High Rock Lake Nutrient Rules
Steering Committee Meeting 4 Notes

April 26, 2023 / 3 :00 – 5:00 pm / Virtual via Zoom

Meeting Goals

For Steering Committee members to:

1. Identify and discuss comfort level with Agriculture proposal and identify reporting metrics.
2. Introduce and discuss comfort level with Wastewater proposal.
3. Seek consensus regarding excluded source categories.
4. Introduce and discuss comfort level with Buffer rule proposal.
5. Identify missing source categories.

Participants

Steering Committee members: Andy Allen, Ann Marie Clark, Bill Crawford, Bill Davis, Alexandra Dinwiddie, Keith Huff, Bill Kreutzberger, Keith Larick, Jon Lowder, Grady McCallie, Andrew McDaniel, Grace Messinger, Edgar Miller, David Saunders, Helen Simonson, Justin Somers, Judy Stalder, and Jonathan Williams. (JH- Please double-check)

DWR Team: Rich Gannon, Jenny Graznak, Joey Hester, Ellie Rauh, and Lon Snider

DSC Facilitation Team: Maggie Chotas, Will Dudenhausen, Paura Heo, and Laura Swartz

Observers: Lorna Withrow, Sushama Pradhan

Meeting Summary

Agenda Overview

- Welcome, Introductions, Purpose, & Agenda
- Explore comfort level with TAG proposals
    - Agriculture rule proposal
    - Wastewater rule dynamics
    - Buffer rule proposal
- Reach consensus for Agriculture and Riparian buffer rule preliminary proposals and agree on sources the State should regulate
- Identify Next steps
- Closing

Decisions made in the meeting

- Steering Committee members reached consensus to approve preliminary proposals from the Agriculture TAG and the Riparian Buffers TAG.

- Additional conversation is required to reach consensus in order to approve source exclusions.

What's Next / Action Items from the meeting

- The Steering Committee will consider specific metrics it would like to see in Agriculture TAG's progress report.

- Joey Hester will develop a survey to distribute to the Agriculture TAG to inquire about the metrics they would like to capture in the report, as well, adding waste management as an item.

- Joey Hester, with Sushama Pradhan and Lorna Withrow, will provide a report of existing regulations for septic systems for review.

- Joey Hester will provide a map of land application sites noting which are dedicated sites.
    - DWR will check to see if dedicated sites are limited by an agronomic rate.

- DWR will reach out to Forest Management to engage in a discussion of potential creditable practices (for managed and unmanaged forest).

- A representative from Davidson County Water will be invited to the All Stakeholders meeting (and possibly the next Steering Committee meeting).

- All Stakeholders Meeting will be in person:
  Wednesday, May 31, 2023; 2 - 5pm
  Salisbury Civic Center
  315 S. Martin Luther King Jr. Avenue
  Salisbury, NC 28144

Key Links

- Updated Charge Document
- 2012 Tetra Tech Report
- 2013 North Carolina Piedmont Nutrient Load Reducing Measures Technical Report
- High Rock Lake Major Nutrient Source Categories
- Steering Committee Mtg4 Supporting Materials
- Enhancing perspectives on lake impairments using satellite observations: A case study on High Rock Lake, North Carolina by [Bill] Kreuztberger, et. al.

Detailed Summary of Meeting

Introduction, Purpose, and Review of Agenda

- Ann Marie Clark who observed the last Steering Committee meeting joins as a member. Jim Clark attends as her alternate. Both are part of High Rock Lake Association and are property owners and lake residents.

- Today's meeting observers include Lorna Withrow, Review Engineer for OSWP-Division of Public Health, NCDHHS, and Sushama Pradhan, NSP Coordinator for DWR joined the meeting to share their knowledge regarding septic systems.

Preliminary Ag TAG Proposal

Joey Hester presented a preliminary proposal from the Agriculture TAG to the Steering Committee. All items except the last two listed (controlling livestock and phosphorus-based waste applications) were open for discussion during today's meeting.

Key Points
Preliminarily, the Agriculture TAG appears positively inclined toward the following key points in the Agriculture Rule Proposal:

- Overall NMS percentage reduction goal applied.

- Agriculture representatives will submit an annual report that gauges progress toward achieving the overall goals:
    - The report will track production and implementation metrics that have been determined through consultation from the Steering Committee and other stakeholders.

- No nutrient loss/loading model (i.e. NLEW) will be required to demonstrate collective compliance with the overall NMS reduction goals.
    - Data collection and modeling is resource consumptive.

- The need for local agricultural committees to assist data collection will be determined by the TAG.

- Other potential regulatory concepts under consideration which have not yet coalesced around a central recommendation include:
    - Controlling livestock access to streams:
        - Cattle
        - Pasture
    - Phosphorus-based waste application limits.

Key Considerations

- In the Falls, Neuse, and Tar-Pam watersheds, there is a collective goal for nutrient reduction. The entire sector is responsible for meeting the goal on a numerical basis. A complex model is created which helps determine compliance within the mandate.

- DWR would like feedback from Steering Committee members about what metrics to include in the progress report.
- Edgar Miller would like more transparency to ensure to the public that agriculture poultry producers are meeting dry liter (waste) requirements, today. He would like to know that producers have waste utilization plans in place and to confirm that they are following them.

Key Questions

Regarding reporting on the progress towards nutrient reduction goals, DWR asked the Steering Committee, "What metrics would you like to see captured in this report?"

- Helen Simonson asked if the report is expected to draw on additional administrative resources (from local governments).
- Joey Hester stated that the numeric models used in other watersheds are very complex, time-consuming, and labor-intensive. The Agriculture TAG has specifically indicated that those types of numeric models would not be required for neither data collection nor reporting.

Regarding the local committee(s):

- Grady McCallie explained that one of the County's roles is to encourage and promote the adoption of conservation practices. He had inquired about whether the local committees referenced in this rule are an effective way to market the participation in the state and local governments' conservation efforts.

- Joey Hester shared this statement for context: "Certainly it is an opportunity to for the NPS planning manager to get into those county offices to refresh conservation effort priorities." While those committees do perform some outreach, their role or function is for data collection assistance and reporting on NMS.

- Allie Dinwiddie described the agriculture accounting structure that is in place in other rule strategies: There is a watershed or basin oversight committee consisting of stakeholders, environmental representatives and agricultural representatives that present that to the EMC at the start of the rule.
    - Ms. Dinwiddie recommended that this oversight committee determine reporting metrics and reporting frequency.
    - Ms. Dinwiddie provided an example where a watershed progress report cadence was set to biannually, however, a change in the way the

agriculture census collected its data made information required for the report unavailable.

Wastewater TAG Proposals

Key Points

The Wastewater TAG has reviewed the following key points for the Wastewater Rule Proposal:

- Overall NMS percentage and corresponding load reduction goals will be required.
- Implementation toward achieving NMS goals will be staged
  - Early stages will require phosphorus reductions, later stages will require nitrogen reductions:
    - i.e., like Falls Lake stage 1: 20% nitrogen reduction and 40% phosphorus reduction.
    - Stage 2: 40% nitrogen reduction and 77% phosphorus reduction
  - Or require all nitrogen reductions to occur in stage 1 while all phosphorus reductions would be required in stage 2.
- Individual nutrient load allocations will be added to NPDES permits
  - In most other watersheds, every discharger has a permit, and those permits have limits.
- A collective watershed loading cap will be optional.

Key Considerations

- There will not be an approval for moving forward with this rule proposal today because the Wastewater TAG is still reviewing it.
- If we are going to address waste, DWR would like to see all waste issues addressed.
- Allie Dinwiddie broached the subject of creditable program(s) regarding residual waste management and dedicated land use applications.
- Rich Gannon defined dedicated land application as a special class of biosolids disposal. He noted that most land application sites are not dedicated land application sites.
  - For nondedicated sites, a facility contracts with producers who have agreed to accept waste (at a set agronomic Nitrogen rate).
  - In dedicated land application sites, there is a well on the perimeter of the property that is monitored to agronomic rates for pollutants not limited to

agronomic rates. Historically, this has followed a waste disposal model which has not traditionally been limited to agronomic rates.

Key Questions

- Allie Dinwiddie inquired about the general timeline for this proposal, which is presently unknown.

- Ms. Dinwiddie also asked about dedicated land application sites.

- David Saunders shared this information about Winston-Salem:
  - Winston Salem had land application sites through early 2000s at agronomic rates, under permitted programs. However, those permits have been given up and a few of plants are hauling biosolid to landfills.
  - There is no practice cataloging what is done with residual waste at this at this time. He would like to begin tracking this.

- Grady McCallie asked if nitrogen and phosphorus reduction methods for POTW can be resolved by operational changes or if they require capital upgrades.
  - Joey Hester shared that for phosphorus reduction consisting of a chemical addition to treatment is the primary treatment for reduction. Reduction for nitrogen however could require an expansion of tanks and bays.

- Bill Kreutzberger shared the following information:
  - Regarding phosphorus reductions, most POTW's can reach a target range without approaching limits of technology (0.1 is our limit of technology. To achieve this, you have a water plant with filters after the wastewater filter).
  - Regarding nitrogen reductions:
    - Some facilities have expanded in the last decade or are in the process of expansion so there is a process in place to moderate nitrogen levels.
    - Other facilities are very small and act as secondary treatment facilities. These very small facilities would have to first upgrade to advanced wastewater treatment, and then increase their capability.
  - The objective is not to regulate small POTW. We want to be strategic about allocations that larger systems are incentivized to partner with a smaller system to absorb its available credit.

- David Saunders elaborated:
    - Facility can retrofit for a certain amount of phosphorus reduction if they're expecting needing more capacity in the future; there might be a treatment process that they would entertain that would also remove phosphorus.
    - Part of the white paper strategy is based on the capital investment differences between phosphorus and nitrogen; but there is also the longer term consideration of energy requirements to operate systems to achieve those goals, as well.

- Andy McDaniel wanted to know if there will be a distinct percent reduction goal for this wastewater rule.
    - Joey Hester shared that DWR is open to exploring distinct percent reduction goals for each rule category. He stated that "fair and proportionate and reasonable" may not be one size fits all in High Rock Lake.
    - Detailed exploration around those percent reduction goals will be discussed at future TAG meetings.

Riparian Buffer Proposal

Key Points

DWR offered the following Riparian Buffer Rule preliminary proposal:

The general intent is to carry forward the same overall buffer rule design currently in place in other major nutrient watersheds, including:

- A 50ft vegetated riparian area, protected in Zone 1 (inner 30ft) and Zone 2(outer 20ft).
- Riparian areas will be protected throughout the entire watershed, from dam to headwater.
- Existing uses in the 50 ft area can continue, but a change of use invokes buffer protections. For example, if you are already cultivating cropland in the 50 ft zone that could continue. However, if you are planning to a different use, new buffer protections would be triggered.

The Riparian Buffer TAG has raised several concerns:

- The TAG is investigating possible modifications to the forest harvesting provisions for each zone;
    - DWR will check in with Forest Management about these provisions.
- The TAG is reviewing the Table of Uses for watershed-specific concerns to see if it needs to be adapted to High Rock Lake topography or soils, etc.

Key Considerations

- Edgar Miller proposed inviting a (drinking) water treatment representative to upcoming meetings.
- Mr. Miller is strongly advocating for a One Water approach to buffer protection and for further discussion around its Existing development rule.
- The Steering Committee will need to decide whether to include the sub-watershed above W. Kerr Scott in this NMS.

Key Questions

There were questions inquiring about what the buffer rule would look like for the entire watershed. Joey Hester shared these possibilities:

- If we decide to regulate all the way to Caldwell & Alexander Counties then the buffer rule would apply all the way through.
- If we decided stop at the dam of Kerr Reservoir, then the buffer rule would not apply through unless we decided to make an exemption that said the strategy regulated from the dam down and the buffer crosses the dam.

HRL Nutrient Source Categories

- (Data cited from Tetra Tech's 2012 Report) See High Rock Lake Major Nutrient Source Categories

NMS Source Exclusions

- Septic Systems
  - Loads would not be redistributed
- Small dischargers
  - The cut off would exclude small dischargers
  - Provisions to incentivize partnerships between large and small POTW?
- Unmanaged Forestry
  - Loads would be redistributed
  - Further discussion around creditable practices (Forest Management)
- Illicit discharge detection and elimination
  - Part of the Existing Development rule

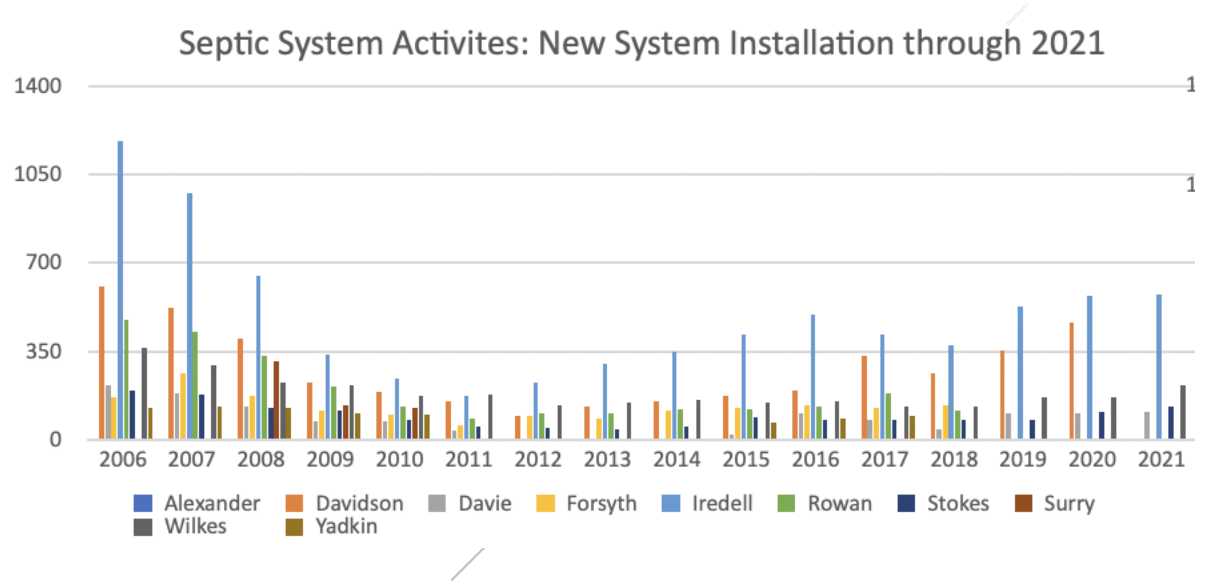
Key Considerations

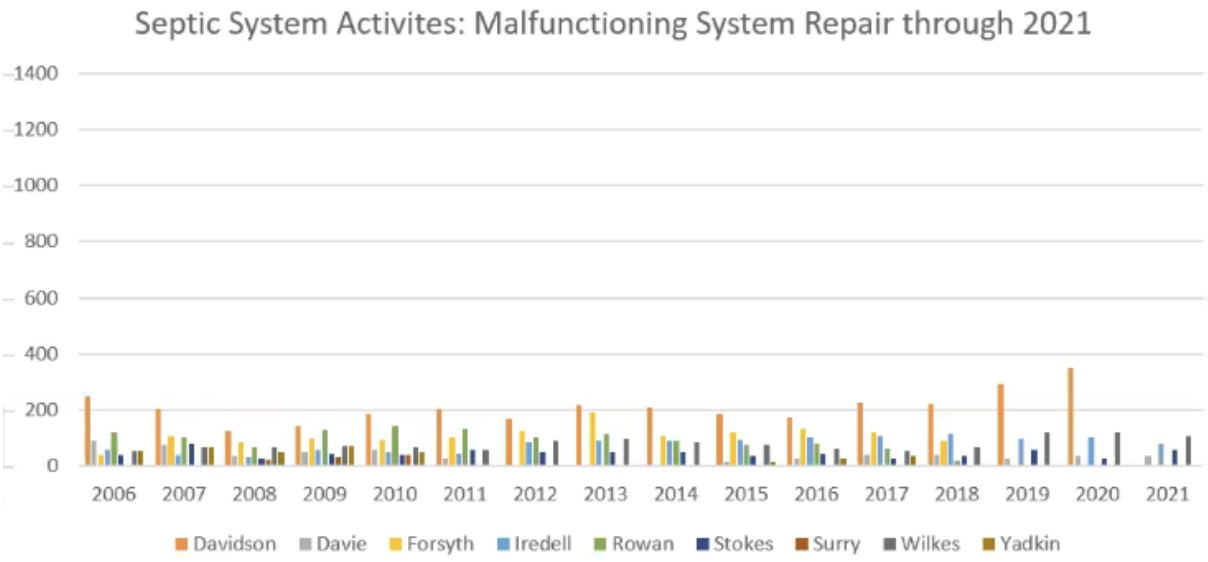
There was extensive discussion around septic systems as a nutrient source.

- Justin Somers shared the process for repairing an individual system. If a homeowner discovers a malfunction and contracts repair service, all licensed septic repair companies are required to request a permit for the repair. This permitting is reported to the County Health Department.

- Lorna Withrow noted that there is a Board of Septic System that oversees this process. If the homeowner finds that a service was not provided properly, or if a permit was not requested, they can report the septic system repair company.
    - Joey Hester notes that this adds another layer of accountability.

Joey Hester shared the following information with the group about septic system activity.





- Joey Hester performed a rough calculation using Tetra Tech's 2012 data and data from DEH 2021, that demonstrates a 13% TP &14% TKN reduction from baseline, acknowledging that the reduction amount has not been verified since the data sources are different.

- Lorna Withrow pointed out that data from Tetra Tech's 2012 Report includes non-septic systems: gray water, and other illicit dischargers counted in septic systems which could skew the data, presenting a false reduction.

- Sushama Pradhan shared details around installation and repair numbers for the more active counties.
    - Part of the High Rock Lake watershed runs through Iredell County which has seen many malfunctions, so these data are relevant.

- Treatment levels are very high for septic systems but a small number of installations are generating meaningful impact.

Key Questions

- Grady McCallie asksed if DEH's data captured illicit dischargers as well.
    - Lorna Withrow will investigate this and report back to the group.

- Grace Messinger asked what the projected installation for septic systems us in New Development.
    - Joey Hester noted that two counties experiencing unprecedented growth did not see any new installations in 2021: Forsyth and Rowan Counties.

- Grady McCallie noted that the number of malfunctioning systems does not come close to the number of installations. He asked Sushama Pradhan about this data point and voiced concern over malfunctioning systems not being reported/ captured.

Review of Consensus

The group's definition of consensus, per the High Rock Lake Engagement Process Charter is as follows:

- Consensus requires the active participation of everyone in the group and an atmosphere where disagreements are respected. When someone disagrees, the goal of the group shall be to discover the reason for the objection and to find a way to work toward meeting that need in a revised agreement.

- Consensus is being defined as at a minimum, "I can live with and support the decision."

The Steering Committee made the following consensus decisions:

- To approve the preliminary proposal from the Agriculture TAG.
- To approve the preliminary proposal from the Riparian Buffer TAG.

The Steering Committee did not reach consensus on whether to approve source exclusions.

- Grady McCallie would like to see more accountability for septic dischargers; specifically, looking at what changes need to be made to existing regulatory programs to ensure effective accountability in nutrient reduction.
    - DWR will gather all information around existing regulation in septic systems to identify any known gaps.

There was no consensus decision for the Wastewater TAG 's preliminary proposal because it is still in review.