

NC NUTRIENT SCIENTIFIC ADVISORY BOARD MEETING SUMMARY

DECEMBER 4, 2020

9:30 AM – 12:00 PM

REMOTE WEB MEETING

ATTENDEES

Members / Advisors

Charles Brown – Cary
Michael Burchell – NCSU
Morgan DeWit – Chatham County
Sally Hoyt – UNC
Alisha Goldstein – Chapel Hill
Brian Jacobson - AECOM
Josh Johnson – AWCK
Eric Kulz - Cary
J.V. Loperfido – Durham
Grady McCallie – NC Conservation Network
Ryan Mullins for Andy McDaniel - DOT
Deanna Osmond - NCSU
David Phlegar – Greensboro
Haywood Phthisic – LNBA
Allison Schwarz Weakley - Chapel Hill
Peter Raabe – American Rivers
Forrest Westall – UNRBA
Sandra Wilbur – Durham

DEMLR Staff

Corey Anen

Guests

Hannah Barg – TJCOG
Anne Coan – NC Farm Bureau Federation
Nancy Daly – Wake County
Jacob Dorman – Stormwater Solutions
Sue Ellen Johnson
Alix Matos – Brown and Caldwell
Dan McLawhorn – Raleigh
Ryan Mullins - WRRI
Betsy Pearce
Sushama Pradhan – NC DHHS
Shawn Springer – Wake County
Rahn Sutton - Contact Engineer Solutions

DWR Staff www.deq.nc.gov/nps

Patrick Beggs / facilitator
Trish D'Arconte
Rich Gannon
John Huisman
Kelsey Rowland

AGENDA TOPICS

1. Introductions
2. Approve October 2, 2020 meeting summary
3. Draft Nutrient Credit Catalog update
4. SNAP chat - tool ideas/potential changes discussion
5. Nutrient Practices List discussion
6. SCM workgroup update
7. JLOW update
8. NSAB Updates

Meeting Materials and the NSAB Charter are available online: www.deq.nc.gov/nps

MEETING SUMMARY

Patrick Beggs (DWR) opened the meeting with introductions and a review of the agenda.

The October 2, 2020 meeting summary was approved.

Draft Credit Catalog of Nutrient Practices update

Presenter: John Huisman, NC Division of Water Resources Nonpoint Source Planning Unit

Overview

- Comprehensive listing of currently approved practices and references applicable sources of design standards and nutrient accounting
- Chapter 1 – Introduction: Types of Credit & Regulations Supported
- Chapter 2 – Nutrient Reduction Practices & Resources
- Chapter 3 – DWR Approved Practices for Existing Development
- Chapter 4 – Practice Implementation Guidance
- Appendices:
 - Template for Proposed Practices
 - Practice Approval Process
 - Crediting for Unique Practice Installations



Chapter 1.0 – Introduction

- What is a “Nutrient Credit”
 - DWR-recognized nutrient load reduction value assignment for a practice
 - Expressed as average annual TN or TP mass export reduction value
- Types of Nutrient Credit
 - Tradable credit aka “nutrient offset credit”
 - Must meet requirements on Nutrient Offset Rule (.0703)
 - Non-tradable credit credits used for directly meeting rule requirements
 - Have qualifying condition, feature, constraint making them unsuitable for trading

Chapter 1.0 – Introduction (Continued)

- Credits can be “Permanent” or “Term” (time limited)
 - Defined in 2B .0701
- Permanent Nutrient Offset Credit
 - Load reduction from permanently installed and maintained practice
 - High confidence in performance of comparable practices and situations
- Temporary Term (Time-Limited) Offset Credit
 - Load reduction based on time-limited design, management, or performance
 - Credit renewal possible via re-inspection or rehabilitation of practice

Chapter 2.0 – Nutrient Reduction Practices & Resources

- Table 1 of Catalog Lists All Currently Approved Nutrient-Reducing Practice
- Practices Organized by Group
 - Stormwater Control Measures (SCMs) & Proprietary SCMs
 - Other Development Activities
 - Developed Land Activities
 - Wastewater Activities
 - Rural Practices
- Included in Table:
 - References to applicable design specifications and credit methods
 - Identifies rules practice can be used to comply with
 - Suitability for trading under nutrient offset rule 2B .0703
 - Whether it can be used to generate permanent or term credit



Chapter 2.0 – Nutrient Reduction Practices & Resources

- Supporting Information for Practices
 - References to Stormwater Design Manual, SCM Credit Document & SNAP Tool
 - Points to Individual Practice Documents in Chapter 3
- Factors to Consider When Selecting Practices
 - Cost-effectiveness: dollars invested per pounds of nutrient reduced
 - Physical: drainage area, space constraints, slope, utility conflicts
 - Logistical: scale economy & maintainability.
 - Temporal: future changes to drainage area
 - Social: landowner willingness, public acceptance
 - Regulatory: permitting hurdles



Chapter 3.0 – DWR-Approved Practices for Existing Development

- Practices Developed & Approved for Compliance with ED Rules
- Includes Brief Summary of Each and Links to Practice Credit Documents
 - Cattel Exclusion
 - Remediating Illicit Discharges to Surface Waters or Stormwater Systems
 - Remediating Discharging Sand Filters
 - Riparian Reforestation on Agriculture Land
 - Storm Drain Cleaning
 - Street Sweeping
 - Soil Improvements



Chapter 4.0 – Practice Implementation Guidance

- Any practice installed subsequent to baseline is potentially creditable
- Practices are not eligible for existing development credit if they are
 - Implemented to comply with another rule of the same strategy
 - Done for compensatory mitigation purposes
- Credit Stability & Revision of Credit Values
 - Practices that are maintained retain presumptive credit for life of practice
 - If term practice is renewed credit assignment based on current requirements

Chapter 4.0 – Practice Implementation Guidance (Continued)

- Crediting older Installations
 - Credit for projects installed under older design standards that have changed
- Nested Credit
 - When new practice nested in catchment of existing project the existing project retains credit value
- Delivery Factors & Transport Factors
 - Fraction of load attenuated instream between source and waterbody
 - Watershed-specific

Chapter 4.0 – Practice Implementation Guidance (Continued)

- Credit Tracking & Reporting
 - Crediting requires regular reporting on upkeep and condition of practice
 - Details depend on rule under which credits generated
 - Reporting for tradable credits per banking instrument required by .0703
- Use of Federal or State Grant Funds
 - Use of grant funds controlled first by the granting entity
 - Rules may also limit use
 - Only rule-based limitation currently is in .0703

Appendices

- Appendix I – Proposed Practice Template
 - Outline of information to include when proposing practice
- Appendix II – Practice Approval Process
 - Process for vetting potential types of nutrient reduction practices
- Appendix III – Nutrient Credit for Unique Practice Installations
 - Process for innovative practices lacking sufficient research for presumptive credit
 - Retroactively credit based on monitoring
- Appendix IV– Rule Text



Next Steps

- Request comments on draft by December 30th
- Once finalized will be signed off by the Director in January
- Catalog will be posted to DWR website
- To be updated as new creditable practices added

Questions and Discussion:

The Draft Credit Catalog of Nutrient Practices is a companion document which the DWR director needs to sign off on and then it will be posted. It is meant to be a living document that changes over the years.

Please submit comments for the Draft Credit Catalog of Nutrient Practices to John Huisman by December 30th.

- Separately, please submit comments for the Draft Falls Existing Development Model Program to John Huisman by December 8th.

The Catalog only contains 4 NLEW practices - are these the only ones/ do they need to be updated?

- John will follow up with Joey Hester to make sure we aren't missing anything.
- Deanna Osmond confirmed these are up to date; ag practices could be added if needed. Reduction credit is given for corn that is grown on conservation tillage in the Piedmont (in the fertilizer calculation). That information may be more than you need.

Two projects, including malfunctioning septic systems are not on the list. If we finish these before the credit document, can we apply under Appendix III?

- John Huisman: you could come forward at any time to go through the approval process for a unique practice (Appendix III). Our bringing it to the director in January does not change your timeline. There is no drop dead date for future practices that can be added. Septic projects are "in progress" because of ongoing research. This practice was difficult because of implementation of a programmatic or one-by-one credit. This is why it has a longer road.

Discrepancies between the catalog list and the Excel sheet of list of all possible nutrient credits for example for some items, the status and the name differ.

- These will be matched up before finalizing the Credit Catalog. The Excel sheet is the large list of all possible practices that we draw from.

The latest draft of the Nutrient Trading Framework is from 2018. Some final changes need to be addressed before a new draft comes out. A final version will not be available before the Catalog gets submitted.

SNAP – Stormwater Nitrogen and Phosphorous Tool Discussion

Presenter: Trish D'Arconte, NC Division of Water Resources Nonpoint Source Planning Unit

- Trish is working on implementing the feedback received from the NSAB and others
- Moving from reporting 100ths of pounds to 10ths of pounds
- Need more input on the side-worksheet for offsite run-ons
- Working out bugs with program crashing on Microsoft

Questions and Discussion:

Sandy and Trish discussed obtaining specific examples when looking at significant volume reductions.

Might be helpful to have existing development requirements for reporting.

Sally: Interested to see sand filters added in.

Alix: It would be good to make sure that the exporting from SNAP still works with the importing into the UNRBA Credit Tool.

- Requesting that these generally not be changed. Center for Watershed Protection created it to read data from last 4 years of reporting.
- Currently this isn't possible, but may be able to develop a separate reporting sheet.

Forrest: We are working on a reporting format for IAIA that will be in the model program. We are trying to utilize things that are already available. One of them is the tool developed by the Center for Watershed Protection, but funding is needed. We will be the guinea pigs so we are trying to make it as efficient as possible.

- Trish- can set up a separate sheet for you. SNAP 4.2 might solve some of the particular issues you're experiencing.

Please e-mail Trish directly with any further comments, questions or feedback.

Nutrient Practices List Discussion

This is the comprehensive list with all of the practices identified over the past several years.

Questions and Discussion:

What is the differences between the Credit Catalog document and this list?

- This is the comprehensive list with all the practices identified over the past several years.
- Most can be credited the same; backyard raingarden and backyard wetland will change significantly. We just updated for CCAP training.

JV Loperfido: What is the status on the malfunctioning septic systems (MSS)? We are working on a pilot project right now.

- Rich Gannon explained some of the different cycles of conceptualizing approaches that did not pan out because of the complexities and need for there to be an uplift in performance.
- We will be addressing MSS early in 2021 and DWR is interested in sitting down and seeing what Durham is doing which can help inform the process.
- Patrick Beggs will be in touch with JV and others about the MSS timeline

Sally Hoyt: Interested in successful stream monitoring practices that already have been examined in the Chesapeake bay study. Communities and entities are holding off until they know what the credit will be. Encourages DWR moving forward on this

- Trish: There are many variables including reducing bank erosion, preventing erosion from gullies/ outfalls, hyporheic box restoration, flood plain reconnection, regenerative stormwater conveyance (perennial and ephemeral, which we think needs to be separated), regenerative stream repair/treatment, side channel infiltration zones
- Rich Gannon: We hear you and want to advance some. Others are problematic in one way or another.

Sushama: What kind of pilot project is going on because NCDHHS is also interested in these projects. We are in the process of collecting data from different types of septic systems.

- JV Loperfido: Durham is working with the county Environmental Health Department to identify failing septic systems and reaching out to homeowners, providing cost share to abandon failing systems, hooking residents up to city sewer. This is one of the options for the discharging sand filter credit.

Sandy Wilbur: - research on the regenerative stormwater conveyance would be really helpful, especially those that could also help TMDLs. We have a TMDL for sediment in Durham. For retrofitting: enhanced media (bioretention), stormwater planters, roadside ditch BMPs, and some of the residential practices will get more credit. We could prioritize if you credit some of the others.

- Trish- Virginia DOT had a whole set of highway ditch BMPs- we borrowed.

JV Loperfido: Reduced bank erosion would be of interest to advance crediting.

Generic stormwater planter design and enhanced media would be a useful credit to develop so we are not limited to one proprietary vendor.

Gravel Bed wetlands

- Mike Burchell: We don't yet have definitive data. They are used a lot in Europe. They can work well if sized properly but further data needed.
- David Phlegar: We built one in Greensboro. Data so far has been very promising. There is an ongoing NCSU study which helps a lot. It is at a wastewater utility site. There are also studies in Connecticut. Function similarly to a biocell but the media is a little different. They require a large footprint. Anxious to see more use and further research!
- Mike Burschell: covers a wide range of effluent concentrations.
- Can we change the status of gravel wetlands from "no plans" to "future plans"?
- Trish: Yes, we can modify the status.
- Corey Anen: Most of the research we used came out of NH. They have not been widely adopted in NJ but there is ongoing research involving parking lot drainage. NJ has approved it as a stormwater BMP.
- Sally Hoyt: We have considered their use where aesthetics, mosquitoes, or safety are concerns, basically settings where having the water visible all the time is not desirable.
- JV Loperfido: IOWA DNR allowed the use of gravel as a substrate for wastewater constructed wetlands.
- Peter Raabe- Is there an alternative ag process?
 - Trish- other than Deanna and Mike we don't have close ag contacts.
 - Anne Coan: Josh Spencer at NRCS might be able to contact or put us in contact with technical experts.
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SCM Work Group Update

Presenter: Trish D'Arconte, NC Division of Water Resources Nonpoint Source Planning Unit

- We are looking at how to better standardize nutrient data to approve new SCMs for purposes of adding them to the stormwater manual.
- Sarah has done lots of number crunching
- thought about a standardizing evaluation with data submission dates
- Putting updates into DMLR's NeST chapter and bringing that to the workgroup. We'll bring it to the NSAB as soon as possible.
- Stormfilter needs more data from East Coast.

JLOW Update - Jordan Lake One Water

Presenter: Patrick Beggs, NC Division of Water Resources Nonpoint Source Planning Unit

- TJCOG's new hire, Emily Barret (Water Resources and Resiliency) will be coordinating JLOW
- Workgroups are finalizing their ideas and will submit them to the JLOW Advisory Committee by January 2021.
- COG staff (TJCOG and PTRC) will integrate all the workgroup reports into a single plan document and present it to the JLOW Advisory Committee for review.
- The plan will be shared first with the Workgroups and then with larger JLOW stakeholder community for review.
- The advisory Committee is expecting to hold public meetings to explain the plan and receive feedback in Summer 2021.

NSAB Roundtable Updates / final comments:

Peter Raabe: May want to investigate the Raleigh Downtown South development in the Walnut Creek Watershed. It is an interesting space to watch and see how urban development is moving forward with equity and water. It is focused on implementing measures for water quality and flood plain management.

Forrest Westall: There is a lot of activity in the Upper Neuse. We are working to get the IAIA approved and hope to start implementation in June. All members will participate. Please consider presenting an update on the Nutrient Criteria Development Plan, and review the Falls Model Program with the NSAB at some point.

The next NSAB meetings are planned for March 5 and May 7, 2021.