Third DWR Jordan Nutrient Rule Readoption All-Stakeholder Meeting

July 15th, 2024 12:50-4:10pm hybrid

TOC

Discussion Topic 0 – Welcome and Introduction

Ellie Rauh (DWR), Maggie (DSC), Emma (DSC)

- Ellie Rau: Welcoming statement and introduction of DSC
- Maggie and Emma: DSC Facilitation Team Leads Introductions
    - Are experienced in this atmosphere as they worked on High Rock Rules. Are excited to be working on the Jordan Lake Rules.

Discussion Topic 1 – TAG Updates and Next Steps

Ellie Rauh (DWR)

Key Points

- TAG Overview
    - Round 1 TAGs are complete. Held from April 11th-July 2nd 2024
        - In general, expect outlined implementation plans soon for each TAG. This includes rule drafts for some TAGs.
        - The schedule for future TAG meetings has not been set yet, however it will be officially set in the Fall.
- Riparian Buffer TAG
        - Rule updates: Draft in progress
        - Reception: Emphasis on need for consistency and updated rules
        - Next steps: Draft rules will be presented in next TAG discussion
- New Development Stormwater TAG
        - Rule updates
            - Considering ways to set aside N and P requirements
            - Discussions on how to match current requirements with the old requirement's intensity
        - Reception
            - There is support for transitioning away from old nutrient based targets, however there are concerns with the enforcement and implementation of the new rules especially depending on area.
        - Next steps

        - *No talking points here*
    - Questions
        - Judie S. (TRIVIK): Who are the developers meeting with and which developers are you talking to?
            - Ellie is currently in conversation with developers and gathering recommendations on which developers to partner with via county recommendations.
            - Judie recommended allowing TRIVIK to look at developers lists and help determine good matches.
        - Sandy (affiliation not mentioned): Is there consideration to not having any offsite payments?
            - Incentivizing on-site and point payments- Ellie
            - TAG committee is thinking of shifting away from lbs/acre measurements and instead doing minimum measurements on-site to achieve adequate nutrient control. This would allow sufficient shift away from off-site regulations. However, they are still open to recommendations to this new measurement system. – speaker not named
- Agriculture TAG
    - Rule updates
        - *No talking points here*
    - Reception
        - The committee emphasized the importance of reviewing the impacts of biosolids. Data shows elevated P levels, so the committee is interested in looking at how solids are land applied.
        - Support for replacement NLEW
        - Not supportive of requiring fencing cattle exclusion
        - Members expect an invite for a future meeting at end of august
    - Next steps
        - Look into the impact of cattle fencing and how to incentivize fencing rather than requiring. Remembering that the Collaboratory report supported restricting cattle to decrease nutrient loading
        - NLEW support
- Wastewater TAG
    - Rule updates
        - This rule has seen a lot of progress as most major plants have already implemented upgrades that have resulted in significant nutrient decrease. Now looking into the feasibility of further reducing nutrients.
        - Continued studies at Neuse/Tar
    - Reception
        - Getting to lower levels of N+P in WWTP would require substantial cost
        - There is a current investigation of nonpoint sources. Many WWTP are investing in NP sources to see if it decreases cost and nutrient loading

        - Interest in answering if WWTP can optimize PFAS treatment requirements and processes to include nutrient reduction processes
    - Next steps
        - Group discussion on PFAS optimization
    - Questions
        - Trevor (affiliation not listed): Is there research to learn how to bring down PFAS concentrations in other creative ways?
            - Ellie- PFAS research is new and we are still in the early stages of this conversation.
- Existing Development TAG
    - Rule updates
        - *No talking points here*
    - Reception
        - Unsurprisingly, there was no interest in load-based approach, and only interest in an investment-based ones.
        - Discussed different approaches for the investment-based strategy and how it would look in Jordan Lake as opposed to Falls Lake.
        - Wondered how agriculture would receive credits and how would off site monitoring work?
    - Next Steps
        - *No talking points here*
- Integrated TAG
    - Rules update
        - JLOW created an integrated TAG to discuss cross sector collaboration with rules
    - Reception
        - *No talking points here*
    - Next Steps
        - *No talking points here*
    - Question
        - Janet (affiliation not noted): Did the nonpoint source sediment research look at P loading from Haw River sediments? USGS model correlates sediment and flow so this is a known correlation.
            - Jim Bowen's model does take this into account with the sediment diogenesis model.
        - Janet (affiliation not noted): Would monitoring nutrient loading and stormwater regulations be part of the rules?
            - Storm water management could be a part of nutrient management rules. JLOW might be a part of addition, and it would be interesting to discuss that with them.
- Nutrient Trading TAG
    - Proposed Rules Update
        - There has not been a meeting on this yet so there is no update.
        - Discuss nutrient trading options in the early fall of 2024.

        - Next steps
            - Plan to review TAG comments, goals, and methods to implement the nutrient trading mechanism.
        - Questions
            - Speaker not named: Will this presentation and this recording be online? Are TAG meeting recorded?
                - TAGs are not posted but Ellie is working to get them posted with IT. They are too large to be posted.
                - This meeting will be posted by the end of the month.
- Additional comments
    - Anyone who wants to join a TAG can email Ellie R.
- Questions
    - Anne: Merrik (affiliation not noted): This is more of a comment than a question, but planning to reach out to communities to garner their needs is a large and impactful part of the nutrient trading TAG.

Key Themes and Points Summarized

- Ellie summarized outcomes and next steps in TAGs: Riparian Buffer TAG, New Development Stormwater TAG, Agriculture TAG, Wastewater TAG, Existing Development TAG, Integrated TAG, Nutrient Reduction TAG. Note the new TAG, integrated TAG.
- TAGs plan to continue to develop and draft rules in the coming months.

Discussion Topic 2 – Loading Reduction Goals
Ellie Rauh and Rich Gannon (DWR)

Key Points
- The Loading Reduction Table model is online and can be shared to anyone who wants to use it
- Loading Reduction Table for Haw River
    - Compares P and N reduction from 0%-70% on each axis to understand when chlorophyll-a will be reduced to the maximum levels. Inside the table, chlorophyll-a levels are noted as “percent of chlorophyll-a exceedance over the rule’s limit”.
    - 20%-30% reduction of N and P will result in an estimated chlorophyll-a exceedance of around 10%. While this is not the lowest levels of chlorophyll-a, the reductions in N and P are most achievable in this range as opposed to 70% N and 30% P reduction for a lower chlorophyll-a exceedance.
- Loading Reduction Table for Upper and Lower New Hope
    - Two tables are present here, but they will be combined for the new rules
    - 50% N and 50% P average reduction in both upper and lower to achieve lowest chlorophyll-a levels
    - A new reduction goal will have a new baseline from 2014-2016
- New rules design and new load reduction metrics

    - Slightly different than before, it is planned to not implement a load reduction requirement for all sectors, as DEQ plans to move away from N and P as compliance metrics.
- Questions
    - Jamie (affiliation not noted): Are these reductions in N and P feasible for the lower and upper new hope regions?
        - Ellie notes that perceived ability to change is impactful on the participation and level of effort. However, these types of reductions have been possible in other similar areas, for example Ohio. In these areas, there was more of a watershed goal rather than specific rules, thus varying from Jordan Lake. Ellie reports plans to take a similar approach to communities mentioned above to achieve the reduction requirements.
    - Sally Hoyte (affiliation not noted): Would there be lbs or % targets for existing development?
        - Ellie: with an investment-based approach lbs or % based reductions are ineffective and hard. So, no there will not be.
    - Kaleb Michelle (affiliation not noted): Use-support usually use statistical tests to measure chlorophyll-a in percent reduction, but you use percent exceedance. Why?
        - Our table has been changed to % exceedance at a 90% confidence because reductions are difficult to meet. This is a rough estimate to see what each waterbodies need. Again, these are hard reductions to meet due to this timeline.
    - Kaleb Mitchelle (affiliation not noted): What do the black boxes mean?
        - Jim Bowen's black boxes and red boxes represent the best and most achievable reduction scenarios. Bred being most achievable, black being less achievable.
    - Michel (City of Durham): A comment, 50% reduction is hard to achieve on-site.
        - Rather than achieving pre-development nutrient levels, we are instead aiming for nutrient neutrality and reducing the hydological impact.
    - Mike (Caudwell): Some of the water from Upper and Lower New Hope basin goes into the Haw, so how are you able to have a lower reduction on the Haw than in New Hope and still get positive impact
        - Currently our research suggests that 80% of the flow into Jordan is from the Haw arm while 20% is from the New Hope. The model unsurprisingly shows us that small flow from New Hope has only a small impact on Jordan.
    - Alison Swarts: After the current ED rules have been delayed, all development between this time is considered ED. How is this being addressed?
        - Ellie has worked a lot with answering how local governments will receive credit from previous work. We are still in the process of answering this question though.
        - Mike: We recognize that many actions of the past had a positive impact on the lake. We have not seen a way to credit actions of the past, but are open to ideas of how to.
    - Speaker not named: Holding the line becomes more expensive with time. The root cause of nutrient increase is caused by excessive amount of nutrient coming into the

watershed from upstream. Has there been discussion on how regulation can decrease nutrients, and how JLOW can go where regulation cannot to positively decrease nutrients?
    - Summary of the question: It seems like you're asking for a more holistic approach to managing nutrients.
    - Your recommendations are complimentary approaches to what we are trying to do. We are not allowed to put regulations on nutrients incoming into the watershed. Closest I've seen this is exclusion of P in fertilizers. I see your solution as a longer-term regulatory plan. Currently, we are setting methods which we have control over which are cost effective.
- Speaker not named: Highly valuing the land with low nutrient load is a good philosophy to implement to your current process.
    - You are correct. In fact, land conservation is already in practice through the agriculture arm of JLOW.
- Andy: I am confused on your statement regarding nutrient neutral vs the protecting streams approach. Where is the division between those two statements? If they are separate, what is the goal and approach to achieve each of those two statements?
    - I see your confusion. My reference to nutrient neutral goals is limited to rules on existing development. Rather than setting % or an lbs reduction for existing development, we are implementing rules more broadly, with the goal of new development projects not increasing nutrient loading.
- Does your current strategy open up customized management goals for each sector (TAG)?
    - Yes. I would note however that it is unrealistic to think we will achieve all ED or AG goals.
- Brad (Alamance Soil and Water): I've attended meetings like this for 20 years. I struggle to understand if we have made any improvement or if the goal lines just keep getting moved. I would also note that this area ranks Americas 2nd most loss in farmland.
    - Agriculture in Jordan is very different from farmland in the state. The Collaboratory Report identified how to help Jordan's farmlands.
    - These nutrient goals are important for the lake and watershed. Nutrient loading has decreased in some areas, and decreased in others. While we have been working on this for years, there have also been major unforeseen stressors such as increased population, development, and climate change. We have had challenges, but we have also seen some major improvements based on the situation we are in.
    - In some ways the loading has improved; the wastewater plant's discharge has decreased a considerable amount in Haw and New Hope both with P and N. Ellie mentioned a very important point, that climate change has drastically impacted the environment and nutrient loading. In some areas our nutrient reduction has been neutralized by climate change impacts. We simply have to adapt.
    - We experienced a similar struggle in 1990s, when we were tasked with fixing the Neuse River Basin in 5 years. This was not possible, and we had to adapt.
- Michael Erwin: Are you just using grassline swale?

        - Grasslines are not primary SCMS. We are focusing on addressing hydrologic issues in developed areas. For those unfamiliar, Mike is referring to only one type of grass swale. We have two to be approved, and one already in use. This is one new approach to New Development requirements. Rather than lbs counting, as this is challenging and conflicts with engineering methods, we instead use volume filtration methods like swale. We are keeping an open mind to new methods, and this might not look like current SCM.
        - Bioswale plug: NC doesn't have bioswale practice (linear bioretention unit) however it is in the process of being implemented partially due to Jordan.
    - Alison Swarts: If we are not monitoring off-site nutrients, how are we reducing nutrients?
        - Ellie: Some of the problems are that we just keep track of nutrients coming off site. However, there are also offsite effects. We are trying to capture this in stream monitoring with hydrology. The way we address not counting off-site is through monitoring, not counting but generally understanding changes there.
    - Ellie: The overall takeaway from this Discussion Topic 2 is that more people in an area means more management.
- Table Discussions
    - For notes on each table discussion – See Appendix A
    - Takeaways
        - Group 1: High rock showed us that there needed to be the stage 3 goals to break the goals into smaller chunks. Having the data is important for research and interpretation, at high rock this was easily accessible. We don't have this now for Jordan.
            - Summarized: Staged loading goals are important. These models are great, but we need to see more data. DEQ is working on data management.
        - Group 2: Discussions mainly surrounded rule reduction. Concerns with new development is primarily going into forest lands. How do we look at nutrient loading in forest and ND? How to manage P on land. Buydown opportunities for new development. Concerns on how to replace NWEW.

<u>Key Themes and Points Summarized</u>

- Loading Reduction Table for the Haw and the Upper and Lower arm of the New Hope continue to be beneficial to understanding nutrient reduction capacity and strategy. Some edits have been made including changing the dependent variable of percent chlorophyl-a reduction to percent exceedance as well as combining the Upper and Lower Arms of the New Hope.

Discussion Topic 3 – JLOW Introduction

Patty Berry- CPRC (formerly triangle J)

Key Takeaways

- Background

- Founded in 2017 with the goal of working together under the one water concept.
- Goals include three tenants: Environmental, Society, and Economic
  - Main objective is supporting effective management of nutrients
- Members: many participants from the Jordan lake area including towns and counties, water and sewer plants, engineers, state departments, and businesses
- Elected board of directors recently
- Rules work committee
  - Goal: communicates with DWR to provide recommendations and concepts
  - Upcoming: some new rules released in early September
- Next steps
  - Strategic plan to answer questions similar to Jannet's. Essentially, how will JLOW become a compliance association? We are working with DWR to possibly become a compliance specialist, so if communities are part of JLOW they will be in compliance with Jordan Lake rules.
- How to chat with me?
  - Going to Ale house after this meeting and available through email

Key Themes and Points Summarized

- JLOW continues to work efficiently to support the Jordan Lake region under the anticipated and developing rules as effectively as possible.

Discussion Topic 4 - Local Government Project Highlights

Ellie (DWR), David Phlegar (stormwater management in Greensboro), Alaja Williams (SMP)

- Cary
  - 636 monitoring devises in Jordan Lake
- Durham
  - Stream enhancement and stormwater projects
- Guilford Co
  - SWCD cost share programs
  - Successful exclusion of cattle near streams
- Greensboro
  - Stream corridor reforestation project
    - Planted many acres of trees to establish a nutrient buffer
    - 32 different parks with invasive species programs to manage them
  - Stormwater program and subsectors
    - 12+ stream restoration programs with collaboration with DWRP and many other programs. Rolled these into the invasive species programs
    - Wetland
      - Includes an inflatable dam which traps the first flush of nutrient rich stormwater and slowly releases it with time.

        - Green infrastructure and low impact demonstration (LID) projects
            - Planted trees in boxes lining the road. Stormwater drains into the box and into a bioretention area.
            - Impervious parking lot with an impervious retention cell and tree boxes nearby so capture stormwater.
        - Rec centers retention: bioretention, roof runoff into cistern water to use for community gardens, impervious surfaces surrounding the rec centers
        - Impact: Operating under the expectation that these actions will be required, and doing these projects also allows us to convince developers this is possible, therefore that they can implement them too.
    - Regulatory programs Post construction SCM
        - Very successful programs, however it requires a large lift.
    - Stream buffers
        - Always implemented stream buffers and continue in this program. Hope to get credit for this work.
    - TZ Ozborn WWTP
        - Background
            - 2009 decision that this plant would be best to upgrade. The plant was built in 1938.
        - 5 stage biological nutrient removal system (BNR)
            - New technologies allow TN to below 5 mg/L and allow flexibility to operate in anerobic and aerobic to mitigate issues with storms.
            - Process in the plant: 5 stage removal including anerobic and aerobic bug, recycling the water to remove extra nitrogen, aeration, and filtration
        - Construction improvement
            - 3 package system. Construction 2015- 2017
            - $130M total
        - Current and past removal metrics
            - Current
                - Around 40% of EOP limits. Please see the slides for more specific metrics.
            - Past
                - 2016: N 162% of target, P 85% of target
                    - Over 50% of reductio since 2015
                - 2017: 114% of goal for N, 63% of P
                - 2023: 53% P and 43% N
        - Future improvements
            - Carbon feed system, membranes
            - $200M-$600M

<u>Key Themes and Points Summarized</u>

- Despite the Rules being on hold. Many communities have already implemented nutrient reduction programs in anticipation of requirements. Communities include Cary, Durham, Guilford and Greensboro.
- Greensboro speakers highlight successful projects in their community such as the plant upgrades. They also highlight key concerns for the future.

Discussion Topic 5 – Wake County One Water Initiatives
(Wake County)

- One water approach
    - Part of UNRBA
        - As part of this organization goal is to work across jurisdictions as they are in the lower end of the water basin and to also achieve good water for all
    - Walnut Creek urban water federal partnership
        - Supporting these projects
    - Wake One Water
        - Wake counties 50-year water plan aims to ensure water in the future
- Engagement and outreach initiatives
    a. interview county programs
        i. ex: public health, design and construction, parks and rec soil and water
    b. Hold a summit
    c. stakeholder meetings
    d. online public surveys
        i. which hit every zip code in wake!
- Survey demographics
    - Key question: how do we address and fix all the issues across race, geographic area etc?
- survey results: key concerns from residents include
    - equal access to safe drinking water
    - protecting ground water
    - reducing pollution and runoff
    - designing water systems that can withstand impact of severe weather
    - protecting natural landscapes
- UNBRA
    - Stream restoration project
        - Funding through UNRBA along with Wake soil and water
        - AIA allows wake to raise money with C-CAP program
    - Falls lake
        - Funding: ARPA, wake county, Wake soils and water
        - Status: Went in place before falls but will get credit
    - UNRBA joint compliance
        - septic education for falls lake areas

<u>Key Themes and Points Summarized</u>

- Wake County is using the one water approach to steer their work in Jordan Lake. They have collaborated with the UNRBA for compliance and funding.
- They have successfully implemented several programs for both nutrient reduction and community engagement. One successful community engagement strategy includes the community survey which reached all zip codes in Wake Co.

Appendix A.

Table Discussion Instructions- Load Reduction Goals

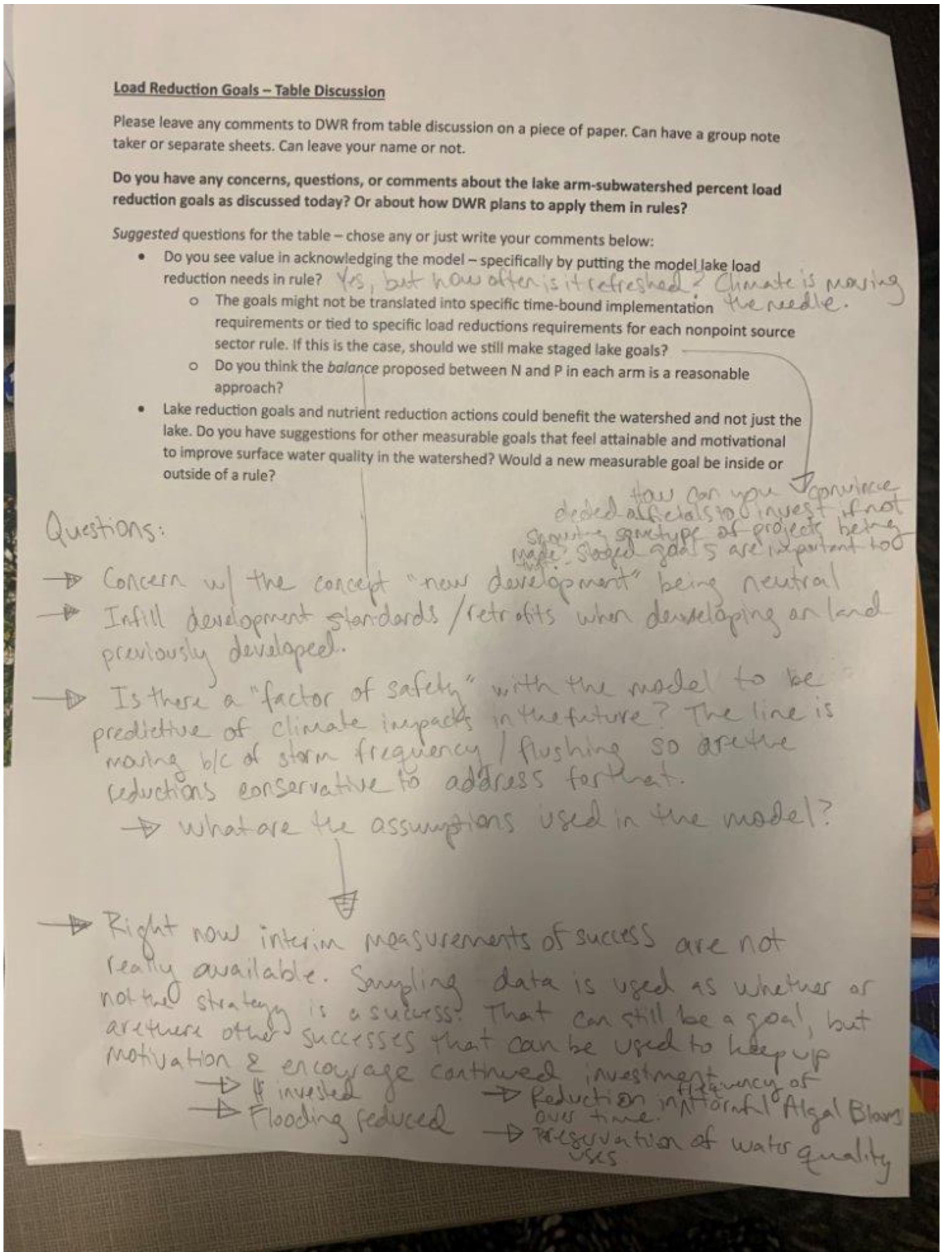
Please leave any comments to DWR from the group discussion here. Can have a group note taker or all write in the document. Can leave your name or not. 7-15 min before reconvene with the in-person group.

General Question: Do you have any concerns, questions, or comments about the lake arm-subwatershed percent load reduction goals as discussed today?

Suggested questions for the table – choose any or just write your comments below:

1. Do you see value in acknowledging the model – specifically by putting the model lake load reduction needs in rule?
    a. The goals might not be translated into specific time-bound implementation requirements or tied to specific load reductions requirements for each nonpoint source sector rule. If this is the case, should we still make staged lake goals?
    b. Do you think the balance proposed between N and P in each arm is a reasonable approach?
2. Lake reduction goals and nutrient reduction actions could benefit the watershed and not just the lake. Do you have suggestions for other measurable goals that feel attainable and motivational to improve surface water quality in the watershed? Would a new measurable goal be inside or outside of a rule?

In-person Groups:



Load Reduction Goals – Table Discussion

Please leave any comments to DWR from table discussion on a piece of paper. Can have a group note taker or separate sheets. Can leave your name or not.

Do you have any concerns, questions, or comments about the lake arm-subwatershed percent load reduction goals as discussed today? Or about how DWR plans to apply them in rules?

Suggested questions for the table – chose any or just write your comments below:

- Do you see value in acknowledging the model – specifically by putting the model lake load reduction needs in rule? Yes, but how often is it refreshed? Climate is moving the needle.
  - The goals might not be translated into specific time-bound implementation requirements or tied to specific load reductions requirements for each nonpoint source sector rule. If this is the case, should we still make staged lake goals? → How can you convince elected officials to invest if not showing some type of projects being made? Staged goals are important too
  - Do you think the *balance* proposed between N and P in each arm is a reasonable approach?
- Lake reduction goals and nutrient reduction actions could benefit the watershed and not just the lake. Do you have suggestions for other measurable goals that feel attainable and motivational to improve surface water quality in the watershed? Would a new measurable goal be inside or outside of a rule?

Questions:

→ Concern w/ the concept "new development" being neutral

→ Infill development standards / retrofits when developing on land previously developed.

→ Is there a "factor of safety" with the model to be predictive of climate impacts in the future? The line is moving b/c of storm frequency / flushing so are the reductions conservative to address for that.

→ What are the assumptions used in the model?

→ Right now interim measurements of success are not really available. Sampling data is used as whether or not the strategy is a success. That can still be a goal, but are there other successes that can be used to keep up motivation & encourage continued investment

→ If invested → Reduction in frequency of Harmful Algal Blooms over time.

→ Flooding reduced → Preservation of water quality uses

Load Reduction Goals – Table Discussion

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- With a 50% reduction how many current utilities are reaching that limit now?
- How are smaller utilities going to fund the CIP projects to meet an additional 50% reduction only years after recent reductions.
- At what point does the reduction vs cost to treat wastewater exceed the reduction of nutrients? Customers are bearing this expense.

Load Reduction Goals – Table Discussion

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$$$ upgrades - at same time as other upgrades (PFAS)

model from 2014 data not capturing recent upgrades from 2019

better monitoring efforts for other point sources
↳ POTWs have more stringent monitoring requirements than MS4s - how are we keeping an eye on nutrients loading from urban?

N & P reductions
↳ concern about ensuring that nutrient ratios don't end up triggering a harmful algal bloom due to higher P sensitivity
eg shifting system from N-limited to P-limited

Load Reduction Goals – Table Discussion

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Andy M (1)
- Customized goals for each sector –

Load Reduction Goals – Table Discussion

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Do you have any concerns, questions, or comments about the lake arm-subwatershed percent load reduction goals as discussed today? Or about how DWR plans to apply them in rules?

Suggested questions for the table – chose any or just write your comments below:

- Do you see value in acknowledging the model – specifically by putting the model lake load reduction needs in rule? NO
  - The goals might not be translated into specific time-bound implementation requirements or tied to specific load reductions requirements for each nonpoint source sector rule. If this is the case, should we still make staged lake goals? tracking – short easy w/ no EMC required
  - Do you think the *balance* proposed between N and P in each arm is a reasonable approach? only if technical data supports it for you
- Lake reduction goals and nutrient reduction actions could benefit the watershed and not just the lake. Do you have suggestions for other measurable goals that feel attainable and motivational to improve surface water quality in the watershed? Would a new measurable goal be inside or outside of a rule?

Stines Chewkin

time element for overall

tracking other benefits would be helpful outside rules such as what JLOW has suggested

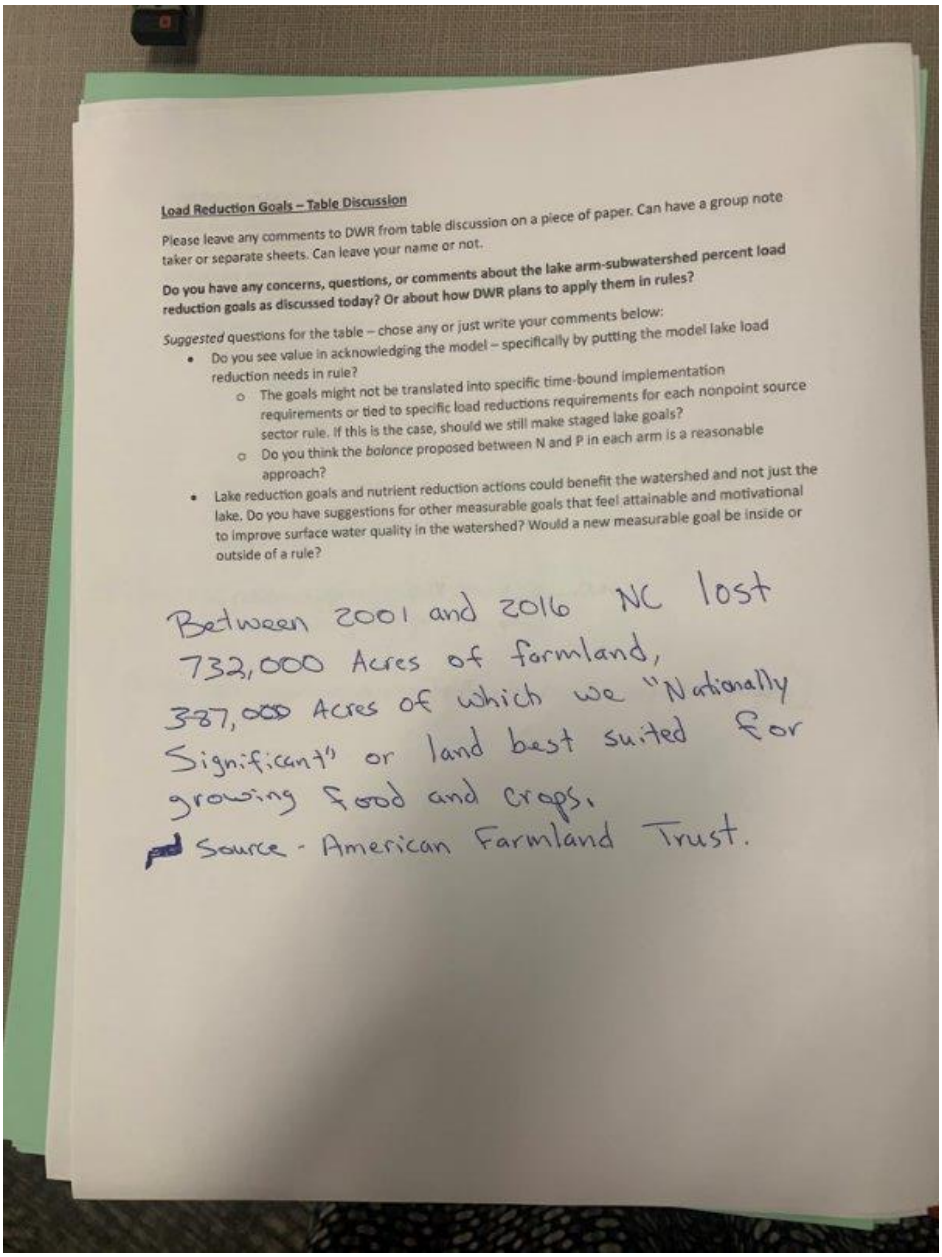
Buffers

goal related to fishable swimmable

judge on lake monitor

Simply

Give credit for early adopters and locations that have put new D and Ex D projects in place. Why would you not want to encourage early adoptors or people doing more than the minimum. If there is no benefit or encouragement to do this the I would have to recommend to my elected officals to only to the minimum and not anymore



Load Reduction Goals – Table Discussion

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Between 2001 and 2016 NC lost 732,000 Acres of farmland, 337,000 Acres of which we "Nationally Significant" or land best suited for growing food and crops.
Source - American Farmland Trust.

Nina
Mike
Jane
Joe

Load Reduction Goals – Table Discussion

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(1)
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  - Do you think the *balance* proposed between N and P in each arm is a reasonable approach? yes
- Lake reduction goals and nutrient reduction actions could benefit the watershed and not just the lake. Do you have suggestions for other measurable goals that feel attainable and motivational to improve surface water quality in the watershed? Would a new measurable goal be inside or outside of a rule?

(1) Jim - UML (collaborating) model 2014-2016 Baseline Data
Model as start point - yes - Decision

[UCFRA → data - publicly available] ≠ Best Practices for data transparency

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Please leave any comments to DWR from table discussion on a piece of paper. Can have a group note taker or separate sheets. Can leave your name or not.

Do you have any concerns, questions, or comments about the lake arm-subwatershed percent load reduction goals as discussed today? Or about how DWR plans to apply them in rules?

Suggested questions for the table – chose any or just write your comments below:

- Do you see value in acknowledging the model – specifically by putting the model lake load reduction needs in rule?
  - The goals might not be translated into specific time-bound implementation requirements or tied to specific load reductions requirements for each nonpoint source sector rule. If this is the case, should we still make staged lake goals?
  - Do you think the *balance* proposed between N and P in each arm is a reasonable approach?
- Lake reduction goals and nutrient reduction actions could benefit the watershed and not just the lake. Do you have suggestions for other measurable goals that feel attainable and motivational to improve surface water quality in the watershed? Would a new measurable goal be inside or outside of a rule?

- Like having different goals for different sectors.
- Hard to quantify, esp. ag, so question some of the numbers.

Online Group 1:

General Question

- Concerns about increasing goals - could get shot down like the previous rules did.
- Concerns about averaging the percentages for different arms if there is a load-based goal.
- Concerns about volume matching with regard to soils in Durham
- Give credit for previously installed practices for New D, Existing D.
- Establishment of achievable goals but without draft rules hard to understand what those are.
- Use mitigation banks as a strategy
- Conservation as a strategy
- Revenue-sheds for watershed problems - downstream communities help with costs for upstream communities
- Can you tie to flooding? Tie to overall "the lake is cleaner"

Question 1

- No comments

Question 2

- No comments

Online Group 2:

General Question

- Concerns- this watershed has new development taking place. There is a lot of new development that is coming out of forest land and into new development. How can you reduce enough N and P that would mimic the amounts coming from forestland. Forestland has almost no nutrient contribution.
    - Suggestion- look at the UpperNeuse model as a case study for nutrient management (both the Upper Neuse Clean Water Initiative & Upper Neuse River Basin Association investment recommendations)
- Concern - The literature on P - there is a lot of lag time on P working its way through the system. Even without any new P inputs into the system you will still have a tremendous amount of legacy P to have to deal with.
- Issue - Have been implementing in the town of Cary for many years and we are treating down to Cary's reduction goal without any buy-down in our community. We need buy-down options that we do not have now in the Jordan. Design the site and then use SNAP tool to do primary and secondary practices. At higher densities you have to install practices. How do we account for municipalities that already have a rule in place and how do you acknowledge the practices we have already done. What is Option 1 going to be in existing development.

- Do not know what other kind of model you would use for agriculture other than NLEW. if they are looking at % reductions NLEW already does that. If you have practice X or Y you get a % reduction credit. Concerns with replacement and if it would be as robust.

- Concerns with stream bank erosion from new development that has not been adequately treated on site because of nutrient trading. We need more research on stream protection design discharges and volumes for stormwater control measures / low impact development.

Question 1
- No comments

Question 2
- No comments

Online Group 3:

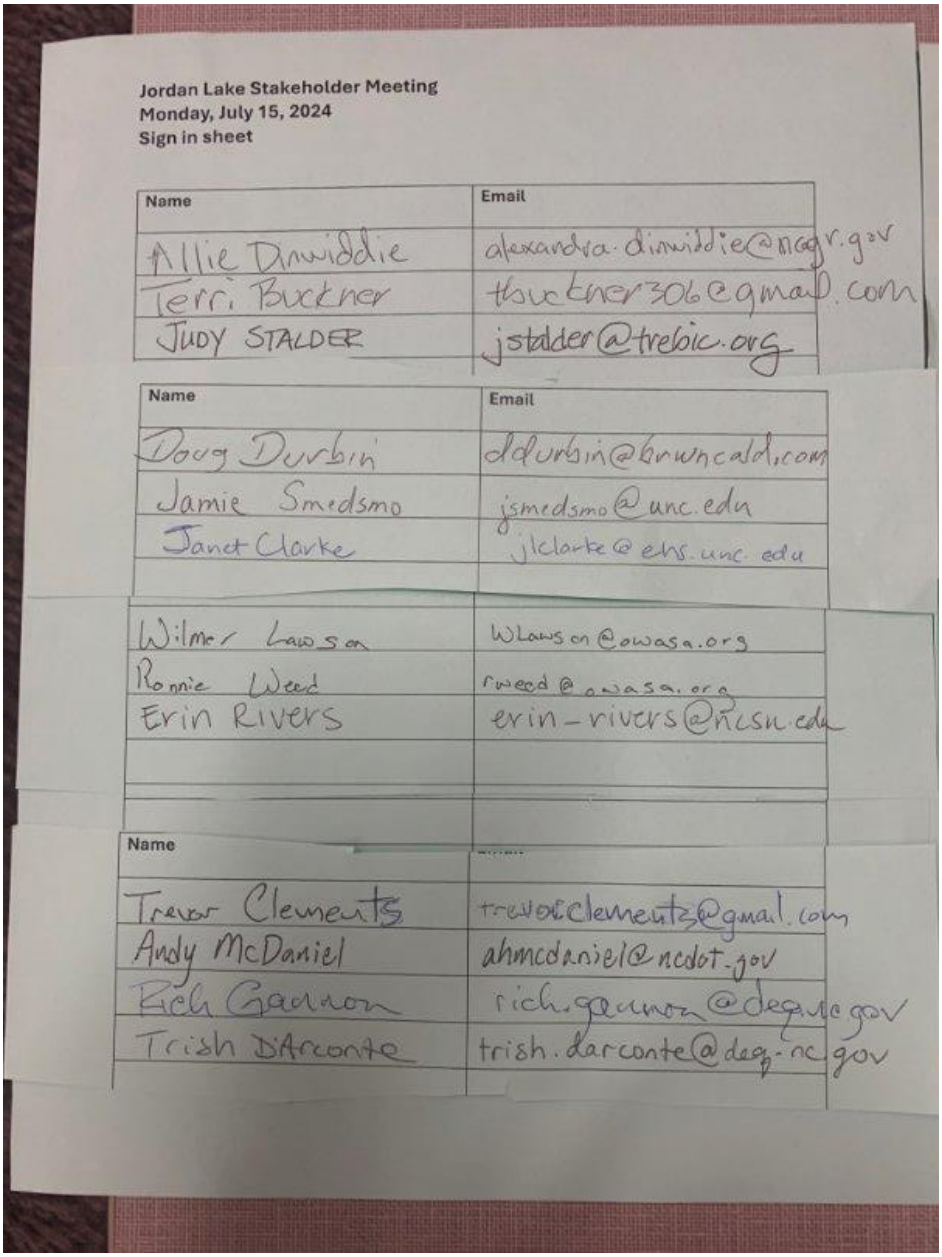
General Question
- Would have been helpful to have this document ahead of the group discussion.
- Falls Lake process - watershed model shows reductions aren't achievable. Take away any developed lands… really big numbers in Jordan, how are they achievable?
- More than one person concerned about achievable goals. Opportunities for doing retrofits on county and city properties is close to closing, if not already closed. HUGE burden on local governments. Would like to see more responsibility put on New development in local governments. Make the process equitable.
- How is climate change being accounted for in the model and in increasing nutrient loads from forested areas? Research is showing high intensity storms are pushing nutrients out of forests at potentially higher concentrations than grass land etc. Are nutrient goals achievable?
- Seems that having reduction goals by lake "arm" provides an opportunity to account for practices (constructed or new programs) that were implemented to reduce nutrients in the intervening years. Get credit for what has already been done. Admit this will be easier with fewer local governments in one "arm".
- The more we delay, the worse it's going to get.
- Falls Lake is a very different beast than Jordan. Financial investments for compliance does not mean nutrients will be reduced.
- What about existing low density developments and golf courses that currently have no SCM requirements? Grass-lined swales, lack of stream buffers. Mass spraying of fertilizers.
- Private sewer laterals are likely large contributors of nutrients in urban areas. LGs have to address with IDDE but it's time and resource consuming.
- Need greater riparian buffer protections for new development. Would help reduce nutrient loads and better mitigate impacts from development.

Question 1
- No comments

Question 2
- No comments

Appendix B

In-person Participants:



Jordan Lake Stakeholder Meeting
Monday, July 15, 2024
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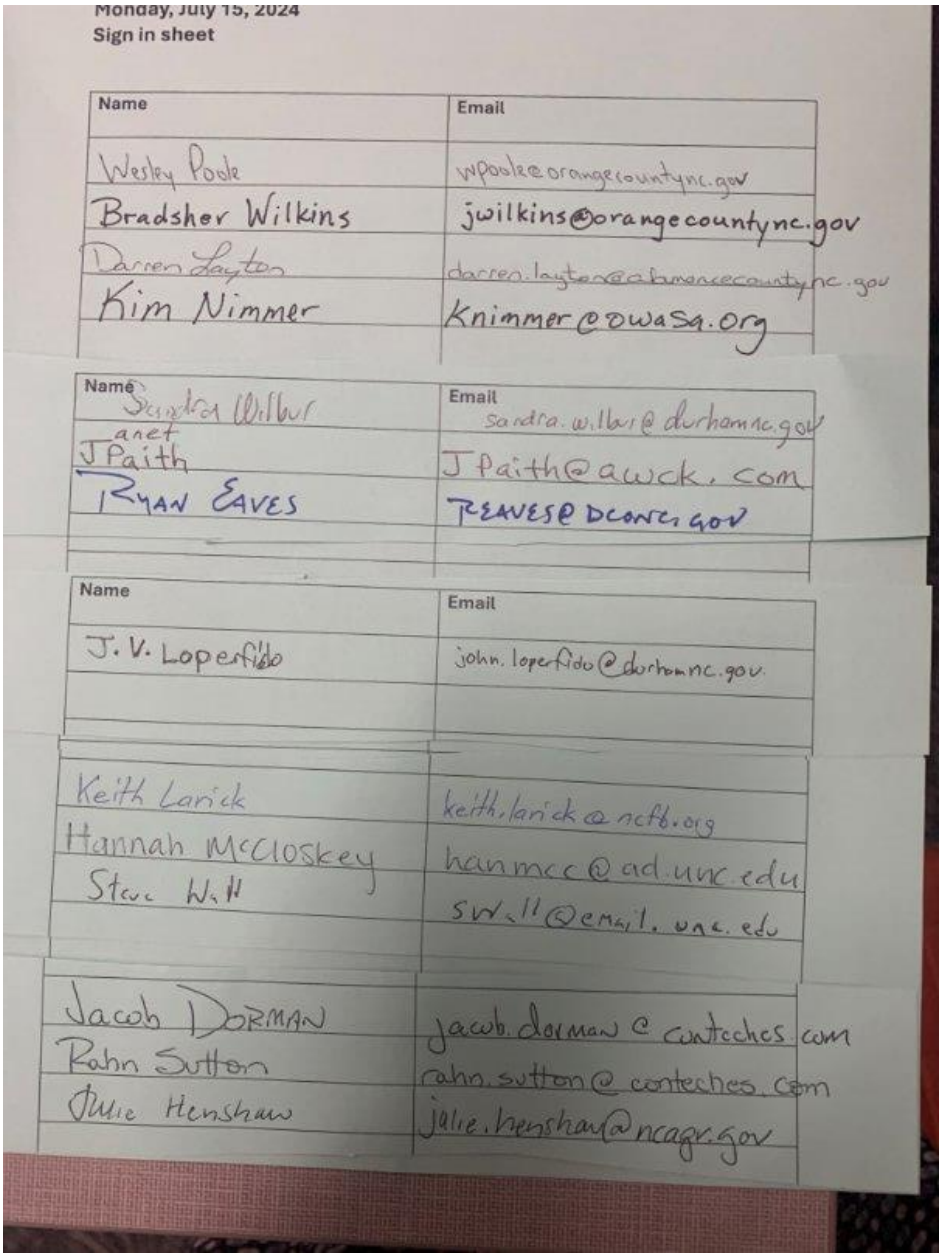

Monday, July 15, 2024
Sign in sheet

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to be uploaded