

# High Rock Lake Nutrient Management Strategy Development

## High Rock Lake Nutrient Rules Engagement Process

### Technical Advisory Groups (TAGs)

#### Meeting 1 -- 3 hours

#### Meeting Goals

1. Begin to establish an effective working group for the High Rock Lake Nutrient Rules process
2. Better understand the rulemaking objectives and informational context
3. Become familiar with the role of and charge to the TAG
4. Plan for meeting charge

#### Agenda

##### Welcome

##### Purpose of the Meeting

- Began to establish an effective working group for the High Rock Lake Nutrient Rules process
- Reviewed the rulemaking objectives and informational context
- Familiarized the group with the role of and charge of the TAG
- Planned for the meeting charge

##### Introductions & Working Together

Attendees: Franklin Singleton, Alexandra Brown, Edgar Miller, Bill Davis (Wilkes County), Keith Lerrick? (Farm Bureau), Darnell, Joe, Julie Henshaw (for Allie Dinwoodie?), Ryan Coat, Bailey Wood (Surrey County), Grace Messinger, Dwayne Livengood, Andy Miller (Davidson Co.), Adam Hilton, Rich Gannon, Joey Hester, Monica Veno, Maggie Chotas, and Will Dudenhausen

##### Objectives of Rulemaking

- 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

# High Rock Lake Nutrient Management Strategy Development

- 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

## Process Review

- This process will take around 14 months (September 2022 – December 2023) and involves stakeholders, anyone who lives in or touches the watershed in any way
- The Steering Committee is the body who is creating directions for the individual TAGs.
  - Responsible for:
    - Drafting Nutrient Management Strategy Goals for the watershed
    - Guidance and oversight responsibility over the TAGs
    - Development of a Final Report to DWR
- TAGs
  - Responsible For:
    - Generating Recommendations to the state on regulations and other actions needed in their subject areas to improve the water quality of HRL
    - Submit initial draft recommendations to the Steering Committee and all other stakeholders for consideration
- Meeting Frequency
  - There will be around 6 Steering Committee meetings throughout the process, and an additional 3 meetings of all stakeholders. We estimate there will be an additional 5 meetings of this Ag. TAG.
- The Steering Committee will draft a Nutrient Management Strategy, which will then be given to DWR to refine that draft. You will then be given time to discuss with your communities and give feedback to the DWR on the strategy developed.
- DWR wants to work directly with the public throughout the process to ensure that public concerns are aspirations are consistently understood and considered. They also wish to obtain public feedback on analysis, alternatives and/or decisions through the collaborative process. There are pinch-points for the interests of DWR, so they will keep you informed of interests that have less flexibility.
- The DSC team is here to make sure all parts of the process are

## Understanding the Charge to the Ag. TAG

- See Appendix document: [High Rock Lake Nutrient Management Strategy Development.](#)
- Some of these sources are relatively uncontrollable (such as Forest as a contributor to the phosphorus levels), so that is working against us.

# High Rock Lake Nutrient Management Strategy Development

- Our goal is to make this pie chart smaller, not to eliminate any of these categories to get us into the healthier zone.
  - Where are these numbers coming from?
    - These numbers are coming from Tetrattech data (based on number of acres and animals) and calibrated simulation to match what is most accurate. This is drawn from the years 2005-2010.
    - Literally, this pollution for pastures would likely be from direct deposition of livestock waste, supplemental fertilizer, etc. There's also a lot of pasture in the watershed which makes this look a lot bigger.
- We need to responsibly distribute reduction needs across all controllable sources.

## Baseline Data Exploration

- *Osmond 2015 Survey Findings*
  - Soybeans are likely over-fertilized
  - Everything else is likely under-fertilized
  - Very few cover crops
  - Counties have at least 48% of ag. Fields buffered, several are much higher
  - Animal waste is likely an issue on corn and soybeans
  - Phosphorus is being added to 40% of all fields, 57% of all fields don't need it
  - 50% are primary point sources
  -
- *Crop/Pasture Notes from SWCD Outreach*
  - Increased use of cover crops and no-till
  - Increased exclusion of livestock
  - Pasture management needed, overgrazing is common
  - Not much cropland conversion to trees
- *Animal Notes from SWCD Outreach*
  - Copper is being used as a growth hormone
    - More copper is being applied to fields than before
  - Litter has higher nutrient content than in the past
  - More frequent cleanouts, better litter management, more sampling
  - Better mortality management
  - Litter is in high demand
  - 3<sup>rd</sup> party manure hauler agreements are generally good
  - Shift from secondary to primary income for poultry, which leads to more / better distribution
  - Dry stacks are not required at new facilities, integrator telling producer to wait 3 years and then ask for DWCD or NRCS money
    - If not integrators, then definitely other farmers

# High Rock Lake Nutrient Management Strategy Development

- Poultry growth high in some places, tapered off in others
- *Capacity Issues*
  - 1-person District offices limit conservation delivery
  - Shortage of certified nutrient management specialists
  - Insufficient \$\$ for poultry systems, livestock exclusion, litter spreaders
- *Spatial Dynamics in Nutrient Loading*
  - There are more concentrated areas (closer to the Yadkin River, typically) of the watershed where more conservation efforts are needed because there's a higher chance that pollution will reach the lake from those points than from the edges of the watershed.

## Planning for Accomplishing Charge

- February 15<sup>th</sup> Charge:
  - What specific management improvements has your sector already implemented for nutrient control since 2006?
    - Tobacco produced as dropped
    - Soil tests have improved (and still need to keep improving) as well as chemical testing
    - No-till
    - More big farms with funds for conservation than smaller farms
    - Smaller farms are fading away, some of which is turning into development
    - More cooperative testing
    - Updates to fertilizer recommendations have been done and found those standards developed in the 1980s are still good
    - Soybean fertilization has begun to be decreased
    - New varieties coming out are more tolerant to worse conditions than before
    - Less nutrients going on pastures (because of increased fertilizer costs)
      - You have reduced production of grass because of this
    - Dispersed Hay-rolling to spread nutrients from manure
  - What further nutrient reduction management steps can you take that would make sense? Consider both examples of more easily attainable and effective opportunities, as well as more long-term or challenging opportunities for your sector.
- What needs to happen *before* you can tackle the first phase of the charge?
  - Need a better understanding about poultry industry trends. (Approx. 120 million above HRL and 290 in the entire watershed). Are there trends to calculate how much waste is being produced and how individual farmers are managing waste

# High Rock Lake Nutrient Management Strategy Development

according to dry litter requirements and how much are they putting onto the fields?

- Some breeders/integrators have limits on how many houses you can have so we need to bring them to the tables
  - Biosecurity
  - Poultry Federation Guidelines are being more strictly considered and are considered important to integrators right now
  - In order to get a loan for poultry production, you have to have a waste management plan
  - There's probably not as much waste as the general public perceives
    - Whatever waste is produced needs to be gotten rid of and it's an excellent form of nutrients
- Who?
  - What? / How?
  - When?

## Next Steps

- Setting Meeting Dates
  - In-Person
  - January 25<sup>th</sup> from 10:00am-12:00pm located at 1450 Fairchild Rd., Winston-Salem, NC 27105
  - Send a representative if that's better
- AG cost-share data
  - Specific management improvements – Soil and Water
  - Trends in poultry industry

## Post-Meeting Survey

## Closing

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## Questions:

- I didn't realize people stopped fishing and swimming in the Lake. We have always known it to be a red river, and many of us don't know any different. (Ryan)
  - The State adopts standards for things such as phosphates, carcinogens, benzynes, that must be met. When these statistics enter a risk zone, DWR is charged with remediating that damage. High Rock Lake has passed that threshold for risk, specifically for Chlorophyl A, Nitrogen, and Phosphorous, so that's what's brought us here today.
- Riverkeeper is concerned for rises in fecal coliform and bacteria levels (Edgar Miller)
- Can we make people more aware of how bad the Lake has become? (Ryan)

# High Rock Lake Nutrient Management Strategy Development

- The Yadkin Riverkeepers do publish their Bacteria Levels weekly at 9 different locations around the lake.
- Have we studied what kind of biological DNA fecal coliform is? (Andy Miller)
  - Yes, what we've found in our limited data is human
- Lakes naturally move toward eutrophic states – are we fighting a losing battle on a natural process to address this? (Andy Miller)
  - A dammed river reservoir is going to have a natural tendency to accumulate stuff, which is an unfortunate part of this discussion. I don't think it's a losing battle, there are some low-hanging fruit solutions out there that haven't been set in motion yet, which we are setting into motion now to significantly lessen nutrient loads in the lakes. (Joey Hester)
- Is there a certain format you'll give us for how you want our feedback? (Julie)
  - That's something we can hash out here. The steering committee did not give direction as to how they'd like it in particular.
- Where can we find out what the regularly tested sites are? (Alexandra)
  - I can send a link to the Basin Plan which has information on the sampling locations are and all the data we have. It's been signed off on by the EMC and the EPA relatively recently. (Joey)
  - DWR locator also shows basically where stats are on the sampling locations. (Edgar Miller)
- What's the average cost of a site test?
  - A basic test for one sample analysis is about \$120.
- Have you talked about if point source dischargers are able to meeting those point source discharge requirements? Those nutrients are captured and brought into the Ag landscape, and then they become “outsourced” into the ag setting. We need to keep this in mind.

# High Rock Lake Nutrient Management Strategy Development

## Steering Committee Charge

DWR asks the Steering Committee to provide written recommendations on the following:

- Lake N and P % reduction goals – an overall pair and potentially tailored by source
  - Redistribute “uncontrollable” loads, increase controllable reduction %’s accordingly
- Agree on sources the state should regulate, and any useful non-regulatory actions on other sources or additionally on regulated ones
- Coarse implementation timeframes by source, including phasing or adaptive action
- Whether to include the subwatershed above W. Kerr Scott Reservoir in management mandates, and any appropriate modifications to regulatory mandates for that subwatershed

## Charge to Technical Advisory Groups: Phase I, Self-Assessment

The Steering Committee asks the TAGs to gather information about their sector to inform Steering Committee planning and target setting. This information will be collected by DWR and shared with the Steering Committee, other TAGs, and watershed stakeholders.

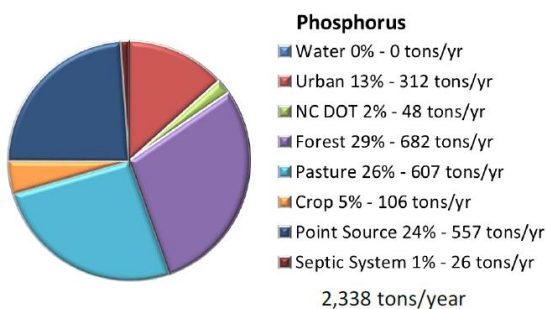


Figure 1: Overall Phosphorus Loading to HRL by Source

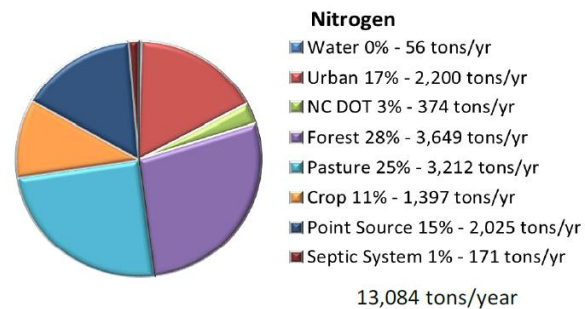


Figure 2: Overall Nitrogen Loading to HRL by Source

### Specifically:

As a TAG, compile responses related to your specific sector, including:

#### Due by February 15:

- What specific management improvements has your sector already implemented for nutrient control since 2006?
- What further nutrient reduction management steps can you take that would make sense? Consider both examples of more easily attainable and effective opportunities, as well as more long-term or challenging opportunities for your sector.

#### Due by April 15:

- What initiation and full implementation timeframes would be needed for each type of management step, roughly speaking?

# High Rock Lake Nutrient Management Strategy Development

- *Are there trends or changes on the horizon in your sector that could affect these timeframes?*
- Barriers/challenges and possible responses:
  - *What are barriers or challenges to these steps? Consider legal barriers, financial barriers, social barriers, equity barriers.*
  - *What could be done to address these challenges and increase buy-in and support for these steps?*
  - *Do you think forming partnerships with other groups/sectors could lead to implementation opportunities and positive changes? If so, what opportunities can you envision?*

## **Due by May 15:**

- Would nitrogen and/or phosphorus be most cost-effective for your sector to manage, reduce, monitor, and report? Why, and what are the limitations of each? Can you give rough proportions and scales for the kinds of reductions you think could be achieved?