Offsets can be bought or developed in-house.
 - Acquired credits/ allocation kept in reserve until individual permit modification is obtained and expansion takes place.
 - Credits are traded based on delivered loads.
 - Transactions cannot create localized water quality (WQ) violations.

Key Questions

- *Bill Brewer – if the group violates their limits, then it reverts back to facilities limit. Is that from that point on?*
 - *Michael Montebello would have to check the compliance document and he would have to defer that one.*
- *Bill Brewer – would there be a rolling annual average? Or annual limits from year to year?*
 - *Load will be limited to an annual total.*
 - *The year the calendar year so January through December, and it resets each January.*
- *Bill Brewer expressed concerns for the Reduction Proposal timeline. The proposed timeline is very aggressive and should be adjusted to account for the time needed to achieve these reductions.*
 - *Joey added there will be lead time before these dates become effective.*
- *Bill Kreutzberger can agree with 70% Phosphorus reduction in Year 5. The Nitrogen strategies would be a 20% reduction in Nitrogen by year 10.*

Next Steps

Joey Hester added that not everyone was here today (Doug Lassiter missed this meeting). This WW TAG group will come to agreement via email following this meeting. DWR will start drafting rules this Fall and then come back to the TAGs in early Winter for feedback on the rule proposal.

Next Steps

- Joey Hester will synthesize feedback from this meeting to summarize proposal and give everyone another opportunity to evaluate and share feedback via email.
- By May 31, this Wastewater group will have consensus on this proposal and they can share this proposal with the entire group at the All Stakeholder meeting on May 31, 2023 from 2 – 5 pm.
- WW TAG does not need another meeting, at this point.