

HIGH ROCK LAKE NUTRIENT STRATEGY DEVELOPMENT

STEERING COMMITTEE | NOV 17, 2022, 10 – 1:30 PM

Session Overview

On November 17, 2022, the Division of Water Resources (DWR) gathered the newly formed Steering Committee for the first official meeting as part of the High Rock Lake Nutrient Strategy Development process. A total of 22 people met at the Forsyth County Cooperative Extension office in Winston Salem, NC.

Meeting Goals

For Steering Committee members to...

1. Begin to establish an effective working group for the High Rock Lake Nutrient Rules process
2. Better understand the rulemaking objectives
3. Learn about the roles of the Steering Committee and Technical Advisory Groups (TAGs)
4. Refine the charge to the TAGs

Steering Committee members in attendance:

Andy Allen, Rob Baldwin, Bill Davis, Alexandra Dinwiddie, Grace Fuchs, Danica Heflin, Julie Henshaw, Keith Huff, Bill Kreuzberger, Keith Larick, Jon Lowder, Grady McCallie, Andrew McDaniel, Grace Messinger, Edgar Miller, Chris Millis, David Saunders, Helen Simonson, Justin Somers, Judy Stalder, and Jonathan Williams.

DWR Team

Joey Hester, Nutrient Strategy Coordinator
Rich Gannon, Supervisor, Nonpoint Source Planning Branch

DSC Team

Maggie Ellis Chotas, Lead Facilitator
Laura Swartz, Co-Facilitator & Project Manager

Summary Notes

Welcome & Meeting purpose

Joey Hester, Nutrient Strategy Coordinator with the Division of Water Resources (DWR), welcomed participants and thanked them for coming. He introduced himself and his supervisor Rich Gannon as the primary contacts for the projects.

Joey highlighted that he would share a lot of information with the group during this first meeting, and that the Steering Committee was designed to achieve a balance of interests with people representing as many different stakeholder groups as possible.

Steering Committee members introduced themselves by sharing their (1) name; (2) where they are from; and (3) why they are participating in this process.

Introductions & Working together

Facilitator Maggie Chotas welcomed everyone and introduced the following working agreements to the group (located on page 11 of the charter):

- Stick to the tasks and topics on the agenda and keep discussion focused; one subject at a time.
- Discuss all relevant information and issues, even difficult ones.
- Keep discussion open and balanced.
- Participate, show up, share your thinking as much as you can.
- Strive to make decisions by consensus.
- Look beyond positions to interests.
- Disagree openly and respectfully.
- Put personal differences aside in the interests of a successful team.
- Jointly design ways of testing disagreements and look for mutually beneficial solutions.
- Follow through on commitments.
- Share information discussed in team meetings with your organization and reflect its position back to the team.
- While participants are free to discuss the process outside of official meetings, decisions will be made during meetings themselves.

Committee members agreed to abide by the working agreements to the best of their ability.

A “parking lot” space where participants were invited to post comments or questions throughout the meeting was introduced.

Objectives of Rulemaking

Joey Hester gave an overview of this Stakeholder engagement process, noting that there will be four “All Stakeholder” meetings, and that the engagement work which started in September of 2022 will be wrapping up in December of 2023.

The Steering Committee will submit a final report to DWR, which will inform the ultimate rule recommendations.

What is the overall time frame for this process?

This engagement process will take a minimum of 2 years. Once the rules go into effect, DWR hopes that Steering Committee members will support the draft rules and make the case that the rules were built intentionally over time.

Do the rules automatically go to the General Assembly? No.

What about the Environmental Protection Agency (EPA)? Where would they come in?

The EPA will watch all along. The EPA still needs to confirm the Chlorophyll standard. Additionally, the EPA could comment during the public comment period as the organization is a “commenter, not a vetoer.”

Once the rules go into effect, High Rock Lake (HRL) would come off of the 303(d) list but it will still be impaired.

Does this process eliminate the need for a Total Maximum Daily Load (TMDL)?

No, this process does not eliminate the need for a TMDL. The rules have to be administered “fairly, reasonably and proportionally” as the EMC shall establish rules so that the water is not impaired.

Are you planning to be drafting the rules as the TAGs are ongoing?

We are hoping the TAGs can come to some level of consensus. How long that takes remains to be seen, but we hope they can give recommendations. We will look for elements of the rule from the TAGs as well as recommendations from the Steering Committee.

Are the TAGs full yet?

Joey is working to fill the TAGs and schedule initial meetings in December. People have expressed interest in all four of the TAGs.

Will non-Steering Committee members be on the TAGs?

Yes, the TAGs will go beyond members of the Steering Committee and there will be bi-directional communication between the TAGs and the Steering Committee.

It seems like we need more local government representation. I don't see any drinking water representation.

Yes, we are working on this.

Joey also explained that all the other nutrient management strategies are TMDL alternatives. As long as DWR can make the case to the EPA that these rules will move the needle, then it's just a matter of them approving the standards.

What are we doing to make sure this room and the Steering Committee reflects the groups of the watershed?

Maggie Chotas shared plans to have an Equity focus group starting up in 2023. DWR and the facilitators need the Steering Committee's help to ensure that the process is as accessible as possible to all stakeholders. Having an open dialogue will strengthen this process as it moves forward. The facilitators would like to reach out to as many people as possible, so please let us know if you know of others who should be involved in this process.

Process review

Next, Maggie Chotas highlighted the following key points about this process:

- Because Joey Hester and Rich Gannon will be participating throughout the process, there will be no surprises from DWR.
- Neutral facilitators from the DSC will facilitate the TAGs and help move the process forward.
- The facilitators will collect and process feedback throughout the process in the spirit of continuous improvement.
- The Steering Committee will help clarify the charge to the TAGs.
- Ultimately the Steering Committee will produce a high-level final report for the DWR.

Reflection & Break

During a short break, Steering Committee participants were asked to consider the following prompts:

- What questions do you have so far?
- What do you need to fulfill this role?
- Do you have lessons learned from other processes?

A lot of people on the Steering Committee have great experience in this work. Do you have any examples of things that have worked? Resources of processes like this that are working?

Resources of interest to the Steering Committee:

- Report called “Roadmap to a Cleaner Yadkin”
- *Where the Water Goes* (David Owen)
- *What Your Food Ate* (David Montgomery & Anne Bikle)
- EPA - 4b planning process
- Chesapeake Bay Watershed and Puget Sound on the west coast
- US water Alliance - One Water Roadmap - Sustainable Management of Life’s Essential Resource
- Delaware River Watershed Initiative
- DWR Yadkin Basinwide Plan - <https://deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/yadkin-pee-dee>
- HRL NMS White Paper, Yadkin PeeDee River Basin Association, 2019 (DWR has, will post)
- Roadmap to a Cleaner Yadkin – Yadkin Riverkeeper - <https://www.yadkinriverkeeper.org/roadmap-to-a-cleaner-yadkin>

Joey is working on establishing an online space where the Steering Committee can access and store relevant documents indefinitely. For now, meeting documentations will be posted on the DWR website.

Andy Allen, North Carolina Department of Transportation, noted that most people want clean water. Disagreements occur when people do not feel like they are getting a good return on their investment.

Exploring strategic goal setting

Joey Hester explained the Lake Nutrient Response Model, adding that High Rock Lake moves very quickly, unlike some other bodies of water.

Years ago, a lake model was created to simulate how the lake behaves and what happens in the lake with a given amount of nutrient contribution from the tributaries. That response is simulated into the future to determine how far down we need to come in the nutrient input to keep Chlorophyll A and algal production below our target level. The output of the models is different at different points. Yadkin 152A and Yadkin152C generally have higher geometric mean model outputs, meaning that those points are the most sensitive in terms of Chlorophyll A production.

Water in High Rock Lake flushes fairly quickly as compared to other bodies of water. The baseline period was from 2005 – 2009, and 2006 was the year that was the most sensitive. We know that today the Lake is as bad or worse than in 2006. The model is likely underestimating the Chlorophyll A production because measurements are taken at night. The compliance point is Yadkin 152C as that point is representative of the whole lake, and 2006 is the simulating year for generating the curve. That point is the temporal average at that point over the course of the season.

If the compliance point is 152C was that chosen instead of doing a geometric mean?

Joey explained that there is a geometric mean over the sample season at Yadkin 152C. It is a temporal average over the season at that one location.

If over time we get better at controlling sediment, the point at which the nutrients get enough light will move up the Lake. If there is more disturbance in the watershed or more intense rainfall, then the point in the Lake of peak algal concentration would move downward.

Yes, that assessment is correct. It doesn't matter where that change is in the future, because this is for our purpose of modelling. By operating on this simulation, we can see general responses from the whole lake.

2006 is a while ago. Have you seen the concentration point move in the years since? Is the point of peak concentration moving in the Lake?

I don't know if it's moving, but it is higher.

The main body of the Lake outside of the river channel is probably 3-4 feet deep with sedimentation so that creates a situation in the middle of the Lake.

The "Curve Memo"¹ explains the curve more based on the initially proposed standard, not based on the updated standard from the EPA, which includes a 1 in 3 year exceedance allowance and a shallow bay exemption.

¹ Officially "Reduction curve model analysis using proposed Water Quality Criteria for High Rock Lake"

The model is not a good simulation if you drop one nutrient to zero. The clarity and predictability as you get closer to the horizontal axis, your assumptions get bigger. The modelers recommend a combination approach.

Is it that the modelers are saying if you drop either to zero, the model doesn't function OR if you drop the delta of the zero, the model doesn't function.

If you are tackling one and not the other, then the model won't know what that will do because that changes the way the ecosystem behaves.

Rich Gannon added that if you drop one to zero, there is too much uncertainty in the answers from the model. At extreme scenarios, the predictions are too tenuous based on this amount of reduction of Phosphorus and this amount of reduction of Nitrogen. Joey explained that the Steering Committee needs to figure out what spots to target on the model.

Bill Kreutzberger explained that there is a cost analysis. The cost of Phosphorus removal and Nitrogen removal is significantly different, roughly an order of magnitude of ten times more. Nitrogen removal is all biological; whereas Phosphorus removal can be biological and physical. Nitrogen reduction processes are much more energy-intensive and costly than Phosphorus reduction processes.

The goal of the strategy is to shrink the pie, not to eliminate a slice. We want to reduce the pie and redistribute it in a way that is reasonable and fair. Forests are a big contributor of nutrients. If we decide we need to get a 40% reduction all around, you can't get it from Forestry. So you would have to redistribute the forestry reduction among the other sectors.

Are we discussing forests or forestry?

We understand the difference, and we hope to flesh out the difference in the Ag Tag.

Joey shared the targets for the Neuse, Tar Pamlico, Jordan and Falls Lakes. The Jordan watershed partitioned it by watershed. Falls Lake watershed broke it apart temporally. You have the option to break it apart as you see fit.

Reducing both Nitrogen and Phosphorus inputs is the only viable solution. The scientists are saying you can't ignore one over the other. Joey shared how other states and communities have approached this problem.

Do you anticipate the individual TAGs being heavily loaded with different targets?

We are not against having different targets for different sectors. That is more complex, but if that's how you decide you want to approach it, we can do that.

Jonathan Williams explained that as the TAGs start meeting, it all comes down to money. It may be that Ag is able to achieve a reduction in Nitrogen more cost effectively than Phosphorus. Wastewater plants it will be Phosphorus as opposed to Nitrogen. That's what we need the TAGs looking at – what is the most cost-effective strategies to get their areas down to certain levels.

We as a Steering Committee can assess at the basin-wide level all together; is that where we need to be? That would be the equitable way for the groups to do it. Joey and committee members expressed agreement for this approach.

David Saunders asked for more information about strategies and goals used to approach other watershed. Joey explained some, but the Steering Committee would need to do more research to learn more. Understanding how each different entities distributed between Nitrogen and Phosphorus might be helpful.

Helen Simonson recommended against focusing on cost-effectiveness from the beginning; it would weigh discussion down.

We have a way to account for Nitrogen loss from crop land. It is much more difficult to account for Phosphorus loss. Phosphorus tracing would require field level scale analysis, and we do not have the capacity to do that, given lack of resources.

Joey Hester added that Nitrogen and Phosphorus loss is very different for Wastewater and Agricultural groups. We have to look at the cost of everything. The implications of different decisions are very big.

Rich Gannon added that we need to ask the TAGs to recommend the most effective strategies to the Steering Committee, and then the Steering Committee will figure out to what extent that meets the overall goals. This would be first time nutrient trading for firewall entities would be considered feasible by regulations standards. There are trading structures to breach firewalls between structures.

Refining the charge to the TAGs

Joey Hester outlined key points to remember:

- The Steering Committee is the authority.
- Steering Committee can give TAGs directions for a specific charge.
- The committee needs to agree that the goal is “fair, reasonable, and proportionate” and will meet the goal of the water quality standards.

Joey added that trading does not necessarily reduce loading; it shifts from one sector to another. It is effective in easing compliance burdens between groups, but it may not get us under existing loading. We can take a different approach to High Rock Lake if we want. This is a mountain lake, so it’s different than the coastal water structures.

We need the TAGs to consider *all* possible actions they could take to achieve reductions and any barriers to achieving those actions. What can be done? What is being done? What are those different groups doing already? What trends are groups anticipating in the future?

Wastewater is ahead of this. They have already run models. They have already seen meaningful improvements. They will get credit for that. *Everything done from 2010 onwards counts for these rules.*

David Saunders noted that we need to get better data and need to share the whole picture with everyone. Where can we get more data? Where are the data holes?

How can the TAGs measure the reductions? What will they use to determine if they are meeting their targets?

Maggie Chotas summarized the discussion so far, highlighting the following points:

1. There are a number of possibilities you could take depending on how you frame the charge. It could be spatially, by nutrient, by sector, future trends.
2. The overall goals are “fair, reasonable, proportionate actions” to achieve the overall goal.
3. Giving TAGs enough direction that they can have a meaningful conversation.
4. Consider ongoing loading cuts to ensure activities don’t generate bigger deficits in the future.
5. Issue of trading will need to be addressed.

Substantive questions:

1. The TAGs can look into actions from the financial, practical, and reporting perspectives.
2. What is already happening that’s making a difference?
3. What trends do they think will be implemented in the future?
4. Where are the data holes? It is old in some places? What data do they need more of?
5. What are measurement techniques in those areas?

Grady McCallie added that we should consider the overall watershed health and we want the TAGs to consider how they recommend achieving this? This will allow us to get after One Water type solutions.

Jonathan Williams added that the TAGs need to do a “self-assessment.” What is going on in the other areas? Allie Dinwiddie agreed and highlighted that the goal is overall water improvement.

Questions generated:

- What can be done to incentivize the positive actions that will help?
- What are the barriers to implementation of these groups?
- What recommendations were in place? What regulations are in place? So we know whatever will be in place.
- What is happening after development that is affecting the stormwater run-off?
- Should we give the TAGs only one task at a time? Give them phases of work?

Rich Gannon added that to in order to regulate, you have to have regulated parties and define who those parties are. Ultimately, we have to have regulations for each source we intend to

hold accountable. “Stovepiping” is unavoidable. Nationally, no one has yet to provide a One Water model that addresses a large watershed. This is a big challenge.

Allie Dinwiddie added a note about adaptive management, and we need to ask the TAGs to address how actions can be implemented in an adaptive way.

Adaptation and regulations don’t go well together in short time frames. You can phase the process. Part of the charge to the TAGs could be to ask them to think about timing and phasing.

Rich Gannon added that DWR can share that their view is that the uncontrollable loads will need to be redistributed to the controllable sources in order to establish a defensible overall plan for achieving the goals, including in the EPA’s view.

Joey Hester added that the Steering Committee will need to make recommendations on what to do with the upper watershed above Kerr-Scott Reservoir. The modelers set that as a boundary. The model cut that out, but the strategy doesn’t have to cut it out. Do we regulate all the way to the headwaters past Kerr Scott? Or do we have two strategies for two regions?

Bill Kreutzberger noted that the TAGs will need to consider the trends in management.

Next steps & survey

1. The Steering Committee will meet with the DWR modelers, Pamela Behm and Jing Lin, on December 1, 2022, from 9-11 am.
2. The TAGs will meet in December and January to start with introductions and the initial self-assessment process. They can present information to the both the Steering Committee and at the larger Stakeholder meetings.
3. The Steering Committee will meet in late February or March to review the work of the TAGs up to that point.

Participants were asked to complete an anonymous survey to share feedback about the meeting. Survey data will be collected and tracked throughout the process to monitor progress and make continual improvements. *The results from the anonymous survey are attached.*

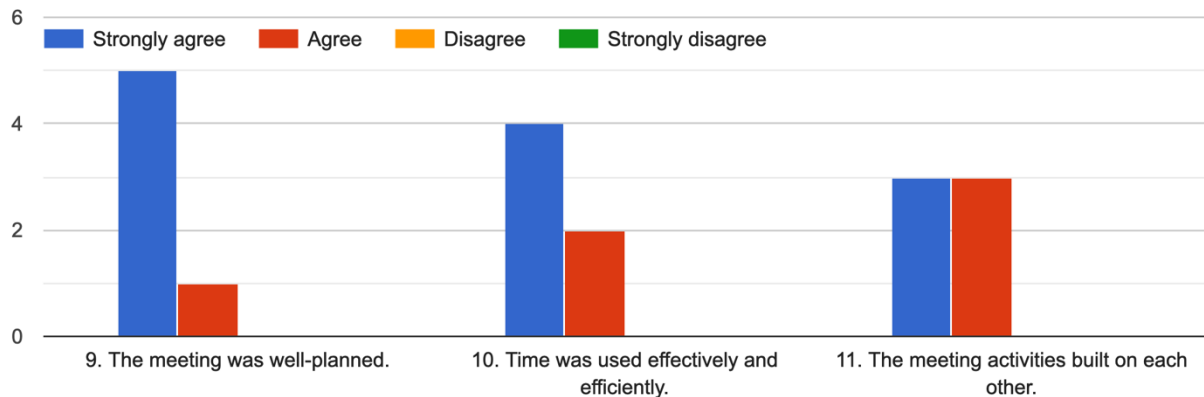
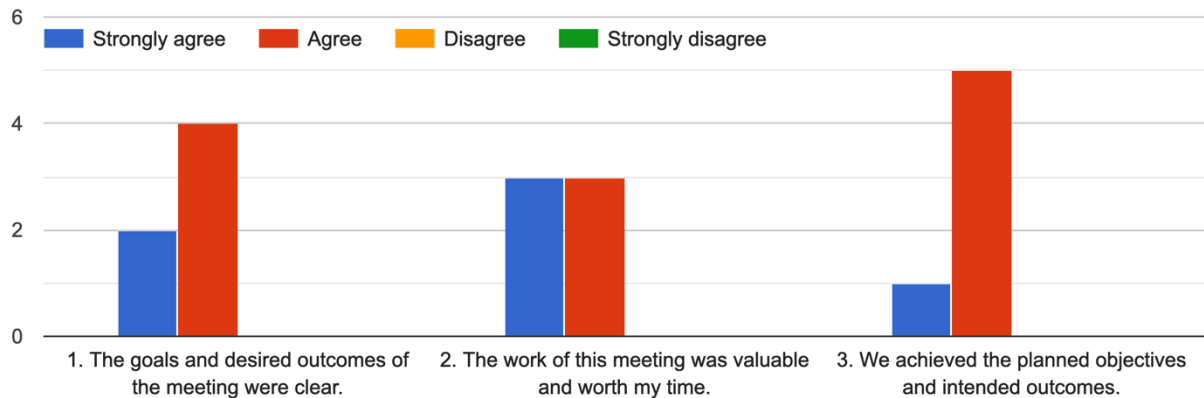
All meeting materials, presentations and recordings will be available on the Division of Water Resources website at <https://deq.nc.gov/about/divisions/water-resources/water-planning/nonpoint-source-planning/high-rock-lake-nutrient-management-strategy#meeting-materials>

**High Rock Lake Nutrient Strategy Steering Committee Meeting #1 –
November 17, 2022
Evaluation Data Summary**

Steering committee members were encouraged to complete a confidential evaluation to share feedback about the meeting to support continuous improvement. Of the 21 participants, 6 (28%) completed confidential surveys.

	Strongly agree	Agree	Disagree	Strongly disagree
Outcomes				
1. The goals and desired outcomes of the meeting were clear.	33% (2)	66% (4)		
2. The work of this meeting was valuable and worth my time.	50% (5)	50% (3)		
3. We achieved the planned objectives and intended outcomes of this meeting.	16% (1)	83% (5)		
Planning and facilitation				
1. The meeting was well-planned.	83% (5)	16% (1)		
2. Time was used effectively and efficiently.	66% (4)	33% (2)		
3. The meeting activities built on each other.	50% (3)	50% (3)		

Evaluation Data in Chart Form



Comments Summary

Were there 1-2 things that you felt the meeting did well?

- Provided information in a clear way.
- Set a tone for positive teamwork and focusing on interests.
- Established relevant ground rules and allowed adequate time for discussion.
- Facilitators helped keep presentations on schedule/time and summarized discussions.

Anything you would have changed about this meeting?

- More discussion about why the NMS is needed/impacts on WQ.
- More opportunities to hear from all Steering Committee members.
- More notice around meetings, along with materials in advance.