

High Rock Lake Nutrient Rules Process

Ag TAG Summary Notes Meeting 2

January 25, 2023 / 10:00 AM-noon / Forsyth County Ag. Center

Meeting Goals

1. Share Updates since the first meeting
2. Identify steps for meeting the charge
3. Assign roles for drafting information for the Steering Committee

Participants

TAG Members: Brent Barnes, Jennifer Bedrosian, Allison Brown, Ryan Coats, Taylor Darnell, Adam Davidson, Bill Davis, Allie Dinwiddie, Julie Henshaw, Adam Hilton, Lee Holcomb, Joe Hudyncia, Keith Larick, Dwayne Livengood, Grace Messenger, Edgar Miller, Lance Parker, Frankie Singleton, Justin Summers, Dwayne Tate, Bailey Wood

DWR Representatives: Joey Hester, Rich Gannon

DSC Facilitation Team: Maggie Chotas, Will Dudenhausen and Monica Veno

Meeting Summary

Agenda Overview

- ❖ Welcome & Purpose / Introductions & Working Together
- ❖ Updates: Action Items from Meeting 1:
 1. Julie will collect ACSP implementation data since 1/1/2007 and inquire about NRCS data.
 2. Joe will work with NCDACS to analyze litter waste analysis records.
 3. Taylor will see if NCSU has any litter waste testing records, and check on fertilizer tonnage sale records.
 4. Keith and Joe will look into what information is available (if any) on overall raised chicken numbers.
- ❖ Accomplishing the TAG Charge
 - 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 other examples of more easily attainable and effective opportunities, as well as more long-term or challenging opportunities for your sector.

What's Next / Action Items

1. Joey will draft a response to the TAG charge due to the Steering Committee on February 15th. He will share this with the Ag. TAG for input. Respond via email or call to Joey.
2. NRCS Lee Holcomb and Lance Parker will gather data and general information and share with Joey to distribute to the rest of the TAG.
3. Joe Hudyncia will share NC Department of Agriculture and Consumer Services (NCDACS) litter and waste analysis records when they're delivered.
4. Taylor Darnell will upload NCSU data reports to the shared Citrix drive folder, which Joey will re-share.
5. Capture costs farmers are putting into precision agriculture, cover crops, no-till, and other fields to share with the Steering Committee.
6. A survey will be circulated where TAG committee members will be able to respond with their input regarding the second charge question. This will be included in the report to the Steering Committee and will mention that the decision making of the Ag. TAG is still in process.
7. This group will meet again at the same location on March 10, 2023.

Details on Discussion Topics

Updates on Last Meeting's Action Items

Agriculture Cost Share Program (ACSP)

Allie Dinwiddie shared data about the Agriculture Cost Share Program (ACSP) implementation since 1/1/2007. See the handout provided [here](#)¹.

Key Points

- Data was pulled from two digital state cost share database systems spanning the last 15 years (January 1, 2007-December 31, 2022) and plotted within the full High Rock Lake watershed.
- Minimal QA/QC was completed to clean data and resolve discrepancies.
- Data include BMP implementation work funded through:
 - An NC Section 319 grant;
 - Clean Water Management Trust Fund grants (now NC Land and Water Fund);

¹ <https://northcarolinadeptofenvandnat.sharefile.com/home/shared/fo5a2d10-80c1-4cea-bf99-e006f5410310>

- Agriculture Cost Share Program (ACSP) special directed funds – Conservation Reserve Enhancement Program and Impaired and Impacted Streams Initiative; and
- Regular ACSP funds.
- Special project funds received from state appropriations or other sources,
- Not all counties lie within the HRL watershed and can be attributed to land use within the watershed.
- Important to note ACSP has a low cap on reimbursements, \$50,000.

Key Questions

- Are data from National Resource Conservation Service (NRCS) included?
 - No. NRCS data aren't included.
 - More context about NRCS was offered:
 - NRCS is supposed to double cost sharing funding in next year, but with the same limited staff, putting real strain on delivery. One-time injection, \$50 million via IRA. Essentially doubling - \$25m -> \$50m - every year for the next 5 years. Also the Farm Bill is being worked out this year and could modify the funding. Lagoon closure funding is upcoming at state level, useful for wet systems.
- What changes have we seen in Tar/Pamlico region in the last 20 years?
 - There was a reduction in inorganic nitrogen via good funding programs and movement in the agriculture cost share world. However it was swamped by climate factors with an uptick in organic nitrogen factors starting in 2012, with an incremental shift back toward the baseline we'd like to stay below. We've also seen an increase in wet storm systems, which flushes the landscape of these organics. A combination of those things means early benefits have been washed away.
- Is Yadkin eligible for the Conservation Reserve Enhancement Program (CREP) program?
 - The eastern part of the county is - Davie and Surrey county are using it. There will be opportunities for growth. New hires, opportunity for new input and adaptation.

NCDACS and litter waste analysis records

Key Points

- Joe Hudyncia reported that he talked with lab and database folks about trends in nitrogen and phosphorus. The request has been made and we are awaiting the

results. Joe will share the data with Joey as soon as it's delivered, and it will be shared with the rest of the group.

- It's anticipated that we will have an increased volume and higher concentration of litter waste, but the data will tell.
 - One farmer who tested 9 individual flocks over the past 10-11 years, which yielded 20-22lbs of nitrogen, 50-55lbs of phosphorus of pullets that are only cleaned once per year.
- Dry Litter is difficult to find right now, so Purdue is changing policy from cleaning pullets once a year to once every 2-3 years, between every 4-6 flocks, which should be considered when analyzing concentration.
 - Purdue has also started wind-rowing to kill bacterial load through heat and composting, so that they may extend cleanout even further
 - Each integrator varies in their policies.
- Farmers are getting better than ever at spreading thin using GPS precision approach. Anybody with any volume at all has to use it. Virtually all of this is non-cost-share, in part because farmers started it on their own and once they did, it was ineligible for cost sharing.

Questions

What about the Phosphorus rates?

- Rare to use it as limiting nutrient. Have a 100-year old dairy with soils loaded up, High Phosphorus Loss Assessment Tool (PLAT) ratings require putting on only what plants remove, Very High – no Phosphorus. It is field by field.
- While fields may not have high Phosphorus indices, in testing the soil of a community garden, results of Soil Test Phosphorus (STP) can be in 200's and 300's; they don't know better. Also an example of a vineyard with super high STP.
- High Phosphorus fields tend to be near ones, especially for liquid waste dairies, but also for litter operations.

Are we seeing trends of more high-very high Phosphorus, high Copper, Zinc, or about same, or what?

- Don't really think we are seeing a trend in general.
- Yes, do expect to be able to diagnose trends with data when we get it.

NCSU litter waste testing records and fertilizer tonnage sale records

Key Points

- Taylor Darnell reported NCSU does maintain some records, which will be uploaded in our shared drive.

- Waste analysis data correlates to much of the data we've already looked at. Specifically, we are interested in the median averages.
- In the agricultural field when crops are planted, we are having to put more micronutrients into the soil than ever before. As we look at PH of macronutrients available, we are within the finite range that plants like, but our micronutrient needs are rising.
- We see crops are better assembling their own nutrients and assimilating over time. Even though there are plants (such as double-cropping soybeans) where it's necessary to put nitrogen on the top inch or so of the soil, it is well-balanced by rotations that don't require extra nitrogen. Overall, phosphorus is put into the soil very little.
- Heavy influxes of rains (like we are seeing now) highly affect nutrients because they push them out of the land, which then has to be re-fertilized in the spring.
- We are not getting a good picture of what mitigating things our farmers are doing because it's soil-based issues brought with topographical land changes outside our control.

Key Questions

- How do we get more precise than putting nutrients directly on the seed?
 - Up in the mountains, things are different, but on the whole farmers are doing a much better job.
 - There's a different mindset now; we don't sling nutrients.
- Smaller operators cannot afford to do precision farming – more money is needed for precision farming with this group.
 - NC State is hiring another research professor to teach in precision farming within the next 2-3 months.
- How do we capture precision agriculture that farmers are doing on their own, not through the cost shape program?
 - Implementation that is not being funded isn't known; need to capture that somehow, anecdotally at least, and put it in this report.
- We need to talk more about what else we can do. Can we get more cows out of the creek? More conservation plans, nutrient management plans?

Available information on overall raised chicken numbers

Key Points

- Joey shared the [poultry trend data and spreadsheets](#)² that Keith Larick and Joe Hudyncia ran. The data is for the counties within the watershed (not just the watershed data).

² <https://northcarolinadeptofenvandnat.sharefile.com/home/shared/fo5ebab4-2154-45c8-9118-eb9ea34161c9>

- It includes:
 - Broiler production - has a slight uptick as compared to right before the recession of 2008.
 - Total Layers & Pullets Produced - has a general slight upward trend
 - Purdue has approximately 55 hen farms, 23 pullet farms with some increase in sizes of houses which aligns with this data.

Key Questions

- Is there a total number?
 - You can't add the numbers together (broilers produced should be divided by 5 for the approximate number on farms), the number on pullet numbers is the actual amount on farms at any given time. Total layers and pullets for the 12-county region is approximately 8 million.