

High Rock Lake Nutrient Rules Process

All Stakeholder Meeting 3

Summary Notes DRAFT

May 31, 2023 / 2:00 – 5:00pm / Salisbury, NC

Meeting Goals

1. Inform stakeholders about updates regarding the High Rock Lake Nutrient Rules process.
2. Collect and address questions from stakeholders.
3. Solicit input from stakeholders about next steps in the process.

Participants

Participants:

Rabih Abou-Rizk	Courtney Divittario	Jacob Loure	Ron Sink
Amy-Lynn	Brad Dounte	Jon Lowder	David Smith
Albertson	Scott Ford	Zack Mackenzie	Andy Smith
Jim Amarac	Esteban Fuentes	Kirk Mathis	Lon Snider
Sonja Basinger	Michael Hanna	Joyce-Caron	Judy Stalder
Sheila Beattie	Wendi Hartup	Mercier	Chris Tester
Kent Beck	Danica Hefun	Grace Messinger	Allie Thies
Nancy Blackwood	Julie Henshaw	Edgar Miller	Amy Vance
Derrick Boone	Adam Hilton	Bruce Miller	Beverly Vanroekel
Pat Bradley	Lee Holcomb	Dawn Molnar	Melita Wiles
Michael Brandt	Kelway Howard	Randall Moore	Jonathan Williams
Allison Brown	Joe Hudyncia	Emery Moran	
Kelsie Burgess	Kelli Isenhour	Rich Morgensen	
AnnMarie Clark	Bill Jenkins	Joe Morris	
Brent Cockrum	Chris Jensen	Siham Muntasser	
Ryan Coe	Melinda King	Cassidy Olmedo	
James Crawford	Bill Kreutzberger	Ben Parker	
Taylor Darnell	AJ Lang	Amanda Sand	
Bill Davis	Keith Larick	David Saunders	
Allie Dinwiddie	Scott Leonard	Adam Shull	

DSC Facilitation Team:

Maggie Chotas | Will Dudenhausen | Paura Heo | Laura Swartz

NC Division of Water Resources Team:

Rich Gannon | Joey Hester

Meeting Summary

Agenda Overview

- ❖ Welcome & Purpose / Introductions & Working Together
- ❖ Review of the Nutrient Rulemaking Process from DWR
- ❖ Hearing from the Steering Committee
 - Updates from the Steering Committee
 - Q & A
- ❖ Focus on TAGs – Overview, TAG representative and Q&A
 - Agriculture
 - Stormwater
 - Wastewater
 - Riparian Buffer
- ❖ Learning more about TAGs – Stakeholders talk with TAG members informally stationed around the room
- ❖ Reporting out
- ❖ Next steps, Post-meeting survey & Closing

Key Links

- [High Rock Lake Nutrient Strategy Management](#)
- [Meeting Agenda & Ground Rules](#)
- [Meeting Powerpoint](#)

Details on Discussion Topics

Table Group Introductions

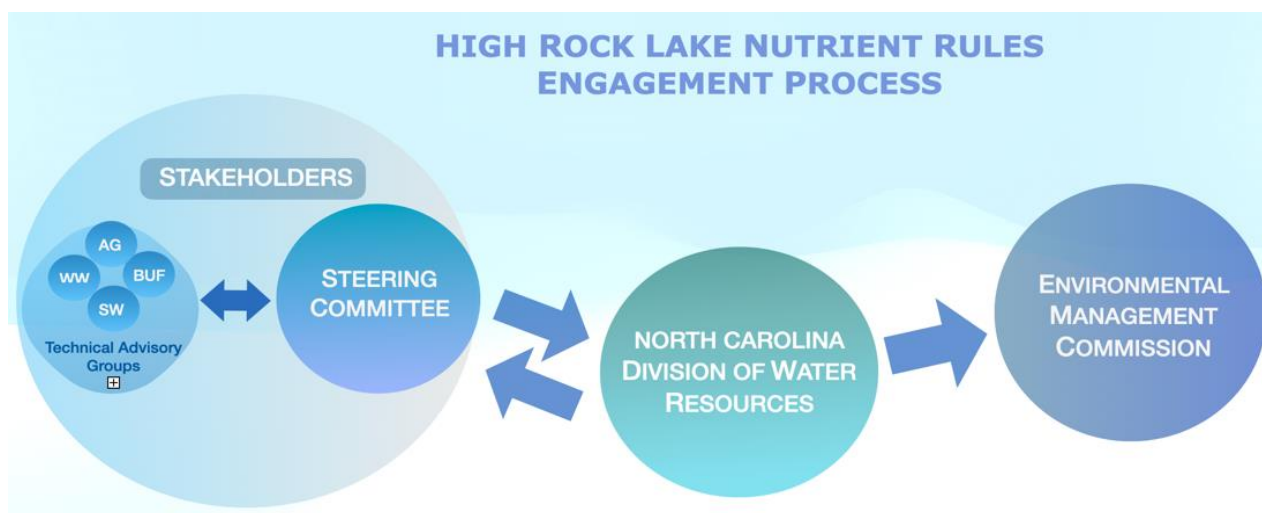
Stakeholders introduced themselves at their tables by sharing names, locations and their connection to the High Rock Lake watershed.

DSC Facilitator Will Dudenhausen introduced the facilitation team, reviewed the agenda and outcomes for the meeting. Will also reviewed the group's previously agreed upon ground rules for this engagement process.

Review of Nutrient Rulemaking Process from DWR/DSC

- Joey Hester, Nutrient Strategy Coordinator with the Nonpoint Source Planning Branch, gave an overview of the engagement process in the development of the High Rock Lake Nutrient Rules. Following previous All Stakeholder meetings, stakeholders shared that they wanted more opportunities to ask questions about the process. This meeting offers more information about the process and creates space for questions.
- Eutrophication of High Rock Lake poses a risk to the public health of individuals who enjoy the lake. We know the risk is high and it is time for us to do something about it. If conditions continue the way they are, the risk to humans increases. The charge of this process is very specific – we are here to manage nutrients as algal production is a by-product of nutrient overgrowth. The only way to manage algal production is to manage the products that feed it, specifically phosphorus and nitrogen.

Process Overview



Steering Committee updates

- Judy Stalder, Triad Real Estate and Building Coalition (TREBIC), introduced herself as a member of the Steering Committee. All Steering Committee members are working towards the same thing, which is clean, safe water in High Rock Lake. Many members with decades of experience in processes like these. This process is science-based so we can make important decisions. Everyone should be aware the cost for the new rules can be high and we are building consensus to achieve rules that are fair and equitable across the watershed. Judy emphasized that High Rock Lake isn't lost – we can work together to correct it.
- Edgar Miller, Yadkin Riverkeeper, emphasized the importance of access to clean and safe water. I grew up swimming, fishing and skiing on High Rock Lake. The river and Lake supply drinking water for over a million North Carolinians. Yadkin Riverkeepers has done a lot of sampling at High Rock Lake and we are seeing elevated levels of nutrients into the Lake, and this is nothing new – it's been considered a eutrophic lake for at least 40 years. We support the new Chlorophyll-A standard. Everyone is contributing to this problem, and everyone needs to be a part of the solution. We have the historic opportunity to protect this resource. I appreciate the transparency that DWR has brought to this process.
- AnnMarie Clark, High Rock Lake Homeowners Association, noted that there are times the Steering Committee groups are in alignment and sometimes they are not. AnnMarie said her group represents the Homeowners Association from the lake. The problems the Steering Committee addresses are important to those who use and live on the lake. She shared about “Clean Sweeps” an annual event in September where people come together to clean out human-made materials in the Lake.
- **Questions for the Steering Committee**
 - *Richard Morgensen, Nutrient Banker, asked about nitrogen and phosphorus credits. Are there plans to create a nutrient bank for this process?*
 1. *Joey Hester – the short answer is yes. We plan to create a nutrient bank in this management process for High Rock Lake. Nutrient banks can help people buy and trade credits. We may need to do some temporary rulemaking to allow banks to start so the credits are available when the rules take effect.*
 2. *Richard explained that with the Neuse watershed, we had a bank created before the rules when into place. As soon as the rules were finalized, we could sell credits. We don't want to put the need for off-sets in place until there are off-sets available.*
 - *Joyce Caron Mercier posed questions to the audience, “How many people live on the Lake? How many utilize the lake (fishing, swimming, boating)?” (Lots of hands*

- up!) Joyce lives on the Lake near the dam, and she is a part of the High Rock Lake Homeowners Association.
- Rabih (Robby) Abou-Rizk asked “Who is charging us with some of these rules?”
 1. Joey Hester explained that state and federal law mandates that we create these rules. The Clean Water Act states that we must correct any body of water that has nutrients out of balance. The standards need to comply with federal law. Water quality violations trigger several statutes at the state and federal level.
 2. Rabih Abou-Rizk asked, “Who would we need to talk to loosen up the timeframe?”
 - Joey Hester explained there is no timeframe. The High Rock Lake process officially started in 2004 when we designated the Lake as “impaired.” The Clean Water Act would be changed in DC.
 - State environmental policy is a legislative decision. Any changes to statute level authority would need to go through the North Carolina General Assembly.
 3. Rabih Abou-Rizk would like to include the North Carolina Wildlife Resources as wildlife will be affected.
 - Joey responded that we have contacted them and they are in touch, especially as it relates to the fishery community. Thankfully the fish are okay (for now).
 - Facilitator Maggie Chotas shared that there is a “note-taking form” (See Appendix) available for participants and explained that we will hear directly from the TAGs next.

Focus on the TAGs

AGRICULTURAL TAG (Ag Tag)

From DWR “the State”

Joey Hester offered that the state has learned a lot through the past 20 years of nutrient rule and management strategies. In other watersheds, we had people in the Agricultural sector collect data on nitrogen loss. Nutrient rules and management improvements seen in Agriculture resulted from legislative/ regulatory changes, cost share availability and broader market strategies. In High Rock, we are interested in streamlining and strengthening areas where we see the biggest return on investment. Considering phosphorus is our primary concern, the state would like to see more aggressive action

towards limiting livestock access to streams. We are concerned that economic conditions are resulting in over-application of phosphorus to land that does not need it.

From the Agricultural TAG

Keith Larick, North Carolina Farm Bureau, explained that the Agricultural TAG has met several times. We've looked at how we can modernize the rules in place already in the watershed. The High Rock Lake watershed looks different than other watersheds as it relates to Agriculture. 25% of High Rock Lake is Agriculture and it is primarily pasture. Farms are participating in the TAG as well as people from the extension agency.

Topics discussed included:

- Fertilizer storage
- What we can look at to minimize water impact
- We are talking about livestock and cattle with access to stream. Without that water source, the farmers would need a well (with access to power). Shows how a relatively simple project can get complicated quickly
- There are cost-share programs out there. Generally farmers put up 25% and the program 75%. We've discussed how we can help
- We've discussed implementation targets

Questions for the Agricultural TAG

- *Farmer in Wilkes County (name?) discussed floods down in 1916 and 1940. The Yadkin River was 60 feet deep. We are already doing 60-foot buffers from the streams. The financial burden placed on farmers has to be addressed. These rules will be a burden on us.*
 - *Keith Larick responded that we are working to get a sense of where we are now. How many of our streams are already buffered? How much pasture is already being managed? We have work to do to figure out what the current state is. We have to know where we are first before we can set targets.*
 - *Joey Hester responded that we have a regulatory obligation to act. This engagement process aims to spread the load. We understand the cost burden is different on a facility versus an individual farmer – that is an issue of scale. We can all identify ways we can chip away at in the right areas. We don't want to increase unnecessary burden on people already doing the work. We are looking for the weak spots where we can step in a plug the holes. We need you to come and work with us on this – I appreciate you being here.*
 - *Edgar Miller responded that 60 feet of water came in before there was flood control. There are voluntary efforts being made, and we appreciate you doing that. We need mandatory regulations as well.*

STORMWATER TAG

From DWR

Joey Hester explained that stormwater presents a unique challenge in this watershed. Streets and neighborhoods built when the High Rock dam was constructed directed stormwater to nearby creeks and streams very quickly and efficiently. We know now that uncontrolled run-off poses a risk to freshwater systems. Higher loads of run-off waters can lead to collapsing streambanks and deterioration of receiving water quality.

The problem space in High Rock Lake will only worsen without action. This is why the state is interested in identifying ways that we can improve building standards to require stormwater treatment, detention and filtration. This all must be undertaken in cost effective ways given uneven growth patterns in certain parts of the watershed. Some local governments have systems in place, and others do not.

From the Stormwater TAG

Brent Cockrum, FEI Civil Engineers and Land Surveyors, explained that his role on the TAG is to lend expertise on the real-world applications of stormwater treatments, including what has worked in the past and what hasn't. This TAG has met three times so far, and we are working to keep the TAG moving forward.

The stormwater community has learned valuable lessons from the other regulations within the state. We are trying to learn what did and didn't work within the other watersheds, while recognizing the differences between the watersheds. We are working to simplify the rules so they can be effectively understood and implemented by local governments. Our goal is to provide guidance so that developments are built with stormwater in mind.

Topics discussed include:

- Implications for urban v. rural areas
- Identifying retrofit opportunities for lands that have already been developed
- Developing flexible approaches given the increase in rainwater in recent years and years to come
- Seeking cost-feasible solutions
- This area of the state has the highest demand for development and housing that we have seen for a long time, and this presents challenges

Questions for the Stormwater TAG

- *Robby Abou-Risk noted that many communities are using "green technologies" to cut down on stormwater. Is this TAG looking into those methods?*

- Yes. Brent explained that we try to make sure the engineers have as many resources as they need to design this infrastructure. Each site and area of this watershed is unique.
- Joey Hester also mentioned that the state will offer a menu of options. We are trying to help development community identify the methods that are best at actually treating the water.
- A woman from the Town of Kernersville asked if the TAG had discussed retrofits from NC State. Which ones do treat water best for nutrients? It's very common here to use whatever we have.
 - Yes, DWR has shared relevant data with the TAG, though, and it has reviewed Bill Hunt's data from NC State.
- Chris (no last name) There is a lack of staff, and people who do this can wear "9 hats." We don't have maintenance and local staff. We will need outreach to elected officials. Where are you in that process?
 - Brent mentioned that there are technologies that are great for managing phosphorus and nitrogen on site, but they have to be managed by trained professionals or they don't work. We have talked about staff education. The local counties are working to think through how they will permit and maintain enforcement.
 - Joey Hester added that we will need to lean heavily on our partners to implement these rules. The approval process is one thing, but the inspection and ongoing maintenance will be especially hard on local governments. That is the one area where we have seen the most glaring need. The High Rock One Water network is working together to build capacity, share resources. I would hope they can lay out a roadmap for how a local government can come into the process with limited staff. We will have to find creative ways to lean on third-party partners to get this work done.

WASTEWATER TAG

From DWR

Joey Hester offered that wastewater treatment is one of the most cost-effective ways of limiting nutrient delivery at scale. The scientific community tells us that, in freshwater systems, phosphorus is the limiting nutrient. If we can successfully control phosphorus delivery in surface waters, then we can control algal growth. In recent years, the consensus has shifted somewhat. In managing nutrients at scale, it is important not to shift the fundamental balance between nitrogen and phosphorus. The state is interested in seeing significant improvements in wastewater phosphorus in the short-term, and meaningful management of nitrogen delivery over the medium-term. Phosphorus management is significantly cheaper than other nutrient management.

Since the 2006 baseline, wastewater systems across the watershed have reduced their phosphorus delivery to High Rock Lake by over 20%. The Department of Environmental Quality (DEQ) already has limits in place that will put us in a good position to push the

limits even further. We intend to have High Rock Lake specific permitting system that will start with phosphorus reduction goals and have more nitrogen reduction goals over time. We are mindful this will come at significant cost, and that as time goes on, it will become more and more expensive to address.

From the Wastewater TAG

Bill Kreutzberger explained that Wastewater is different than some of the other TAGs as we have a good sense of what we deliver to the lake. We know what we were discharging in the 2000s and what we are discharging now. In this TAG, we have tried to put these numbers in perspective from a delivery standpoint. There are 140 permitted dischargers in the watershed, and the model included 36 others. We are looking at the biggest dischargers.

We have looked at delivery. 75% of phosphorus discharged is estimated to be delivered to the Lake, and delivery from facilities closest to the lakes is highest, as are the ones that deliver to the mainstem of the Yadkin River. Nitrogen is a bit different. About 80% of the nitrogen discharged is delivered to the Lake.

This TAG has looked at various technologies. There are proven technologies to lower both phosphorus and nitrogen. We are also talking about the framework for requirements. One area of agreement that we have at this point is that we can achieve substantial phosphorus reduction (relatively quickly). We can probably achieve more than our fair share. We are interested in off-set requirements.

We are discussing reaching a target to the Lake. Large facilities can make larger reductions, and smaller facilities can make smaller reductions.

Questions for Wastewater TAG

- *Question – What source is the wastewater?*
 - *Bill Kreutzberger explained that this is municipal, permitted wastewater (from cities and communities).*
- *David Saunders, Yadkin Pee-Dee River Association, “Who is really going to pay for the cost? Keep in mind that wastewater is highly regulated and highly controlled.”*
 - *Bill responded that we are concerned about making meaningful investments in nutrient reductions. Other reductions will need to come from other areas too.*
- *Lee Holcomb asked, “Can you explain how phosphorus is reduced?”*
 - *Bill explained some facilities have implemented biological reduction. There is a biological way to reduce phosphorus, and some of those processes can also reduce nitrogen. There are several approaches, and you might be able to do some of each.*
- *Robby Abou-Risk, “What would the consumer end up paying, percentage-wise?”*
 - *Bill responded that we don’t know off hand. Water sewage rates are going up all the time. We are trying to estimate costs as part of this effort to give an idea of relative impact.*

- Construction cost in waste-water treatment go up 15 - 20% per year for the last couple of years. Every wastewater plant has its own unique operating system. We won't know the true cost until each facility has done their own review. We know for other systems, even pre-pandemic, it would be over \$500 million dollar wastewater treatment investment.
- Joey Hester also added that he will have to do a fiscal analysis and come up with a meaningful estimate of the cost of this investment. We'll have to quantify all of the other pieces of the puzzle. It is required under the Administrative Procedure Act. We will have something by those stages, that you will be able to review.
- Edgar Miller asked, "Where are we again on the septic tank decision?"
 - Joey added that septic systems are already required to do repairs. County Health Departments are responsible for inspection and enforcement. Other watersheds have decided not to regulate them further. We don't have clarity just yet, but we are hoping to get there soon.

Riparian BUFFER TAG

From DWR

Rich Gannon, Division of Water Resources Nonpoint Source Planning Supervisor, presented that we have the "least wiggle room for doing something different in this watershed" with the Buffer rules. Previous nutrient watersheds rules have included a protective 50-foot riparian vegetative zone. DWR proposes to continue that model in this watershed. That would be protection of existing buffer zones, rather than requiring new buffers that are not in existence now.

These buffer rules are very important as buffers filter and treat the surface and subsurface stormwater flow. Buffers can remove up to 70% of nitrogen through subsurface water. Buffer zones filter phosphorus that attaches to sediment. Buffers also hold the streambanks together and keep them intact, and they also provide shade to the streams to protect the aquatic life. They are a "hold the line rule" as opposed to a "source-rule." They are really a protection measure.

Continuing the 50-foot zone is not without controversy. People on both sides of the issue are pushing to expand or eliminate the buffer zones. In the legislature, there have been bills that have attempted to eliminate the buffer zones. None of those bills have succeeded, although there have been changes that have allowed for tweaks to what is allowed within the buffer zone.

Other Watershed rules have included a multi-page "Table of Uses" document which spells out what is allowed within the buffer zone. There are a lot of allowances within the buffers. Some people on the Buffer TAG would like to expand the buffer zone, and they are allowed to design a recommendation to take forward to the Steering Committee. This process is designed to allow all opinions to be heard.

From Buffer TAG

Siham Muntasser, Wild Ones Central North Carolina, discussed her organization's focus on ecologically sound landscaping practices. George Morris, subject matter expert, sent his recommendations.

The Buffer TAG has met several times and it's been a lively group. There is no doubt that riparian buffers are important, for water quality in particular. We have been given a very narrow task, which is to reduce phosphorus and nitrogen by 40-50% in order to bring water quality to acceptable limits. One issue discussed is how wide the buffer zone should be. Data have been inconsistent and there are a wide range of possibilities.

Issues addressed in the Buffer TAG include:

- The data shows that there is quite a range of widths for buffer zones. The emphasis has been on the 50 feet, and some people in our group would want significantly wider buffer. Can it be larger at some parts and smaller in others? Do they need to be consistent?
- What kind of vegetation should be in the buffer? It is very important that we have a forested area; there seems to be a consensus here
- Deforestation is a very big problem
- A report from the Tar-Pam has just come out which includes a discussion around climate change and extreme weather conditions. High precipitation leads to agricultural operations contributing more to nutrient loads, but when precipitation is lower, point sources contribute more to nutrient loads.

Questions for Buffer TAG

- *Do we go from the high-water mark or from the edge of the streambank because those are two totally different places when you get 40 feet of water?*
 - *Rich Gannon explained that the rules are structured so it is measured as a 50 foot horizontal from the top of the bank. It would be "field-identified." It's the waterline or the stream edge.*
- *Virginia has a good fact sheet on how to make a more value-added riparian buffer, like an edible buffer, which could be appealing to farmers. Could that be worked into an incentive program? Have a better quality buffer; something people would enjoy having it.*
 - *Siham Muntasser agreed that it would be good.*
 - *Joey Hester added that the state is open to encouraging productive use buffers. What the individual does with the buffer is up to them. We are setting the baseline- the floor under which you cannot go. Once the vegetation is established, it undergoes a change in use, it is in a protected area. Forest harvesting is actually allowable within certain distances from the water.*
 - *Joey added that the State is not proposing that if you aren't currently buffering your stream, that you buffer your stream. It would still remain voluntary. If you cultivate any area within that area (it undergoes a "change of use") and you*

then sell your farm, then the buffer rule would kick into place. Existing uses are protected, but if you plant trees, then it must stay in trees.

- *If you decide to put livestock on an area that was not used that way and was part of the buffer, that would be a problem.*

Learning more about the TAGs

Sharing input in small groups

Description: Participants walked around the room, connecting in small groups with TAG and Steering Committee members, along with representatives from DWR and the facilitation team.

Participants were given a notes template to capture their comments and questions. *See Appendix for the Notes Template.* Summarized input per TAG area follows.

Agriculture TAG Key Points

- Participants liked looking back to existing programs and measuring progress since the baseline (2006). What has happened since then? Learning about progress to date.
- There is interest and good will for improvement.
- Moving forward, how do you measure changes, especially in a nonpoint source?
- What more can people do to support necessary changes for farmers?
- Question around poultry litter and fertilizer prices.
 - The Ag Tag has discussed poultry litter, and this will be the primary discussion topic at the next meeting of this group.

Buffer TAG Key Points

- Participants discussed the importance of the “change in use” and how that triggers the buffer rules
- Question about what streams does buffer apply to?
- What we can and can’t do to manage buffers?
- Question about potential “grandfathering” in of projects?
- Robust and interesting discussion around the size of the buffers and the potential for mandating buffers and allowing people to sell credits
- Discussed buffers in other watersheds
- Sometimes the width of the buffer is less important than what you do with the buffer

Wastewater TAG Key Points

- Participants mentioned concerns from municipalities about the cost of upgrades.

- Discussions around how some of the other watersheds anticipated growth and how that affects wastewater plants improvements.
- Septic tanks systems are already regulated, and it is unclear if these new rules will apply to septic systems.

Stormwater TAG Key Points

- Representatives from different states joined this discussion.
- Rail lines that are crossing tributaries and how that affects stormwater runoff; some rail lines were close to the street.
- Design of stormwater controls have been discussed at length.
- Areas in the watershed that are experiencing incredible growth, especially in this watershed. This presents challenges for managing stormwater. Balance uniformity and consistency so we can as a group make strides to control and reduce nutrients.
- We want to do this together – plug for the One Water Approach!

Questions from Participants

Questions & Comments

- *Robby Abou-Rizk shared that his organization, Trout Unlimited, will come help set up buffer zone for individuals, and they will do it for free. They will also help farmers fence cows in to protect the watersheds.*
- *A woman from the North Carolina Soil and Water Conservation group shared that something happening at the state level is farmland preservation. Farmland can be preserved for nutrients and holding capacities. Is there a way to combine those efforts with what you are doing? Are there places where we need to focus on funds for securing that land?*
 - *Joey Hester added that this is part of the discussion around One Water. As regulators, our toolbox is very small. We are setting rules into place about what you cannot do; we set the floor. We will lean on partners to do the total work that needs to be done on a landscape. We want more to be a part of the long-term vision for the landscape. Other groups have more flexibility and resources and partnerships that we do not. We will focus on the lens to see if we are improving, we are going to zoom the lens way out to see what gains have been made by our partners. We want to strengthen underutilized programs to spend money on the landscape and improve the water quality for everyone.*

Conclusion

Joey Hester asked participants to fill out an evaluation of the day and thanked everyone for their participation.

Appendix

Notes Template given to Participants

High Rock Lake Nutrient Rules Engagement Process

All Stakeholders Meeting May 31, 2023 – Notes Template

- + What do you like about what you're learning about the work of the TAG?
- ▲ What would you like to see changed?
- ? What questions do you have?

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<p style="text-align: center;">WASTEWATER TAG</p>	<p style="text-align: center;">BUFFERs TAG</p>