Loading Reduction Goals and Workshop

Ellie Rauh and Rich Gannon

NC DWR

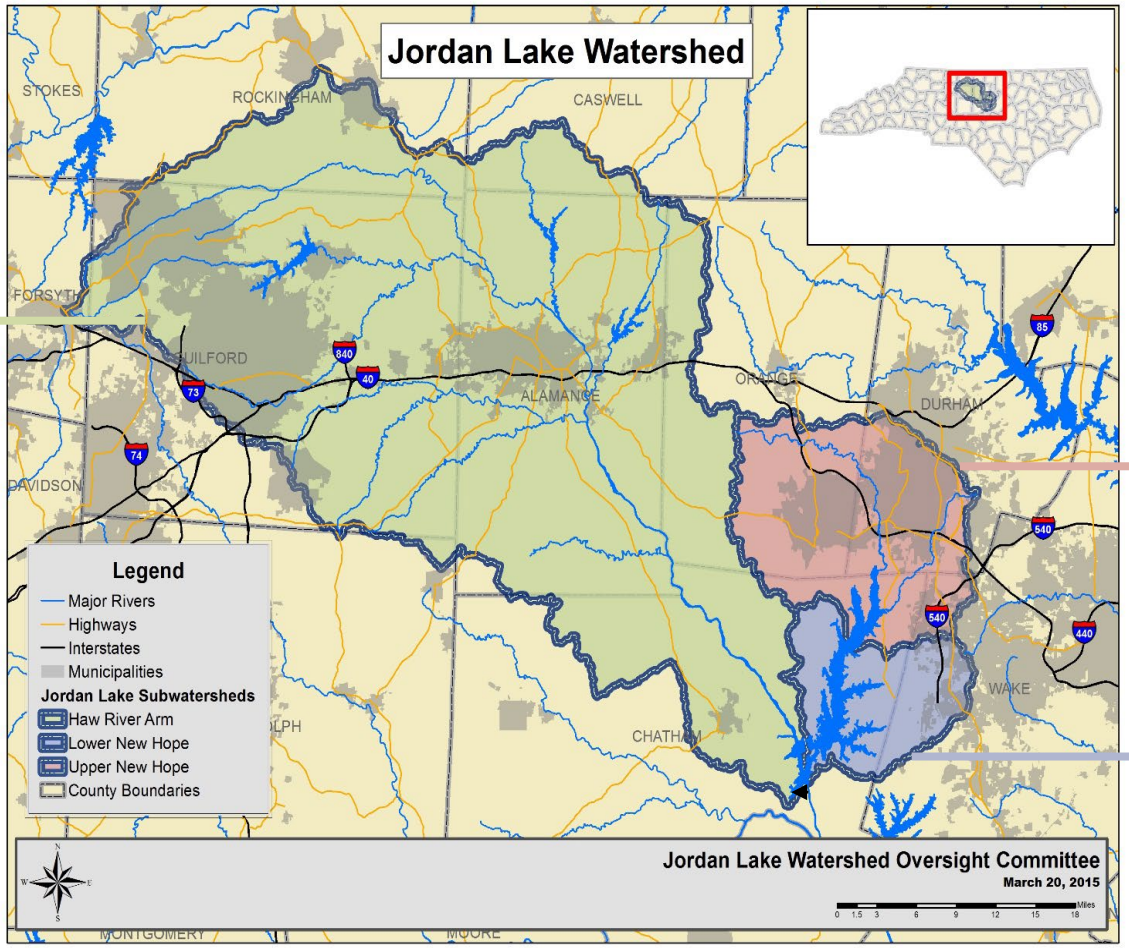
February 2024

Nutrient Rules - Impacts on Watershed

- Rules aiming to limit nutrients reaching Jordan Lake can have co-benefits for the Watershed.
  - **Reduce nutrient pollutant loading** and **flow related impacts** to the local streams, rivers, and groundwater.
  - Improve overall **aquatic habitats.**
  - **Social and Economic benefits** from investing in resilient infrastructure and/or public outreach.
    - “Green infrastructure” practices reconnect people to streams, other waters.

Current Load Reduction Goals

Haw Arm
8% N
5% P



Upper New Hope Arm
35% N
5% P

Lower New Hope Arm
0% N
0% P

Modeled Reductions to Meet Chl-a Standard

- Overall, **new model** is calling for significant additional nutrient loading reductions to meet chl-a standard, relative to the 2014-2016 baseline period.

Model - Reductions		
	N	P
Upper NH	**70%**	0%
Middle NH	**30-50%**	**10-60%**
Haw	**0-30%**	**40-70%**

Current Rule - Reductions		
	N	P
Upper NH	35%	5%
Lower NH	0%	0%
Haw	8%	5%

- Internal DWR review of model is underway, additional insights pending.

Connection of Goals to Current Rules Design

- 2003 Lake Model -> 2009 Rule percent N, P reduction goals
- % reduction goals translated to:
  - WWTP load allocations
  - Subwatershed goals for Agriculture collective compliance, tracked using NLEW
  - New Development project subwatershed loading rate targets (lb/ac/yr)
  - Local Governments' Existing Development Stage 2 load reduction goals

With this in mind, how do we want to set feasible reduction goals to meet our shared water quality interests and meet regulatory obligations to State and Federal Statues?

Workshop: Review ideas for nutrient reduction targets for Jordan.

Going to briefly present three ideas. Then provide instructions and ask everyone for feedback in the format of concerns, benefits and alternatives in small groups.

Idea	Concerns and Questions	Benefits to watershed health	Benefits to your sector	Alternatives

Idea 1: Combine New Hope Arms into One Goal Set - Current Condition -

- Currently: Haw, Upper and Lower New Hope Arms (and their watersheds) **each have different percent N and P reduction goals.**
- Reason: Technically sound, reflects lake physical, hydrologic segmentation.
- Issue: Adds **administrative complexity** to implementation, maybe outweighing benefits for small UNH, LNH sub-watersheds

Idea 1: Combine New Hope Arms into One Goal Set - Potential Approach -

- Idea: **Combine UNH, LNH Arms into one pair of percent N and P overall reduction goals**
- Advantages:
  - Single, larger area for locating buffer mitigation, **nutrient offset projects**
  - **Simplified implementation** admin for Wake, Chatham, Cary

Idea 2: Rule-Specific Load Reduction Goals - Current Condition -

- Currently: Agriculture, Wastewater, New Development Stormwater and Existing Development Stormwater – **Rules have the same percent N and P reduction goals** within each sub-watershed.
- Reason: Followed “fairness” logic of Neuse, Tar-Pamlico strategies
- Issue: Different source types have **differing abilities** to achieve given % reductions, at differing cost-effectiveness, and with differing available funding resources

Idea 2: Rule-Specific Load Reduction Goals - Potential Approach -

- Idea: **Different percent reduction goals for each rule domain**. Based on sector's practical potential to meet load reductions, practice cost-effectiveness, and funding options.
- Advantages:
  - Optimizes overall progress potential.
  - Avoids transactional bureaucracy supporting inefficient trading.
  - Allows trading for improved cost-effectiveness where most efficient.

Idea 3: Staged Implementation Requirements - Current Condition -

- Currently: Rule-specific, mostly single-stage compliance deadlines
  - WW: TP 1 yr; TN 7 yrs.
  - Agriculture: TN, TP both 9 yrs.
  - Existing Development Stormwater (per SL 2009-216):
    - All Arms - 8% TN, 5% TP by (*LG proposes date*);
    - UNH Arm – If 8% not met at 10 yrs., then 35% TN by (*LG proposes date*)
- Reason: Plausible goals, followed previous strategies' approach
- Issue: **Now large additional reductions needed**. Depending on sector:
  - Will require lengthy time horizons
  - Will challenge achievabililty

Idea 3: Staged Implementation Requirements - Potential Approach -

- Idea: Source-specific, staged reduction goals as needed
  - Base on projections of technical, practical achievability,
  - Opportunity to consider including contingency path,
  - Possibly leave determination of full attainment to subsequent rulemaking
- Advantages: Provides realistic, adaptive framework, time for practical achievement of progressively greater reductions

Break Out Groups

- Small groups
- Provided one of the three ideas to discuss
- Record in the document Concerns, Questions, Benefits and Alternatives
  - Any comments are appreciated. **There is an understanding that your responses reflect your current ideas and not the official stance of your organization.**

Break Out Groups

- Introduce yourself in the group
- Write directly into the online document – all participants can write
- 15 min of discussion
- Return to the large group for 5 min to share comments about what you found interesting
- Recap