

**NORTH CAROLINA SOIL AND WATER CONSERVATION COMMISSION**  
**RALEIGH, NORTH CAROLINA**  
**WORK SESSION AGENDA**  
*DRAFT*

**WORK SESSION**

New Hanover County Government Center  
 230 Government Center Drive  
 Rooms 138-139  
 Wilmington, NC 28403  
 May 16, 2023  
**6:00 p.m.**

[Click here to join the meeting](#)

**BUSINESS SESSION**

New Hanover County Government Center  
 230 Government Center Drive  
 Rooms 138-139  
 Wilmington, NC 28403  
 May 17, 2023  
**9:00 a.m.**

[Click here to join the meeting](#)

**I. CALL TO ORDER**

The State Government Ethics Act mandates that at the beginning of any meeting the Chair reminds all the members of their duty to avoid conflicts of interest and inquire as to whether any member knows of any conflict of interest or potential conflict with respect to matters to come before the Commission. If any member knows of a conflict of interest or potential conflict, please state so at this time.

**II. PRELIMINARY – Business Meeting**

Welcome – Cell phones set to silent or \$100 donation

Chairman John Langdon

**III. BUSINESS**

1. Approval of Agenda

Chairman John Langdon

2. Approval of Meeting Minutes

Chairman John Langdon

A. March 14, 2023, Work Session Meeting Minutes

B. March 15, 2023, Business Session Meeting Minutes

3. New Hanover Soil and Water Conservation District Overview

Ms. Sue Hayes

4. Division Report

Director Vernon Cox

5. Association Report

President George Teague

6. Executive Director's Report

Mr. Bryan Evans

7. NRCS Report

Mr. Tim Beard

8. Consent Agenda

**ATTACHMENT 1WS**

- A. Supervisor Appointments Mr. Eric Pare
- B. Supervisor Contracts Mr. John Beck
  
- 9. Watauga Supervisor Appointments Director Vernon Cox
  
- 10. StRAP Progress Update and Reallocation Mr. Matt Safford
  
- 11. Mecklenburg Farmland Preservation Activities Ms. Barbara Bleiweis
  
- 12. Agriculture Cost Share Program Considerations Mr. John Beck
  - A. Revisions to the Land Smoothing BMP
  - B. Revisions to the Cropland Conversion BMP
  
- 13. Request for Exception to Criteria for Extension of Previous Program Year Contracts Policy Ms. Julie Henshaw
  
- 14. Nutrient Sensitive Watershed Update Ms. Allie Dinwiddie
  
- 15. District Special Requests
  - A. Post Approval for Contract 27-2023-501 Currituck SWCD
  - B. Post Approval for Conservation Reserve Enhancement Program Contract 74-2023-300 Mr. Joshua Vetter

**IV. PUBLIC COMMENTS**

**V. ADJOURNMENT**

**DRAFT**

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**NORTH CAROLINA  
SOIL & WATER CONSERVATION COMMISSION  
WORK SESSION MEETING MINUTES  
May 16, 2023**

Department of Agriculture & Consumer Services  
Division of Soil & Water Conservation  
New Hanover County Government Center  
230 Government Center Drive  
Rooms 138-139  
Wilmington, NC 28403

Commission Members	Guests	Guests
John Langdon	Sam Edwards	Rick McSwain
Chris Hughes - online	Michael Shepherd	Sue Hayes
Billy Kilpatrick	Scott Melvin	Lorien Deaton
James Lamb	Kristina Fischer	Matt Collogan
George Teague	Bryan Evans	Frank C. Meares
Brian Parker	Tom Hill	<b>Guests - Online</b>
Derek Potter	Julie Henshaw	Anne Coan
<b>Commission Counsel</b>	Ken Parks	Sydney Mucha
Phillip Reynolds	Ralston James	Paula Day
<b>Guests</b>	Matt Safford	Heather Reichert
Vernon Cox	Eric Pare	Lisa Fine
David Williams	Allie Dinwiddie	Daphne Cartner
John Beck	Barbara Bleiweis	Denny Norris
Cayle Aldridge	Jennifer Hanifan	Rachel Smith
Helen Wiklund	Dru Harrison	Alex Brown

Chairman Langdon called the meeting to order at 6:47 p.m. Chairman Langdon inquired whether any Commission members need to declare any conflict of interest, or appearance of conflict of interest, that may exist for agenda items under consideration, as mandated by the State Ethics Act. Chairman Langdon stated the meeting guidelines. Commissioner Hughes stated he will recuse himself from Item 9.

1. **Approval of Agenda:** Chairman Langdon asked for comments on the agenda. None were declared.
2. **Approval of Meeting Minutes:** Chairman Langdon asked for comments on the minutes. None were declared.
  - 2A. March 14, 2023, Work Session Meeting Minutes
  - 2B. March 15, 2023, Business Session Meeting Minutes

3. **New Hanover Soil and Water Conservation District Overview:** Chairman Langdon recognized Ms. Sue Hayes to present. A copy of the report is included as an official part of the minutes. Ms. Hayes stated the report will be presented at the business meeting.
4. **Division Report:** Chairman Langdon recognized Director Vernon Cox to present. A copy of the report is included as an official part of the minutes. Director Cox stated the report will be presented at the business meeting.
5. **Association Report:** Chairman Langdon recognized President Teague to present. A copy of the report is included as an official part of the minutes. President Teague stated the report will be presented at the business meeting.
6. **Executive Director's Report:** Chairman Langdon recognized Mr. Bryan Evans to present. A copy of the report is included as an official part of the minutes. Mr. Evans stated the report will be presented at the business meeting.
7. **NRCS Report:** Chairman Langdon asked if Mr. Tim Beard will be in attendance to present at the meeting tomorrow. Director Cox stated Mr. Beard will be in attendance to present the report tomorrow. A copy of the report is included as an official part of the minutes.
8. **Consent Agenda:** Chairman Langdon recognized Mr. Eric Pare and Mr. John Beck to present. Copies of the reports are included as an official part of the minutes.

**8A. Supervisor Appointments:**

- Jonathan C. Wallin, Madison SWCD, filling the unexpired elected term of Logan Clark for 2020-2024 with an attached resignation letter from Mr. Clark
- James Richard Smith, Polk SWCD, filling the unexpired appointed term of David Slater for 2022-2026 with an attached resignation letter from Mr. Slater
- Aaron Siniard, Transylvania SWCD, filling the unexpired elected term of Joffrey Merrill for 2022-2026 with an attached resignation letter from Mr. Merrill
- Colby Glen Davenport, Washington SWCD, filling the expired appointed term of Steve Barnes for 2022-2026

**8B. Supervisor Contracts:** 5 contracts; totaling \$31,831

9. **Watauga Supervisor Appointments:** Chairman Langdon recognized Director Vernon Cox to present. A copy of the report is included as an official part of the minutes. Director Cox stated Watauga SWCD held a closed session board meeting to determine the nomination for appointment of a supervisor. It was determined the board was in violation of the Open Meetings Law. It was decided that each of the three individuals should fill out an application similar to the Nomination for Supervisor Appointment, and the Commission should determine who will be appointed. The nominees are Ms. Alexandra Brown, Ms. Diane Cornett Deal, and Ms. Jennifer Hanifan. Mr. Denny Norris, Watauga Chairman, stated the board realized after reading the Supervisor Training Manual, they could not nominate a board member during a closed session. Ms. Hanifan stated she and her husband live on the Watauga River with over 250 acres and have livestock, and she believes her application speaks for itself and looks

forward to serving Watauga County if selected. Ms. Alex Brown stated she and her husband live in eastern Watauga County on a cattle farm and raise cows and pigs and have a small market where they sell local produce and beef and is actively involved in the NC Farm Bureau. Ms. Brown thanked the Commission for the opportunity. Commissioner Parker stated he will recuse himself tomorrow since Ms. Brown was the County Liaison Officer for the Farm Bureau Board in Wilkes County. Counsel Reynolds stated irrespective of the applications and the Commission's authority, anytime a district nominates a supervisor for a vacancy, it is just a nomination. The Commission has the sole authority to appoint district supervisors, and if there is an issue, the Commission will ensure the process is correct and that the Commission has all the information to make a decision.

**10. StRAP Progress Update and Reallocation:** Chairman Langdon recognized Mr. Matt Safford to present. A copy of the report is included as an official part of the minutes. Mr. Safford stated the following:

- Program Status and Reimbursements
  - Division paid \$8.6M in reimbursements to grantees
    - \$8.2M (95.6%) for stream debris removal
    - \$240K (2.8%) for PL-566 projects
    - \$137K (1.6%) for administrative expenses
  - Payments made to 53 grantees
    - 12 completed PL-566 watershed structure projects
  - Sixteen grantees completed all planned work
    - Nine have closed contracts
- 50% Encumbrances of Funds
  - Grantees were supposed to have contracts encumbered and the deadline was extended to July with four additional grantees reaching the 50% deadline, 82 grantees have met the goal, and 27 grantees have not met the deadline
  - Total amount encumbered is \$28.6M
- Reallocation
  - \$1.367M in StRAP funds were approved for reallocation at the March Commission meeting
  - \$1M was reallocated from administration and \$287K from two cancelled contracts and \$89K from contracts under budget
  - Funds available for current StRAP grantees
  - Application period from April 10 – May 1
  - Division received 24 applications with total requested funds of \$11.9M
  - Eligibility criteria priority given to award funds to applicants
    - Applicant is a current StRAP grantee and closed out the project
    - Applicant has received less than \$500,000 per grantee cap for vegetative debris removal
    - Applicant expended at least 75% of StRAP funds for vegetative debris removal by April 30
    - Applicant received less than their full request for vegetative debris removal funds
- Division recommends awarding funds to 15 grantees who met all criteria and three grantees who met first three criteria. A total of \$1,376,716 would be awarded to the

applicants with a minimum award of \$63,500, except where the applicant requested a lower amount. The range is \$45,600 - \$123,079

- Division recommends maintaining the \$500,000 cap
- A list of applicants and their eligibility criteria was highlighted

Commissioner Potter stated that different entities are requesting money and applicants are being capped at \$500K even during the reallocation. The different estimated cost per linear foot should be reviewed and taken into consideration for future allocations.

Director Cox stated the House and the Senate each have an additional \$20M in their proposed budgets for StRAP.

11. **Mecklenburg Farmland Preservation Activities:** Chairman Langdon recognized Ms. Barbara Bleiweis to present. A copy of the report is included as an official part of the minutes. Ms. Bleiweis stated the report will be presented at the business meeting.
12. **Agriculture Cost Share Program Considerations:** Chairman Langdon recognized Mr. John Beck to present. A copy of the report is included as an official part of the minutes. Mr. Beck stated there are two policy revisions that have been reviewed and approved by the Technical Review Committee (TRC).

**12A. Revisions to the Land Smoothing BMP:** The need for this policy changed became apparent during recent Job Approval Authority training. The issues were that NRCS had two practices and the practices have been combined into one, which has caused a lot of confusion.

- Confusion over heavy and light land smoothing components on the current average cost list
- BMP name changed to Precision Land Forming and Smoothing and added practice definitions
  - Precision land forming is reshaping crop fields to planned grades to improve surface drainage and control erosion
  - Added a pre- and post-survey requirement that matches the Job Approval Authority (JAA) policy
  - Proposing an update to the components
    - Land smoothing – light = removed
    - Land smoothing – heavy renamed Precision Land Forming
      - This component will be used for precision land forming
    - The most appropriate grading component will be used for land smoothing
- These name changes will be submitted with the FY 2024 Average Cost List in July and will be included in the Detailed Implementation Plan (DIP). There will be no change to the dollar amount on the Average Cost List.
- The policy changes are highlighted in red and green

**12B. Revisions to the Cropland Conversion BMP:** This revision is specifically related to tree planting. The TRC asked about Cropland Conversion Policy #6 where there is a preference for loblolly pine as the most cost-effective solution to achieve a water quality benefit. A workgroup



was established about the tree policies and decided to research the CREP program and expanded reviewing all tree planting policies.

- The workgroup is comprised of foresters
- Defined the BMP Purpose for cropland conversion
- Cropland Conversion Policy #6
  - 6. The average cost will be based on the lowest cost tree species that is suitable for the site
  - 6a. To receive the higher rate a tree planting statement signed by the local representative from the NC Forest Service (NCFS) must be submitted. See addendum to NC-ACSP-2 Tree Planting Statement
  - Statement of Purpose states, *“accomplish the greatest improvement in water quality through the most cost-effective means.” “...the average cost for tree planting will be based upon the lowest cost tree species that is suitable for a site.” “...any site that is well suited for loblolly or any other non-longleaf pine should be cost shared at the loblolly pine cost share rate.”*
  - 6b. Statement of Certification states, *“CREP contracts do not require the Tree Planting Statement to receive the higher cost share rate for the planned species.”*
  - Water Quality Benefits were highlighted
  - General Policies for Commission Cost Share Programs
    - 3. BMPs shall be designed and installed according to Natural Resources Conservation Service or Soil and Water Conservation Commission standards and specifications at the *“minimum design necessary to solve the water quality problem. If the applicant chooses to exceed design criteria for purposes not associated with water quality, the applicant will be responsible for the additional cost.”*
  - Erosion/Nutrient Management Measures
    - 1. For vegetative practices and other practices which may include vegetation as an element. (d) *“Fescue is used as base vegetation for establishing average cost.”* Other vegetive types may be used if they meet site specification but *“must use base average cost developed for fescue.”* The only exception to this is for installations for critical area planting or stream bank plantings where native vegetation is permissible.
  - Loblolly pines meet the minimum design necessary to solve the water quality problem
  - Apply the same logic used with other vegetative practices and include only one average cost amount for tree planting with loblolly as the “base vegetation”
  - Tree establishment cost components still remain available for all cooperators
  - Cooperators will plant the tree type(s) list in the forest management plan and receive the “TREE-planting” average cost list amount regardless of the tree type planted
- Cropland Conversion Workgroup – Updates
  - Divided into sections for General, Grass/Wildlife, Tree policies
  - Added a Forest Management Plan (FMP) written by a NC registered forester as an option for JAA and is required to upload to CS2
  - Added an annual spot check requirement for the first five years

- Revised component allowance language
  - Site preparation and competition control allowances are confusing
    - Revised language to define site preparation and post-treatment
    - Itemized allowances for each tree type
- A map of the tree planting components from 2012-2023 was presented
- The policy changes were highlighted in red and green
  - Language was added under Grass/Wildlife Policies #7 and #8 and language was removed from Tree Planting Policies #6. Changes were made to the Tree Planting Policies in #11 for the components and removed #10.1 and #11.1 in Tree Planting Policies
- Proposed changes will be effective with the FY 2024 Detailed Implementation Plan
- Updated the annual spot check requirement from the first *five* years to the first *three* years

Chairman Langdon called a break at 8:17 p.m. The meeting resumed at 8:33 p.m.

**13. Request for Exception to Criteria for Extension of Previous Program Year Contracts Policy:**

Chairman Langdon recognized Ms. Julie Henshaw to present. A copy of the report is included as an official part of the minutes. Ms. Henshaw stated the cooperators have up to three years to install their conservation practices, and contracts expire on June 30 of each year. The Commission's policy requires that a district supervisor attend the first Commission meeting of the new fiscal year to request an extension for the projects that were not completed by June 30. The Division recommends the Commission consider a policy exception to the requirement so that a district supervisor does not need to attend the first Commission meeting of the new fiscal year for the following groups of contracts:

1. Any contract that is pended for Job Approval Authority (JAA) for those outside of district level of approval.
2. Any contract where engineering approval was provided less than 12 months prior to expiration.

There are 75 contracts from 75 districts that will expire on June 30 that have not been paid out. There are approximately 200+ contracts that do not meet the exception. There are 59 contracts that have not been paid out, 11 of those contracts are still pended for design, etc., that are not fully authorized to start work, and 48 contracts that have been approved for a year. For FY 2021 there are 212 contracts that have funds tied to them and 21 contracts are pended for design.

Division staff requests guidance on how to prepare the contract extension requests for the Commission's consideration.

1. Do you prefer to have these requests presented at the July 19, 2023, meeting, or a separately scheduled meeting?
2. Would district supervisors and staff be able to present these requests remotely or would they need to attend in person?

There was considerable discussion about whether a written explanation should be sent to the Commission to review ahead of time, have a district supervisor appear in person or online for the first-year exceptions. Ms. Henshaw stated that last year the Commission gave a blanket

extension to all first-time extensions, and the extension is traditionally for one year. Chairman Langdon suggested going back to the original Commission policy which states, if the extension request is older than one year, the district supervisor will write an explanation for the Commission to review. Commissioner Potter suggested a blended version for this year and next year tighten up the policy. The first-year extensions will be handled as they have been in the past, if the district supervisor has submitted a written explanation, they do not have to appear in person, but if the contract is in its second year or older, the district supervisor must appear in person.

**14. Nutrient Sensitive Watershed Update:** Chairman Langdon recognized Ms. Allie Dinwiddie to present. A copy of the report is included as an official part of the minutes. Ms. Dinwiddie stated the report will be presented at the business meeting.

**15. District Special Requests:** Chairman Langdon recognized Mr. John Beck to present. Copies of the reports are included as an official part of the minutes.

**15A. Post Approval for Contract 27-2023-501:** Mr. Beck stated the contract is for a CCAP contract that was not fully approved by the Division. There was a misunderstanding with the district staff and the funds were available and at the same time the cooperators had purchased the materials and got the planting in the ground. The practice was installed properly. Mr. Manly West will be in attendance to present the post approval tomorrow.

**15B. Post Approval for Conservation Reserve Enhancement Program Contract 74-2023-300:** Mr. Beck stated the cooperator worked through Pitt FSA. The cooperator started to plant trees after receiving approval for the CRP contract. Pitt staff and CREP staff were not aware that the practice had been installed. There was a lack of communication and in no way the fault of the cooperator or Pitt SWCD. The confusion was caused by a lack of communication between FSA and CREP staff with Pitt district staff.

Chairman Langdon asked Director Cox about a letter from Nash SWCD with regards to supervisor attendance. Director Cox stated Nash SWCD handled the issue correctly. The Commission's Rule states that individuals that fail to attend three consecutive board meetings must notify the Commission and let the Commission know what action was taken to address the issue. This issue does not need to be referred to the Inquiry Committee since the issue has been resolved.

**IV. Public Comments:** None were declared.

**V. Adjournment:** Meeting adjourned at 9:27 p.m.



David B. Williams, Director  
Division of Soil & Water Conservation, Raleigh, N.C.



Helen Wiklund, Recording Secretary

*These minutes were approved by the North Carolina Soil & Water Conservation Commission on July 19, 2023.*



**NORTH CAROLINA  
SOIL & WATER CONSERVATION COMMISSION  
BUSINESS SESSION MEETING MINUTES  
May 17, 2023**

Department of Agriculture & Consumer Services  
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New Hanover County Government Center  
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<b>Commission Members</b>	<b>Guests</b>	<b>Guests - Online</b>
John Langdon	Tim Beard	Alex Brown
Chris Hughes - online	Ralston James	Amanda Sand
Billy Kilpatrick	Tom Hill	Anne Coan
James Lamb	Allie Dinwiddie	Kevin Clark
George Teague	Matt Safford	Daphne Cartner
Brian Parker	Rick McSwain	Paula Day
Derek Potter	Rob Baldwin	Denny Norris
<b>Commission Counsel</b>	Sam Edwards	Diane Deal
Phillip Reynolds	Eric Pare	Don Rawls
<b>Guests</b>	Jennifer Roach	Michelle Kasey
Vernon Cox	Bryan Dadson	Levi Preston
David Williams	Lorien Deaton	Lisa Fine
Joshua Vetter	Sue Hayes	Martin McLawhorn
John Beck	Matt Collogan	Patrick Mitchell
Michael Shepherd	Manly West	Heather Reichert
Scott Melvin	Dylan Lloyd	Rachel Smith
Kristina Fischer	Evan Folds	Travis Smith
Bryan Evans	Dru Harrison	Maegan Trimnal
Julie Henshaw	Hannah Bell	Vivien Zhong
Ken Parks	Jennifer D. Hanifan	
Helen Wiklund	Jerry Hanifan	
Cayle Aldridge	Barbara Bleiweis	

Chairman Langdon called the meeting to order at 9:02 a.m. Chairman Langdon inquired whether any Commission members need to declare any conflict of interest, or appearance of conflict of interest, that may exist for agenda items under consideration, as mandated by the State Ethics Act. Commissioner Hughes stated he will recuse himself from Item 9. Commissioner Parker stated he will recuse himself from Item 9. Chairman Langdon stated a roll-call vote is necessary since Commissioner Hughes is attending online. Chairman Langdon stated the meeting guidelines and asked everyone to introduce themselves.

1. **Approval of Agenda:** Chairman Langdon asked for approval of the agenda. Commissioner Potter moved to approve the agenda and Commissioner Teague seconded. Motion carried.
2. **Approval of Meeting Minutes:** Chairman Langdon asked for approval of the minutes. Commissioner Parker moved to approve the agenda and Commissioner Potter seconded. Motion carried.

2A. March 14, 2023, Work Session Meeting Minutes

2B. March 15, 2023, Business Session Meeting Minutes

3. **New Hanover Soil and Water Conservation District Overview:** Chairman Langdon recognized Ms. Sue Hayes to present. A copy of the report is included as an official part of the minutes. Ms. Hayes stated the mission of the New Hanover Soil and Water Conservation District is to protect and enhance soil & water in New Hanover County. The district's four strategic focus areas are: soil & water, education, land conservation, and organizational development.

- Soil & Water
  - StRAP Program: Stream Debris Removal
    - Funds received: \$242,000
    - Funds encumbered: \$231,435
  - Urban Cost Share Programs
    - \$150,000 spent on Heal Our Waterways (HOW) that is 100% funded by the County.
    - Need additional funds for CCAP
  - Pages Creek Restoration Plan
    - Timeline: July 2022 – December 2023
    - Apply for EPA 319 funds in the Spring of 2024
- Education
  - Locally supported Outdoor Environmental Learning Centers (OELC) in nine schools with a goal of all 30 schools having an OELC of raised beds, pollinator gardens, and outdoor amphitheaters
  - Enviroscape to all 8<sup>th</sup> Graders in New Hanover County
  - Soil & Water Education Programs
  - Garbage to Gardens
- Land Conservation
  - Proposed Eagles Island Nature Park
  - Endorsed Island Creek Basin Ecosystem White Paper which is a science-based discussion regarding conservation of biodiversity and flood mitigation.
- New Hanover County Commissioners are in the process of developing a five-year strategic plan and asked NHSWCD for input on environmental stewardship
  - Six recommendations

- Ensure adequate wetlands and natural areas are maintained to control flood and stormwater
- Install BMPs to improve water quality in waterways
- To protect and maintain the tree canopy and protect flood prevention and ecosystems
- Collaborate with Brunswick County to conserve Eagles Island and create an Eagles Island Nature Park
- Ensure the preservation of the last natural areas in New Hanover County including Island Creek Watershed
- Asked the County Commissioners to establish a Chief Sustainability Officer reporting to the County Manager so all environmental stewardship plans are carried out

4. **Division Report:** Chairman Langdon recognized Director Vernon Cox to present. A copy of the report is included as an official part of the minutes. Director Cox presented Mr. Ralston James with a retirement bowl and thanked him for his 30+ years of service with the Division. Mr. James stated he has met the best and finest people working in Soil & Water and plans to follow in his father's footsteps, who was a 30-year supervisor on the Iredell SWCD board. Mr. James is hoping to serve as a supervisor on the same board and will continue to help Mr. Bryan Evans with the Association. Director Cox thanked the New Hanover Soil & Water Conservation District for hosting the meeting.

- Personnel Updates
- 2023 House Budget
  - StRAP 2023 - \$20M (non-recurring)
  - ACSP 2023 - \$4M BMP (non-recurring)
  - ACSP 2023 - \$660K TA (non-recurring)
- 2023 Senate Budget
  - StRAP 2023 - \$20M (non-recurring)
  - ACSP 2023 - \$3M BMP (non-recurring)
  - CCAP 2023 - \$500K (non-recurring)
  - CCAP 2024 - \$500K (non-recurring)
- Inquiry Committee Update
  - Letters sent to three supervisors who failed to obtain six hours of training last term but attended 2023 Supervisor training
  - 15 Supervisors need to attend Supervisor training and they have been notified to attend the training at the Agronomics Center
  - Received an attendance letter from Nash SWCD about a supervisor that did not attend three consecutive meetings; the board changed the district's meeting time; no additional action is required
- Fundamentals of Conservation Planning held at the University of Mount Olive
  - 34 district staff attended with 15 trainers, 9 district staff, 5 division staff, and 1 UMO professor
- July Meeting will be held at the State Fairgrounds in the Martin Building

5. **Association Report:** Chairman Langdon recognized President Teague to present. A copy of the report is included as an official part of the minutes. President Teague stated the following:

- Next Basic Training will be held on July 11 in the Agronomics Building in Raleigh
- Six representatives attended the NACD Fly In and met with staff from seven Congressional Offices
- 2023 Envirothon was held at Cedar Rock Park with 100 teams participating.
- State Farm Family Celebration was held in Macon County at H&H Farms

6. **Executive Director's Report:** Chairman Langdon recognized Mr. Bryan Evans to present. A copy of the report is included as an official part of the minutes. Mr. Evans stated the following:

- General Assembly is expected to provide additional program funding
- Following Senate Bill 27 to make Union County SWCD a partisan board
  - An amendment was introduced to make the proposal statewide but in the amendment each Soil & Water district could decide if they want to be partisan or not; a decision would be required by December 1. The Bill has been referred to the House Rules Committee. The position of the Association is that all districts should remain non-partisan.
- Basic Training for District Supervisors is scheduled for July 11 with eight currently registered to attend, plus a Saturday training is planned at the Annual Meeting in January

7. **NRCS Report:** Chairman Langdon recognized Mr. Tim Beard. A copy of the report is included as an official part of the minutes. Mr. Beard stated the following:

- Fiscal Year 2023 Program Updates
  - EQIP Classic – 58% obligated for \$16M
  - EQIP IRA - \$3M has been allocated
  - CSP Classic - \$15M has been allocated
  - CSP IRA - \$5M has been allocated
- Agricultural Land Easements (ALE) and Wetland Restoration Easements (WRE)
  - Received 22 applications for Agricultural Land Easements (ALE) totaling \$11M on a total of 3,829 acres with only \$1.5M allocated for North Carolina
  - ACEP-ALE is working to obligate parcels through RCPP; received 12 parcel applications for a total of \$5M
  - ACEP-WRE and IRA-WRE: Land values are being evaluated but the total acres are 1,122 with \$1.5M allocated
- Vacancies
  - Four employees hired to the Ecological Science Section (ECS)
  - Fifty-nine vacancies across the state. There is an incentive offered through the Pathways Program (Internship Program) which includes a \$3K bonus or more which will begin this summer and will increase the bonus to \$10K if the intern is hired
- General Updates

- \$70M allocated to the Organic Transition Initiative to assist producers with a new organic management standard, and the allocation will be based on the number of applications received
- Local Working Groups (LWG) meetings have been scheduled and the deadline to submit documentation is May 31, 2023

**8. Consent Agenda:** Chairman Langdon asked for a motion of the consent agenda. Commissioner Potter moved to approve the consent agenda and Commissioner Teague seconded. Motion carried.

**8A. Supervisor Appointments:**

- Jonathan C. Wallin, Madison SWCD, filling the unexpired elected term of Logan Clark for 2020-2024 with an attached resignation letter from Mr. Clark
- James Richard Smith, Polk SWCD, filling the unexpired appointed term of David Slater for 2022-2026 with an attached resignation letter from Mr. Slater
- Aaron Siniard, Transylvania SWCD, filling the unexpired elected term of Joffrey Merrill for 2022-2026 with an attached resignation letter
- Colby Glen Davenport, Washington SWCD, filling the expired appointed term of Steve Barnes for 2022-2026

**8B. Supervisor Contracts:** 5 contracts; totaling \$31,831

Copies of the reports are included as an official part of the minutes.

Chairman Langdon called a break at 9:58 a.m. The meeting resumed at 10:15 a.m.

Chairman Langdon asked Mr. Williams to introduce the online participants.

**9. Watauga Supervisor Appointments:** Chairman Langdon recognized Director Vernon Cox to present. A copy of the report is included as an official part of the minutes. Commissioner Hughes recused himself and Commissioner Parker recused himself. Director Cox stated this is an appointment for a vacant seat. In March, Mr. Cox received a complaint that the Board failed to follow proper procedure for making their nomination. Upon further investigation, it was determined that the Watauga Board made a mistake by going into a closed session and voting on the nomination for the vacant seat. This is a violation of the Open Meetings Law. The issue was discussed with Commission Counsel and the Commission Chair, and the decision was made that each applicant would submit their qualifications to the Commission for review and appointment by the Commission.

Chairman Langdon stated it is the position of the Commission to honor the district's decision who they appoint to the board provided it is done legally and ethically. Commission Counsel stated the Commission's authority is provided by statute and the Commission makes the decision provided the candidate meets the qualifications.

Chairman Langdon asked for a motion to select one of the three candidates. Commissioner Teague stated the importance of Supervisor Training and looking at the resumes of all three candidates, who are strong, it is hard to go against the board and moved to approve Jennifer



Hanifan and Commissioner Lamb seconded. Commissioner Potter thanked Mr. Norris for his input and accepting responsibility for the mistakes and the bottom line is even though this issue happened in Watauga SWCD, it could happen in any district and puts the Commission in a bad spot. The motion passed three to one with Commissioner Potter voting nay. Motion carried 3 to 1: Kilpatrick, Lamb, Teague – Yes; Potter – No. Motion carried.

**10. StRAP Progress Update and Reallocation:** Chairman Langdon recognized Mr. Matt Safford to present. A copy of the report is included as an official part of the minutes. Mr. Safford stated the following:

- Program Status and Reimbursements
  - \$8.6M have been paid in reimbursements to grantees which included stream debris removal, PL-566 structure repair, and administrative expenses
  - Payments made to 53 grantees in 40 counties
  - 16 grantees have completed all planned work
- Reallocation
  - In March, the Commission approved the reallocation of \$1.376M available for stream debris removal only and received 24 applications requesting a total of \$11,985,221
  - Application period: April 10 – May 1, 2023
  - Eligibility: Criteria for Prioritization of awards:
    1. A current StRAP grantee with a closed contract and work completed
    2. Have received less than the \$500,000 per grantee cap for vegetative debris removal funds
    3. Have expended at least 75% of StRAP funds allocated for vegetative debris removal by April 30, 2023 (based on requests for payment submitted on or before that date)
    4. For the initial StRAP allocation received less than full request for vegetative debris removal funds
  - Fifteen applicants met all eligibility criteria
  - Nine failed to meet one or more criteria
  - Division recommends awarding funds to 18 applicants which includes 15 grantees who met all the criteria and three grantees who met criteria 1-3
  - Total awarded amount is \$1,376,716 with the minimum award totaling \$63,500 and the range is \$45,600 - \$123,079
  - Division recommends maintaining \$500,000 cap

Chairman Langdon asked for a motion. Commissioner Hughes moved to approve the reallocation and Commissioner Potter seconded. Motion carried.

**11. Mecklenburg Farmland Preservation Activities:** Chairman Langdon recognized Ms. Barbara Bleiweis to present. A copy of the report is included as an official part of the minutes. Ms. Bleiweis stated the following:

- On March 21, 2023, the Mecklenburg Board of County Commissioners unanimously endorsed the Farmland Preservation Plan (FPP)
- There are four Farmland Preservation Plan (FPP) strategies, and these strategies align with the County priorities

- Strategy 1: Environmental Stewardship
- Strategy 2: Workforce Development
- Strategy 3: Economic Development
- Strategy 4: Innovative Partnerships
  - Strategy 1: Establish a Voluntary Agricultural District ordinance (VAD)
  - Strategy 2: Fund and conduct a study to evaluate the creation of a teaching farm program on public land
  - Strategy 3: Provide incentive program for non-Present Use Value bona fide farms (research best practices in the state to assist farms to qualify for PUV)
  - Strategy 4: Formalize County partnership with Working Farms Fund to preserve farmland, invest in agricultural production of that land and provide a pathway to land ownership for next generation farmers
  - Working Farms Fund is an innovative program that rebuilds the local food system and creates sustainable farm businesses for those underserved farmers
  - Address Food Deserts and Equity in Mecklenburg County by supporting the development of future land ownership for next generation black farmers and partnering with Johnson C. Smith University
  - Partner with Mecklenburg SWCD and the NC Foundation for Soil & Water Conservation
    - Funding through NACD and provide internships with NRCS
- Challenges and Opportunities Affecting Success Metrics
  - Land Preservation / Acquisition Strategy in Mecklenburg County where average farmland is valued at \$100K/acre
  - Present Use Value (PUV) is to identify and share best practices and provide a solution for alternative tax incentives
  - Multi-district / regional collaboration for Working Farms Fund (WFF) expansion
- Timeline and Next Steps for FY23 – FY24

**12. Agriculture Cost Share Program Considerations:** Chairman Langdon recognized Mr. John Beck to present. A copy of the report is included as an official part of the minutes. Mr. Beck stated the following:

**12A. Revisions to the Land Smoothing BMP:** This update is to improve the BMP clarity and changes to the policy. NRCS combined the Land Smoothing BMP (466) and Precision Land Forming BMP (462) into a single practice called Precision Land Forming and Smoothing (462). The standard references have also been updated. The update in the policy shows the BMP name changed and defines the differences between Precision Land Forming and Land Smoothing. It also added a pre- and post-survey requirement that matches JAA policy.

- Land Smoothing-light = removed
- Land Smoothing-heavy = renamed to Precision Land Forming
- The most appropriate *Grading* component will be used for land smoothing
- Policy changes will be effective for FY 2024

Chairman Langdon asked for a motion. Commissioner Potter moved to approve the proposed renaming of the Land Smoothing BMP as Precision Land Forming and Smoothing along with the policy revisions for FY 2024 and Commissioner Teague seconded. Motion carried.

**12B. Revisions to the Cropland Conversion BMP:** A workgroup was formed to review Cropland Conversion Policy Number 6 relating to program planting for different species. After some discussion by the workgroup, it was decided to expand the review to all tree planting policies. The following updates were presented:

- Added and divided the policy into sections for General, Grass/Wildlife, and Tree policies
- Added a Forest Management Plan (FMP) written by a NC registered forester as an option for Job Approval Authority (JAA)
- Added an annual spot check requirement for the first five years
- Revised the maintenance component allowance language
- Policy #6 states, *“For cropland conversion to trees, except for the conditions below, average costs for tree planting will be used. The average cost will be based on the lowest cost tree species that is suitable for the site, (e.g., if the site is suitable for establishing loblolly pines but the grower wishes to establish hardwoods, the cost share rate will be based on loblolly).”*
  - Two exceptions would be if the Forest Service signs off on whether the site is not suitable for loblolly or shortleaf or a higher cost share as written, but this does not apply to CREP
- Water Quality Benefits
  - For soil stabilization and canopy cover, fastest growing species will provide the best water quality benefit in the shortest amount of time and loblolly meets that criteria
  - Cropland conversion creates competition control difficulties with hardwood with low survival rates that can reduce the potential water quality benefit
- General Policies for Commission Cost Share Programs #3 states, *“BMPs shall be designed and installed according to Natural Resources Conservation Service or Soil and Water Conservation Commission standards and specifications at the minimum design necessary to solve the water quality problem. If the applicant chooses to exceed design criteria for purposes not associated with water quality, the applicant will be responsible for the additional cost.”*
- Erosion/Nutrient Management Measures Policy for any vegetative practice states for Item 1. (d), *“Fescue is used as a base vegetation for establishing average cost. Other vegetative types may be used if they meet the site specification but must use base average cost developed for fescue. The only exception to this is for installations for critical area planting for stream bank plantings where native vegetation is permissible.”*
- Loblolly pines meet the minimum design necessary to solve the water quality problem
- Use the same logic that is applied to other vegetative practices and include only one average cost amount for tree planting with loblolly as the “base vegetation”
- Tree establishment cost components will remain the same on the cost list
- Cooperators will plant the tree type(s) listed in the Forest Management Plan (FMP) and receive the “TREE-planting” average cost list amount regardless of tree type planted
- Where loblolly is not suitable for the site, cooperators would plant other species and receive the “TREE-planting” cost based on loblolly/shortleaf pine

Component	Unit Type	WESTERN Region Unit Cost	CENTRAL Region Unit Cost	EASTERN Region Unit Cost	Maximum Cost Share 75 Percent	Maximum Cost Share 90 Percent	Cost Type
Current							
TREE-plant, hardwood	Acre		\$247.00		\$ -	\$ -	Average
TREE-plant, loblolly and shortleaf pine	Acre		\$148.00		\$ -	\$ -	Average
TREE-plant, longleaf pine	Acre		\$187.00		\$ -	\$ -	Average
Proposed							
TREE-planting	Acre		\$148.00		\$ -	\$ -	Average

The workgroup recommends removing the TREE-plant, hardwood and longleaf pine components and adding the revised Tree-planting component to be submitted with the FY 2024 Average Cost List.

Chairman Langdon asked for a motion. Commissioner Potter moved to approve the proposed changes to the Cropland Conversion BMP policy to be effective with the FY 2024 DIP and Commissioner Parker seconded. Motion carried.

**13. Request for Exception to Criteria for Extension of Previous Program Year Contracts Policy:**

Chairman Langdon recognized Ms. Julie Henshaw to present. A copy of the report is included as an official part of the minutes. Ms. Henshaw stated the current policy requires that a supervisor must appear before the Commission to request a contract extension if the request for payment is not received the day before the July Commission meeting.

- Contracts that have already received one extension (FY 2020 and older contracts)
  - Districts must submit an extension request for each contract
  - District supervisor must attend the July 19<sup>th</sup> meeting in person and the Commission may ask questions about the contracts
- Contracts that have not been previously extended (FY 2021 contracts)
  - Districts must submit an extension request for each contract
  - District supervisor must attend the July meeting virtually and the Commission may ask questions about the contracts
- Additional Guidance
  - Any contracts pended for design will automatically be extended, but the districts must submit an extension request
  - Next fiscal year, all districts with approved contracts should prepare to follow the Commission's policy and plan to request contract extensions in person

Chairman Langdon asked for a motion. Commissioner Teague moved to approve the request for exception and Commissioner Potter seconded. Motion carried.

- Process Improvements Continue
  - Online Cancellation Form for district use – allowed large spring supplemental allocation
  - Online 6-month Extension Form and CS2 reporting function for 1/3 date for district use with Division follow-up

**14. Nutrient Sensitive Watershed Update:** Chairman Langdon recognized Ms. Allie Dinwiddie to present. A copy of the report is included as an official part of the minutes. Ms. Dinwiddie stated the following:

- Neuse River Basin went into effect in 1997 and re-adopted in April 2020 with a 30% nitrogen loss reduction target for cropland only
- Tar-Pamlico River Basin went into effect in 2001 and re-adopted in April 2020 with a 30% nitrogen loss reduction target for cropland only
- Falls Lake Watershed went into effect in 2011 and re-adoption process to start before December 2024
  - Stage I: 20% reduction in nitrogen loss from cropland and pastureland and 40% phosphorus loss reduction through 2020
  - Stage II: 40% reduction in nitrogen loss from cropland and pastureland and 77% phosphorus loss reduction through 2041
- Jordan Lake Watershed went into effect in 2009 and is currently undergoing a Rule re-adoption process.
- Reporting & Rule Compliance Process
  - Local Advisory Committees oversee 25 counties in the Neuse, Tar-Pamlico River Basins, and Falls Lake Watershed but there is no formal committee for the Jordan Lake Watershed
  - Basin or Watershed Oversight Committees are responsible for reviewing and approving the annual report to the Division of Water Resources and responsible for determining how nitrogen and phosphorus are reduced over time and maintaining how it is tracked
- Data Used in Annual Reporting
  - Three methods are used to collect the data
    - Farm Service Agency Annual Crop Reports or USDA NASS Annual Crop Data
    - USDA NASS livestock data and Agriculture Census Data
    - Select BMPs implemented using State and Federal cost share funding
- Do not report all crops that are grown in the county and do not report every BMP for reduction in nitrogen and phosphorus.
- Nutrient Reduction Best Management Practices (NRCS & ACSP): What is reported
  - Nitrogen is tracked and phosphorus uses several indices to estimate the risk of loss from agricultural lands
- Crop Year 2021 Highlights for Neuse River Basin from 10/1/2020 – 9/30/2021
  - Fifty percent nitrogen loss reduction from baseline (30% mandate)
  - All 17 LACs individually exceeded the 30% nitrogen reduction goal
  - Increase of two acres of 20' buffers, three acres of 50' buffers, and 93 acres of 100' buffers
  - Over \$620,000 ACSP dollars spent and over \$1.6M EQIP dollars spent in the basin
- Crop Year 2021 Highlights for Tar-Pamlico Basin from 10/1/2020 – 9/30/2021
  - Fifty-four percent nitrogen loss reduction from baseline (30% mandate)
  - Thirteen LACs individually exceeded the 30% nitrogen reduction goal
  - Six out of nine tracked parameters for phosphorus loss risk indicate reduced risk
  - Increase of 19 acres of 100' buffers

- Over \$354,000 ACSP dollars spent and over \$1.6M EQIP dollars spent in the basin
- Crop Year 2021 Highlights for Falls Lake Watershed from 10/1/2020 – 9/30/2021
  - Seventy-one percent nitrogen loss reduction for cropland from baseline (20% mandate)
  - All LACs individually exceeded 50% nitrogen reduction
  - All tracked parameters for phosphorus loss risk indicate reduced risk
  - Since 2006, there has been a 52% decrease on NLEW-accountable crops
  - Over \$63,000 ACSP dollars spent and over \$105,000 EQIP dollars spent in the watershed
- Crop Year 2021 Highlights for Jordan Lake Watershed from 10/1/2020 – 9/30/2021
  - NASS crop data was not available so an annual % nitrogen reduction estimate for cropland was not calculated
  - Majority of tracked parameters for phosphorus loss risk indicate reduced risk
  - Increase of almost 14 acres of 20' buffers and six acres of 30' buffers in the Haw sub-watershed
  - Substantial increase in unfertilized cover crop acreage in the Lower New Hope
  - Almost \$165,000 ACSP dollars spent and over \$276,000 EQIP dollars spent in the watershed
- Nutrient Strategy Activity – Status and Updates
  - Falls Lake: Rule revision / strategy re-adoption activities to begin before December 2024, Upper Neuse River Basin Association (UNRBA) finalizing strategy recommendations for Stage II in 2023, and NC Policy Collaboratory to release Final Report by December 2023
  - Jordan Lake: Rules were up for revision in 2022 but DWR staffing vacancy paused the re-adoption activities. The goal is to finalize strategy re-adoption by 2025
  - High Rock Lake Watershed
    - Model was finalized with 2006 being used as the baseline year
    - Site specific Chlorophyll-a standard approved by EPA in December 2022
      - New Standard: *Not greater than one exceedance of a growing season geometric mean of 35 ug/L in the photic zone within a three-year period*
      - Replaces: *“Not greater than 40 ug/L” statewide standard for Class C waters that previously applied*
    - Stakeholder process for strategy development has been initiated

**15. District Special Requests:** Chairman Langdon recognized Mr. John Beck and Mr. Joshua Vetter to present. Copies of the reports are included as an official part of the minutes.

**15A. Post Approval for Contract 27-2023-501:** Mr. Beck stated there is one post approval for a CCAP contract and in attendance is Mr. Manly West and Mr. Dylan Lloyd. Mr. West stated this is for a CCAP contract. There was some confusion about the approval process and the cooperators started planting the material. Mr. Lloyd stated the cooperators were anxious to start planting and when the allocation was approved, she quickly began to implement the project. The contract was approved in January, and she interpreted that to mean the plantings could go in the ground.

Chairman Langdon asked for a motion. Commissioner Potter moved to approve the post approval request and Commissioner Kilpatrick seconded. Motion carried.

Mr. West personally thanked Mr. Ralston James by saying that he was one of many people that he could go to for help and offered his congratulations upon his retirement. Mr. West stated that he looks forward to working with Ms. Bleiweis as Vice President of the Association. Mr. West also thanked the Commission for the StRAP reallocation.

**15B. Post Approval for Conservation Reserve Enhancement Program Contract 74-2023-300:**

Mr. Vetter stated this is for a post approval for a CREP contract in Pitt County. There was confusion with the CREP contracting process, the cooperators were approved through the CRP contract working with FSA and a connection was never made to the ACSP contract with the district. This is no fault of the cooperators or the district, and we have addressed this to improve the communication with the districts.

Chairman Langdon asked for a motion. Commissioner Potter moved to approve the post approval request and Commissioner Parker seconded. Motion carried.

**IV. Public Comments:** Chairman Langdon thanked Commissioner Hughes for his online participation and asked everyone to keep Chris and his family in your thoughts and prayers.

Mr. Williams stated the other candidates in Watauga County have congratulated Ms. Hanifan on her appointment. Mr. Williams stated Ms. Hanifan will have to take the Oath of Office and be sworn in before she can legally be part of the board, and she must submit paperwork to the Division.

Mr. Reynolds stated with regards to the Watauga issue, while there was a mix up in the nomination process, the Commission has encouraged districts to open their nominating process to drive more interest in the local boards. Mr. Reynolds commended Watauga SWCD for having an application process and finding qualified candidates. Mr. Reynolds also thanked Mr. James for his work and dedication, as well as all the work that Director Cox and his staff and the Commission has done. Mr. Reynolds congratulated Ms. Hanifan and complimented Ms. Bleiweis on her presentation.

Chairman Langdon stated he appreciates Mr. James' participation and contributions to the Division and districts and looks forward to seeing him in a supervisor seat.

Ms. Harrison stated it was a pleasure to host the Commission and let us know if you want to come back.

Director Cox announced his retirement from State Government and that this is expected to be his last Commission meeting. Director Cox stated that he is proud of what has been accomplished together over the last six years. He stated Commissioner Troxler is responsible for appointing his successor. Director Cox expressed his appreciation to the Commission for their leadership and guidance.

Chairman Langdon regretfully accepted Director Cox's resignation and stated that he will be missed.

V. **Adjournment:** Meeting adjourned at 12:15 p.m.

  
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David B. Williams, Director  
Division of Soil & Water Conservation, Raleigh, N.C.

  
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Helen Wiklund, Recording Secretary

***These minutes were approved by the North Carolina Soil & Water Conservation Commission on July 19, 2023.***





**NORTH CAROLINA  
SOIL & WATER CONSERVATION COMMISSION  
WORK SESSION MEETING MINUTES  
March 14, 2023**

Department of Agriculture & Consumer Services  
Division of Soil & Water Conservation  
NC State Fairgrounds @ Governor James G. Martin Building  
4381 Trinity Road  
Raleigh, NC 27607

<b>Commission Members</b>	<b>Guests</b>	<b>Guests - Online</b>
John Langdon	Ralston James	Daniel McClellan
Chris Hughes	Rick McSwain	Daphne Cartner
Billy Kilpatrick	Sydney Mucha	Dru Harrison
George Teague	Abel Ferry	Duane Vanhook
James Lamb	Rachel Smith	Elliot Swain
George Teague	Cayle Aldridge	Eric Pare
Brian Potter	Evan Crawley	Frankie Singleton
<b>Commission Counsel</b>	Tommy Houser	Fredrick Cox
Phillip Reynolds	Madison Bridges	Gail Hughes
<b>Guests</b>	Rob Baldwin	Heather Reichert
Vernon Cox	Daniel Brinn	Jamey Walker
David Williams	Greg Walker	Jessica Perrin
Julie Henshaw	Jason Walker	Jim Iannucci
John Beck	Keith Larick	Luke Baker
Bryan Evans	Vivien Zhong	Macon SWCD
Michael Shepherd	Matt Safford	Marla Ashworth
Joshua Vetter	<b>Guests - Online</b>	Mikey Woodie
Scott Melvin	Angie Quinn	Morgan Hayes
Helen Wiklund	Anne Coan	Robert Moore
Kristina Fischer	Amanda Sand	Stephen Francis
Brandy Myers	Paula Day	Susannah Goldston
Tom Hill	Brandon Lovelace	Wayne Floyd
Ken Parks	Charlie Sanders	Alan Aldridge
Lisa Fine	Cole Strickland	Columbus SWCD

Chairman Langdon called the meeting to order at 6:03 p.m. Chairman Langdon inquired whether any Commission members need to declare any conflict of interest, or appearance of conflict of interest, that may exist for agenda items under consideration, as mandated by the State Ethics Act. Chairman Langdon will recuse himself from Item 11. Commissioner Hughes will recuse himself from Items 8A and 11. Commissioner Teague will recuse himself from Item 11. Chairman Langdon stated the agenda has

been amended; Item 16 will move up to allow Mr. Larick to leave the meeting early. Chairman Langdon stated the meeting guidelines and asked everyone to introduce themselves.

1. **Approval of Agenda:** Chairman Langdon asked for comments on the agenda. None were declared. Chairman Langdon stated Mr. Keith Larick will present immediately after Item 2.
2. **Reading of Statement of Economic Interest Evaluations:** Chairman Langdon recognized Mr. Phillip Reynolds. Mr. Reynolds stated the evaluations will be read into the minutes at tomorrow's meeting.

Chairman Langdon recognized Mr. Keith Larick to present Item 16.

16. **Consideration of Resolution from the Public Private Partnership Called for in the 2021 Coastal Habitat Protection Plan Amendment:** Mr. Larick stated there is a resolution to support additional funding for Cost Share Programs that comes from the N. C. Coastal Habitat Protection Plan (CHPP). The N.C. Coastal Habitat Protection Plan (CHPP) was mandated by the Legislature and was created by the North Carolina Division of Marine Fisheries (DMF) in 1997. The goal of the plan is long-term enhancement of coastal fisheries through habitat protection and enhancement efforts. The last time the document was updated was in 2021 and the plan was approved by three commissions, i.e., the Marine Fisheries, Environmental Management, and Coastal Resources. As part of the updating process, a stakeholder group put together a series of recommendations to increase funding for cost share programs. The stakeholder group submitted the recommendations, and they were adopted as part of the Coastal Habitat Protection Plan Appendix. A Coastal Water Quality Summit was held to discuss how to move these ideas forward. The three commissions have endorsed the resolution. The request is for the N. C. Soil & Water Conservation Commission to also endorse this resolution. Mr. Jimmy Johnson will be in attendance tomorrow to present this resolution. The N. C. Farm Bureau fully supports the resolution.

Commissioner Potter stated the problem at the coast is not the coast, but rather that these pollutants flow downhill and end up at the coast. The problem is west of the coast where this nitrogen and phosphorus are coming from, which is upstream.

Mr. Larick stated the funding is for the entire state and not just for the Agriculture Cost Share Program (ACSP), but it will also address the Community Conservation Assistance Program (CCAP) and programs endorsed by the General Assembly for stormwater management and the municipalities.

Mr. Reynolds stated this is about replicating and extending the existing programs and stop it before it become a problem on the coast and to make more funds available for the coastal area. The resolution will put more practices into place across the state and improve the coastal habitats.

Commissioner Hughes stated this resolution was not brought before the Legislative Board for the N. C. Association of Soil & Water Conservation Districts and questioned what organization will bring this before the Legislature.

Mr. Larick stated the N. C. Farm Bureau or NC Forever may advocate for increased funding from the Legislature.

- 3. Approval of Meeting Minutes:** Chairman Langdon asked for comments on the minutes. None were declared.

**3A.** January 8, 2023, Work Session Meeting Minutes

**3B.** January 8, 2023, Business Session Meeting Minutes

- 4. Division Report:** Chairman Langdon recognized Director Vernon Cox to present. A copy of the report is included as an official part of the minutes. Director Cox stated the report will be presented tomorrow.
- 5. Association Report:** Chairman Langdon recognized President Teague to present. A copy of the report is included as an official part of the minutes. President Teague stated the report will be presented tomorrow.
- 6. Executive Director's Report:** Chairman Langdon recognized Mr. Bryan Evans to present. A copy of the report is included as an official part of the minutes. Mr. Evans stated the State level MOU is not ready to be presented and will be deleted from the report tomorrow. Mr. Evans stated per Commission rule, the Commission should approve the content for the upcoming year's Supervisor Training which includes the following topics:
- Understanding the Partnership
  - Understanding the Cost Share Programs and the Rules that Govern
  - Potential Pitfalls for Districts Boards Related to Open Meetings, Public Records, and Budget and Fiscal Finances
  - Scenario Based Board Issues
- 7. NRCS Report:** Chairman Langdon recognized Mr. Beard to present. A copy of the report is included as an official part of the minutes. Director Cox stated Mr. Beard will present the report tomorrow.
- 8. Consent Agenda:** Chairman Langdon recognized Mr. David Williams and Mr. John Beck to present. Copies of the reports are included as part of the minutes. Commissioner Hughes recused himself.

**8A. Supervisor Appointments:**

- Mason Ricks Taylor, Northampton SWCD, filling the expired appointed term of Mr. Eugene W. Brown Jr. for 2022-2026
- William G. Westcott II, Rowan SWCD, filling the unexpired appointed term of Mr. Jim Summers for 2020-2024 with an attached resignation letter from Mr. Summers
- Chris Hughes, Watauga SWCD, filling the unexpired appointed term of Mr. Jimmy South for 2022-2026 with an attached resignation letter from Mr. South and attached resignation letter from Mr. Hughes' elected seat

**8B. Supervisor Contracts:** 7 contracts; totaling \$85,241

Mr. Crawley, from Lincoln SWCD, stated this is for a supervisor contract for Mr. Tommy Houser. The expense is to cover the large amount of gravel and fill material on a long road. A field border will be added and additional diversions to move the water past and stop the issues. The land is sublet, and the erosion is on open fields. There is an easement on the property and Mr. Houser is trying to make sure there are no issues and that it meets the requirements of the conservation plan. Ms. Bridges, from Lincoln SWCD, stated the district had to seek assistance from a neighboring district and received assistance from an NRCS employee. The contract is for \$34,525.

- 9. **Job Approval Authority:** Chairman Langdon recognized Mr. Joshua Vetter to present. A copy of the report is included as an official part of the minutes.

**9A. Applications:** Mr. Vetter stated there are six applications and all applications are recommended for approval by the Job Approval Authority Committee.

- 10. **Basic Training Report:** Chairman Langdon recognized Ms. Kristina Fischer to present. A copy of the report is included as an official part of the minutes. Ms. Fischer stated according to the new Rule 02 NCAC 59A .0202, the Division is required to submit documentation about participants who attended Basic Training by April 1 of each year. There were a total of 104 supervisors that attended training in Cherokee in January and at the three regional trainings in February. At the November Commission meeting, conditional appointments were made to local district boards, contingent upon attendance at Basic Training. In addition, newly elected, and re-elected supervisors who had not previously attended the training, were required to attend Basic Training in 2023. Also at the November Commission meeting, three supervisor’s names were sent to the Inquiry Committee due to their re-election without meeting the Basic Training requirements or achieving at least 6.0 Supervisor Training Credits (STCs) during their full term of service; all three did attend Basic Training in February 2023. As of February 28, 2023, the following 13 district supervisors have not met the Basic Training requirement:

District	First Name	Last Name	Elected / Appointed	Current Term	Start Month	Start Year
Bladen	Albert	Shaw	Elected	22-26	December	2022
Caswell	Lynn	Massey	Elected	22-26	December	1998
Caswell	Joan C.	Slade	Elected	22-26	March	1997
Davie	Justin	Miller	Elected	22-26	December	2022
Granville	Jason West	Dixon	Elected	22-26	March	2012
Harnett	John	Hairr	Elected	22-26	December	2022
Harnett	Jeff	Turlington	Elected	22-26	December	1978*
Hertford	J. David	Simons, III	Elected	22-26	March	2004
Pamlico	Benjamin Derek	Potter	Elected	22-26	December	2006
Randolph	Brian	Ward	Elected	22-26	December	2022
Rutherford	Alice	High	Appointed	20-24	May	2022
Stanly	Rebecca	Gibson	Elected	22-26	December	2022
Washington	Guy	Davenport	Elected	22-26	December	1998

Attached are three written justifications from Mr. Jeff Turlington, Mr. David Simons, and Mr. Brian Ward. The asterisk next to Jeff Turlington's start date in Harnett SWCD is due to a discrepancy in his start date. We tried to look for meeting minutes or an Oath of Office for his term. According to his recollection and a plaque in the Harnett office, he began in December 1974 and the Division's record shows December 1978. The Division recommends sending these 13 individuals to the Inquiry Committee established under Rule 02 NCAC 59A .0302 for consideration, along with the three individuals that were named in November 2022. The Inquiry Committee can refer the individual to a hearing, extend the supervisor one year, or close the matter. The recommendation is to send these 13 individuals and the three supervisors named in November to the Inquiry Committee for follow up.

Chairman Langdon stated a break at 6:42 p.m. The meeting resumed at 6:50 p.m.

**11. StRAP Progress Update:** Chairman Langdon recognized Mr. Matt Safford to present. A copy of the report is included as an official part of the minutes. Mr. Safford stated the following:

- Division has paid \$5,072,883.98 in reimbursements to grantees
  - 96.8% was paid for completed stream debris removal
  - 2.1% was paid for PL-566 work
  - 1.1% was paid for administrative expenses
- Payments made to 31 grantees in 25 counties
- Reimbursed work includes:
  - 886,689 linear feet of stream debris removal work
  - One completed PL-566 watershed structure project
- Fourteen grantees have completed their planned Scope of Work (SOW)
  - Six grantees have submitted final reports and contracts closed out
- Total available unused StRAP funds for reallocation is \$1,376,767 for supplemental allocation.
  - Division recommends retaining the \$500,000 per grantee cap and prioritizing supplemental allocations as follows:
    - 1. Currently funded sponsors who received less than the cap and less than their full request for vegetative debris removal and who have already expended at least 75% of their contracted funds for vegetative debris removal as of April 30, 2023. As of today, 7 of 109 existing local sponsors meet this criterion.
    - 2. Currently funded sponsors who meet criterion 1 above, and who are in counties that exceed the \$2M per county cap. As of today, 3 local sponsors meet this criterion, and the number will most likely increase between now and April 30, 2023.
- 50% Progress Report
  - Seventy-eight grantees met the goal of having 50% of their funds encumbered by February 28
  - Total amount of funds encumbered by these grantees is \$18,217,917
  - Thirty-one grantees did not meet the 50% goal of having their funds encumbered by February 28 and encumbered \$2,952,522
  - Eleven grantees had 0% of funds encumbered

- Error in the handout -- Town of Spencer shows \$0.00 encumbered and actually had \$60,539 of funds encumbered which is 21.6% of their contract
- Thirty-one grantees that did not hit the 50% goal had selected contractors but were finalizing their contracts. Between February 28 and today, they plan to have the contract signed
- Grantees submitted letters that did not hit the 50% goal and have asked the Commission to not revoke their funding
- the grantees have been asked to attend in person or virtually
- Division recommends no funds be revoked

There was discussion about getting the work done. These funds were appropriated by the Legislature, and it is the Commission's responsibility to put pressure on the grantees yet be flexible. The Commission wants the work to be completed by May but will wait until July before considering any reallocation of funds.

Commissioner Potter requested a timeline of when these funds were appropriated by the Legislature and when the grantees will have the work completed.

Chairman Langdon, Commissioner Hughes, and Commissioner Teague recused themselves and the gavel was passed to Commissioner Potter.

Mr. Safford invited any StRAP grantees to step forward and explain their circumstances.

Mr. Jason Walker from Yadkin SWCD stated the district encumbered \$541,500 to a contract for a PL-566 project, but the district is waiting for permits, which is six months behind. The permits should be in by the end of the month and contractors selected by the end of March.

Mr. Evan Crawley from Lincoln SWCD stated the district is working on a stream debris removal project for \$60,000, and the district received additional funding which increased the funding to \$134,000. The challenge is to get approval from the county board, but it is contracted with the county.

Mr. David Williams stated Mr. Charlie Sanders from Dare SWCD is online. Mr. Sanders stated his predecessor was working on the stream debris removal project, but he passed away last October. Mr. Sanders started working one week ago, and other staff have been trying to work on the project, but the funds are not encumbered yet. The staff is working on getting permits and hope to get it done by the end of the month. Being brand new in the position, Mr. Sanders cannot provide an exact date.

Mr. Safford stated one issue that grantees have encountered is that the bids are coming in lower than in their initial budget. The grantees are revising their Scope of Work (SOW) to use their full funds and get the projects contracted.

Mr. Parker Phillips from Nash SWCD stated they are waiting for signatures. The \$174,375 has been encumbered and request keeping the remaining balance of \$254,569 of the contract. Mr. Cole Strickland stated he has not been in his job very long and that the transition has caused some issues. The \$174,375 is encumbered, but just needs a signature to begin the work and NASH SWCD is requesting to keeping the balance.

Mr. Greg Walker from Johnston County stated their county processes have caused delays, but the county attorney is looking after us. Also, the bids came in lower, so we are revising our Scope of Work (SOW).

Ms. Gail Hughes from Orange SWCD stated the district has had several issues with navigating the county processes to do this type of contracting and working with finance and legal. Two out of three technical staff members retired in January. The board did approve two bid proposals last week on our two unencumbered projects and the projects are under budget. There has been heavy rain and beavers had to be removed. Our landowner agreements have been signed.

Ms. Morgan Hayes from Columbus SWCD stated the district did about five projects which came in lower, and four projects are complete, and one is 50% complete with 25% payment but water levels are high. The project costs came in at 46.9%, just under the 50% target. Mr. Tyler Hodge has ranked the new projects, getting the bid packets together, and posted online. The district has 77,000 linear feet completed of the 46% under contract.

Mr. Elliot Swain from Brunswick SWCD stated the district submitted their agreement for beaver removal, and the contract is signed for \$157,920, but the district is under 50%. The district's Scope of Work (SOW) was revised twice due to low bids.

Mr. Gary Cox from Guilford SWCD stated the district has a contract and after going through the bid process, the accepted bid was for \$61,500, which is 47% of the allocated amount. The contractor is on site and should be finished by the end of the week.

Commissioner Lamb stated this is an unprecedented time. To deal with getting permits and paperwork done can turn weeks into months or days into weeks. There is a lot of job turnover in the government and private sector that can cause snags.

Vice Chairman Potter returned the gavel to Chairman Langdon.

12. **Engineering Services Workload Report:** Chairman Langdon recognized Mr. Scott Melvin to present. A copy of the report is included as an official part of the minutes. Mr. Melvin stated the report will be presented tomorrow. The report will highlight how the sections are organized, the technical assistance requests and prioritization matrix, teamwork overview, reporting process, workload data, and interpretation of the data. Director Cox stated this report will provide a baseline for where we are with our technical service requests for technical staff. The report will be provided every six months.
13. **Consideration of Pasture Renovation BMP Revisions:** Chairman Langdon recognized Mr. John Beck to present. A copy of the report is included as an official part of the minutes. Mr. Beck stated a few modifications have been made to the Pasture Renovation BMP Policy. The revisions to the policy include an additional Planning Guide for the districts to complete and add to the materials that they use to provide guidance to the producer to use for the practices installed. The main changes are the reduction of the maintenance period to five years and the addition of the requirement to have a soil test. The links that are applied to the Planting Guide are clearer to find and there is no pre-made sheet for maintenance and management. The changes to the guide sheet will go into effect for the DIP for FY2024. Commissioner Potter

suggested the soil test sampling requirement should be every two years; three years is too long. Mr. Beck stated the proposed policy will be revised from three years to two years.

- 14. Agriculture Cost Share Program Supplemental Allocation:** Chairman Langdon recognized Mr. John Beck. A copy of the report is included as an official part of the minutes. Mr. Beck stated the Commission's rules allow for the allocation of additional Ag Cost Share funds if there is at least \$200K available. For districts to receive a supplemental allocation, the districts must submit their request by March 1 and have 75% of their funds encumbered to contracts. The allocation parameters were presented based on Rule 02 NCAC 59D .0103, which are the same parameters as the initial allocations. Forty-six districts submitted requests for over \$1.5M. These requests were between \$1,500 and \$165,000 and we can fund all 46 requests totaling \$944,606. The proposed allocations range between \$1,500 to \$44,429.
- 15. District Special Requests:** Chairman Langdon recognized Mr. John Beck and Mr. Josh Vetter. Copies of the reports are included as an official part of the minutes.

**15A. Post Approval for Contract 14-2023-801:** Mr. Beck stated this is a special request from Caldwell SWCD for Mr. Rusty Dillinger for an AgWRAP contract for \$11,000 for an irrigation well. Mr. Aaron Franks will be in attendance tomorrow to present. The issue was due to repeated staff turnover and miscommunication. The district did not get Division approval prior to installation of the practice. The well was installed properly. The new staff has been trained on the Division's contract approval process to follow procedures in the future.

Commissioner Potter thanked Mr. Beck for his assistance in Pamlico SWCD for helping the new staff get onboarded.

**15B. Post Approval for Conservation Reserve Enhancement Program Contract 31-2023-301:** Mr. Josh Vetter stated the contract is from Duplin SWCD for Miss Grace Farms for CREP contract #31-2023-301 for cropland conversion for trees. The landowner proceeded with site preparation and tree planting before the district was notified about this contract. The cooperator worked with Lenoir FSA to create the Conservation Reserve Program (CRP) and CREP contract. The cooperator began work on the project after receiving approval of their CRP contract from FSA. Duplin staff was never notified until the cooperator notified Duplin staff that the trees had been planted and was seeking funds. This is no fault of the cooperator and district staff. The fault lies between Lenoir FSA and CREP staff. The cooperator worked out of the Lenoir FSA office, but the property is in Duplin County.

Mr. Reynolds reminded Commissioner Kilpatrick that he cannot participate in Item 15B; he must recuse yourself.

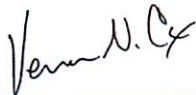
Mr. Vetter stated there are five more CREP contracts that will require post-approval. The reason why there will be several more post-approval contracts presented to the Commission is due to a lack in communication, understanding, training, education, and the vacancy of the CREP manager, which has been filled. We have put processes into place to improve the partners' understanding, provide education and training, notify the cooperators and district staff. Mr. Vetter stated there is an allocation for CREP funds through the Ag Cost Share Program (ACSP).



**16. Consideration of Resolution from the Public Private Partnership Called for in the 2021 Coastal Habitat Protection Plan Amendment:** *Presented after Item 2.*

**IV. Public Comments:** Commissioner Teague asked if the representatives from the districts that presented tonight were required to attend the business session tomorrow and present again with regards to StRAP. Director Cox stated there may be some staff that were not available tonight and may attend the business session tomorrow that will want to make a comment about StRAP either virtually or in person. Those that did attend tonight's meeting do not have to participate tomorrow.

**V. Adjournment:** Meeting adjourned at 8:04 p.m.



\_\_\_\_\_  
Vernon N. Cox, Director  
Division of Soil & Water Conservation, Raleigh, N.C.



\_\_\_\_\_  
Helen Wiklund, Recording Secretary

***These minutes were approved by the North Carolina Soil & Water Conservation Commission on May 17, 2023.***



**NORTH CAROLINA  
SOIL & WATER CONSERVATION COMMISSION  
BUSINESS SESSION MEETING MINUTES  
March 15, 2023**

Department of Agriculture & Consumer Services  
Division of Soil & Water Conservation  
NC State Fairgrounds @ Governor James G. Martin Building  
4381 Trinity Road  
Raleigh, NC 27607

<b>Commission Members</b>	<b>Guests</b>	<b>Guests - Online</b>
Chris Hughes	Rusty Dellinger	Sydney Mucha
Billy Kilpatrick	Jimmy Johnson	Heather Reichert
James Lamb	Daniel Brinn	Jane Humphrey
John Langdon	<b>Guests - Online</b>	Jason Walker
Brian Parker	Alan Aldridge	Jason Turner
Derek Potter	Anne Coan	Joshua Thomas
George Teague	Abel Ferry	Jessica Perrin
<b>Commission Counsel</b>	Anne Phillip	Kristy Dail
Phillip Reynolds	Andrea Webb	Lincoln SWCD
<b>Guests</b>	Angie Quinn	Kaitlyn Johnson
Vernon Cox	Cindy Safrit	Luke Baker
David Williams	Eric Pare	Timothy Lowe
Joshua Vetter	Billy Ivey	Doug Johnson
Bryan Evans	Brandi Talton	Patrick Baker
John Beck	Brandon Higgins	Randy Freeman
Michael Shepherd	Brody W. Brown	Macon SWCD
Scott Melvin	Charlie Sanders	Vickie Baker
Kristina Fischer	Cole Strickland	Maria Polizzi
Julie Henshaw	Gail Hughes	Martin McLawhorn
Rob Baldwin	Daniel McClellan	Nicole Warren
Tim Beard	Daphne Cartner	Marla Ashworth
Cayle Aldridge	Dru Harrison	Stephen Francis
Rick McSwain	Elliot Swain	Travis Smith
Brandy Myers	Evan Crawley	Tyler Hodge
Matt Safford	Millie Langley	Hannah Smith
Helen Wiklund	Frankie Singleton	Matthew T. Reel
Rachel Smith	Paula Day	Madison Bridges
Levi Preston	Ken Parks	Russell Hunter
Ralston James Jr.	Lisa Fine	Rockingham SWCD
Chris Love	Chuckie Bass	JoAnn McCall

Guests	Guests - Online	Guests - Online
Vivien Zhong	Morgan Hayes	Robert Moore
Aaron Franks	Joe Morris	Wayne Floyd

Chairman Langdon called the meeting to order at 9:03 a.m. Chairman Langdon inquired whether any Commission members need to declare any conflict of interest, or appearance of conflict of interest, that may exist for agenda items under consideration, as mandated by the State Ethics Act. Chairman Langdon stated he will recuse himself from Item 11. Commissioner Hughes stated he will recuse himself from Items 8A and 11. Commissioner Teague stated he will recuse himself from Item 11. Commissioner Kilpatrick stated he will recuse himself from Item 11. Chairman Langdon stated the meeting guidelines.

- 1. Approval of Agenda:** Chairman Langdon asked for approval of the agenda. Commissioner Potter moved to approve the agenda and Commissioner Teague seconded. Motion carried.
- 2. Reading of Statement of Economic Interest Evaluations:** Chairman Langdon recognized Mr. Phillip Reynolds. Mr. Reynolds stated the Statements of Economic Interest have been received for Mr. Kilpatrick and Mr. Parker. The Governor’s Office sent the paperwork to the Division where it will be kept on file. By statute, portions of the letter must be read into the minutes and the letters available upon request.

From the State Ethics Commission to Governor Cooper for the Evaluation of Statement of Economic Interest filed by Mr. William Kilpatrick for the Soil and Water Conservation Commission, the State Ethics Commission determined the following:

*Our office is in receipt of Mr. William Kilpatrick’s 2023 Statement of Economic Interest as a prospective appointee to the Soil and Water Conservation Commission (“the Commission”). We have reviewed it for actual and potential conflicts of interest pursuant to Chapter 138A of the North Carolina General Statutes (“N.C.G.S.”), also known as the State Government Ethics Act.*

*We did not find an actual conflict of interest, but found the potential for a conflict of interest. The potential conflict identified does not prohibit service on this entity.*

*Mr. Kilpatrick will fill the role of a member who is the First Vice President of the North Carolina Association of Soil and Water Conservation Districts. He also serves as the Vice Chairman of the Duplin Soil and Water Conservation District Board of Supervisors. In addition, he is a livestock farmer. As such, he has the potential for a conflict of interest and should exercise appropriate caution in the performance of his public duties should issues involving any entity in which he or his spouse own a financial interest that come before the Commission for official action.*

From the State Ethics Commission to Governor Cooper for the Evaluation of Statement of Economic Interest filed by Mr. Brian Parker for the Soil and Water Conservation Commission, the State Ethics Commission determined the following:

*Our office is in receipt of Mr. Brian Parker’s 2023 Statement of Economic Interest as a prospective appointee to the Soil and Water Conservation Commission (“the Commission”). We have reviewed it for actual and potential conflicts of interest pursuant to Chapter 138A of the North Carolina General Statutes (“N.C.G.S.”), also known as the State Government Ethics Act.*

*We did not find an actual conflict of interest, but found the potential for a conflict of interest. The potential conflict identified does not prohibit service on this entity.*

*Mr. Parker will fill the role of a representative from the mountain region serving on the Commission. He is employed by Vulcan Materials and owns a financial interest in the company. In addition, he is the Chair of Wilkes County Soil & Water Conservation District and owns the Brian Parker Farm which could be affected by decisions made by the Commission. As such, Mr. Parker has the potential for a conflict of interest and should exercise appropriate caution in the performance of his public duties should issues involving any entity in which he is affiliated or any entity in which he and his spouse own a financial interest that come before the Commission for official action.*

Mr. Reynolds stated the following pertains to both appointees:

*In addition to the two conflict standards noted above, the Act prohibits public servants from accepting gifts from (1) a lobbyist or lobbyist principal, (2) a person or entity that is seeking to do business with the public servant's agency, is regulated or controlled by that agency, or has financial interests that might be affected by their official actions, or (3) anyone in return for being influenced in the discharge of their official responsibilities. N.C.G.S. Chapter 138A-32. Exceptions to the gifts restrictions are set out in the N.C.G.S. Chapter 138A-32(e).*

*When this letter cites an actual or potential conflict of interest under N.C.G.S. 138A-15(c), the conflict must be recorded in the minutes of the applicable board and brought to the membership's attention by the board's chair as often as necessary to remind all members of the conflict and to help ensure compliance with the Act.*

*The act mandates that all public servants attend an ethics and lobbying education presentation. N.C.G.S. Chapter 138A-14. Please review the attached document for additional information concerning this requirement.*

Chairman Langdon asked Mr. David Williams to identify those participating online. Mr. Williams stated there are over 50 attendees online and due to time constraints, the names were not read aloud but will be recorded into the meeting minutes.

- 3. Approval of Meeting Minutes:** Chairman Langdon asked for approval on the minutes. Commissioner Potter moved to approve the minutes and Commissioner Parker seconded. Motion carried.

**3A.** January 8, 2023, Work Session Meeting Minutes

**3B.** January 8, 2023, Business Session Meeting Minutes

- 4. Division Report:** Chairman Langdon recognized Director Vernon Cox to present. A copy of the report is included as an official part of the minutes. Director Cox welcomed the new commissioners and reminded the commissioners, with the exceptions of Commissioners Kilpatrick and Parker, to update their Statement of Economic Interest by April 15. Director Cox stated the following:

- Personnel Update
- Senate Bill 27
  - Establish partisan elections for only Union County SWCD Supervisors

- For vacancies, the Commission must appoint the selection of the county political party executive committee if a recommendation is made within 30 days
- Local Bill does not require the Governor's signature
- Referred to Senate Committee for redistricting and elections
- May meeting will be held in Wilmington with a tour of the NC Port on Tuesday afternoon and the meetings will be held on either the USS North Carolina Battleship or at the State port

**5. Association Report:** Chairman Langdon recognized President Teague to present. A copy of the report is included as an official part of the minutes. President Teague stated the following:

- Working to reserve the Sheraton Imperial Hotel in Durham for the 2024 Annual Meeting
- Finished three Basic Trainings in February. Another session may be scheduled in the summer and the Association will discuss the curriculum for 2024
- Good attendance at the NACD meeting in New Orleans. Director Cox and Mr. Evans presented on leadership development. Four resolutions were submitted and three resolutions passed, which included increased funding for PL-566 rehab projects and Waters of the US (WOTUS) rules language passed, but the UK Trade Agreement did not pass
- NACD Fly-in scheduled for March 22-23 in Washington to discuss the Farm Bill

**6. Executive Director's Report:** Chairman Langdon recognized Mr. Bryan Evans to present. A copy of the report is included as an official part of the minutes. Mr. Evans stated the following:

- Thanked the Area chairs and the Division Regional Coordinators for hosting the Area Spring meetings; trainings went well and good speakers that promoted conservation
- 2022 Legislative Items: Submitted a request to the Division for all funds to be recurring
  - \$4M for ACSP for Best Management Practices (BMPs)
  - \$600K for ACSP technical assistance
  - \$1.5M for CCAP for Best Management Practices (BMPs)
  - \$225K for CCAP technical assistance
  - \$20M for StRAP
  - Association will advocate for more funding
- Following Senate Bill 27. The Association's policy is to oppose partisan elections for all conservation district officials
- State Level MOU is in the process of being updated
- Per Commission rules, the Association must provide the content for the upcoming Basic Training for Soil and Water Conservation District Supervisors, which must be approved by the Commission before the next cycle of trainings. The four topics are:
  - Understanding the Partnership
  - Understanding the Cost Share Programs and the Rules that Govern
  - Potential Pitfalls for Districts Boards Related to Open Meetings, Public Records, and Budget and Fiscal Finances
  - Scenario Based Board Issues
- Richard Whisnett is retiring; General Counsel Phillip Reynolds will assist with the training

Chairman Langdon asked for a motion. Commissioner Hughes moved to approve the four Basic Training topics and Commissioner Lamb seconded. Motion carried.

Chairman Langdon asked Mr. Evans to highlight the PL-566 rehab projects and WOTUS. The PL-566 projects are funded by the Federal Government. The resolution supports 100% federal cost share when the rehabilitation project meets NRCS standards. There was also a second part of the resolution that was to provide 65% federal and 35% local cost share when the renovation meets a minimum State dam safety rule design requirement. President Biden signed the Waters of the US (WOTUS) rule to revert to the previous version of the rule. The Association does not support this latest version.

**7. NRCS Report:** Chairman Langdon recognized Mr. Beard to present. A copy of the report is included as an official part of the minutes. Mr. Beard stated the following:

- **Inflation Reduction Act (IRA) Update**
  - NRCS was slated to get \$20B in the next 3-4 years to address Climate Smart Agriculture and Forestry (CSAF), funding will last until 2026, and practices must be installed by 2031
  - Sign up closed on March 13 for EQIP and CSP
  - North Carolina received IRA allocations of \$8M in financial assistance for EQIP and CSP and \$5M in technical assistance,
  - The funding must go towards Climate Smart practices, e.g., cover crop
  - Statute requires a portion of CSP funds to be designated to assist beginning farmers and ranchers and socially disadvantaged farmers and ranchers at 5% for each category and 10% of EQIP funds will go towards wildlife-related conservation practices
- **National Level**
  - RCPP-IRA, ACEP, and WRA signups end March 17
- **North Carolina Update**
  - Received \$45.5M in financial assistance of which \$27M is for EQIP, ~\$15M is for CSP, and \$15.5M in technical assistance
- **Working on Urban Soils Survey**
  - Phase I of the survey is in Raleigh-Durham and scheduled to be completed in 2023
  - Phase II will begin in the Charlotte area
- **Offer EWP virtual training in the eastern part of the state on March 28 and on March 29.** The training is on site with both district and NRCS employees in attendance
- **An emphasis on the local workgroup efforts during Area Meetings to encourage board members to participate in the process and identify what their needs and priorities are at the local level.** NRCS is trying to do a better job during local workgroup meetings to provide feedback so the local boards know what they are doing is making a difference in funding decisions
- **Hired Diana Irizarry as our Statewide Outreach Coordinator**

**8. Consent Agenda:** Chairman Langdon asked for approval of the consent agenda. Commissioner Hughes recused himself. Commissioner Potter moved to approve the consent agenda and Commissioner Teague seconded. Motion carried.

**8A. Supervisor Appointments:**

- Mason Ricks Taylor, Northampton SWCD, filling the expired appointed term of Eugene W. Brown Jr. for 2022-2026
- William G. Wescott II, Rowan SWCD, filling the unexpired appointed term of James F. Summers for 2020-2024 with an attached resignation letter from Mr. Summers
- Chris Hughes, Watauga SWCD, filling the unexpired appointed term of Jimmy South for 2022-2026 with an attached resignation letter from Mr. South and attached resignation letter from Mr. Hughes' elected seat

**8B. Supervisor Contracts:** 7 contracts; totaling \$85,241

Copies of the reports are included as an official part of the minutes.

- 9. Job Approval Authority:** Chairman Langdon recognized Mr. Joshua Vetter to present. A copy of the report is included as an official part of the minutes.

**9A. Applications:** Mr. Vetter stated there are six applications and all applications are recommended for approval and have been reviewed by the Job Approval Authority Workgroup.

Chairman Langdon asked for approval of the applications. Commissioner Potter moved to approve the applications and Commissioner Hughes seconded. Motion carried.

- 10. Basic Training Report:** Chairman Langdon recognized Ms. Kristina Fischer to present. A copy of the report is included as an official part of the minutes. Ms. Fischer stated the following:

- Under NCAC 59A .0301(d)(1) the Division is required to submit documentation and participation by April 1 to the Commission with regards to basic training. There were 104 supervisors that attended basic training which was held in Cherokee prior to the Annual Meeting and at three regional locations in February.
- At the November 2022 Commission meeting, there were conditional appointments made contingent upon the newly elected and re-elected supervisors attending training. Three supervisors were sent to the Inquiry Training Committee and all three supervisors attended the 2023 training
- Thirteen individuals have not met the training requirements and written justifications were received from three supervisors which included Supervisor Simons from Hertford SWCD, Supervisor Turlington from Harnett SWCD, and Supervisor Ward from Randolph SWCD
- Recommendation to send these 13 individuals to the Inquiry Committee along with the three supervisors that were referred in November 2022

Commissioner Potter stated these individuals are being sent to the Inquiry Committee and are not in violation until December 1. Commissioner Potter recused himself.

Chairman Langdon asked for a motion to approve. Commissioner Hughes moved to approve these individuals to be sent to the Inquiry Committee and Commissioner Parker seconded. Motion carried.

**11. StRAP Progress Update:** Chairman Langdon recognized Mr. Matt Safford to present. A copy of the report is included as an official part of the minutes. Chairman Langdon, Commissioner Hughes, Commissioner Kilpatrick, and Commissioner Teague recused themselves and Vice Chairman Potter was handed the gavel.

Mr. Safford stated the following:

- Division has paid \$5,072,883 to date in reimbursements to grantees
  - 96.8% was paid for completed stream debris removal work
  - 2.1% was paid for PL 566 work
  - 1.1% was issued as reimbursement for administrative expenses
- Payments have been made to 31 grantees in 25 counties
- Reimbursements include: 886,689 linear feet of stream debris removal work and one completed PL-566 watershed structure project
- Fourteen grantees have completed their Scope of Work
  - Six grantees submitted their final reports and contracts are closed
  - Eight completed their work and either have unused funds remaining or have not submitted their final report
- Reallocation of unused StRAP funds
  - \$1,376,767 is available for a supplemental allocation from funds returned or originally set aside for program administration. The Division recommends retaining the \$500,000 per grantee cap and prioritizing supplemental allocation as follows:
    - 1. Currently funded sponsors who received less than the cap and less than their full request for vegetative debris removal and who have already expended at least 75% of their contracted funds for vegetative debris removal as of April 30, 2023 (based upon requests for payment submitted on or before that date). As of March 14, 2023, seven of 109 existing local sponsors meet this criterion.
    - 2. Currently funded sponsors who meet Criterion 1 above, and who are in the counties that exceed the \$2M per county cap. As of March 14, 2023, three existing local sponsors meet this criterion.
- 50% Progress Report
  - 78 grantees met the goal of having 50% of funds encumbered to contracts by February 28. A total of \$18,217,917.02 was encumbered by these grantees.
  - 31 grantees did not meet the goal of having 50% of funds encumbered to contracts. By the deadline, these 31 grantees had a total of \$2,952,522 encumbered, with 11 grantees having 0% of funds encumbered to contracts.
  - The Division recommended that no funds be revoked from the grantees who have not met the 50% goal.
  - The Division will provide an update on the encumbered funds at the May and July Commission meetings.

Commissioner Potter asked for approval to extend the encumbrance date to July 2023 and if the funds are not encumbered by July, the funds will be returned. Commissioner Lamb moved to extend the deadline to July and Commissioner Parker seconded. Motion carried.



Commissioner Potter returned the gavel to Chairman Langdon. Chairman Langdon asked for a motion to reallocate the funds in May. Commissioner Hughes moved to approve the reallocation plan and Commissioner Potter seconded. Motion carried.

**12. Engineering Services Workload Report:** Chairman Langdon recognized Mr. Scott Melvin to present. A copy of the report is included as an official part of the minutes. Mr. Melvin stated the following:

- Highlighted the Eastern and Western Regional Engineering Maps
  - Eight engineers across the state and four engineering technicians
- Requests for Technical Assistance
  - Requests are made through Formsite
- Prioritization Matrix provides a ranking method to determine workload priority
  - Workload only allows us to handle Priority Level I and Level II projects unless otherwise directed
- Teamwork Project Management Software
  - Allows users across various organizations to collaborate on specific projects within the system
  - Technical Services began using teamwork in 2017 primarily for engineering project management
- Commission funded projects are heavy in the west and some districts are more active with requests for technical assistance
- Overall Project Type Distribution was highlighted
- Commission Funded Project Fiscal Year Distribution is down from FY14 – FY19
  - Overall project count went down from 77 to 37 projects between 7/1/2021 – 6/30/2022
- Project Status for FY14 – FY19 Data Comparison
  - Progress measured by project status numbers shifting through each phase in subsequent reports
  - Canceled, design review complete, and construction complete projects will not appear on subsequent reports
  - Positive shift in project status from 7/1/2022 – 1/1/2023
- Fiscal Years 2020, 2021, 2022, and 2023 Project Status were highlighted

Chairman Langdon called a break at 10:44 a.m. The meeting resumed at 10:56 a.m.

**13. Consideration of Pasture Renovation BMP Revisions:** Chairman Langdon recognized Mr. John Beck to present. A copy of the report is included as an official part of the minutes. Mr. Beck stated the following:

- Pasture Workgroup Purpose - review current pasture BMPs, address policy that prohibits practice adoption, investigate and develop new pasture related BMPs, and expand program ability to address water quality through pasture management
- Pasture Renovation
  - Drafted revisions to the Pasture Renovation BMP policy
  - Developing a Forage Management Planning Sheet

- Website Updates – JAA, Planning and Design Tools
- Draft Pasture Renovation BMP Policy Changes
  - Maintenance period reduced to five years
  - Updated reference titles and links
  - Added requirement for a pre-plant soil test
    - \$ no change to average cost list
- The original Pasture Renovation policy revision for Item number 4 stated, *“Soil test reports can be no more than three years old.”* The Commission has revised the recommended use to state, *“Soil tests can be no more than two years old.”*
- Draft Forage Planning Guide will be paired with the 512 IR sheet (planting) and will include the stocking rate, pasture condition score, and grazing start/stop height
- Pasture Renovation Workgroup presented the revisions to the Technical Review Committee (TRC) on February 16 and approved the recommended changes to the Pasture Renovation BMP policy and new Pasture Renovation Forage Management Plan to take effect with the FY2024 Detailed Implementation Plan (DIP)

Chairman Langdon asked for approval of the BMP Revisions. Commissioner Hughes moved to approve the recommended changes to the Pasture Renovation BMP policy and new Pasture Renovation Forage Management Plan to take effect with the FY2024 DIP and Commissioner Potter seconded. Motion carried.

**14. Agriculture Cost Share Program Supplemental Allocation:** Chairman Langdon recognized Mr. John Beck to present. A copy of the report is included as an official part of the minutes. Mr. Beck stated the following:

- Each Spring additional ACSP funds greater than \$200,000 can be allocated to eligible districts by submitting a request by March 1
  - Districts must have 75% of funds encumbered to contracts; the same allocation parameters in Rule 02 NCAC 59D .0103 are used
- Requests
  - 46 districts totaling \$1,531,430; range from \$1,500 - \$165,000
- Allocations
  - 46 districts totaling \$944,606; range from \$1,500 - \$44,429

Chairman Langdon asked for approval of the Supplemental Allocations. Commissioner Hughes moved to approve the recommended allocations and Commissioner Teague seconded. Motion carried.

**15. District Special Requests:** Chairman Langdon recognized Mr. John Beck to present. A copy of the report is included as an official part of the minutes. Mr. Beck stated this is a post approval request from Caldwell SWCD for an AgWRAP project for an irrigation well totaling \$11,000. Mr. Rusty Dellinger and Mr. Aaron Franks will present the issue.

**15A. Post Approval for Contract 14-2023-801:** Mr. Dellinger stated this is a post approval contract. The project was initiated last summer and there was staff turnover from July 1 – October 1 where a conservationist and program assistant found other jobs. The local board approved the funds in September and the information was entered into CS2. The board notified

the landowner; however, the program assistant had found another job, and when Mr. Franks joined the staff and started reviewing the current projects, it was determined the information was never submitted into CS2.

Chairman Langdon asked for approval of Contract 14-2023-801. Commissioner Potter moved to approve Contract 14-2023-801 and Commissioner Parker seconded. Motion carried.

**15B. Post Approval for Conservation Reserve Enhancement Program Contract 31-2023-301:**

Chairman Langdon recognized Mr. Josh Vetter to present. Chairman Kilpatrick recused himself. Mr. Vetter stated this is a post approval CREP contract from Duplin County for cropland conversion for trees. The cooperators started working on the contract after receiving approval of their CRP contract from FSA. Duplin staff was not made aware of the CREP contract by FSA or CREP staff until site preparation and tree planting had already been completed. Duplin SWCD has paid a portion of the implemented practices. The trees have been installed per program policy and the Division staff is recommending post approval.

Chairman Langdon asked for approval of CREP Contract 31-2023-301. Commissioner Potter moved to approve CREP Contract 31-2023-301 and Commissioner Lamb seconded. Motion carried.

- 16. Consideration of Resolution from the Public Private Partnership Called for in the 2021 Coastal Habitat Protection Plan Amendment:** Chairman Langdon recognized Mr. Jimmy Johnson to present. Mr. Johnston stated that he is asking for support for the 2021 Coastal Habitat Protection Plan (CHPP). The N.C. Coastal Habitat Protection Plan (CHIPP) was unanimously adopted in December 2004. The Plan must be revised every five years to reflect changes in the status of habitat protection in North Carolina. The last time the document was amended was in 2021.

A group of stakeholders came together and asked us, as those responsible for the Plan, to add some recommendations from the stakeholder's group and added an Appendix. The first issue of discussion was that a public-private partnership should be formed. We, as staff, cannot lobby the General Assembly to seek funding from other sources. The group, called Stakeholder Engagement for Collaborative Coastal Habitat Initiatives (SECCHI), came together at the North Carolina Coastal Water Quality Summit in New Bern, North Carolina, to create a resolution to fully support reoccurring funding for Cost Share Programs that will assist landowners in managing and reducing the amount of nutrient runoff into the State's waters. Mr. Johnson asked if the Commission would endorse and/or support the Resolution. The Resolution is broad to help support the Agriculture Cost Share Program (ACSP) and the Community Conservation Assistance Program (CCAP) as well as the Urban Retrofit Cost Share Programs, etc., as these programs work together to improve water quality.

Commissioner Potter reiterated his concern that the water flows to the coast and does not want blame on the coast when problems are caused upstream. This is a program that will enhance the State's programs and eliminate the issues.


Chairman Langdon asked for approval to endorse the resolution. Commissioner Potter moved to support the resolution and Commissioner Lamb seconded. Motion carried.

**IV. Public Comments:** Mr. Rob Baldwin stated the High Rock Lake Initiative is ongoing. The committee had never heard of CREP or conservation easements where the farmer or the landowner would be paid. Mr. Baldwin believes this is a great opportunity, especially for the CREP program. Wilkes, Caldwell, and Yadkin SWCDs will most likely take advantage of the CREP Program.

Mr. Baldwin asked when the Commission decides to reallocate the StRAP funds, each district should be reviewed on a case-by-case basis because each district works autonomously, and each district has different attorneys and county managers. If the Commission takes away some districts StRAP funds, Wilkes would be the beneficiaries of the reallocation.

Chairman Langdon stated it is a balancing act for the Commission. The districts may have legitimate reasons but it is the Commission's responsibility to encourage them to report in a timely manner. Every district is not consistent and it is our responsibility to get as much done as soon as possible.

**V. Adjournment:** Chairman Langdon asked for a motion to adjourn. Commissioner Potter moved to adjourn and Commissioner Teague seconded. Motion carried. Meeting adjourned at 11:36 a.m.



\_\_\_\_\_  
Vernon N. Cox, Director  
Division of Soil & Water Conservation, Raleigh, N.C.



\_\_\_\_\_  
Helen Wiklund, Recording Secretary

***These minutes were approved by the North Carolina Soil & Water Conservation Commission on May 17, 2023.***

# NEW HANOVER SOIL & WATER



New Hanover Soil & Water Conservation District  
New Hanover County

May 17<sup>th</sup>, 2023

# STRATEGIC PLAN (2022-2026)

## **New Hanover County Soil and Water Conservation District**

**Mission:** To protect and enhance the soil and water of New Hanover County

**Major Focus Areas:** Soil and Water, Education (including Outreach and Advocacy), and Land Conservation

### **Major Focus Area: Soil and Water**

#### **Goal 1: Improve Water Quality**

- A. Protect and restore New Hanover County watersheds focusing on Page's Creek, Hewlett's Creek and city of Wilmington watersheds
- B. Develop and implement a Pages Creek Restoration Plan

#### **Goal 2: Improve Soil Health**

- A. Support and promote regenerative agricultural activities, both rural and urban, that protect the environment
- B. Evaluate sustainable conservation strategies and what NHSWCD can accomplish in the areas of urban agriculture, tree canopy restoration, composting, increasing soil organic matter and regenerative land care.

#### **Goal 3: Facilitate Stormwater Best Management Practice Cost Sharing and Installation**

- A. Utilize Community Conservation Assistance Program (CCAP) funding to achieve effective water quality and soil improvement projects
- B. In cooperation with appropriate state and/or local government agencies, evaluate existing and develop new Best Management Practices (BMPs) that serve the goals of the District

### **Major Focus Area: Education (including Outreach and Advocacy)**

#### **Goal 1: Deliver high quality environmental education programs to schools**

- A. Promote and facilitate the establishment of outdoor learning centers in all schools
- B. Develop and deliver programs that meet curriculum requirements for all K-12 levels
- C. Seek out additional opportunities to provide environmental education programs in public, private and home schools and professional development for educators
- D. Intentionally evaluate District education programs for standards of success and adjust based on outcomes

#### **Goal 2: Improve community outreach and public education programs**

- A. Coordinate with partner organizations to effectively participate in community outreach and events
- B. Develop new partnerships focusing on historically underserved areas and populations
- C. Develop and implement resident engagement programs, including one on the need and tools for protecting critical habitats
- D. Grow the District communication data base

**Goal 3: Increase participation in the District's incentives and services**

- A. Prepare and implement a marketing plan for the District to increase awareness of programs and incentives
- B. Develop and maintain a customer data base
- C. Increase outreach to contractors and their capacity to work on District projects

**Goal 4: Provide input and support to other agencies, departments and local governments**

- A. Provide reviews and technical assistance to government entities in the county to help solve community problems
- B. Engage and educate municipal planning and environmental staff on opportunities to collaborate on mutual goals
- C. (District Supervisors) Advocate for policies to protect water and soil to local, county and state governments

**Major Focus Area: Land Conservation**

**Goal 1: Protect the natural and historic resources of Eagles Island and other District properties**

- A. Continue to monitor and manage conserved District land, either owned or under easement
- B. As opportunities arise and in cooperation with others, seek additional opportunities to conserve properties
- C. Support other organizations in providing conservation, recreation and education opportunities
- D. Explore and engage in opportunities relating to ecosystem services in District land conservation activities

**Organizational Development**

**Goal 1: Enhance the District's ability to identify projects and funding**

- A. Create and maintain priority project summaries, along with supporting information and potential partners for each one
- B. Maintain an inventory of applicable funding sources

**Goal 2: Enhance District capacity to keep up with the new areas the District is evolving into**

- A. Seek opportunities for professional development for staff and Supervisors
- B. Build staff capacity, including pursuing Job Approval Authority for additional Best Management Practices

# NHSWCD Mission:

To protect and enhance soil and water in  
New Hanover County.

## Strategic Focus Areas:

- Soil & Water
- Education
- Land Conservation
- Organizational Development



New Hanover Soil & Water Conservation District  
New Hanover County



# Major Focus Area: Soil & Water

- StRAP Program ~ Stream Debris Removal
  - Funds Received: \$242,000
  - Funds Encumbered: \$231,435
  - Miles cleared with StRAP and EWP: 60 miles
- Urban Cost Share Programs:
  - Community Conservation (CCAP)
  - Heal Our Waterways (HOW)
  - NHC - QUIP
- Pages Creek Restoration Plan
  - Stakeholders: NHC Engineering, NHC Planning, Cape Fear Public Utility, Cape Fear RC&D, Moffit and Nichol, NC DEQ, UNC at Wilmington
  - Timeline: July 2022-December 2023
  - Apply for EPA 319 funds Spring 2024



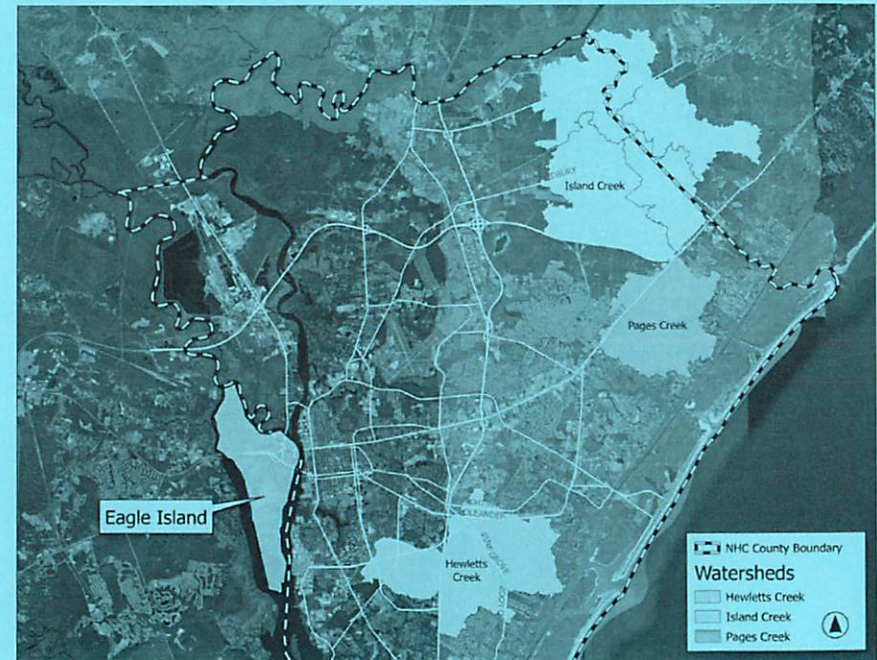
# Major Focus Area: Education

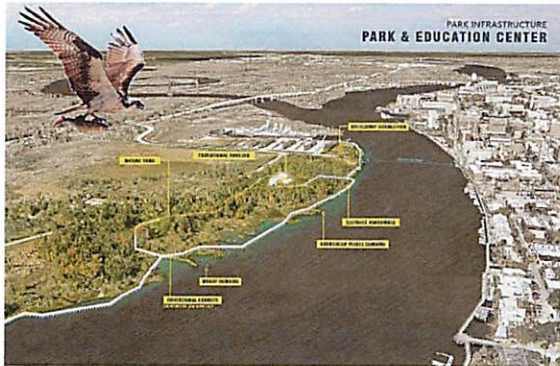
- Locally supported Outdoor Environmental Learning Centers
- Enviroscape to all 8<sup>th</sup> Graders in NHC
- Soil and Water Education programs
- Garbage to Gardens
  - Recently hired Program Coordinator



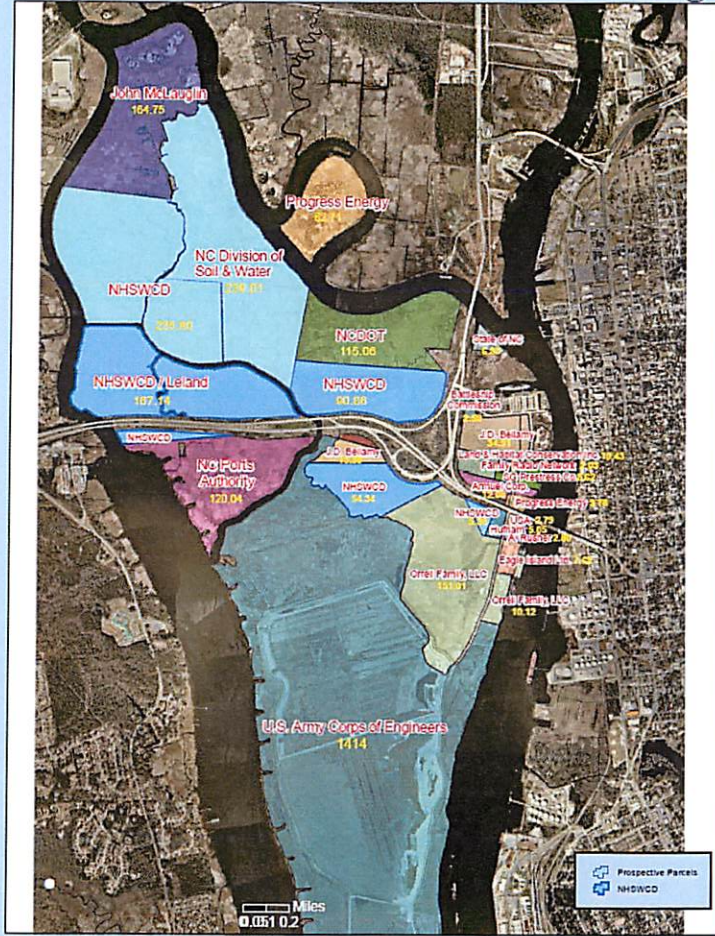
# Major Focus Area: Land Conservation

- Eagles Island
  - Proposed Eagles Island Nature Park
- Island Creek Watershed
  - Conservation of biodiversity and flood mitigation





## Eagle Island Land Owners & Acreage



ATTACHMENT 3



New Hanover Soil & Water Conservation District  
New Hanover County

Slide 6

# Land Conservation

- Island Creek Basin Ecosystem White Paper
  - NC Natural Heritage Area
  - Biodiversity Hot Spot
  - <https://www.nhcgov.com/2504/Endorsements-and-Resolutions>



Island Creek Basin Ecosystem: An Imperiled Biodiversity Hotspot  
March 30, 2023



Authors:  
Andy Wood, Conservation Biologist  
Director, Coastal Plain Conservation Group  
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Roger Shew, Geologist  
Senior Lecturer of Geology, Earth and Ocean Sciences  
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601 South College Road, Wilmington, NC 28403-5944  
Tel: 910 962-7676  
Email: [shewr@uncw.edu](mailto:shewr@uncw.edu)



New Hanover Soil & Water Conservation District  
New Hanover County

Slide 7

Thank You!  
suehayes.nhswcd@gmail.com  
910-470-2131

Questions?



**NCDA&CS**

**Division of Soil and Water Conservation**

**Vernon Cox, Director**



NCDA&CS Division of Soil and Water Conservation  
Vernon Cox, Director  
May 17, 2023



# Personnel

- **New Hires:**

- CREP Program Manager (Eric Galamb) – Jennifer Roach
- Engineer II (Chris Love) – Kori Higgs
- Engineer II (Daphne Cartner) – **Levi Preston**
- AgWRAP Coordinator (Sydney Mucha) - Lorien Deaton
- Environmental Specialist I (CREP) – Maggie Gaughan

- **Vacancies:**

- Environmental Specialist I (CREP) – Hire Recommendation
- Environmental Specialist I (Martin McLawhorn) – Hire Recommendation
- Engineer Tech I (Taryn Hendrickson) – Interview
- Environmental Specialist (Brandy Myers) – Awaiting Applications
- Engineer Tech II (**Levi Preston**) - Awaiting Applications
- CREP Surveyor (Jacob Berry) – Advertise
- Engineer II (Layne Owen) – Advertise
- Engineer Tech II (Stewart Satterwhite) – **Retirement 6/1/23**
- Environmental Specialist II (Ralston James) – **Retirement 6/1/23**



NCDA&CS Division of Soil and Water Conservation  
Vernon Cox, Director  
May 17, 2023





# 2023 House Budget

- StRAP ('23)- \$20M (non-recurring)
- ACSP ('23) - \$4M BMP (non-recurring)  
- \$600k TA (non-recurring)



NCDA&CS Division of Soil and Water Conservation  
Vernon Cox, Director  
May 17, 2023



# 2023 Senate Budget

- StRAP ('23) - \$20M (non-recurring)
- ACSP ('23) - \$3M BMP (non-recurring)
- CCAP ('23) - \$500k (non-recurring)
- CCAP ('24) - \$500k (non-recurring)



NCDA&CS Division of Soil and Water Conservation  
Vernon Cox, Director  
May 17, 2023



# Inquiry Committee Update

- Letters sent to 3 Supervisors
  - Failed to obtain 6 hrs. last term but attended 2023 Supervisor training
- 15 Supervisors
  - Need to attend Supervisor training
  - Notified of July 11<sup>th</sup> training event
- Nash - Attendance Letter



NCDA&CS Division of Soil and Water Conservation  
Vernon Cox, Director  
May 17, 2023



# Fundamentals of Conservation Planning

- May 8<sup>th</sup> – 12<sup>th</sup> University of Mount Olive
- 34 district staff taught
  - All regions represented
  - Most with less 3 years or less experience
- 15 trainers with, 9 district staff, 5 Division staff, 1 UMO professor



NCDA&CS Division of Soil and Water Conservation  
Vernon Cox, Director  
May 17, 2023





NCDA&CS Division of Soil and Water Conservation  
Vernon Cox, Director  
May 17, 2023



# 2023 Inaugural Class



NCDA&CS Division of Soil and Water Conservation  
Vernon Cox, Director  
May 17, 2023



# July Meeting

- Location: Raleigh – Martin Building
- Work Session: July 18, 2023 (6:00 p.m.)
- Business Meeting: July 19, 2023 (9:00 a.m.)



NCDA&CS Division of Soil and Water Conservation  
Vernon Cox, Director  
May 17, 2023



# NCDA&CS

## Division of Soil and Water Conservation

# Vernon Cox, Director



NCDA&CS Division of Soil and Water Conservation  
Vernon Cox, Director  
May 17, 2023





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NCDA&CS Division of Soil and Water Conservation  
Vernon Cox, Director  
May 17, 2023



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NCDA&CS Division of Soil and Water Conservation  
Vernon Cox, Director  
May 17, 2023



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NCDA&CS Division of Soil and Water Conservation  
Vernon Cox, Director  
May 17, 2023





## **Association Report to the Commission**

**May 17, 2023**

### **Basic Training for Soil and Water Conservation Supervisors**

We will be holding a Basic Training on July 11, 2023, at the NCDA&CS Agronomics Building which is located beside the Steve Troxler Agricultural Services Center in Raleigh. Registration is open.

### **NACD Fly In**

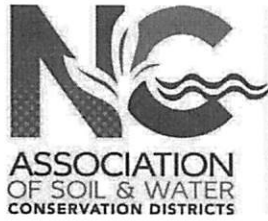
Association representatives from NC attended the NACD Fly In March 22 and 23. We had 6 from NC and visited with 7 of our congressional delegation or staff who are on agricultural committees. We did carry forward the NC resolutions and had positive feedback, especially on the Waters of the US (WOTUS) rule concerns.

### **2023 NC Envirothon**

The Envirothon was held at Cedar Rock Park in Burlington. Around 100 teams competed, which put us back close to pre-COVID numbers. We were fortunate and appreciative to pick the NC Grange as an annual sponsor for this event.

### **State Farm Family Celebration**

H&H Farms of Macon County was celebrated at the State Celebration on May 9. The Association secured 2 billboards promoting Soil and Water Conservation Districts, H&H Farms and appreciation to the NC State Grange for being the title sponsor.



**Association Executive Director's**

**Report to the Commission**

**May 17, 2023**

**2022 Legislative Items**

Funding for Ag Cost Share and the Streamflow Rehabilitation Assistance Program have been included in the House budget. At the time of this report, the Senate had yet to release theirs. We are working on CCAP funding and are hopeful of getting some funding in this as well. We are watching all these closely as they progress through the processes.

Senate Bill 27 passed the Senate with an amendment. The amendment made it optional for Districts to choose partisanship or remain non-partisan. Districts would have until December 1, 2023, to take action. Action to go this route would require a public hearing and adoption of a resolution. It is working its way through the House at the time of this report, and we are continuing to monitor it. If passed, we will work with Districts to explain the Association's position that Districts should remain non-partisan.

**2024 Basic Training**

We are working with the Annual Meeting venue to see if space is available to hold a training as part of the 2024 Annual Meeting. In addition, we will offer the 3 regional trainings in February.

# Natural Resources Conservation Service (NRCS)

## North Carolina



### Fiscal Year (FY) 2023 Program Updates

#### General Updates

EQUIP Classic- A total of 178 contracts has been obligated equaling \$ 10,814,513.00 of the allocated \$28,192,273, with a current 38% obligation rate.

EQUIP IRA- \$3,069,416 has been allocated; ranking is due May 12.

CSP Classic- \$15,000,000 has been allocated; ranking is due June 30.

CSP IRA- \$5,187,711 has been allocated; ranking is due June 30.

Once ranking is complete, NRCS will be able to begin obligating these funds as efficiently as possible.

### Hot Topics

#### Agricultural Land Easements (ALE) and Wetland Restoration Easements

North Carolina continues to lose valuable farmland at an alarming rate. ALE is a great tool to mitigate that risk. Currently ACEP-ALE applications are being evaluated for obligation in FY 23. For FY 23 North Carolina NRCS has received 22 ACEP-ALE applications for a total request of \$11,132,698 and a total of 3,829 acres. Applications were received from many regions of North Carolina, from the mountains, piedmont and the coast.

In addition to ACEP-ALE NRCS North Carolina is currently working on obligating parcels through RCPP. At this time there are currently 12 parcel applications for a total of \$5,039,694 and 1,876 acres. These parcels also being offered from all across North Carolina.

Along with ACEP-ALE NRCS North Carolina is also working on applications for both ACEP-WRE and IRA-WRE. The land values

#### Vacancies

Recently the state office has welcomed four employees to the Ecological Science Section (ECS). The positions that were filled are the State Conservation Planning Specialist, State Grazing Specialist, State Agronomist, and Agriculture Economist. ECS provides most of the training to our employees, so the new team members are a welcomed addition. Currently NRCS has projected 59 vacancies throughout the state that will be funded using regular funding pools along with IRA funds.

Most of the available positions are Soil Conservationists and Soil Conservation Technicians. These positions provide the bulk of what we do and are critical in providing the best customer service we can provide.

### General FY 2023 Updates

#### Organic Transition Initiative

NRCS will dedicate \$70 million to assist producers with a new organic management standard under the Environmental Quality Incentives Program (EQIP). Higher payment rates and other options are available for underserved producers including socially disadvantaged, beginning, veteran, and limited resource farmers and ranchers. A state specific announcement will be coming shortly. Public interest of the new standard will be crucial in determining how much funding North Carolina receives.

#### Local Working Groups (LWG)

These important meetings have been scheduled in the following counties, with more to be reported soon: Haywood (5/23/2023), Henderson/ Transylvania (5/08/2023), and Madison (5/04/2023),

May 31, 2023 is the deadline to have LWG documentation submitted to the state office. This input is invaluable to NRCS as it provides insight that directs priority resource issues and practices best suited to address them.



are currently being evaluated but the total acres are 1,122.



### General FY 2023 Program Updates

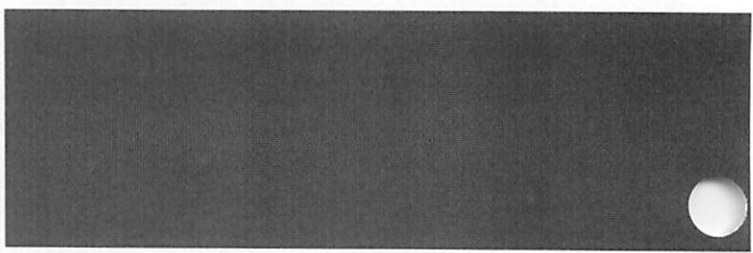
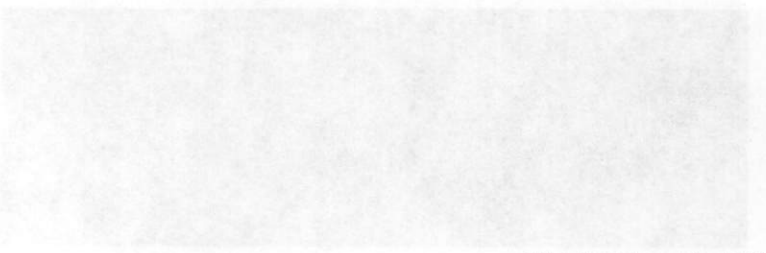
General FY 2023 Program Updates. This section provides an overview of the program changes and updates for the fiscal year 2023. It covers various aspects of the program, including funding levels, eligibility criteria, and application procedures. The updates are designed to improve the efficiency and effectiveness of the program while maintaining its commitment to supporting agricultural producers and rural communities.

### General FY 2023 Updates

General FY 2023 Updates. This section provides a detailed overview of the program changes and updates for the fiscal year 2023. It covers various aspects of the program, including funding levels, eligibility criteria, and application procedures. The updates are designed to improve the efficiency and effectiveness of the program while maintaining its commitment to supporting agricultural producers and rural communities.

### Hot Topics

Hot Topics. This section highlights key issues and challenges that are currently affecting the program and its participants. It provides insights into the latest trends, concerns, and opportunities in the agricultural sector. The information is intended to help stakeholders stay informed and make informed decisions regarding their participation in the program.





**Wiklund, Helen**

**From:** noreply@fs3.formsite.com on behalf of Formsite <noreply@fs3.formsite.com>  
**Sent:** Wednesday, April 19, 2023 4:06 PM  
**To:** Wiklund, Helen  
**Subject:** [External] Nomination for Supervisor Appointment Result #13300730

CAUTION: External email. Do not click links or open attachments unless verified. Report suspicious emails with the Report Message button located on your Outlook menu bar on the Home tab.

Reference #	13300730
Status	Complete
Login Username	kmartineau@madisoncountync.gov
Login Email	kmartineau@madisoncountync.gov
Appointment or Reappointment	New Appointment
District:	Madison
Unexpired/Expired Term of Supervisor:	Logan Clark
Elected/Appointed	Elected
Term of Office	December 2020 to December 2024
Name of Nominee:	Jonathan C. Wallin
Nominee Mailing Address:	260 E Ivy Trails
City:	Weaverville (Madison Co)
State:	NC
Zipcode:	28787

<b>Nominee Email Address:</b>	jonathan.wallin@nc.nacdnet.net
<b>Nominee Mobile or Home Phone:</b>	828-388-4158
<b>Age</b>	46
<b>Occupation:</b>	Director Henderson County SWCD
<b>Education:</b>	BS - Natural Resource Management
<b>Positions of leadership NOW held by nominee:</b>	Director of Soil & Water Conservation District
<b>Former Occupations or Positions of Leadership Contributing to Nominee's qualifications:</b>	See comments above. I have worked for a conservation district for 23 years.
<b>Other pertinent information:</b>	Address is a Buncombe County address. Residence is in Madison County and pay Madison County taxes.
<b>If appointed, I am willing to attend Basic Training for Soil &amp; Water Conservation District Supervisors within the first year after appointment?</b>	<ul style="list-style-type: none"> <li>• Yes</li> <li>• Attended previously (enter years of attendance below) (May 21, 2014)</li> </ul>
<b>The program and purpose of the soil and water conservation district been explained to me?</b>	Yes
<b>I am willing to attend and participate in (check all that apply)?</b>	<ul style="list-style-type: none"> <li>• Local District Meetings</li> <li>• Area Meetings</li> <li>• State Meetings</li> </ul>

Nominee Signature:

*Jonathan C. Wallin*

Typed/printed name:

Jonathan C. Wallin

Date:

4/16/23

District Board Chair Signature (or Vice Chair if Chair is being nominated):

*Russell Blevins*

Typed/printed name:

Russell Blevins

Date:

4/19/23

Resignation letter (only needed if vacancy is due to resignation).

SW Resignation.pdf (20 KB)

Is the nominee actively engaged in, or recently retired from, an agricultural operation?

No

Number of current District Supervisors actively engaged in, or recently retired from, an agricultural operation.

0

Will the appointment provide an opportunity to engage a segment of

No

agriculture not currently being served?

Will the appointment bring new leadership skills to the board? Yes

Please describe the new leadership skills the nominee brings to the board: Jonathan is the director of Henderson County Soil and Water, with current knowledge of the cost share programs, which will be an asset to the new staff at Madison County Soil and Water.

Will the appointment strengthen the political connection/influence of the district, especially at the county level? No

Will the appointment provide representation from a portion of the county not currently represented? No

Will the appointment improve opportunities to work with non-traditional partners? Yes

Please describe how the appointment improves partnership opportunities for the district: Jonathan will have working knowledge of Soil and Water Partners for Western NC

Will the appointment improve the make-up of the board from an agricultural/nonagricultural perspective? Yes

Describe how the appointment improves the non-ag representation for the board: The board currently has limited knowledge of the cost-share programs.

Will the appointment improve the diversity of the board? No

<b>Has the nominee shown past involvement in an organization beyond the local level?</b>	Yes
<b>Describe how the nominee has been involved in an organization beyond the local level:</b>	As director of Soil and Water of Henderson County, Jonathan has been involved with this organization at the state level.
<b>Will the appointment strengthen the District's opportunity to raise funds?</b>	Yes
<b>Please describe how the appointment strengthens the District's opportunity to raise funds?</b>	Jonathan will have fund-raising experience to bring to the board from his experience in Henderson County.
<b>Will the appointment strengthen the District's education, marketing, and outreach efforts?</b>	Yes
<b>How will the appointment strengthen the District's education, marketing, and outreach efforts?</b>	Jonathan brings knowledge from Henderson Soil and Water of education, marketing, and outreach efforts.
<b>Does the District wish to provide other justification in support of the nomination? If so, enter here:</b>	(Could not fit this into the above space for positions held) Jonathan is the Director of Soil & Water Conservation District, Henderson County Ag Advisory Board -staff, youth league basketball and baseball coach, Madison County Parks and Recreation Advisory Board, Henderson County Cooperative Extension Advisory Board, and DEA Representative on TRC.  Address is a Buncombe County address. Residence is in Madison County and pay Madison County taxes. Residence is on county line between Madison and Buncombe.
<b>Last Update</b>	2023-04-19 16:06:26
<b>Start Time</b>	2023-04-19 16:04:30
<b>Finish Time</b>	2023-04-19 16:06:26
<b>IP</b>	66.169.84.47
<b>Browser</b>	Chrome

February 25<sup>th</sup>, 2023

Hello all,

I wanted to share with you what's been on my mind. For a few months now, I've been considering whether or not to continue my term with the Soil & Water Board. I have enjoyed my 2 years on the Board, and I am very appreciative to all who have helped me along the way. It has been a great learning experience to say the least, and I value the insights I've gained on how our programs work. However, I know I am the least qualified on the Board (I'm ok with that), and I feel it's time to let someone more qualified take on the Supervisor position.

I want to make clear that nothing bad has happened to make me want to resign - I simply feel that I've done what small part I'm capable of doing, and that it is time to move on. I'm thankful to know each of you. Unfortunately, I won't be able to make the next meeting in March, so because of this, I'd like to make my resignation from the Board effective immediately.

I appreciate the opportunity to have served our county in some small way, and I'm looking forward to what's next.

If anyone needs to get in touch with me about this, please feel free to email me, or you can call me at (828) 206-3839.

Thank you all,

A handwritten signature in black ink that reads "Logan Clark". The signature is written in a cursive, flowing style.

Logan Clark

**Wiklund, Helen**

**From:** noreply@fs3.formsite.com on behalf of Formsite <noreply@fs3.formsite.com>  
**Sent:** Monday, April 3, 2023 11:21 AM  
**To:** Wiklund, Helen  
**Subject:** [External] Nomination for Supervisor Appointment Result #13193607

**CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to Report Spam.**

<b>Reference #</b>	13193607
<b>Status</b>	Complete
<b>Login Username</b>	kgay@polknc.org
<b>Login Email</b>	kgay@polknc.org
<b>Appointment or Reappointment</b>	New Appointment
<b>District:</b>	Polk
<b>Unexpired/Expired Term of Supervisor:</b>	David Slater
<b>Elected/Appointed</b>	Appointed
<b>Term of Office</b>	December 2022 to December 2026
<b>Name of Nominee:</b>	James Richard Smith
<b>Nominee Mailing Address:</b>	P.O. Box 61
<b>City:</b>	Columbus
<b>State:</b>	NC
<b>Zipcode:</b>	28722
<b>Nominee Email Address:</b>	fishingpapa46@gmail.com

<b>Nominee Mobile or Home Phone:</b>	828-817-1980
<b>Age</b>	77
<b>Occupation:</b>	Retired Ag Teacher
<b>Education:</b>	NCSU Bachelor's Degree Agriculture Education and A&T University Master's Degree Agriculture Education
<b>Positions of leadership NOW held by nominee:</b>	Polk SWCD Chairman. Mountain Valleys RCD Council Vice-Chairman, Hall of Fame Nominating Committee Member, serves on Water Resources Committee.
<b>Former Occupations or Positions of Leadership Contributing to Nominee's qualifications:</b>	Deacon, Pea Ridge Baptist Church; Soil & Water Commission Member for 6 years
<b>Other pertinent information:</b>	He never misses a meeting and is sincerely committed to the District's success. He attends Area and annual meetings and is available any time.
<b>If appointed, I am willing to attend Basic Training for Soil &amp; Water Conservation District Supervisors within the first year after appointment?</b>	Attended previously (enter years of attendance below) (2020)
<b>The program and purpose of the soil and water conservation district been explained to me?</b>	Yes
<b>I am willing to attend and participate in (check all that apply)?</b>	<ul style="list-style-type: none"> <li>• Local District Meetings</li> <li>• Area Meetings</li> <li>• State Meetings</li> </ul>

**Nominee Signature:**

*James Richard Smith*



**Typed/printed name:** James Richard Smith

**Date:** 03/15/2023

**District Board Chair Signature (or Vice Chair if Chair is being nominated):**

*John Vining*

**Typed/printed name:** John Vining

**Date:** 04/03/2023

**Resignation letter (only needed if vacancy is due to resignation).** [Slater Resignation Letter March 2023.pdf \(194 KB\)](#)

**Is the nominee actively engaged in, or recently retired from, an agricultural operation?** No

**Number of current District Supervisors actively engaged in, or recently retired from, an agricultural operation.** 1

**Will the appointment provide an opportunity to engage a segment of agriculture not currently being served?** No

**Will the appointment bring new leadership skills to the board?** Yes

**Please describe the new leadership skills the nominee brings to the board:** Richard will not necessarily be bringing NEW leadership skills to the Board as much as CONTINUED leadership skills to the Board. He has been a consistently strong leader on this Board for over 35 years.

**Will the appointment strengthen the political connection/influence of the district, especially at the county level?**

Yes

**Please describe the new advocacy skills the nominee brings to the board:**

Richard serves as a Council Member for Mountain Valleys RC&D and he has a good relationship with County and State leadership. Richard is well known as a result of his current leadership as a member of the Water Resources Committee, as well as past leadership on the Soil & Water Conservation Commission.

**Will the appointment provide representation from a portion of the county not currently represented?**

No

**Will the appointment improve opportunities to work with non-traditional partners?**

Yes

**Please describe how the appointment improves partnership opportunities for the district:**

Richard works very closely with the Saluda Community Land Trust, Mountain Valleys RC&D, and other organizations on behalf of the District.

**Will the appointment improve the make-up of the board from an agricultural/nonagricultural perspective?**

Yes

**Describe how the appointment improves the non-ag representation for the board:**

Richard has served as the Polk County Ag teacher and has a breadth of knowledge in agricultural and best management practices. He still volunteers with many of the school's agricultural activities and contests.

**Will the appointment improve the diversity of the board?**

No

**Has the nominee shown past involvement in an organization beyond the local level?**

Yes

**Describe how the nominee has been involved in an organization beyond the local level:**

Richard served on the Soil & Water Conservation Commission for 6 years and the Hall of Fame Nominating Committee and Water Resources Committee for several years. He has also served as a Deacon at his church.

<b>Will the appointment strengthen the District's opportunity to raise funds?</b>	Yes
<b>Please describe how the appointment strengthens the District's opportunity to raise funds?</b>	Richard has been instrumental in raising a good bit of funds for the District during his time with the Polk SWCD.
<b>Will the appointment strengthen the District's education, marketing, and outreach efforts?</b>	Yes
<b>How will the appointment strengthen the District's education, marketing, and outreach efforts?</b>	Richard is a vital part of the Polk County High School Land Judging Team's success. He serves as the Vice-Chair of the Mountain Valleys RC&D Council.
<b>Last Update</b>	2023-04-03 11:20:46
<b>Start Time</b>	2023-04-03 11:01:40
<b>Finish Time</b>	2023-04-03 11:20:46
<b>IP</b>	208.90.172.34
<b>Browser</b>	IE
<b>Device</b>	Desktop
<b>Referrer</b>	<a href="https://fs3.formsite.com/res/formLoginReturn">https://fs3.formsite.com/res/formLoginReturn</a>

This email was sent to Helen.Wiktund@ncagr.gov as a result of a form being completed.  
[Click here](#) to report unwanted email.



David S Slater  
5780 Hunting Country Road  
Tryon, NC  
28782

February 6, 2023

Polk County Soil and Water District  
Mill Spring, NC

To Richard Smith and the Supervisor Board:

Effective March 6, 2023 at the end of the Monthly Soil and Water Board Monthly meeting I tender my resignation from the Board.

Having proudly accomplished 25 years of service to the Polk County Soil and Water District Board, I find my time of otherwise being retired and being a grandfather has overtaken my Board obligations.

It has been a distinct pleasure to have served with each and everyone of the Supervisors and the Board Staff.

Sincerely,

  
David Slater

**Wiklund, Helen**

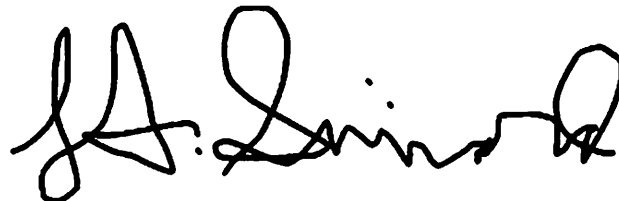
**From:** noreply@fs3.formsite.com on behalf of Formsite <noreply@fs3.formsite.com>  
**Sent:** Friday, April 21, 2023 2:33 PM  
**To:** Wiklund, Helen  
**Subject:** [External] Nomination for Supervisor Appointment Result #13319058

CAUTION: External email. Do not click links or open attachments unless verified. Report suspicious emails with the Report Message button located on your Outlook menu bar on the Home tab.

Reference #	13319058
Status	Complete
Login Username	joann.mccall@tconc.org
Login Email	joann.mccall@tconc.org
Appointment or Reappointment	New Appointment
District:	Transylvania
Unexpired/Expired Term of Supervisor:	Unexpired term of J. Merrill
Elected/Appointed	Elected
Term of Office	December 2022 to December 2026
Name of Nominee:	Aaron Siniard
Nominee Mailing Address:	35 Dojo Lane
City:	Penrose
State:	NC
Zipcode:	28766

<b>Nominee Email Address:</b>	jamessiniard202@hotmail.com
<b>Nominee Mobile or Home Phone:</b>	8285561492
<b>Nominee Business Phone:</b>	8288841815
<b>Age</b>	42
<b>Occupation:</b>	Business Tax Assessment
<b>Education:</b>	Associates Degree
<b>Positions of leadership NOW held by nominee:</b>	Business Tax Assessment
<b>Former Occupations or Positions of Leadership Contributing to Nominee's qualifications:</b>	Navy Parachute Rigger; Surveying with Al Quarry; Landscaping at Brevard College; Farm Management; Maintenance Director for Keystone Camp
<b>If appointed, I am willing to attend Basic Training for Soil &amp; Water Conservation District Supervisors within the first year after appointment?</b>	Yes
<b>The program and purpose of the soil and water conservation district been explained to me?</b>	Yes
<b>I am willing to attend and participate in (check all that apply)?</b>	<ul style="list-style-type: none"> <li>• Local District Meetings</li> <li>• Area Meetings</li> <li>• State Meetings</li> </ul>

Nominee Signature:

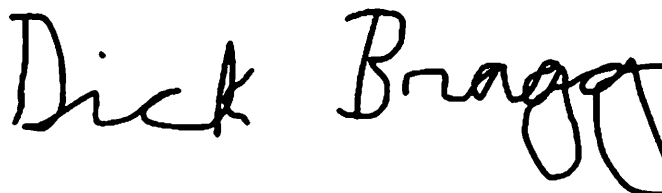


Typed/printed name:

Aaron Siniar

Date:

4/21/23

District Board Chair Signature (or Vice  
Chair if Chair is being nominated):


Typed/printed name:

Dick Bragg

Date:

4/21/23

Resignation letter (only needed if  
vacancy is due to resignation).[RESIGNATION LETTER- JOFFREY MERRILL 2023.pdf \(213 KB\)](#)Is the nominee actively engaged in, or  
recently retired from, an agricultural  
operation?

Yes

Please explain the nominee's  
connection to agriculture:

Aaron grew up raising cattle and chickens in Transylvania County. He has been a farm manager for the 2010 NC Conservation Farm Family winner and is currently starting a cattle operation on his family farm.

Number of current District Supervisors  
actively engaged in, or recently retired  
from, an agricultural operation.

4

<b>Will the appointment provide an opportunity to engage a segment of agriculture not currently being served?</b>	Yes
<b>Please describe how the nominee improves the ag diversity of the board:</b>	Aaron lives in the Little River area of the county and will continue to represent this area since Joffrey Merrill's resignation.
<b>Will the appointment bring new leadership skills to the board?</b>	Yes
<b>Please describe the new leadership skills the nominee brings to the board:</b>	Aaron has served in the Navy and a variety of different agricultural operations, in leadership positions.
<b>Will the appointment strengthen the political connection/influence of the district, especially at the county level?</b>	Yes
<b>Please describe the new advocacy skills the nominee brings to the board:</b>	Aaron and his family know many of the citizens in the county, as well as the current County Commissioners.
<b>Will the appointment provide representation from a portion of the county not currently represented?</b>	Yes
<b>Describe how the appointment improves the geographic representation for the board:</b>	Aaron lives in the Little River area of the county and will continue to represent this area since Joffrey Merrill's resignation.
<b>Will the appointment improve opportunities to work with non-traditional partners?</b>	Yes
<b>Please describe how the appointment improves partnership opportunities for the district:</b>	Aaron knows many of the farmers in the Little River community where he can help increase awareness of the SWCD mission of improving water quality.
<b>Will the appointment improve the make-up of the board from an agricultural/nonagricultural perspective?</b>	Yes



<b>Describe how the appointment improves the non-ag representation for the board:</b>	Aaron brings knowledge and perspectives from both ag-related and non ag-related issues in the county.
<b>Will the appointment improve the diversity of the board?</b>	Yes
<b>Please describe how the appointment improves the diversity of the board:</b>	Aaron knows many of the farmers in the Little River community and can help spread the word to underserved producers. His outgoing personality will allow him to approach these producers and explain what the SWCD offers for them.
<b>Has the nominee shown past involvement in an organization beyond the local level?</b>	Yes
<b>Describe how the nominee has been involved in an organization beyond the local level:</b>	Aaron has volunteered with his church going on mission trips to other states.
<b>Will the appointment strengthen the District's opportunity to raise funds?</b>	Yes
<b>Please describe how the appointment strengthens the District's opportunity to raise funds?</b>	Aaron has worked with a variety of fundraisers- ranging from FFA fundraising to many different church fundraisers.
<b>Will the appointment strengthen the District's education, marketing, and outreach efforts?</b>	Yes
<b>How will the appointment strengthen the District's education, marketing, and outreach efforts?</b>	Aaron interacts with many different citizens through his job and will be able to help market the district's activities through word of mouth.
<b>Does the District wish to provide other justification in support of the nomination? If so, enter here:</b>	Aaron is very enthusiastic about joining the Board and will bring a great perspective to this position. He is anxious to learn more about the partnership and is willing to attend trainings and meetings as needed. The Board fully supports nominating Aaron Siniard to fill the vacancy left by Joffrey Merrill's resignation.
<b>Last Update</b>	2023-04-21 14:32:42

**Joann McCall**

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**From:** Joffrey Merrill <joffreymerrill@gmail.com>  
**Sent:** Thursday, January 19, 2023 4:47 PM  
**To:** Joann McCall; Jeff Parker  
**Subject:** Resignation

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Jeff and Joann,

Due to relocating to Henderson county and having a young family, which I feel I need to spend every minute possible with. I am resigning from the Transylvania County Soil and Water supervisors board effective immediately. I have enjoyed my eight years as a supervisor and hope that what we have accomplished in the past years have been beneficial to the county soil and water quality. Feel free to reach out in the future if I can help with anything from a non county resident position. We are moving our home and business to Henderson County, so I won't be far away. Thank you both for your time and efforts spent daily for the betterment of our county and the environment.

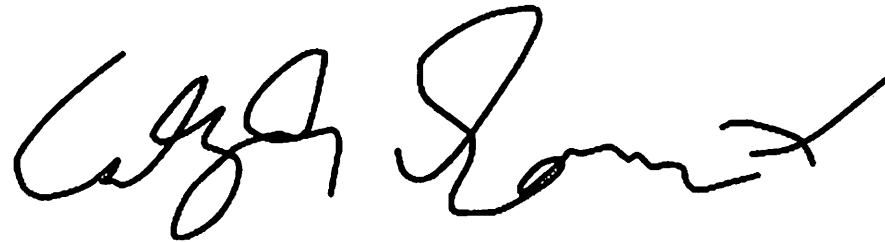
Joffrey Merrill

Sent from my iPhone

<b>Reference #</b>	13324068
<b>Status</b>	Complete
<b>Login Username</b>	taylorrespess@yahoo.com
<b>Login Email</b>	taylorrespess@yahoo.com
<b>Appointment or Reappointment</b>	New Appointment
<b>District:</b>	Washington
<b>Unexpired/Expired Term of Supervisor:</b>	Steve Barnes 22/26
<b>Elected/Appointed</b>	Appointed
<b>Term of Office</b>	December 2022 to December 2026
<b>Name of Nominee:</b>	Colby Glen Davenport
<b>Nominee Mailing Address:</b>	853 Meadow Lane
<b>City:</b>	Creswell
<b>State:</b>	NC
<b>Zipcode:</b>	27928
<b>Nominee Email Address:</b>	powerstroke113.cd@gmail.com

<b>Nominee Mobile or Home Phone:</b>	2523945047
<b>Age</b>	28
<b>Occupation:</b>	Farmer
<b>Education:</b>	High School Education
<b>Positions of leadership NOW held by nominee:</b>	Vice Chairman FSA board
<b>Former Occupations or Positions of Leadership Contributing to Nominee's qualifications:</b>	Vice Chairman FSA board
<b>Other pertinent information:</b>	Lived in community whole life, Experience with conservation practices, Soil and Water Tech. has known personally for 5 years plus.
<b>If appointed, I am willing to attend Basic Training for Soil &amp; Water Conservation District Supervisors within the first year after appointment?</b>	Yes
<b>The program and purpose of the soil and water conservation district been explained to me?</b>	Yes
<b>I am willing to attend and participate in (check all that apply)?</b>	<ul style="list-style-type: none"> <li>• Local District Meetings</li> <li>• Area Meetings</li> <li>• State Meetings</li> </ul>

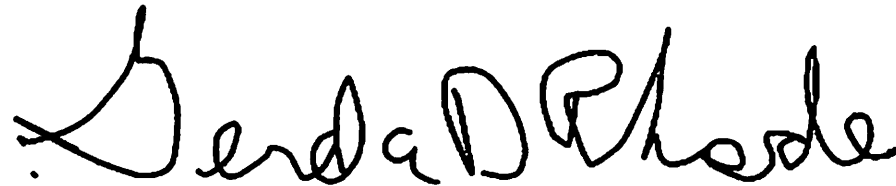
Nominee Signature:



Typed/printed name: Colby G. Davenport

Date: 04/28/2023

District Board Chair Signature  
(or Vice Chair if Chair is being  
nominated):



Typed/printed name: Gerda Rhodes

Date: 04/28/2023

Is the nominee actively  
engaged in, or recently retired  
from, an agricultural  
operation? Yes

Please explain the nominee's  
connection to agriculture: Farmer of 2700 acres., Multiple generation farmer

Number of current District  
Supervisors actively engaged  
in, or recently retired from, an  
agricultural operation. 4

Will the appointment provide an opportunity to engage a segment of agriculture not currently being served?	No
Will the appointment bring new leadership skills to the board?	Yes
Please describe the new leadership skills the nominee brings to the board:	Younger generation with different outlooks on current situations.
Will the appointment strengthen the political connection/influence of the district, especially at the county level?	Yes
Please describe the new advocacy skills the nominee brings to the board:	Can relate to younger generation of farmers, and help provide a different outlook on modern situations we are facing today in this conservation district. Tends land in connected county (tyrell), enabling action between two districts if need be.
Will the appointment provide representation from a portion of the county not currently represented?	Yes
Describe how the appointment improves the geographic representation for the board:	Tends 1100 acres in Creswell NC there for representing a part of the county that has not been fully known by the board for quite sometime. Providing input on best management practices to be done in that area.
Will the appointment improve opportunities to work with non-traditional partners?	No

Will the appointment improve the make-up of the board from an agricultural/nonagricultural perspective?

No

Will the appointment improve the diversity of the board?

Yes

Please describe how the appointment improves the diversity of the board:

Gives perspective of millennial farmers from this area

Has the nominee shown past involvement in an organization beyond the local level?

Yes

Describe how the nominee has been involved in an organization beyond the local level:

Storm clean-up with Baptist Church in Bertie County

Will the appointment strengthen the District's opportunity to raise funds?

Yes

Please describe how the appointment strengthens the District's opportunity to raise funds?

Gives an extra outlook on where funds might need to be prioritized in reference to the entire county and the part he occupies.

Will the appointment strengthen the District's education, marketing, and outreach efforts?

Yes

**How will the appointment strengthen the District's education, marketing, and outreach efforts?** Enables outreach in certain parts of district that haven't had good communication with the board over the years enabling more applications to be filed for conservation practices.

**Does the District wish to provide other justification in support of the nomination? If so, enter here:** Rents land in Tyrell County Columbia NC that has involved water control structure installments (8) main risers and (25) smaller risers. Has experience with aquatic weeds and input on control of them.

**Last Update** 2023-05-01 09:24:30

**Start Time** 2023-04-28 08:06:05

**Finish Time** 2023-05-01 09:24:30

**IP** 75.170.60.224

**Browser** Chrome

**Device** Desktop

**Referrer** <https://fs3.formsite.com/res/formLoginReturn>



## NC Cost Share Programs Supervisor Contracts

## Soil and Water Conservation Commission

County	Contract Number	Supervisor Name	BMP	Contract Amount	Comments
Avery	06-2023-802	William B. Beuttell	Water Well	\$11,211	The contract applicant is RAW Investments, LLC
Chowan	21-2023-015	Matthew L. Floyd	Residue and Tillage Management	\$717	
Currituck	27-2023-008	Manly West	Residue and Tillage Management	\$4,500	
Davie	30-2023-002	Craig Myers	Heavy Use Area Protection	\$9,769	
Swain	87-2023-226	Patrick Breedlove	Rooftop Runoff Management System	\$5,634	Enhanced Voluntary Agricultural District Member

Total Number of Supervisor Contracts: 5

Total      \$31,831

NCDA&CS  
DSWC

NC -CSPs-1B  
(05/22)

**ADDENDUM TO APPLICATION FOR ASSISTANCE  
NORTH CAROLINA COMMISSION COST SHARE PROGRAMS**

As a Soil and Water District Supervisor, for the Avery Soil and Water Conservation District, I have applied for, or stand to benefit\* from, a contract under a commission cost share program. I did not vote on the approval or denial of the application or attempt to influence the outcome of any action on the application. The proposed contract is for the installation of the following best management practices.

Program: AgWRAP

Best management practice: AgWRAP Well & Pump

Contract number: 06-2023-802 Contract amount: \$ 11,211

Score on priority ranking sheet: 2 out of 2

Cost Share Rate: 75 % If different than 75%, please list % percent: n/a

Reason: n/a

Relative rank (e.g., ranked 8th out of 12 projects considered): 2 out of 2

Were any higher or equally ranked contracts denied?  Yes  No

If yes, give an explanation as to why the supervisor's contract was approved over the other contracts:

n/a

Supervisor name (Print): William B. Beuttell

William B. Beuttell  
(District Supervisor's signature)

4/28/23  
Date

Approved by (Print): David L. Banner

David L. Banner  
(District Chairperson's signature)

4/28/23  
Date

**To be completed by Department of Agriculture staff only:**

The Soil & Water Conservation Commission has approved the subject application for a contract pursuant G.S. 139-8(b)(2) on \_\_\_\_\_. The record of Soil & Water Conservation Commission action is recorded in the \_\_\_\_\_ meeting minutes.

\*Beneficiaries include but are not limited to applicant, landowner, and/or business partners.

Please upload this form into the Cost Share Programs' Contracting System Reference Materials Section.

**ADDENDUM TO APPLICATION FOR ASSISTANCE  
NORTH CAROLINA COMMISSION COST SHARE PROGRAMS**

As a Soil and Water District Supervisor, for the Chowan Soil and Water Conservation District, I have applied for, or stand to benefit\* from, a contract under a commission cost share program. I did not vote on the approval or denial of the application or attempt to influence the outcome of any action on the application. The proposed contract is for the installation of the following best management practices.

Program: ACSP

Best management practice: Residue Management

Contract number: 21-2023-015 Contract amount: \$ 717,00

Score on priority ranking sheet: 75 out of 120

Cost Share Rate: 75% If different than 75%, please list % percent: N/A

Reason: N/A

Relative rank (e.g., ranked 8th out of 12 projects considered): 1 out of 8

Were any higher or equally ranked contracts denied?  Yes  No

If yes, give an explanation as to why the supervisor's contract was approved over the other contracts:

N/A

Supervisor name (Print): Matthew L. Floyd

Matthew L. Floyd  
(District Supervisor's signature)

4-28-23  
Date

Approved by (Print): Carey Y. Parrish IV

Carey Y. Parrish IV  
(District Chairperson's signature)

5-1-23  
Date

**To be completed by Department of Agriculture staff only:**

The Soil & Water Conservation Commission has approved the subject application for a contract pursuant G.S. 139-8(b)(2) on \_\_\_\_\_. The record of Soil & Water Conservation Commission action is recorded in the \_\_\_\_\_ meeting minutes.

\*Beneficiaries include but are not limited to applicant, landowner, and/or business partners.

## ADDENDUM TO APPLICATION FOR ASSISTANCE NORTH CAROLINA COMMISSION COST SHARE PROGRAMS

As a Soil and Water District Supervisor, for the Currituck Soil and Water Conservation District, I have applied for, or stand to benefit\* from, a contract under a commission cost share program. I did not vote on the approval or denial of the application or attempt to influence the outcome of any action on the application. The proposed contract is for the installation of the following best management practices.

Program: NC Cost Share

Best management practice: Residue & Tillage Management

Contract number: 27-2023-008 Contract amount: \$ \$4,500.00

Score on priority ranking sheet: 60 out of 60

Cost Share Rate: 75% If different than 75%, please list % percent: \_\_\_\_\_

Reason: \_\_\_\_\_

Relative rank (e.g., ranked 8th out of 12 projects considered): 2 out of 2

Were any higher or equally ranked contracts denied?  Yes  No

If yes, give an explanation as to why the supervisor's contract was approved over the other contracts:

Supervisor name (Print): Manly West

Manly West

(District Supervisor's signature)

4/5/23

Date

Approved by (Print): William L. Powell

William L. Powell

(District Chairperson's signature)

4-5-23

Date

### To be completed by Department of Agriculture staff only:

The Soil & Water Conservation Commission has approved the subject application for a contract pursuant G.S. 139-8(b)(2) on \_\_\_\_\_. The record of Soil & Water Conservation Commission action is recorded in the \_\_\_\_\_ meeting minutes.

\*Beneficiaries include but are not limited to applicant, landowner, and/or business partners.

Please upload this form into the Cost Share Programs' Contracting System Reference Materials Section.



**ADDENDUM TO APPLICATION FOR ASSISTANCE  
NORTH CAROLINA COMMISSION COST SHARE PROGRAMS**

As a Soil and Water District Supervisor, for the Davie Soil and Water Conservation District, I have applied for, or stand to benefit\* from, a contract under a commission cost share program. I did not vote on the approval or denial of the application or attempt to influence the outcome of any action on the application. The proposed contract is for the installation of the following best management practices.

Program: NCACSP

Best management practice: HUAP

Contract number: 30-2023-002 Contract amount: \$ 9,769

Score on priority ranking sheet: 30 out of 46

Cost Share Rate: 75 % If different than 75%, please list % percent: \_\_\_\_\_

Reason: \_\_\_\_\_

Relative rank (e.g., ranked 8th out of 12 projects considered): 7 out of 7

Were any higher or equally ranked contracts denied?  Yes  No

If yes, give an explanation as to why the supervisor's contract was approved over the other contracts:

\_\_\_\_\_

Supervisor name (Print): Craig Myers

Craig Myers  
(District Supervisor's signature)

4-12-23  
Date

Approved by (Print): Richard Karriker

Richard D. Karriker Sr.  
(District Chairperson's signature)

4-19-2023  
Date

**To be completed by Department of Agriculture staff only:**

The Soil & Water Conservation Commission has approved the subject application for a contract pursuant G.S. 139-8(b)(2) on \_\_\_\_\_. The record of Soil & Water Conservation Commission action is recorded in the \_\_\_\_\_ meeting minutes.

\*Beneficiaries include but are not limited to applicant, landowner, and/or business partners.

NCDA&CS  
DSWC

NC-CSPs-1B  
(05/22)

**ADDENDUM TO APPLICATION FOR ASSISTANCE  
NORTH CAROLINA COMMISSION COST SHARE PROGRAMS**

As a Soil and Water District Supervisor, for the Swain Soil and Water Conservation District, I have applied for, or stand to benefit\* from, a contract under a commission cost share program. I did not vote on the approval or denial of the application or attempt to influence the outcome of any action on the application. The proposed contract is for the installation of the following best management practices.

Program: NCACSP

Best management practice: Rooftop Runoff Management

Contract number: 87-2023-226 Contract amount: \$ 5,634

Score on priority ranking sheet: 60 out of 125

Cost Share Rate: 90 % If different than 75%, please list % percent: 90

Reason: Enhanced Voluntary Agricultural District Member

Relative rank (e.g., ranked 8th out of 12 projects considered): 3 out of 4

Were any higher or equally ranked contracts denied?  Yes  No

If yes, give an explanation as to why the supervisor's contract was approved over the other contracts:

Supervisor name (Print): Patrick Breedlove

Patrick G. Breedlove  
(District Supervisor's signature)

4-12-23  
Date

Approved by (Print): Mitchell Jenkins

Mitchell Jenkins  
(District Chairperson's signature)

4-12-23  
Date

**To be completed by Department of Agriculture staff only:**

The Soil & Water Conservation Commission has approved the subject application for a contract pursuant G.S. 139-8(b)(2) on \_\_\_\_\_. The record of Soil & Water Conservation Commission action is recorded in the \_\_\_\_\_ meeting minutes.

\*Beneficiaries include but are not limited to applicant, landowner, and/or business partners.

Please upload this form into the Cost Share Programs' Contracting System Reference Materials Section.

**Wiklund, Helen**

**From:** noreply@fs3.formsite.com on behalf of Formsite <noreply@fs3.formsite.com>  
**Sent:** Monday, May 8, 2023 12:55 PM  
**To:** Wiklund, Helen  
**Subject:** [External] Application For Appointment of Supervisor (Watauga SWCD) Result #13293204

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Reference #	13293204
Status	Complete
Login Username	corbettsproduce@gmail.com
Login Email	corbettsproduce@gmail.com
District:	Watauga
Unexpired/Expired Term of Supervisor:	Chris Hughes
Elected/Appointed	Elected
Term of Office	December 2022 to December 2026
Name of Applicant:	Alexandra Brown
Applicant Mailing Address:	180 Daniel Drive
City:	Boone
State:	NC
Zipcode:	28607

<b>Applicant Email Address:</b>	Corbettsproduce@gmail.com
<b>Applicant Mobile or Home Phone:</b>	3367828930
<b>Age</b>	28
<b>Length of Prior Service as a Supervisor (If applicable)</b>	N/a
<b>Occupation:</b>	Business owner/farmer
<b>Education:</b>	Bachelor of Science in Agricultural Science from NC State University
<b>Positions of leadership NOW held by applicant:</b>	Watauga County Farm Bureau Board member. NC Angus Auxiliary President
<b>Former Occupations or Positions of Leadership Contributing to Applicant's qualifications:</b>	Customer Service Rep at Watauga County Farm Bureau, County Liaison at Wilkes County Farm Bureau, Sales Assistant at Clifton Seed Company
<b>If appointed, I am willing to attend Basic Training for Soil &amp; Water Conservation District Supervisors within the first year after appointment?</b>	Yes
<b>The program and purpose of the soil and water conservation district been explained to me?</b>	Yes
<b>I am willing to attend and participate in (check all that apply)?</b>	<ul style="list-style-type: none"> <li>• Local District Meetings</li> <li>• Area Meetings</li> <li>• State Meetings</li> </ul>



Applicant Signature:



<b>Typed/printed name:</b>	Alexandra Brown
<b>Date:</b>	4/18/2023
<b>Is the applicant actively engaged in, or recently retired from, an agricultural operation?</b>	Yes
<b>Please explain the your connection to agriculture:</b>	I am the CEO of BFR Meats and Corbetts Produce. My husband and I live on his family's 5th generation farm where we raise cattle and pigs.
<b>Please describe how your appointment will improve the ag diversity of the board:</b>	I bring several aspects of diversity to the board. First I am a young female that is not only a farmer but a full time farmer which is a very rare thing today. Secondly, my family's farming operation is one of the most diverse operations in the high country, spanning across several sectors of agriculture.
<b>Please describe the new leadership skills your appointment will bring to the board:</b>	I am a driven leader in the NC agriculture community through various ag organizations that I either serve on or participate in. I have a diverse background in ag, having worked in an array of ag related industries. I believe my greatest leadership quality is my ability to listen when needed and act when compelled.
<b>Please describe the new advocacy skills your appointment will bring to the board:</b>	I am grounded and embedded in the NC agricultural community. Through ag organizations that I am apart of I have had the opportunity to advocate on behalf of farmers to the public, elected officials, and community influencers.
<b>Describe how your appointment will improve the geographic representation for the board:</b>	Our farming operation covers several geographic areas of the county, allowing me to work with people from those areas and have first hand knowledge of the needs of those areas.
<b>Please describe how your appointment will improve</b>	My appointment will positively improve relationships with non-traditional partners due to the diversity of my farming operation. My involvement with local chambers and industry groups have allowed me to work with a diverse group of people.

partnership opportunities for the district:

Describe how your appointment will improve the non-ag representation for the board:

I have a unique perspective as I did not grow up on a farm but grew up on a few acres in the country. I got interested in agriculture through 4-h at a young age, went to school for ag, and married a man who came from a family farm. Together we have worked to develop and diversify the family farm using our diverse backgrounds.

Please describe how your appointment will improve the diversity of the board:

I have a diverse and non-traditional background that has helped shape and grow my farming operation. I have been involved in a broad array of ag industries from animal production, produce, field crops, to crop genetics.

Describe how you have been involved in an organization beyond the local level:

I am actively involved with the NC Farm Bureau, American Angus Association, North Carolina Angus Association, and YF&R

Please describe how your appointment will strengthen the District's opportunity to raise funds?

I am actively involved in local chambers and civic groups through our businesses.

How will your appointment strengthen the District's education, marketing, and outreach efforts?

I am a young business woman who takes further education seriously and understands today's marketing needs. I am active in my community and understand how agriculture and conservation play a vital role in the high country.

Do you wish to provide other justification in support of your application? If so, enter here:

As a young woman who is one of the few full time farmers in the county, I bring one of the most diverse ag backgrounds to the table while having a desire to conserve our land for generations to come.

Last Update

2023-04-18 22:51:18

Start Time

2023-04-18 21:32:17

Finish Time

2023-04-18 22:51:18

IP

47.134.222.111

Browser

Safari

Device

Mobile

**Wiklund, Helen**

**From:** noreply@fs3.formsite.com on behalf of Formsite <noreply@fs3.formsite.com>  
**Sent:** Monday, May 8, 2023 12:55 PM  
**To:** Wiklund, Helen  
**Subject:** [External] Application For Appointment of Supervisor (Watauga SWCD) Result #13305257

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<b>Reference #</b>	13305257
<b>Status</b>	Complete
<b>Login Username</b>	cdtreefarm@skybest.com
<b>Login Email</b>	cdtreefarm@skybest.com
<b>District:</b>	Watauga
<b>Unexpired/Expired Term of Supervisor:</b>	Chris Hughes
<b>Elected/Appointed</b>	Elected
<b>Term of Office</b>	December 2022 to December 2026
<b>Name of Applicant:</b>	Diane Cornett Deal
<b>Applicant Mailing Address:</b>	PO Box 429
<b>City:</b>	Sugar Grove
<b>State:</b>	NC
<b>Zipcode:</b>	28679

<b>Applicant Email Address:</b>	cdtreefarm@skybest.com
<b>Applicant Mobile or Home Phone:</b>	828-964-6322
<b>Age</b>	67
<b>Length of Prior Service as a Supervisor (If applicable)</b>	4
<b>Occupation:</b>	Retired Clerk of Superior Court-Watauga County, Owner-Cornett Deal Christmas Tree Farm
<b>Education:</b>	12 Grade plus Community College Credits
<b>Positions of leadership NOW held by applicant:</b>	Cornett Deal Christmas Tree Farm, Owner Watauga County Christmas Tree Assoc. NCCTA Membership Committee Fraser Fir Promotional Committee (NCCTA)
<b>Former Occupations or Positions of Leadership Contributing to Applicant's qualifications:</b>	Assistant Clerk of Superior Court 1979-2009 Soil and Water Supervisor 2007-2010 (Elected 2006) Clerk of Superior Court 2010-2021 (Retired May, 2021)
<b>Other pertinent information:</b>	I am now retired from my position as Clerk of Superior Court and have more time to devote to the position of Soil and Water Supervisor for Watauga Co.
<b>If appointed, I am willing to attend Basic Training for Soil &amp; Water Conservation District Supervisors within the first year after appointment?</b>	<ul style="list-style-type: none"> <li>• Yes</li> <li>• Attended previously (enter years of attendance below) (2007 (Attended required trainings))</li> </ul>
<b>The program and purpose of the soil and water conservation district been explained to me?</b>	Yes
<b>I am willing to attend and participate in (check all that apply)?</b>	<ul style="list-style-type: none"> <li>• Local District Meetings</li> <li>• Area Meetings</li> <li>• State Meetings</li> </ul>

Applicant Signature:

*Diane Cornett Deal*

**Typed/printed name:** Diane Cornett Deal

**Date:** 04/16/2023

**Is the applicant actively engaged in, or recently retired from, an agricultural operation?** Yes

**Please explain the your connection to agriculture:** I am owner of the Cornett Deal Christmas Tree Farm and have been actively engaged in producing Fraser fir Christmas trees since 1986. For many years my farm has been open to the public as one of the choose & cut farms. I am still planting trees and making wreaths on my farm. I help with the overall promotion of the Christmas Tree industry by being active with both the Watauga CTA and the NCCTA.

**Please describe how your appointment will improve the ag diversity of the board:** As a woman who has owned and managed her own farm for many years, I feel I can bring a different perspective to the Board and help make informed decisions about important issues. Also as a farmer, I have applied for and received assistance through the Cost Share Program. I understand the needs of farmers across a wide diverse community of farmers.

**Please describe the new leadership skills your appointment will bring to the board:** I believe my ability to work with and to understand the needs of peoples from many backgrounds, will aid in making the board more open to the diverse needs in our community. In addition to the Christmas Tree industry and the cattle industry, Watauga is made up of several small farm operations as well as many gardeners who sell their products at local farmer's markets, local restaurants, and through the Food Hub. It is important that we consider the needs of our diverse farm community when we are looking at programs and ways to assist our growing population. So much of our farm land is now being consumed by large developers and this makes for a challenging situation for those of us who want to continue conserving our lands and keeping plenty of green space for our future generations.

**Please describe the new advocacy skills your appointment will bring to the board:** As someone with a background in local government, I feel that I have a good relationship with many of our elected and appointed officials and could therefore advocate on behalf of the board for resources and for other issues as they might arise.

<p><b>Describe how your appointment will improve the geographic representation for the board:</b></p>	<p>I understand that as the board currently sits, the supervisors all live in close proximity with each other. I currently live in the Foscoe Community but my farm is located in the Mountain Dale Community (northwest corner of the county and a part of the county that is still mostly agriculture). If I am appointed there will be better representation of outlying areas of the county that currently have no representation.</p>
<p><b>Please describe how your appointment will improve partnership opportunities for the district:</b></p>	<p>As a person who is concerned with the preservation or conservation of our natural resources, I am a follower of the Blue Ridge Conservancy and a past member of the Blue Ridge Hiking Club who donates part of their dues each year to the upkeep of trails along our Blue Ridge Parkway. I realize this is only one example of my concern for our land, but I do know and can talk with leaders in some of the conservation organizations and can advocate for their assistance to the board with projects or partnerships.</p>
<p><b>Describe how your appointment will improve the non-ag representation for the board:</b></p>	<p>As stated in the previous question, I have connections with some of our non-traditional partners and believe I could improve relationships with the non-ag organizations. For example there have been some issues with the flooding of the Watauga River in the Foscoe Community and our Foscoe Ruritan Club wanted to work with the River Keepers in address some of the issues. I believe as Soil and Water Supervisors, we should be able to work with groups like the Blue Ridge Conservancy and the River Keepers to apply for and obtain grants to address many issues around our county.</p>
<p><b>Please describe how your appointment will improve the diversity of the board:</b></p>	<p>As a woman who owns and operates a farm, I believe I can help communicate well with other farmers and share information about projects and programs that would be connected to the Soil and Water Conservation District. As a person who has worked for and with the public for many years, I can bring my ability to work with a diverse community to the board.</p>
<p><b>Describe how you have been involved in an organization beyond the local level:</b></p>	<p>I continue to be an active member of the North Carolina Christmas Tree Association and am on the Fraser Fir Promotional Committee and chair some subcommittees of that group. I am also a member of the Watauga County Christmas Tree Assoc. and was president of the association at one time as well as chair and co-chair of the Watauga County Choose &amp; Cut committee. I am currently a member of the Foscoe Ruritan Club and work with that club to raise funds that can be used for helping our community members who may have special needs. The Ruritan club also gives at least two small scholarships each year to students for their continued education. For several years, I was also on the Farm Bureau Board and worked on several projects with that board.</p>
<p><b>Please describe how your appointment will strengthen the District's opportunity to raise funds?</b></p>	<p>If I am appointed to the board, I believe my relationship with local government officials and the business community at large will strengthen the District's opportunities to raise funds.</p>
<p><b>How will your appointment strengthen the District's education, marketing, and outreach efforts?</b></p>	<p>As a member of the Watauga farm community, I will have opportunity to speak to people about our Soil and Water Conservation District and share information about the programs we support. I also have some connections to teachers and administrators in our local schools and would be willing to go into the schools and talk with students. Several times</p>

through the years, I have had groups of school age children tour my farm. I believe educating our youth on the importance of conservation is the key to the protection of our waters and lands for future generations.

**Do you wish to provide other justification in support of your application? If so, enter here:**

Thank you for taking time to review and consider my application. It would be an honor to again serve my county as a Soil and Water Conservation Supervisor.

**Last Update**

2023-04-24 07:59:10

**Start Time**

2023-04-24 07:01:03

**Finish Time**

2023-04-24 07:59:10

**IP**

38.132.136.3

**Browser**

Chrome

**Device**

Desktop

**Referrer**

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 **formsite**

**Wiklund, Helen**

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**From:** noreply@fs3.formsite.com on behalf of Formsite <noreply@fs3.formsite.com>  
**Sent:** Monday, May 8, 2023 12:55 PM  
**To:** Wiklund, Helen  
**Subject:** [External] Application For Appointment of Supervisor (Watauga SWCD) Result #13323853

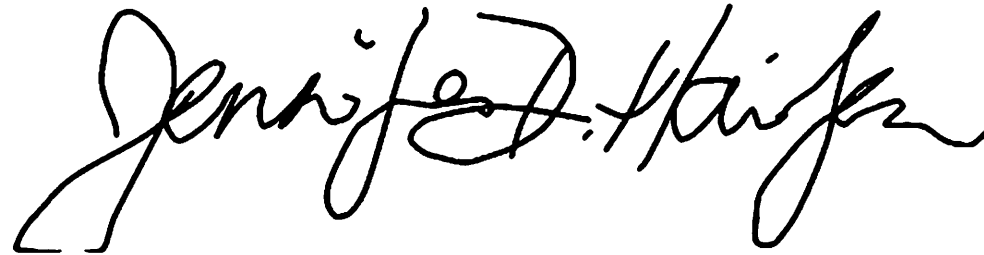
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Reference #	13323853
Status	Complete
Login Username	jhanifan12@gmail.com
Login Email	jhanifan12@gmail.com
District:	Watauga
Unexpired/Expired Term of Supervisor:	Chris Hughes
Elected/Appointed	Elected
Term of Office	December 2022 to December 2026
Name of Applicant:	Jennifer Hanifan
Applicant Mailing Address:	5361 Castleford Road
City:	Todd
State:	NC
Zipcode:	28684



<b>Applicant Email Address:</b>	jhanifan12@gmail.com
<b>Applicant Mobile or Home Phone:</b>	252-241-8743
<b>Age</b>	54
<b>Length of Prior Service as a Supervisor (If applicable)</b>	NA
<b>Occupation:</b>	Varied ~ Farming, Ministry, Estate Planning Ctr Office Manager
<b>Education:</b>	Bachelor's in Psychology with concentration in Statistics, Notary, please see attached resume
<b>Positions of leadership NOW held by applicant:</b>	Yada Ministry (Todd), Transforming the High Country (Boone), Office Manager of family business (Blowing Rock), see attached resume
<b>Former Occupations or Positions of Leadership Contributing to Applicant's qualifications:</b>	Yada 250+ acre farm, Estate Planning Ctr, Samaritan's Purse, Teacher (4th-12th), AT&T Corp., Sales Instructor, CBS Group Leader, see attached resume
<b>Other pertinent information:</b>	Married to Gerald Hanifan for 28yrs, raised & schooled 4 children, currently steward a ministry/farm with livestock, see attached resume
<b>If appointed, I am willing to attend Basic Training for Soil &amp; Water Conservation District Supervisors within the first year after appointment?</b>	Yes
<b>The program and purpose of the soil and water conservation district been explained to me?</b>	Yes
<b>I am willing to attend and participate in (check all that apply)?</b>	<ul style="list-style-type: none"> <li>• Local District Meetings</li> <li>• Area Meetings</li> <li>• State Meetings</li> </ul>

Applicant Signature:



<b>Typed/printed name:</b>	Jennifer D. Hanifan
<b>Date:</b>	3.25.2023
<b>Is the applicant actively engaged in, or recently retired from, an agricultural operation?</b>	No
<b>Please describe how your appointment will improve the ag diversity of the board:</b>	I look forward to opportunities to speak/teach/ and cultivate understanding of the Soil and Water Conservation from a woman's perspective who is actively living and working on a farm with livestock, as well as large company corporate experience. I love to serve our community and draw us together regardless of differences. We have a lot more in common and it is my desire is to work/learn together in these mountains we call home.
<b>Please describe the new leadership skills your appointment will bring to the board:</b>	The practical skills and experience I have in: Communication, Teaching, Outreach, Public Speaking, Organization, Hands on and lead by example, Logistics focused, Able to express myself in most given situations and able to lead others to success, Unbiased and fair decision making, Energetic and not afraid of hard work, Debating skills, A conservative constitutionalist.
<b>Please describe the new advocacy skills your appointment will bring to the board:</b>	I attend several county monthly meetings and make it a point to familiarize myself and keep acquaintances with others who on on these boards (elected and appointed officials). I will bring understanding and awareness to the necessary needs we have and where the Soil and Water Conservation fulfills them. Maintaining communications and progress (networking) with county representative is what I look forward to assisting this board with.
<b>Describe how your appointment will improve the geographic representation for the board:</b>	I live on the New River with farm land, fields, wooded area, hiking trails, and surrounded by and have access (own part) to 300 acres dedicated to an ASU nature conservatory, of which we have a working relationship with.
<b>Please describe how your appointment will improve partnership opportunities for the district:</b>	My appointment will keep open dialogs and conversations with these other non-traditional partners, which is necessary to bring about a more holistic unified approach. Again we have a working relationship with ASU and their nature conservatory of 300 acres adjoining (surrounding) our property.

<p><b>Describe how your appointment will improve the non-ag representation for the board:</b></p>	<p>I look forward to serving our community (everyone) with opportunities to speak with and educate our county residents the fundamental of the Soil and Water Conservation and facilitate an open conversation of natural resource concerns throughout our county.</p>
<p><b>Please describe how your appointment will improve the diversity of the board:</b></p>	<p>Not only do I bring a female's perspective, I bring a "learning farmer's" approach. By this I mean, my husband and I have grown up around farms but did not work them daily. We have dramatically changed our lifestyle to do so. With this change we have had to learn and educate ourselves the processes and approaches to the many responsibilities we now have. Speaking and learning from our neighbors has been invaluable to us by learning better ways and making improvements. I believe there are many "new" farmers in our county who I can relate to and speak from my own experiences.</p>
<p><b>Describe how you have been involved in an organization beyond the local level:</b></p>	<p>I have been involved in a National Head Quarters Phone Company having to manage the different state demands and needs, At Samaritan's Purse Donor Ministries I had to act as a liaison through funding support, National and International disasters, and the National Covid crisis. Also, my husband and I are involved in a International prayer and marriage ministry.</p>
<p><b>Please describe how your appointment will strengthen the District's opportunity to raise funds?</b></p>	<p>By stressing the importance of caring for our mountains and how the Soil and Water Conservation provides this, I will bring the needed attention to our community. Typically when people understand what the donated monies are being spent on in small bite size pieces they tend to get behind the effort. Again communication, understanding, and dare I say networking keeps everything transparent and open, which brings about funding.</p>
<p><b>How will your appointment strengthen the District's education, marketing, and outreach efforts?</b></p>	<p>As mentioned in previous questions, I highly regard teaching, learning, and presenting these activities (environmental, marketing, and public outreach). Knowledge is key and again, when people understand better they feel connected and are more likely to either get involved, get behind, or support. As our community has better understanding they will share with others. I am willing to fundraise, educate, present, and involve our local businesses and the public. I am energetic and have a love of learning. These beautiful mountains are home to many people who love them. Keeping our mountains clean, fruitful, and cared for are important as they employ our families, and provide for our community. Educating our visitors and community members is important. I am willing to be creative and reach the people groups that need additional understanding and awareness. I will help make what the Soil and Water Conservation role is in our community understandable and contagious. By taking pride and bringing awareness of our mountains via Parades, Holidays, Dinners, Presentations, Classes, Demonstrations, Research, Schools, etc. we can strengthen our efforts and funding.</p>
<p><b>Do you wish to provide other justification in support of your application? If so, enter here:</b></p>	<p>I think it is important that our community understand how vital it is for one another to serve our county in some capacity or another by taking ownership, giving their time and joining our efforts. I love teaching and believe as we reach our children they will become life learners and appreciate our Appalachian Mountains and their diversity. Also, I have an indigenous wild plant knowledge and forage regularly for wild edibles and medicinal purposes.</p>

Optional additional documentation (e.g, candidate resume').

JennieResume 2.24.23.docx (5.45 MB)

Last Update	2023-04-25 13:25:37
Start Time	2023-04-24 10:39:46
Finish Time	2023-04-25 13:25:37
IP	8.40.60.73
Browser	Chrome
Device	Desktop
Referrer	https://fs3.formsite.com/res/formLoginReturn

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# Jennie Hanifan

5361 Castleford • Todd, NC 28684  
Phone: 252-241-8743 • E-Mail: jhanifan12@gmail.com



ATTACHMENT 9  
**JDH**

## Experience

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### **YADA Ministry 2015- Present ~ Full-time**

Within our 250+ acre farm, called YADA, a ministry the Lord has graciously directed us to steward. This farm is a place for those who are in need of restoration; seeking to be joined in prayer and ministry towards their calling. There are many ways we offer restoration to those seeking to visit YADA.

### **Estate Planning Center 1997- Present ~ Part-time**

Assist in office management (hiring/interview potential employees, assess office structure and running operations when needed, consulted for and managed financial informational venues and seminars, as well fill in where needed to ensure smooth operations and execution of office environment), this is our family business, of which, my husband is COO.

### **Samaritan's Purse ~ Donor Ministry ~ Operation Christmas Child 2019-2021**

Received financial donor calls on continuum, managed influx of disaster calls, managed influx of prayer hotline during Covid crisis, assisted in transferred/uploaded donor documents from hard copy to Floor Coordinator at the OCC processing center, I greeted and placed volunteers in positions in assisting the shoe-box process. It required managing volunteer influx hourly/daily, which ranged 150 to 310, by keeping workstations full and functioning. This position is also a face of Samaritan's Purse OCC while at the warehouse, and it was my responsibility to communicate gratitude, as well as what their contribution means to the whole picture of delivering the gospel.

### **Community Bible Study (CBS) 1997-2012**

I began studying the bible beginning in Ephesians with the wonderful organization of CBS. During my 14 years with CBS I learned from: woman, teachers, sisters, mothers how to love myself, mother, love Christ, love my husband, and do my best and trust His plan and purpose for my life. I also stepped up to serve and facilitate the studies and lead. When I was called to homeschool I stepped down from CBS to educate my children. I knew God would circle back for me to serve again in another capacity.

### **AT&T 1987 - 1996**

Manager/Market Analyst, Business Commercial Market, Channel Design, AT&T Head Quarters Basking Ridge NJ, My responsibilities, included but not limited to, varied within sales (lowest tier of business clients) platform from redesigning National territories, Monthly publication of sales statistics of 28 branches and sales performance and product success as well as calling centers, Assisted in the deployment of 1<sup>st</sup> "Virtual Office" (work from home) program for sales force, which increased productivity and reduced operating costs. Evaluated Sales Orientation Program/environment for new Account Executives and developed enhancement to address evaluations, presented to managers for execution. Managing the logistics of 10 national calling centers.

## Education

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**College of Saint Elizabeth, Convent Station NJ ~ B.A. in Psychology      Graduated 1992**

Honors: Awarded 2 year academic scholarship.

**Birmingham University, Birmingham England ~ Psychology/Statistics      1990-1991**

**Swinburne University, Melbourne Australia ~ Humanities      1986-1987**

## Skills

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Strong communications, a love for all creatures great and small, learning about plants in our native area, creative "Out-of-Box" thinking, integrity, statistical assessment, organizational, assessment and problem solving abilities; Effective interaction with all levels of management, staff, and clients; Software: MAC, PC, Microsoft Office

## **Why am I asking to be considered for a Soil and Water appointment?**

ATTACHMENT 9

I would like to give back to our community. I enjoy stewarding this farm I call home, in these beautiful mountains, and will keep integrity and commitment at the forefront of my efforts. I am an "out of the box" thinker seeking unity on issues collectively. Being diligent and a life learner to the work placed before me is what I see as a strong character trait I hold. Living here in these mountains has been humbling and rewarding. Working with my hands and caring for the land and creatures that are in my responsibility is hard, but truly satisfying. I hope to share the same passion with those around me and in our community.

Jerry and I live on the New River in Todd atop breathe taking rolling hills, managing a budding farm with livestock (chickens, doves, donkeys, goats, sheep, and bees, working dogs, many feral cats aka mousers, fruit orchard, multiple paddocks, boarding horse and donkeys, haying fields, greenhouse gardening, and several out buildings. We are involved in livestock sales and breeding as well as the sale of hay and logging. Animal husbandry is a skill that we continue to learn from and are forever grateful to our surrounding neighbors who unwaveringly share their knowledge with us. We take managing our farm seriously and the impact it has on our community. When in times of excess we donate to the local food ministries.

Within our 250+ acre farm, called YADA, we also attend to a ministry the Lord has graciously directed us to steward. This farm a place for those who are in need of restoration seeking to be joined in prayer and ministry towards their calling.

Jerry and I have been married for 28 years (and counting☺); we have raised and schooled four children on our farm. We have called these mountains home since 2006, originally from the coast of Morehead City, NC. I have a Bachelor's in Psychology with a statistics concentration. My work history is a partner in running our farm (currently), Samaritan's Purse, teaching (4th through 12th), AT&T Headquarters, and accompanying our financial business of 30 years (currently). My grandparents had a large farm, of which I grew up on and spent my summers.



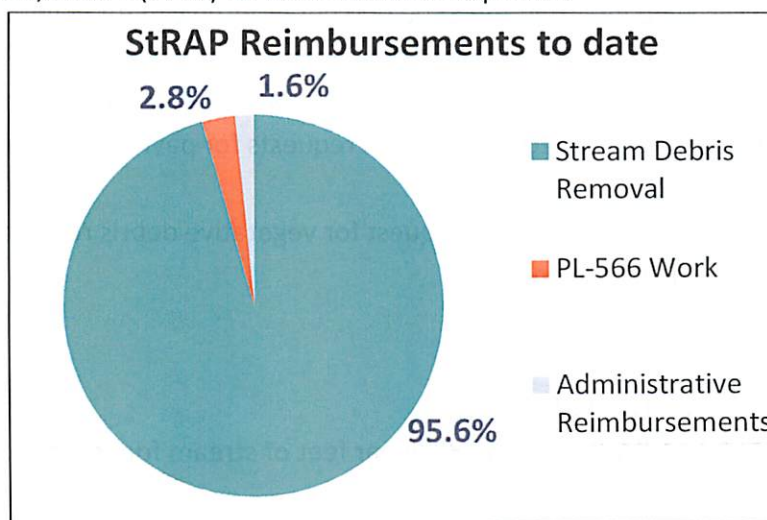
North Carolina Department of Agriculture  
and Consumer Services  
*Division of Soil and Water Conservation*

## Streamflow Rehabilitation Assistance Program

Program Updates- May 16 & 17, 2023

### Program Status and Reimbursements

- As of May 5, the Division has paid \$8,634,517.76 in reimbursements to grantees.
  - \$8,256,798.02 (95.6%) for stream debris removal work
  - \$240,700 (2.8%) for PL-566 structure repair
  - \$137,019.74 (1.6%) for administrative expenses



- Payments have been made to 53 grantees in 40 counties. Reimbursed work includes:
  - 1,433,506 linear feet of completed stream debris removal work (out of approximately 3.6 million linear feet of planned work).
  - 12 completed PL-566 watershed structure projects.
- 16 grantees have completed all planned work.
  - 7 of these have submitted final reports and contracts have been closed out.
  - 9 have completed work, and either have unused funds remaining and plan to add additional work to their scope of work or have not yet submitted a final report to close out the contract.

### 50% Encumbrance of Funds

- Since the May Commission meeting, 3 grantees have submitted update letters documenting that they have encumbered at least 50% of project funds. As of May 5:
  - 81 Grantees have met the goal of having 50% of funds encumbered.
  - 28 Grantees have not met this 50% goal.

North Carolina Department of Agriculture  
and Consumer Services  
*Division of Soil and Water Conservation*

**Reallocation**

At the March Commission meeting, SWCC approved the reallocation of \$1,376,767 in StRAP funds that are available for a supplemental allocation at the May Commission meeting. These funds come from allocations returned and from freeing up funds originally set aside for Division administration of the program.

- Application period: April 10 – May 1, 2023
- Criteria for Prioritization of awards- applicants should:
  1. Be current StRAP Grantee.
  2. Have received less than the \$500,000 per grantee cap for vegetative debris removal funds.
  3. Have expended at least 75% of StRAP funds allocated for vegetative debris removal by April 30, 2023 (based on requests for payment submitted on or before that date).
  4. Received less than their full request for vegetative debris removal funds in the initial StRAP allocation.

The Division received 24 applications.

- Total requested funds: \$11,985,221
  - Total planned work: 1,595,132 linear feet of stream for vegetative debris removal
- All applicants were current StRAP grantees.
- 15 applicants met all eligibility criteria.
- 9 applicants did not meet all eligibility criteria.

The Division recommends awarding supplemental funds to 18 applicants, as outlined in the attached document. This would include the 15 grantees who met all criteria, as well as the 3 applicants who received the full amount of debris removal funds requested in their initial application but otherwise met all other criteria.

This recommended reallocation would have a minimum reallocation of \$63,500 per grantee, except where the applicant requested a lower amount. Awarded reallocation amounts above the \$63,500 minimum were calculated using the same formula as the initial StRAP awards in 2022. Reallocation awards would range from \$45,600 to \$123,079. The total amount awarded would be \$1,376,716. The recommended award amount would ensure that no grantee would receive a total amount of vegetative debris removal funds in excess of \$500,000.



StRAP Supplemental Reallocation

Applicant	County	Initial StRAP Allocation	Total Funds Requested in Reallocation	Linear feet of work requested for funding	Estimated Cost per Linear Foot	Eligibility Criteria				Maximum Reimbursement	Recommended Allocation
						Current StRAP Grantee	75% of Vegetative Debris Removal Funds Spent	Received less than \$500,000 cap	Received full amount requested in Funding Round 1		
Pitt County Government	Pitt	\$414,975	\$80,000	15,840	\$5.1	Yes	Yes	Yes	No	\$85,025	\$64,505
Robeson County Drainage District 4	Robeson	\$272,649	\$227,351	14,256	\$15.9	Yes	Yes	Yes	No	\$227,351	\$73,483
Wilson County Government	Wilson	\$280,463	\$250,000	47,837	\$5.2	Yes	Yes	Yes	No	\$219,537	\$74,863
Friends of Sampson County Waterways	Sampson	\$300,304	\$199,696	56,680	\$3.5	Yes	Yes	Yes	No	\$199,696	\$71,798
Town of Kill Devil Hills	Dare	\$258,458	\$51,788	1,200	\$43.2	Yes	Yes	Yes	No	\$241,542	\$51,788
Pamlico Soil and Water Conservation District	Pamlico	\$340,379	\$997,705	199,541	\$5.0	Yes	Yes	Yes	No	\$159,621	\$93,614
Martin Soil & Water	Martin	\$299,769	\$272,000	68,000	\$4.0	Yes	Yes	Yes	No	\$200,231	\$76,203
Mitchell SWCD	Mitchell	\$65,000	\$220,500	96,360	\$2.3	Yes	Yes	Yes	No	\$221,963	\$73,065
Robeson County	Robeson	\$357,052	\$633,600	42,240	\$15.0	Yes	Yes	Yes	No	\$142,948	\$98,234
Randolph Soil and Water	Randolph	\$422,194	\$2,839,590	94,380	\$30.1	Yes	Yes	Yes	No	\$77,806	\$77,806
Greene County	Greene	\$297,309	\$796,168	99,521	\$8.0	Yes	Yes	Yes	No	\$202,691	\$108,138
Burke SWCD	Burke	\$256,684	\$350,029	7,876	\$44.4	Yes	Yes	Yes	No	\$243,316	\$80,957
Robeson County Drainage District 1	Robeson		\$250,000	16,278	\$15.4	Yes	Yes	Yes	No	\$250,000	\$74,863
Coharie Intra-Tribal Council	Sampson	\$308,422	\$191,578	46,332	\$4.1	Yes	Yes	Yes	No	\$191,578	\$71,303
Jones SWCD	Jones	\$376,921	\$1,300,000	260,000	\$5.0	Yes	Yes	Yes	No	\$123,079	\$123,079
Currituck Soil and Water Conservation	NC	\$248,000	\$45,600	15,200	\$3.0	Yes	Yes	Yes	Yes	\$252,000	\$45,600
Camden SWCD/Camden County	NC	\$74,850	\$45,600	15,200	\$3.0	Yes	Yes	Yes	Yes	\$425,150	\$45,600
Town of Black Mountain	Buncombe	\$7,000	\$200,000	36,960	\$5.4	Yes	Yes	Yes	Yes	\$493,000	\$71,816
Stokes SWCD	Stokes	\$246,761	\$135,000	9,508	\$14.2	Yes	No	Yes	Yes	\$253,239	\$0
County of Hoke	Hoke	\$375,507	\$234,556	16,754	\$14.0	Yes	No	Yes	No	\$124,493	\$0
Yadkin Valley Sewer Authority	Surry	\$251,537	\$247,000	5,300	\$46.6	Yes	No	Yes	No	\$248,463	\$0
Pender Soil and Water Conservation District	Pender	\$402,376	\$1,380,560	172,570	\$8.0	Yes	No	Yes	No	\$97,624	\$0
Duplin Soil and Water	Duplin	\$1,656,157	\$1,000,000	245,000	\$4.1	Yes	No	No	No	\$0	\$0
Pasquotank SWCD	Pasquotan	\$227,100	\$36,900	12,300	\$3.0	Yes	No	Yes	Yes	\$272,900	\$0

<b>Total Reallocation</b>	<b>\$1,376,716</b>
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# Farmland Preservation Plan Mecklenburg County

A presentation for the Soil and Water Conservation Commission  
Wilmington, NC  
May 17, 2023

On March 21, 2023, the Mecklenburg  
Board of County Commissioners  
unanimously endorsed the  
Farmland Preservation Plan(FPP)

# FPP Strategies align with County priorities

ATTACHMENT 1

- 1) **Environmental Stewardship:** Protect farmland through voluntary programs that incentivize land preservation, conservation and succession planning
- 2) **Workforce Development: Promote** agricultural workforce development of next generation farmers
- 3) **Economic Development** Promote agricultural economic development for farms of all sizes and all forms of agriculture
- 4) **Innovative Partnerships:** Promote farmland preservation, conservation and equity through innovative public private partnership programs

# Strategy 1: Protect farmland through voluntary programs to incentivize land preservation, conservation and legacy planning

- 1) Conduct biannual 'Your Land, Your Legacy' workshops
- 2) Conduct biannual USDA conservation workshops
- 3) Partner with local land trusts
- 4) Establish County annual budget for conservation easement funding match
  - a) *Alternatively, partner with local trusts to implement a conservation easement matching fund program*
- 5) **Establish a Voluntary Agricultural District ordinance (VAD)**

# Strategy 2: Promote agricultural workforce development of next generation farmers

ATTACHMENT 11

- 1) Create 'Next Generation Farmer Guide'
- 2) Create a mentor/apprentice program connecting new farmers with experienced farmers
- 3) Provide mini grant funding from federal, state and private sources for new farmers for equipment, supplies and educational courses
  - a. Appropriate seed or matching grant funding, if applicable
- 4) Fund and conduct a study to evaluate the creation of a teaching farm program on public land**

# Strategy 3: Promote agricultural economic development

ATTACHMENT 11

- 1) Include MSWCD conservation program reporting in County Stormwater monthly meetings
- 2) Establish agriculture economic mini grant program  
*Research best practices and funding strategies in the state for establishing*
- 3) **Provide incentive program for non-Present Use Value bona fide farms**  
*Research best practices in the state to assist farms to qualify for PUV*
- 4) Promote businesses that source local produce for value added production
  - a) *Explore the feasibility of streamlining permitting process for value-added marketers to be administered by District*
  - b) *Streamline permitting process for PUV administered by the District. Enhance marketing efforts to increase awareness of PUV.*
- 5) Provide focal point to communicate grant opportunities to local farmers
- 6) Conduct biannual Agritourism Weeks
- 7) Conduct biannual farmer showcase

# Strategy 4: Promote farmland preservation, conservation and equity through innovative public private partnerships

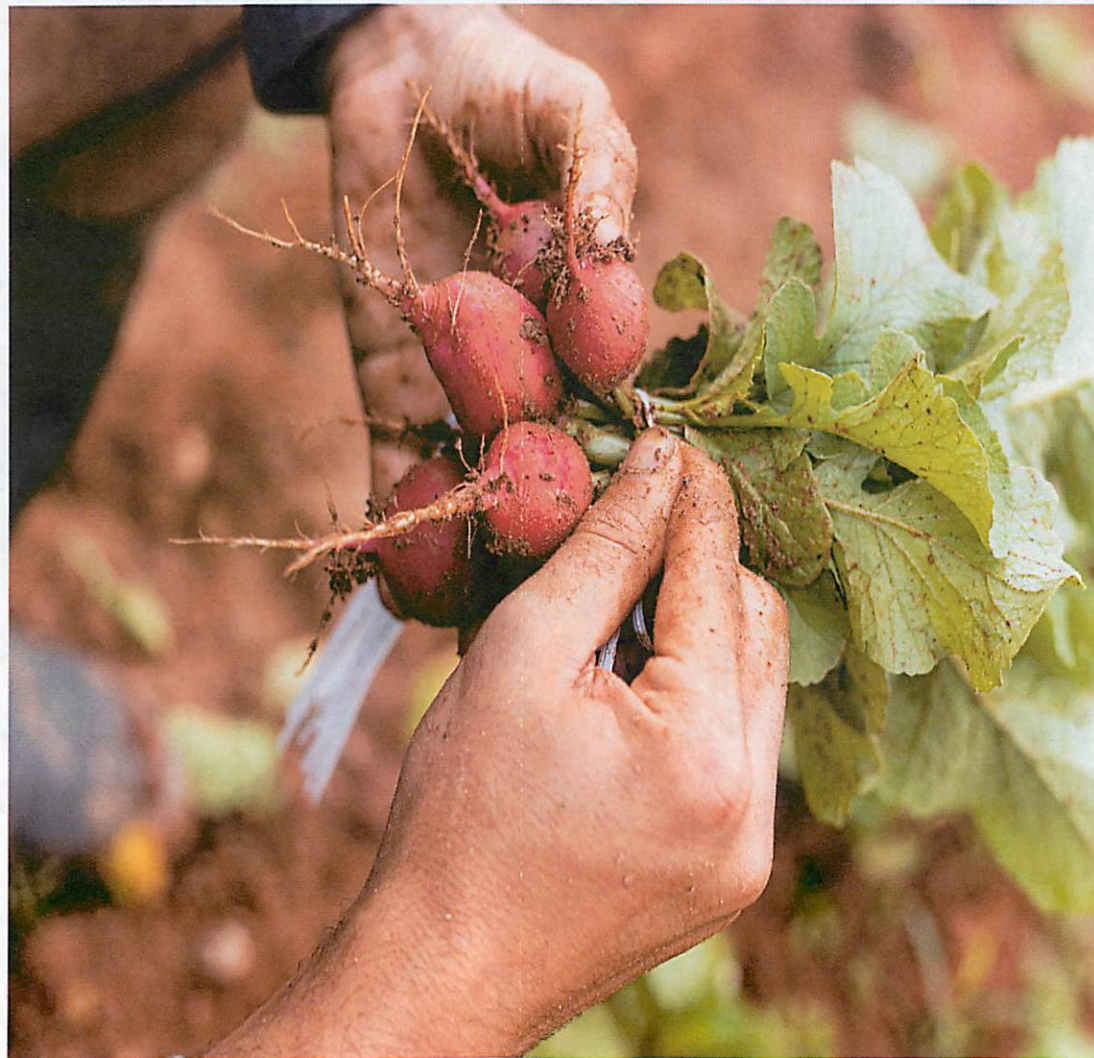
ATTACHMENT 1.

- 1) Formalize County partnership with Working Farms Fund to preserve farmland, invest in agricultural production of that land and provide a pathway to land ownership for next generation farmers.**
  - a) Establish five-year plan that identifies and prioritizes potential farmland acreage for acquisition
  - b) Develop conservation easement funding strategy
  - c) Identify soil and water conservation technical and financial assistance strategy
  - d) Identify next generation farmer pipeline and workforce development strategy
  - e) **Establish DEI partnership with Johnson C. Smith University**



# The Conservation Fund in North Carolina: Expanding the Working Farms Fund

ATTACHMENT 11



# The Working Farms Fund: A New Path Forward

**In 2021, The Conservation Fund launched the Working Farms Fund, an innovative program that rebuilds the local food system and creates sustainable farm businesses**

The Working Farms Fund:

- Creates a patient pathway to affordable land ownership for diverse next generation farmers
- Breaks down traditional barriers to capital for farmers
- Accelerates adoption of sustainable agricultural practices
- Permanently conserves farmland at risk of being lost to development
- Grows a resilient local food system



# Program Impacts

Measurable change for food systems



10  
FARMS

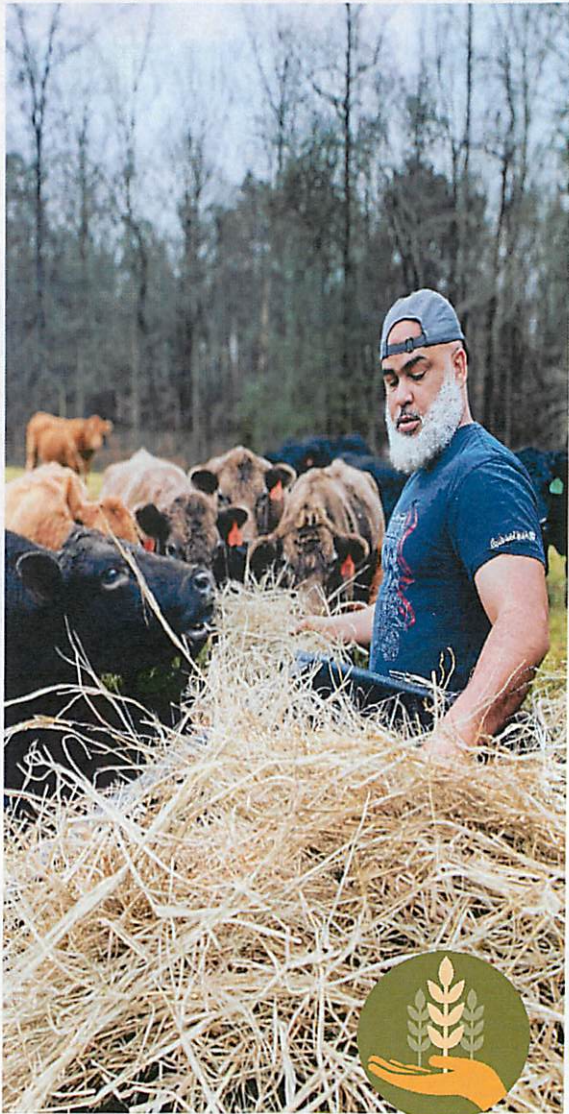
705  
ACRES

40  
FARMERS  
SUPPORTED

2  
METROPOLITAN  
AREAS

3  
INSTITUTIONAL  
MARKET PARTNERS

\$200k INVESTED IN ON-FARM  
INFRASTRUCTURE



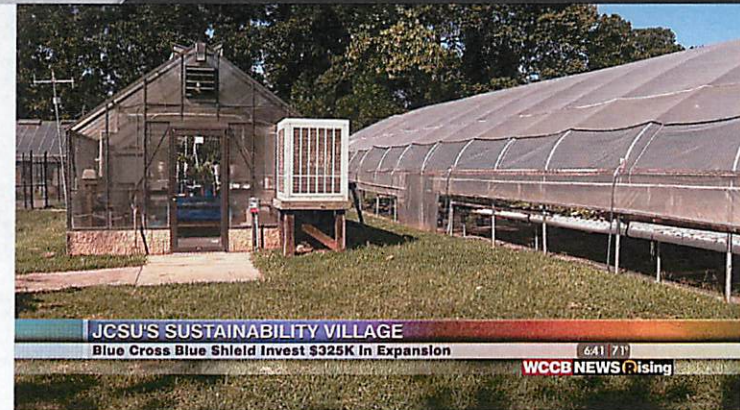
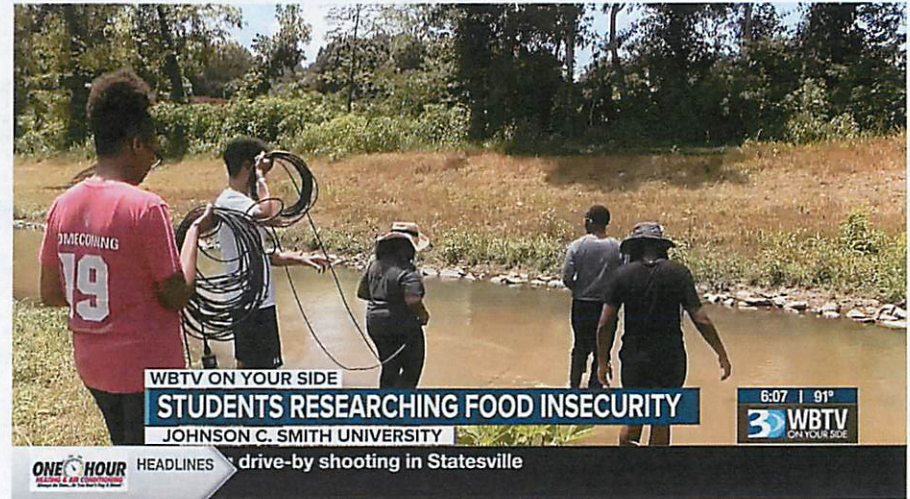
# Strategy 4: Promote farmland preservation, conservation and equity through innovative public private partnerships

ATTACHMENT 11

## 2) Food Deserts & Equity in Mecklenburg County

- a) Support the development of future land ownership opportunities for next generation black farmers
- b) Develop options to expand food access and combat food deserts, for Mecklenburg County residents.
- c) **Partner with MSWCD and the NC Foundation for Soil and Water Conservation to pursue a climate smart commodities grant, enabling JCSU students to develop carbon capture and measurement skills.**

# Center For Renewable Energy and Sustainability Sustainability Village



Creating the next generation of conservationists and public service professionals through HBCU partnerships

# Challenges and Opportunities Affecting Success Metrics

ATTACHMENT 14

1. Land Preservation/Acquisition Strategy
  - Meck Farmland valued @ \$100k per acre due to development pressure
  - Solution sought for smaller acreage acquisition
2. Present Use Value(PUV)
  - Identify and share Best practice,
  - Tax assessor staff experience and PUV interpretation may vary across Counties
  - Solution for alternative tax incentives to circumvent unwanted PUV scrutiny
3. Multi-District /Regional collaboration for WFF expansion

# Timeline and Next Steps FY23- ATTACHMENT 11 FY24

- **March 14, 2023 - FPP presentation to Environmental Stewardship Committee**
- **March 21, 2023- full BOCC endorsement**
- **March 23, 2023 NC Commissioner of Agriculture Steve Troxler meeting with County Manager Diorio**
- **April- May VAD workshops**
- **May-June – Farm tours for elected officials**
- **May-June – NACD TA/climate smart grant submissions**
- **June- July – FPP FY24 budget \***
- **September-October 2023–first DRAFT VAD ordinance\***

# 12. a. Revisions to the Land Smoothing BMP

John Beck





# Land Smoothing Policy Updates

- Created after the DSWC Land Smoothing JAA Training to address questions on contracting components and job approval authority

Ty Fleming	Tyrrell SWCD
Matt Lowe	Gates SWCD
Jacob Peele	Chowan SWCD
Brian Lannon	Camden SWCD
Daniel Brinn	Hyde SWCD
John Beck	DSWC
Josh Vetter	DSWC
Scott Melvin	DSWC
Chris Love	DSWC



# Land Smoothing – Issues

- NRCS combined the Land Smoothing (466) and Precision Land Forming (462) to a single practice, Precision Land Forming and Smoothing (462)
- Confusion over *heavy* and *light* Land Smoothing components on the current average cost list



# Land Smoothing – Goals

- Goals:
  - Update the policy factoring in NRCS conservation practice standard changes
  - Provide clear instructions on component selection



# Land Smoothing Policy Updates

- BMP name changed to Precision Land Forming and Smoothing
- Defined precision land forming and land smoothing
  - **Precision land forming** is reshaping crop fields to planned grades to improve surface drainage and control erosion.
  - **Land smoothing** is used for removing irregularities within a field, including depressions, mounds, old terraces or diversions, turn-rows, or other surface irregularities.
- Added a pre- and post-survey requirement that matches JAA policy



# Land Smoothing Policy Updates

- Described component selection for each type
  - LAND SMOOTHING-light = removed
  - LAND SMOOTHING-heavy renamed PRECISION LAND FORMING
    - This component will be used for precision land forming
  - The most appropriate GRADING component will be used for land smoothing

*\* These name changes will be submitted with the FY2024 Average Cost List in July. There will be no change to the dollar amount on the Average Cost List.*



ATTACHMENT 12A

Component	Unit Type	WESTERN REGION Unit Cost	CENTRAL REGION Unit Cost	EASTERN REGION Unit Cost	Maximum Cost Share 75 Percent	Maximum Cost Share 90 Percent	Cost Type
<b>Current</b>							
LAND SMOOTHING - heavy	Acre	\$ 305.25	\$ 305.25	\$ 381.50	\$ -	\$ -	Average
LAND SMOOTHING - light	Acre	\$ 229.00	\$ 229.00	\$ 305.25	\$ -	\$ -	Average
<b>Proposed</b>							
PRECISION LAND FORMING	Acre	\$ 305.25	\$ 305.25	\$ 381.50	\$ -	\$ -	Average



## Precision Land Forming Land Smoothing

### Definition/Purpose

Reshaping the surface of agricultural land to planned grades for the purpose of improving water quality. Precision land forming is reshaping crop fields to planned grades to improve surface drainage and control erosion. Land smoothing is used for removing irregularities within a field, including depressions, mounds, old terraces or diversions, turn-rows, or other surface irregularities.

Improve Water Quality by:

1. Reducing nutrient loss
2. Reducing concentrated flow of water from an agriculture field
3. Improving infiltration

### Policies

1. Land must be agricultural land that is being used for crop production. Land must be suitable for practice intentions.
2. Land must be graded to the extent needed to eliminate concentrated flow and achieve sheet flow for non-bedded crops.
3. Precision Land Forming and Smoothing must be accompanied by one or more of the following best management practices that must meet NRCS standards (the contract must specify which accompanying practice(s) apply):
  - a. Residue and Tillage Management on all fields where Precision Land Forming and Smoothing is applied. Burning of crop residue is not permitted, unless NC Cooperative Extension or NCDA&CS Regional Agronomist certifies that burning is recommended to control a pest infestation.
  - b. Water Control Structures that intercept all drainage acres from fields where Precision Land Forming and Smoothing is applied.
  - c. Riparian Forest Buffer or Filter Strip that intercepts all drainage acres from fields where Precision Land Forming and Smoothing is applied.
4. The accompanying BMP must be maintained for the five-year lifespan of this practice. NOTE – If accompanying BMP is Residue and Tillage Management the practice must be maintained for five years.
5. Refer to the average cost list for per acre cost for light and heavy smoothing. When contracting this practice for Precision Land Forming use the PRECISION LAND FORMING average cost list component
6. When contracting this practice for Land Smoothing use the appropriate GRADING average cost list component for removal of gullies, terraces, diversions, or other structures.

Agriculture Cost Share Program

~~4.1. The accompanying BMP must be maintained for the five-year lifespan of this practice.  
NOTE If accompanying BMP is Residue and Tillage Management the practice must be maintained for five years.~~

5.7. If the practice is completed outside the recommended planting season of a field crop, or if a field crop is not to be planted, a seasonal cover crop must be planted to prevent erosion.

8. A stable outlet is required for all hoe-drains for the life of the practice.

6.9. Existing condition and as-built surveys are required for practice design and check-out.

LAND SMOOTHING	
Maintenance Period	5 years
BMP Units	ACRES
Required Effects	ACRES_AFFECTED (planted acres and drainage area)
JAA	SWCC - 466 <u>Precision Land Forming and Smoothing</u> OR <del>NRCS - ENG - 466 - Land Smoothing</del> NRCS - ENG - 462 - Precision Land Forming <u>and Smoothing</u>
NRCS Standard	<del>NRCS - ENG - 466 - Land Smoothing</del> NRCS - ENG - 462 - Precision Land Forming <u>and Smoothing</u>
CS2 Reference Materials	NC-ACSP-11 Signature Page Map with BMP location, fields, and roads



## Precision Land Forming and Smoothing

### Definition/Purpose

Reshaping the surface of agricultural land to planned grades for the purpose of improving water quality. Precision land forming is reshaping crop fields to planned grades to improve surface drainage and control erosion. Land smoothing is used for removing irregularities within a field, including depressions, mounds, old terraces or diversions, turn-rows, or other surface irregularities.

Improve Water Quality by:

1. Reducing nutrient loss
2. Reducing concentrated flow of water from an agriculture field
3. Improving infiltration

### Policies

1. Land must be agricultural land that is being used for crop production. Land must be suitable for practice intentions.
2. Land must be graded to the extent needed to eliminate concentrated flow and achieve sheet flow for non-bedded crops.
3. Precision Land Forming and Smoothing must be accompanied by one or more of the following best management practices that must meet NRCS standards (the contract must specify which accompanying practice(s) apply):
  - a. Residue and Tillage Management on all fields where Precision Land Forming and Smoothing is applied. Burning of crop residue is not permitted, unless NC Cooperative Extension or NCDA&CS Regional Agronomist certifies that burning is recommended to control a pest infestation.
  - b. Water Control Structures that intercept all drainage acres from fields where Precision Land Forming and Smoothing is applied.
  - c. Riparian Forest Buffer or Filter Strip that intercepts all drainage acres from fields where Precision Land Forming and Smoothing is applied.
4. The accompanying BMP must be maintained for the five-year lifespan of this practice. NOTE – If accompanying BMP is Residue and Tillage Management the practice must be maintained for five years.
5. When contracting this practice for Precision Land Forming use the PRECISION LAND FORMING average cost list component
6. When contracting this practice for Land Smoothing use the appropriate GRADING average cost list component for removal of gullies, terraces, diversions, or other structures.

**Agriculture Cost Share Program**

7. If the practice is completed outside the recommended planting season of a field crop, or if a field crop is not to be planted, a seasonal cover crop must be planted to prevent erosion.
8. A stable outlet is required for all hoe-drains for the life of the practice.
9. Existing condition and as-built surveys are required for practice design and check-out.

<b>LAND SMOOTHING</b>	
<b>Maintenance Period</b>	5 years
<b>BMP Units</b>	ACRES
<b>Required Effects</b>	ACRES_AFFECTED (planted acres and drainage area)
<b>JAA</b>	SWCC - 466 Precision Land Forming and Smoothing OR NRCS - ENG - 462 - Precision Land Forming and Smoothing
<b>NRCS Standard</b>	NRCS - ENG - 462 - Precision Land Forming and Smoothing
<b>CS2 Reference Materials</b>	NC-ACSP-11 Signature Page Map with BMP location, fields, and roads

# Precision Land Forming and Smoothing Policy

- Action: *Approve renaming the Land Smoothing BMP as Precision Land Forming and Smoothing along with all presented policy changes to be effective for FY 2024.*



# 12. b. Revisions to the Cropland Conversion BMP

John Beck



# Cropland Conversion Workgroup

- Original request: form a committee to review Cropland Conversion policy 6 relating to program preference for loblolly pine as the most cost-effective solution to achieve a water quality benefit
- Expanded to review all tree planting policies

Maria Polizzi	NCFS
Rob Lipford	NCFS
Teresa Furr	Wake SWCD Staff
Alan Aldridge	Union SWCD Staff
Don Rogers	Johnston SWCD Supervisor
William Byrum	NRCS
Benjy Strobe	Wildlife Resource Commission
Patrick Baker	Craven SWCD Staff
Jennifer Roach	CREP Manager



## BMP Purpose

- Cropland Conversion is the establishment of a conservation cover of grass, trees or wildlife plantings on fields previously used for crop production to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.



## Cropland Conversion Policy #6

- 6. For cropland conversion to trees, except for the conditions below, average costs for tree planting will be used. **The average cost will be based on the lowest cost tree species that is suitable for the site.** (e.g., if the site is suitable for establishing loblolly pines but the grower wishes to establish hardwoods, the cost share rate will be based on loblolly).



## Cropland Conversion Policy #6, continued

- a. To receive the higher rate a tree planting statement signed by the local representative from the North Carolina Forest Service (NCFS) must be submitted. (Please see addendum to NC-ACSP-2 Tree Planting Statement.)





# Tree Planting Statement

## Statement of Purpose

The objective of the NCACSP program is to accomplish the greatest improvement in water quality through the most cost-effective means. In response to this objective, the Soil and Water Conservation Commission has adopted the policy that the average cost for tree planting will be based upon the lowest cost tree species that is suitable for a site. This policy should be interpreted to mean that any site that is well suited for loblolly or any other non-longleaf pine should be cost shared at the loblolly pine cost share rate.

## Statement of Certification

As a representative of the North Carolina Forest Service, I certify that all acres to be planted using hardwood or longleaf pine cost share rates, are located in areas that are not well suited for the planting of Loblolly or other Pine.



## Cropland Conversion Policy #6, continued

- b. CREP enrollments for CP3 Tree Planting, CP3A Hardwood Tree Planting and CP31 Bottomland Timber Establishment specifies planting species other than Loblolly Pine. Therefore, CREP contracts do not require the Tree Planting Statement to receive the higher cost share rate for the planned species.



# Water Quality Benefits

- Water quality benefits from trees are achieved through soil stabilization and canopy cover.
- The fastest growing species will provide soil stabilization and canopy cover sooner, resulting in a greater rate of water and nutrient uptake and the greatest water quality benefit.
- Loblolly has a significant growth rate advantage over other tree types, except for a couple species (Yellow Poplar, Sweet Gum) in certain conditions.



## Water Quality Benefits

- Conversion from cropland creates competition control difficulties with hardwood as they are not well suited to early successional environments (herbaceous competition, hardpans, deer browse, voles and mice, and sun tolerance).
- Low survival rates with hardwoods can reduce the potential water quality benefit.
- Loblolly pine performance in growth rate, root expansion and canopy development, and general resilience, provide reliable short-term water quality benefits.



# Water Quality Benefits

- All Agriculture Rules in Nutrient Sensitive Waters Strategies, do not factor vegetation nor tree type into the nitrogen reduction efficiencies allowed in reporting through the approved accounting tool (NLEW).



# GENERAL POLICIES FOR COMMISSION COST

## SHARE PROGRAMS

3. BMPs shall be designed and installed according to Natural Resources Conservation Service or Soil and Water Conservation Commission standards and specifications at the minimum design necessary to solve the water quality problem. If the applicant chooses to exceed design criteria for purposes not associated with water quality, the applicant will be responsible for the additional cost.



## EROSION/NUTRIENT MANAGEMENT MEASURES

Erosion/Nutrient Management Measures means a planned system for reducing soil erosion and nutrient runoff from cropland to improve water quality.

1. For vegetative practices and other practices which may include vegetation as an element.
  - (d) Fescue is used as base vegetation for establishing average cost. Other vegetative types may be used if they meet site specification but must use base average cost developed for fescue. The only exception to this is for installations for critical area planting or stream bank plantings where native vegetation is permissible.



# Conclusion

- Loblolly pines meet the minimum design necessary to solve the water quality problem.
- Apply the same logic used with other vegetative practices and include only one average cost amount for tree planting with loblolly as the “base vegetation”.
- Tree establishment cost components still remain available for all cooperators.





# Conclusion

- Cooperators will plant the tree type(s) listed in the forest management plan and receive the “TREE-planting” average cost list amount regardless of the tree type planted.
- On sites where loblolly pine is not suited and hardwoods are required or long leaf are desired for establishment, the cooperator would receive the “TREE-planting” cost based on loblolly/shortleaf line.
- This is consistent with other vegetative practices; ex. for Critical Area Planting on sandy soil not suitable to fescue, the VEGETATION cost is still based on fescue.



# Cropland Conversion Workgroup - Updates

- Removed rules around longleaf and hardwood payment.
  - The purpose of tree planting is to improve water quality.
  - ACSP policy states the practice should meet the minimum design necessary to solve the water quality problem and has established fescue as the basis for all vegetation planting.
  - Loblolly/shortleaf pine meets the minimum water quality benefit as the most cost-effective tree option.



Average cost for tree planting should be based on loblolly/shortleaf pine.

*\*Removing the TREE-plant, hardwood and longleaf pine components and adding the revised Tree-planting component will be submitted with the FY 2024 Average Cost List.*



ATTACHMENT 12B

Component	Unit Type	WESTERN REGION Unit Cost	CENTRAL REGION Unit Cost	EASTERN REGION Unit Cost	Maximum Cost Share 75 Percent	Maximum Cost Share 90 Percent	Cost Type
<b>Current</b>							
TREE-plant, hardwood	Acre		\$247.00		\$ -	\$ -	Average
TREE-plant, loblolly and shortleaf pine	Acre		\$148.00		\$ -	\$ -	Average
TREE-plant, longleaf pine	Acre		\$187.00		\$ -	\$ -	Average
<b>Proposed</b>							
TREE-planting	Acre		\$ 148.00		\$ -	\$ -	Average



# Cropland Conversion Workgroup - Updates

- Divided into sections for General, Grass/Wildlife, Tree policies
- Added a Forest Management Plan (FMP) written by a NC registered forester as an option for JAA
  - Required to upload to CS2
- Added an annual spot check requirement for the first five years



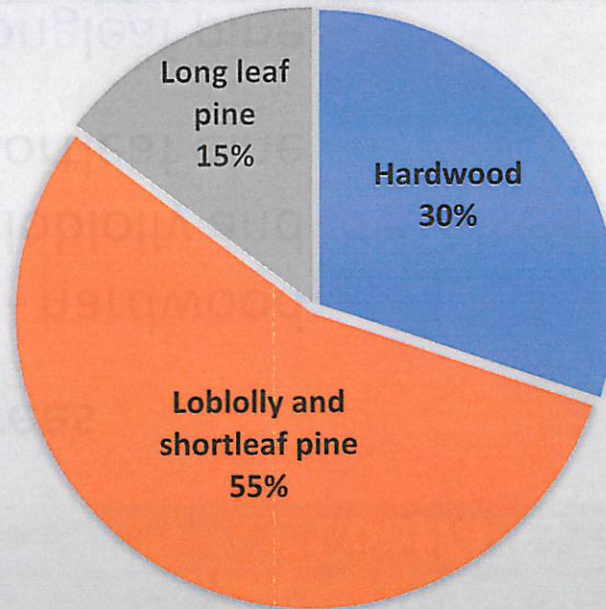
# Cropland Conversion Workgroup - Updates

- Revised component allowance language
  - Site preparation and competition control allowances are confusing
    - Revised language to define site preparation and post-treatment
    - Itemized allowances for each tree type



# Contract Analysis 2012-2023

PERCENT OF CROPLAND CONVERSION CONTRACTS -  
222 TOTAL

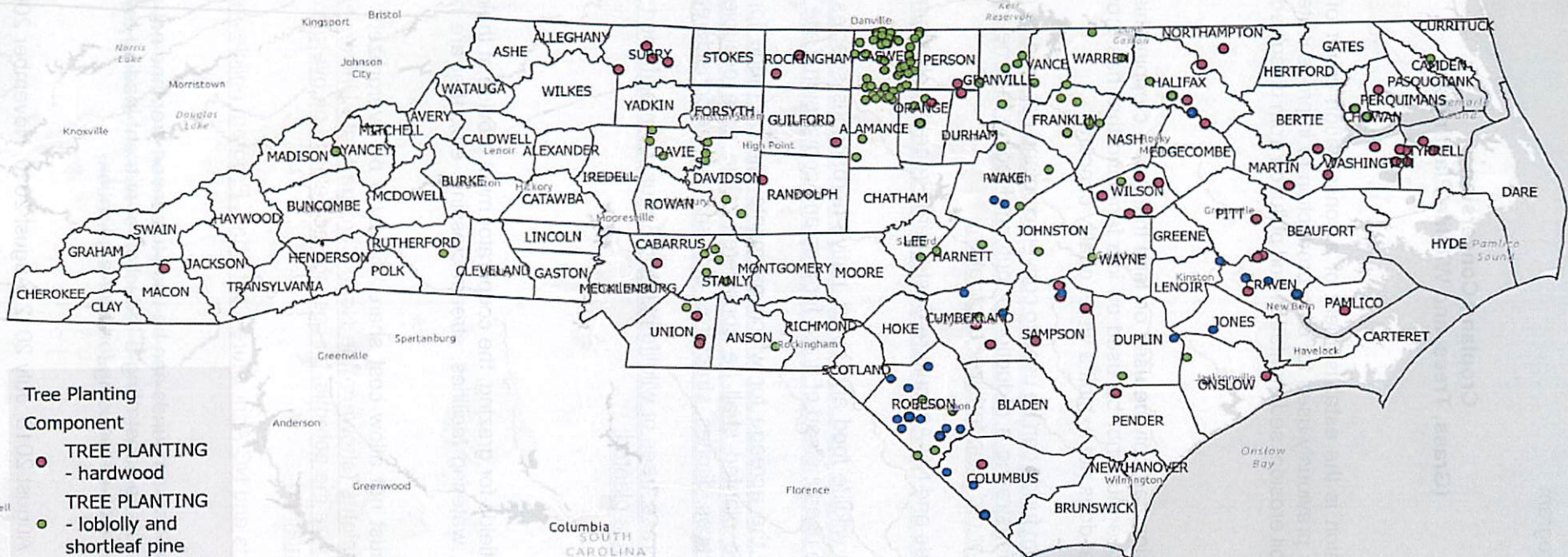


# Contract Analysis 2012-2023

BMP	Number of Contracts	Percent of All Contracts
<b>Cropland Conversion - Trees</b>	212	1.66
TREE PLANTING - hardwood	64	0.50
TREE PLANTING - loblolly and shortleaf pine	117	0.92
TREE PLANTING - longleaf pine	31	0.24



# Tree Planting Components 2012 - 2023



- Tree Planting Component**
- TREE PLANTING - hardwood
  - TREE PLANTING - loblolly and shortleaf pine
  - TREE PLANTING - longleaf pine





## Agriculture Cost Share Program

**Cropland Conversion  
(Grass, Trees, and Wildlife Plantings)**

Definition/Purpose

Cropland Conversion is the establishment of a conservation cover of grass, trees or wildlife plantings on fields previously used for crop production to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.

General Policies

1. Cropland Conversion can only be used on land that has a cropping history two of the last five years. This practice must not be used on idle farmland that has grown up in native-natural vegetation and that does not exhibit a water quality concern.
2. Cost Share Program funds can be used to convert cropland not eroding greater than "T" to grass and trees by demonstrating a reduction of nutrient loading to a nearby water source, due to reducing soil loss or reducing fertilizer application.
- ~~—All NRCS standards and NC Agriculture Cost Share Program policies relative to vegetation are to be followed.~~
3. Trees, permanent wildlife food and cover, native herbaceous species for pollinators or other vegetation may be used instead of grass for cropland conversion if site specifications are met.
4. When determining the acreage for which payments can be made for this practice, only the measured acreage planted shall be considered. The area occupied by farm roads, best management practices, ditches, structures, etc., shall not be considered planted acreage.
5. Vegetative cover (grass, trees or wildlife plantings) must be maintained for a period of 10 years after the vegetation is planted.

Grass/Wildlife Policies

6. If converting crop fields for grazing, the cooperators must provide at their own cost any livestock exclusion fencing, watering facilities, stream crossing, etc., that are needed to protect water quality.
7. The cooperators must not allow cost shared fields to be overgrazed. The cooperators should manage grazing heights (shown in the North Carolina State University Forage Facts Grazing Guidance) to minimize the potential for cost shared fields to be overgrazed and to ensure that a good stand is maintained.
2. All NRCS standards and NC Agriculture Cost Share Program policies relative to vegetation are to be followed.
- 3.1. ~~Cost Share Program funds can be used to convert cropland not eroding greater than "T" to grass and trees by demonstrating a reduction of nutrient loading to a nearby water source, due to reducing soil loss or reducing fertilizer application.~~

## Agriculture Cost Share Program

~~4.1. All NRCS standards and NC Agriculture Cost Share Program policies relative to vegetation are to be followed.~~

~~5.1. Trees, permanent wildlife food and cover, native herbaceous species for pollinators or other vegetation may be used instead of grass for cropland conversion if site specifications are met.~~

Tree Planting Policies

~~6. For cropland conversion to trees, except for the conditions below, average costs for tree planting will be used. The average cost will be based on the lowest cost tree species that is suitable for the site. (e.g., if the site is suitable for establishing loblolly pines but the grower wishes to establish hardwoods, the cost share rate will be based on loblolly).~~

~~a. To receive the higher rate a tree planting statement signed by the local representative from the North Carolina Forest Service (NCFS) must be submitted. (Please see addendum to NC ACSP 2 Tree Planting Statement.~~

~~b. CREP enrollments for CP3 Tree Planting, CP3A Hardwood Tree Planting and CP31 Bottomland Timber Establishment specifies planting species other than Loblolly Pine. Therefore, CREP contracts do not require the Tree Planting Statement to receive the higher cost share rate for the planned species.~~

9. For Cropland Conversion to Trees only, a Forest Management Plan (FMP) written by a NC registered forester may serve as job approval authority.

10. Tree species selections must be based on suitability to the site and probability of successful establishment.

11. For cropland conversion to trees, to improve tree establishment and increase survival rates, cost share assistance is available for ~~chemical releases or other~~ recommended competition control measures before and after planting. Refer to the average cost list for tree planting and establishment components.

a. Site preparation may consist of any combination of average cost list TREE ESTABLISHMENT components as specified on the FMP. **Each component may only be cost shared one time.**

b. Post-treatment may consist of any combination of chemical release, mowing, or burn components deemed necessary for competition control in the FMP. **Each post-treatment component may be contracted once annually.**

i. For loblolly and shortleaf pines, cost share will be limited to ~~one pre-treatment (site preparation) and one~~ one post-treatment ~~, after planting.~~

ii. For hardwoods and longleaf pine, cost share will be limited to ~~one pre-treatment (site preparation) and two~~ two post-treatments after planting.

iii. Cost share may be available for an additional post-treatment within the first 3 years after planting, upon recommendation and a site evaluation from the Division of Forest Resources North Carolina Forest Service (NCFS) or a registered forester. The recommendation should accompany the supplement contract for the additional post-treatment control measure.

~~7.~~

Agriculture Cost Share Program

~~8. All contracts involving cropland conversion to trees that include pre- or post-plant site preparation or competition control treatments must include a statement from either the NCFS forest ranger or a registered forester that the specified treatments are necessary. This statement cannot be substituted for the forest management plan required for CREP contracts. A forest management plan recommending the specified treatments can be submitted in lieu of the above statement.~~

12. Cropland conversion shall not be used in conjunction with a CREP CP22 Riparian Forest Buffer when the cropland conversion eliminates the pollutant source. Agricultural pollutant sources can include un-buffered crop, hay, pasture, or other non-forest area that could contribute to sediment, nutrients, or chemicals to receiving waters.

13. To ensure tree plantings are established and provide the intended water quality benefit, cropland conversion to trees practice will receive annual status reviews (spot checks) for five years following implementation. Field offices unwilling to assist operators in achieving success and monitor tree establishment and stand quality should not offer this practice to cooperators in their district.

~~9.~~

~~10.1. When determining the acreage for which payments can be made for this practice, only the measured acreage planted shall be considered. The area occupied by farm roads, best management practices, ditches, structures, etc., shall not be considered planted acreage.~~

~~11.1. Vegetative cover (grass, trees or wildlife plantings) must be maintained for a period of 40 years after the vegetation is planted.~~

CROPLAND CONVERSION	
Maintenance Period	10 years
BMP Units	ACRES
Required Effects	SOIL_SAVED NITROGEN_SAVED PHOSPHORUS_SAVED ACRES_AFFECTED (planted acres)
JAA	SWCC - 512 - Cropland Conversion <u>(for grass/wildlife)</u>  <u>OR</u>  <u>Forest Management Plan signed by a NC registered forester (Cropland Conversion to Trees only)</u>  <u>OR</u>  NRCS - ECS - 512 - Pasture and Hay Planting NRCS - ECS - 612 - Tree/Shrub Establishment NRCS - ECS - 490 - Tree/Shrub Site Preparation

Agriculture Cost Share Program

	NRCS - ECS - 420 - Wildlife Habitat Planting
<b>NRCS Standards</b>	NRCS - ECS - 512 - Forage and Biomass Planting NRCS - ECS - 612 - Tree/Shrub Establishment NRCS - ECS - 490 - Tree/Shrub Site Preparation NRCS - ECS - 420 - Wildlife Habitat Planting
<b>Supporting Practices</b> <b><u>Additional Spot Check Requirement</u></b>	<del>SWCC - 327 - Conservation Cover</del> <del>NRCS - ECS - 327 - Conservation Cover</del> <u>All Cropland Conversion to TREES contracts must be spot-checked annually for five years following implementation.</u>
<b>CS2 Reference Materials</b>	NC-ACSP-11 Signature Page Map with BMP location, fields, and roads <u>Forest Management Plan (if applicable)</u>

**Cropland Conversion  
(Grass, Trees, and Wildlife Plantings)**

Definition/Purpose

Cropland Conversion is the establishment of a conservation cover of grass, trees or wildlife plantings on fields previously used for crop production to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.

General Policies

1. Cropland Conversion can only be used on land that has a cropping history two of the last five years. This practice must not be used on idle farmland that has grown up in natural vegetation and that does not exhibit a water quality concern.
2. Cost Share Program funds can be used to convert cropland not eroding greater than "T" to grass and trees by demonstrating a reduction of nutrient loading to a nearby water source, due to reducing soil loss or reducing fertilizer application.
3. Trees, permanent wildlife food and cover, native herbaceous species for pollinators or other vegetation may be used instead of grass for cropland conversion if site specifications are met.
4. When determining the acreage for which payments can be made for this practice, only the measured acreage planted shall be considered. The area occupied by farm roads, best management practices, ditches, structures, etc., shall not be considered planted acreage.
5. Vegetative cover (grass, trees or wildlife plantings) must be maintained for a period of 10 years after the vegetation is planted.

Grass/Wildlife Policies

6. If converting crop fields for grazing, the cooperators must provide at their own cost any livestock exclusion fencing, watering facilities, stream crossing, etc., that are needed to protect water quality.
7. The cooperators must not allow cost shared fields to be overgrazed. The cooperators should manage grazing heights (shown in the North Carolina State University Forage Facts Grazing Guidance) to minimize the potential for cost shared fields to be overgrazed and to ensure that a good stand is maintained.
8. All NRCS standards and NC Agriculture Cost Share Program policies relative to vegetation are to be followed.

## Agriculture Cost Share Program

Tree Planting Policies

9. For Cropland Conversion to Trees only, a Forest Management Plan (FMP) written by a NC registered forester may serve as job approval authority.
10. Tree species selections must be based on suitability to the site and probability of successful establishment.
11. For cropland conversion to trees, to improve tree establishment and increase survival rates, cost share assistance is available for recommended competition control measures before and after planting. Refer to the average cost list for tree planting and establishment components.
  - a. Site preparation may consist of any combination of average cost list TREE ESTABLISHMENT components as specified on the FMP. **Each component may only be cost shared one time.**
  - b. Post-treatment may consist of any combination of chemical release, mowing, or burn components deemed necessary for competition control in the FMP. **Each post-treatment component may be contracted once annually.**
    - i. For loblolly and shortleaf pines, cost share will be limited to one post-treatment after planting.
    - ii. For hardwoods and longleaf pine, cost share will be limited to two post-treatments after planting.
    - iii. Cost share may be available for an additional post-treatment within the first 3 years after planting, upon recommendation and a site evaluation from the North Carolina Forest Service (NCFS) or a registered forester. The recommendation should accompany the supplement contract for the additional post-treatment control measure.
12. Cropland conversion shall not be used in conjunction with a CREP CP22 Riparian Forest Buffer when the cropland conversion eliminates the pollutant source. Agricultural pollutant sources can include un-buffered crop, hay, pasture, or other non-forest area that could contribute to sediment, nutrients, or chemicals to receiving waters.
13. To ensure tree plantings are established and provide the intended water quality benefit, cropland conversion to trees practice will receive annual status reviews (spot checks) for five years following implementation. Field offices unwilling to assist operators in achieving success and monitor tree establishment and stand quality should not offer this practice to cooperators in their district.

<b>CROPLAND CONVERSION</b>	
<b>Maintenance Period</b>	10 years
<b>BMP Units</b>	ACRES
<b>Required Effects</b>	SOIL_SAVED NITROGEN_SAVED PHOSPHORUS_SAVED ACRES_AFFECTED (planted acres)
<b>JAA</b>	SWCC - 512 - Cropland Conversion (for grass/wildlife)  <b>OR</b>  Forest Management Plan signed by a NC registered forester (for Cropland Conversion to Trees)  <b>OR</b>  NRCS - ECS - 512 - Pasture and Hay Planting NRCS - ECS - 612 - Tree/Shrub Establishment NRCS - ECS - 490 - Tree/Shrub Site Preparation NRCS - ECS - 420 - Wildlife Habitat Planting
<b>NRCS Standards</b>	NRCS - ECS - 512 - Forage and Biomass Planting NRCS - ECS - 612 - Tree/Shrub Establishment NRCS - ECS - 490 - Tree/Shrub Site Preparation NRCS - ECS - 420 - Wildlife Habitat Planting
<b>Additional Spot Check Requirement</b>	All Cropland Conversion to TREES contracts must be spot-checked annually for five years following implementation.
<b>CS2 Reference Materials</b>	NC-ACSP-11 Signature Page Map with BMP location, fields, and roads Forest Management Plan (if applicable)

# Cropland Conversion Policy

- *Action: Approve the proposed changes to the Cropland Conversion BMP policy to be effective with the FY 2024 Detailed Implementation Plan.*





# 12. b. Revisions to the Cropland Conversion BMP

John Beck



# Cropland Conversion Workgroup

- Original request: form a committee to review Cropland Conversion policy 6 relating to program preference for loblolly pine as the most cost-effective solution to achieve a water quality benefit
- Expanded to review all tree planting policies

Maria Polizzi	NCFS
Rob Lipford	NCFS
Teresa Furr	Wake SWCD Staff
Alan Aldridge	Union SWCD Staff
Don Rogers	Johnston SWCD Supervisor
William Byrum	NRCS
Benjy Strobe	Wildlife Resource Commission
Patrick Baker	Craven SWCD Staff
Jennifer Roach	CREP Manager



# Cropland Conversion Workgroup - Updates

- Divided into sections for General, Grass/Wildlife, Tree policies
- Added a Forest Management Plan (FMP) written by a NC registered forester as an option for JAA
  - Required to upload to CS2
- Added an annual spot check requirement for the first five years



# Cropland Conversion Workgroup - Updates

- Revised component allowance language
  - Site preparation and competition control allowances are confusing
    - Revised language to define site preparation and post-treatment
    - Itemized allowances for each tree type



## Cropland Conversion Policy #6

6. For cropland conversion to trees, except for the conditions below, average costs for tree planting will be used. The average cost will be based on the lowest cost tree species that is suitable for the site. (e.g., if the site is suitable for establishing loblolly pines but the grower wishes to establish hardwoods, the cost share rate will be based on loblolly).



# Water Quality Benefits

- Water quality benefits from trees are achieved through soil stabilization and canopy cover.
- The fastest growing species will provide soil stabilization and canopy cover sooner, resulting in a greater rate of water and nutrient uptake and the greatest water quality benefit.
- Loblolly has a significant growth rate advantage over other tree types, except for a couple species (Yellow Poplar, Sweet Gum) in certain conditions.



# Water Quality Benefits

- Conversion from cropland creates competition control difficulties with hardwood as they are not well suited to early successional environments (herbaceous competition, hardpans, deer browse, voles and mice, and sun tolerance).
- Low survival rates with hardwoods can reduce the potential water quality benefit.
- Loblolly pine performance in growth rate, root expansion and canopy development, and general resilience, provide reliable short-term water quality benefits.



# GENERAL POLICIES FOR COMMISSION COST

## SHARE PROGRAMS

3. BMPs shall be designed and installed according to Natural Resources Conservation Service or Soil and Water Conservation Commission standards and specifications at the minimum design necessary to solve the water quality problem. If the applicant chooses to exceed design criteria for purposes not associated with water quality, the applicant will be responsible for the additional cost.





## EROSION/NUTRIENT MANAGEMENT MEASURES

Erosion/Nutrient Management Measures means a planned system for reducing soil erosion and nutrient runoff from cropland to improve water quality.

1. For vegetative practices and other practices which may include vegetation as an element.
  - (d) Fescue is used as base vegetation for establishing average cost. Other vegetative types may be used if they meet site specification but must use base average cost developed for fescue. The only exception to this is for installations for critical area planting or stream bank plantings where native vegetation is permissible.



## Conclusion

- Loblolly pines meet the minimum design necessary to solve the water quality problem.
- Apply the same logic used with other vegetative practices and include only one average cost amount for tree planting with loblolly as the “base vegetation”.
- Tree establishment cost components still remain available for all cooperators.



## Conclusion

- Cooperators will plant the tree type(s) listed in the forest management plan and receive the “TREE-planting” average cost list amount regardless of the tree type planted.
- On sites where loblolly pine is not suited and hardwoods are required or long leaf are desired for establishment, the cooperator would receive the “TREE-planting” cost based on loblolly/shortleaf line.
- This is consistent with other vegetative practices; ex. for Critical Area Planting on sandy soil not suitable to fescue, the VEGETATION cost is still based on fescue.



Component	Unit Type	WESTERN REGION Unit Cost	CENTRAL REGION Unit Cost	EASTERN REGION Unit Cost	Maximum Cost Share 75 Percent	Maximum Cost Share 90 Percent	Cost Type
<b>Current</b>							
TREE-plant, hardwood	Acre		\$247.00		\$ -	\$ -	Average
TREE-plant, loblolly and shortleaf pine	Acre		\$148.00		\$ -	\$ -	Average
TREE-plant, longleaf pine	Acre		\$187.00		\$ -	\$ -	Average
<b>Proposed</b>							
TREE-planting	Acre		\$ 148.00		\$ -	\$ -	Average



## Agriculture Cost Share Program

### Cropland Conversion (Grass, Trees, and Wildlife Plantings)

#### Definition/Purpose

Cropland Conversion is the establishment of a conservation cover of grass, trees or wildlife plantings on fields previously used for crop production to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.

#### General Policies

1. Cropland Conversion can only be used on land that has a cropping history two of the last five years. This practice must not be used on idle farmland that has grown up in native-natural vegetation and that does not exhibit a water quality concern.
2. Cost Share Program funds can be used to convert cropland not eroding greater than "T" to grass and trees by demonstrating a reduction of nutrient loading to a nearby water source, due to reducing soil loss or reducing fertilizer application.
- ~~2. All NRCS standards and NC Agriculture Cost Share Program policies relative to vegetation are to be followed.~~
3. Trees, permanent wildlife food and cover, native herbaceous species for pollinators or other vegetation may be used instead of grass for cropland conversion if site specifications are met.
4. When determining the acreage for which payments can be made for this practice, only the measured acreage planted shall be considered. The area occupied by farm roads, best management practices, ditches, structures, etc., shall not be considered planted acreage.
5. Vegetative cover (grass, trees or wildlife plantings) must be maintained for a period of 10 years after the vegetation is planted.

#### Grass/Wildlife Policies

6. If converting crop fields for grazing, the cooperators must provide at their own cost any livestock exclusion fencing, watering facilities, stream crossing, etc., that are needed to protect water quality.
7. The cooperators must not allow cost shared fields to be overgrazed. The cooperators should manage grazing heights (shown in the North Carolina State University Forage Facts Grazing Guidance) to minimize the potential for cost shared fields to be overgrazed and to ensure that a good stand is maintained.
2. 8. All NRCS standards and NC Agriculture Cost Share Program policies relative to vegetation are to be followed.
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### Tree Planting Policies

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~~b. CREP enrollments for CP3 Tree Planting, CP3A Hardwood Tree Planting and CP31 Bottomland Timber Establishment specifies planting species other than Loblolly Pine. Therefore, CREP contracts do not require the Tree Planting Statement to receive the higher cost share rate for the planned species.~~

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iii. Cost share may be available for an additional post-treatment within the first 3 years after planting, upon recommendation and a site evaluation from the ~~Division of Forest Resources~~North Carolina Forest Service (NCFS) or a registered forester. The recommendation should accompany the supplement contract for the additional post-treatment control measure.

~~7.~~

Agriculture Cost Share Program

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CROPLAND CONVERSION	
Maintenance Period	10 years
BMP Units	ACRES
Required Effects	SOIL_SAVED NITROGEN_SAVED PHOSPHORUS_SAVED ACRES_AFFECTED (planted acres)
JAA	SWCC - 512 - Cropland Conversion <u>(for grass/wildlife)</u>  <u>OR</u>  <u>Forest Management Plan signed by a NC registered forester (Cropland Conversion to Trees only)</u>  <u>OR</u>  NRCS - ECS - 512 - Pasture and Hay Planting NRCS - ECS - 612 - Tree/Shrub Establishment NRCS - ECS - 490 - Tree/Shrub Site Preparation

Agriculture Cost Share Program

	NRCS - ECS - 420 - Wildlife Habitat Planting
<b>NRCS Standards</b>	NRCS - ECS - 512 - Forage and Biomass Planting NRCS - ECS - 612 - Tree/Shrub Establishment NRCS - ECS - 490 - Tree/Shrub Site Preparation NRCS - ECS - 420 - Wildlife Habitat Planting
<b><u>Supporting Practices Additional Spot Check Requirement</u></b>	<del>SWCC 327 Conservation Cover</del> <del>NRCS ECS 327 Conservation Cover</del> <u>All Cropland Conversion to TREES contracts must be spot-checked annually for five years following implementation.</u>
<b>CS2 Reference Materials</b>	NC-ACSP-11 Signature Page Map with BMP location, fields, and roads <u>Forest Management Plan (if applicable)</u>



# Cropland Conversion Policy

- *Action: Approve the proposed changes to the Cropland Conversion BMP policy to be effective with the FY 2024 Detailed Implementation Plan.*

*\*Removing the TREE-plant, hardwood and longleaf pine components and adding the revised Tree-planting component will be submitted with the FY 2024 Average Cost List.*



## Request for Exception to Criteria for Extension of Previous Program Year Contracts Policy

The [Criteria for Extension of Previous Program Year Contracts Policy](#) states that *on June 30 of each program year all outstanding third year contracts automatically expire and all funds encumbered to those contracts are returned to state accounts. The commission recognizes that to a very limited extent some contracts should be extended one additional year....If the request for payment is not received by the day before the July commission meeting, a district supervisor must appear before the commission to request the extension.*

Division staff respectfully request consideration of a **policy exception of the District Supervisor requirement to attend the first Commission meeting of the new fiscal year** for the following groups of contracts:

1. Any contract that is pended for Job Approval Authority for those outside of district level of approval.
2. Any contract where engineering approval was provided less than 12 months prior to expiration.

The Division recommends if the contract should have been canceled under the [Interim Performance Milestones](#), and it was not canceled, the supervisor must present to the Commission to explain why the district needs an extension and that the contract will be completed.

Districts will still follow the process to request a contract extension as described in the policy and use the online request form: [https://fs3.formsite.com/ncdswc/Extension\\_Request/index.html](https://fs3.formsite.com/ncdswc/Extension_Request/index.html) for all requested contract extensions. This form must be submitted by June 30, 2023.

In addition, staff request guidance on how to prepare the contract extension requests for Commission consideration:

1. Do you prefer to have these requests presented at the July 19, 2023 meeting or a separately scheduled meeting?
2. Would district supervisors and staff be able to present these requests remotely or would they need to attend in person?

# Request for Exception to Criteria for Extension of Previous Program Year Contracts Policy



## Background

- Current policy: If the request for payment is not received by the day before the July commission meeting, a district supervisor must appear before the commission to request the extension.
- Guidance on followings slides is based off discussion from worksession.
- Special thanks to all cost share program staff for following up with their districts, and particularly Lisa Fine for leading this effort.



## Contracts that have already received 1 extension: *FY2020 and older contracts*

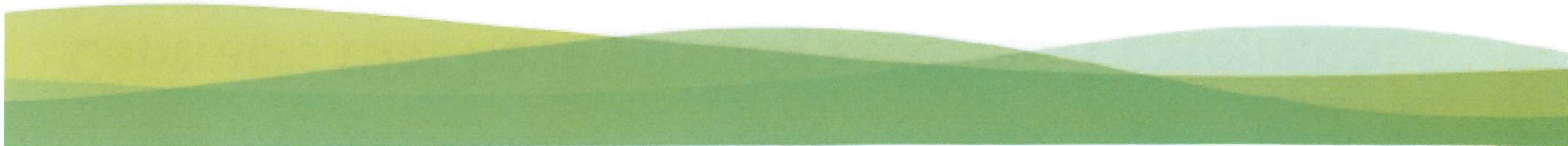
- Districts must submit an extension request for each contract.
- District Supervisor must attend the July meeting IN PERSON and the Commission may ask questions about contracts.

*July 19<sup>th</sup> at 9am: Martin Building, NC Fairgrounds, Raleigh*

A decorative graphic at the bottom of the slide consisting of several overlapping, rounded rectangular shapes in various shades of green, creating a stylized landscape of rolling hills.

## Contracts that have not been previously extended: *FY2021 contracts*

- Districts must submit an extension request for each contract.
- District Supervisor must attend the July meeting VIRTUALLY and the Commission may ask questions about contracts.



## Additional Guidance

- Any contracts PENDED for design will automatically be extended, but Districts must submit an extension request.
- Next Fiscal Year, ALL Districts with approved contracts should prepare to follow the Commission policy, and plan to request extension requests IN PERSON.



# Process Improvements Continue

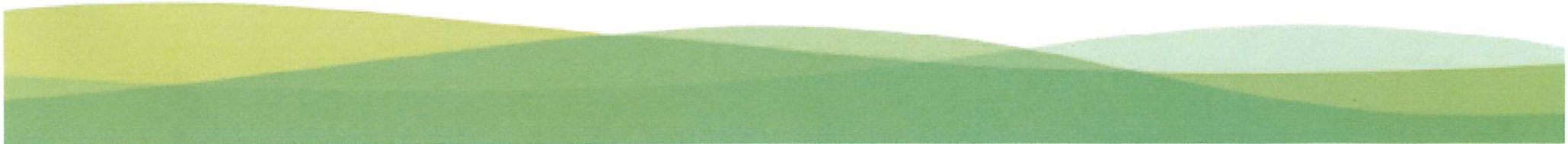
- Online Cancellation Form for District Use – allowed large spring supplemental allocation
- Online 6 Month Extension Form and CS2 reporting function for 1/3 date for District Use with Division follow-up





# Contract Extensions FY2019-FY2023

- FY2019: 113 contracts
- FY2020: 59 contracts
- FY2021: 161 contracts
- FY2022: 119 contracts
- *FY2023: As of May 16<sup>th</sup>: 271*



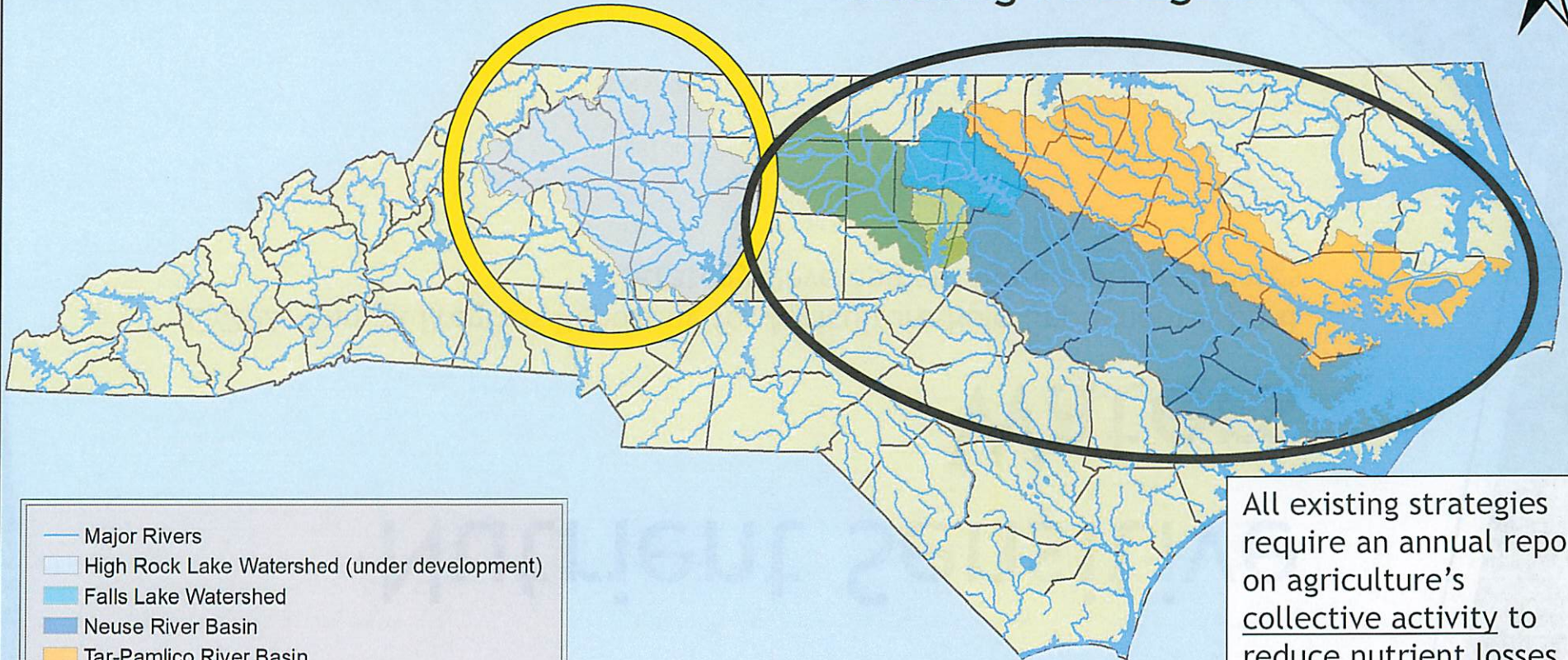
# Nutrient Sensitive Waters

CY2021 Annual Progress Reporting for Agriculture Rule Implementation & Strategy Development/Re-adoption Updates



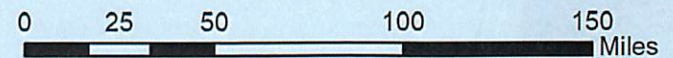
Under Development

Existing Strategies



- Major Rivers
- High Rock Lake Watershed (under development)
- Falls Lake Watershed
- Neuse River Basin
- Tar-Pamlico River Basin
- Jordan Lake - Haw
- Jordan Lake - Lower New Hope
- Jordan Lake - Upper New Hope
- County Boundaries

All existing strategies require an annual report on agriculture's collective activity to reduce nutrient losses.

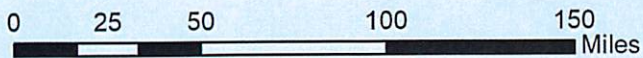




— Major Rivers  
■ Neuse River Basin  
□ County Boundaries

Neuse River Basin - effective 1997; readopted April 2020

- Baseline: 1991 - 1995
- 30% nitrogen loss reduction (cropland only)

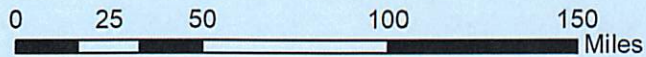


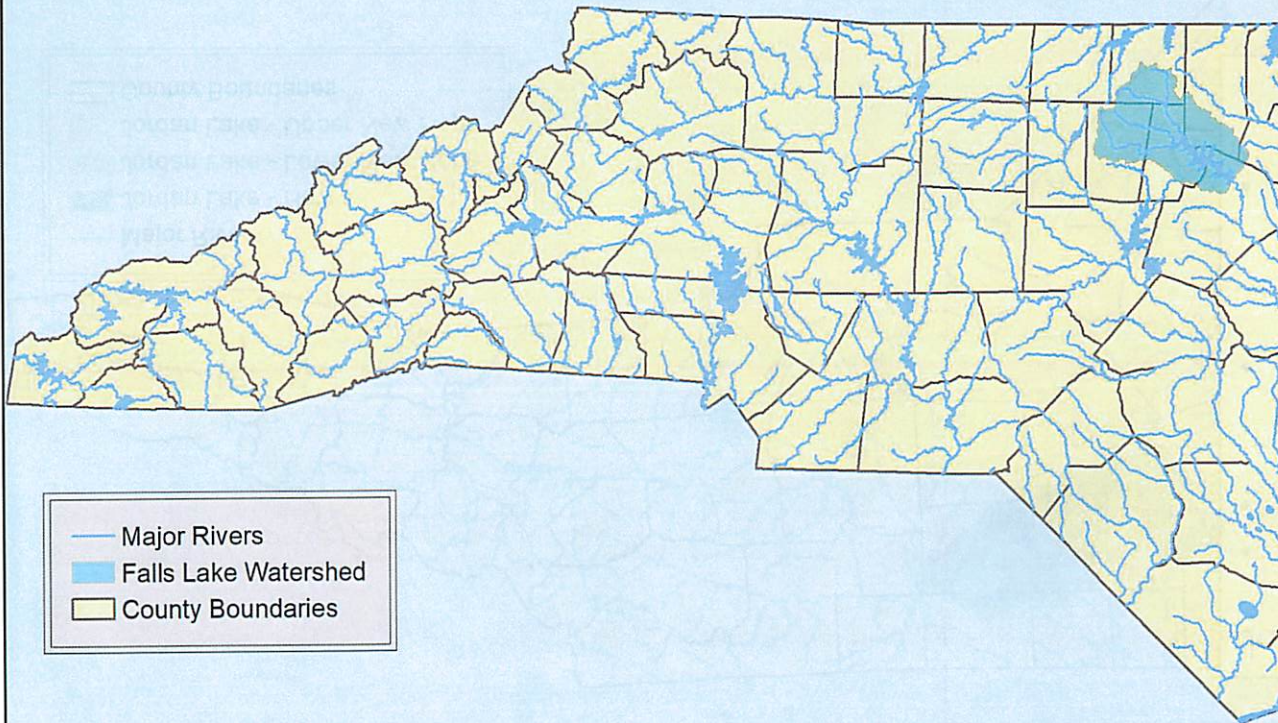


- Major Rivers
- Tar-Pamlico River Basin
- County Boundaries

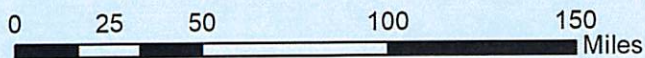
Tar-Pamlico River Basin - effective 2001,  
readopted April 2020

- Baseline: 1991
- Nitrogen loss reduction (30%) set for cropland only
- No net increase in phosphorus loss





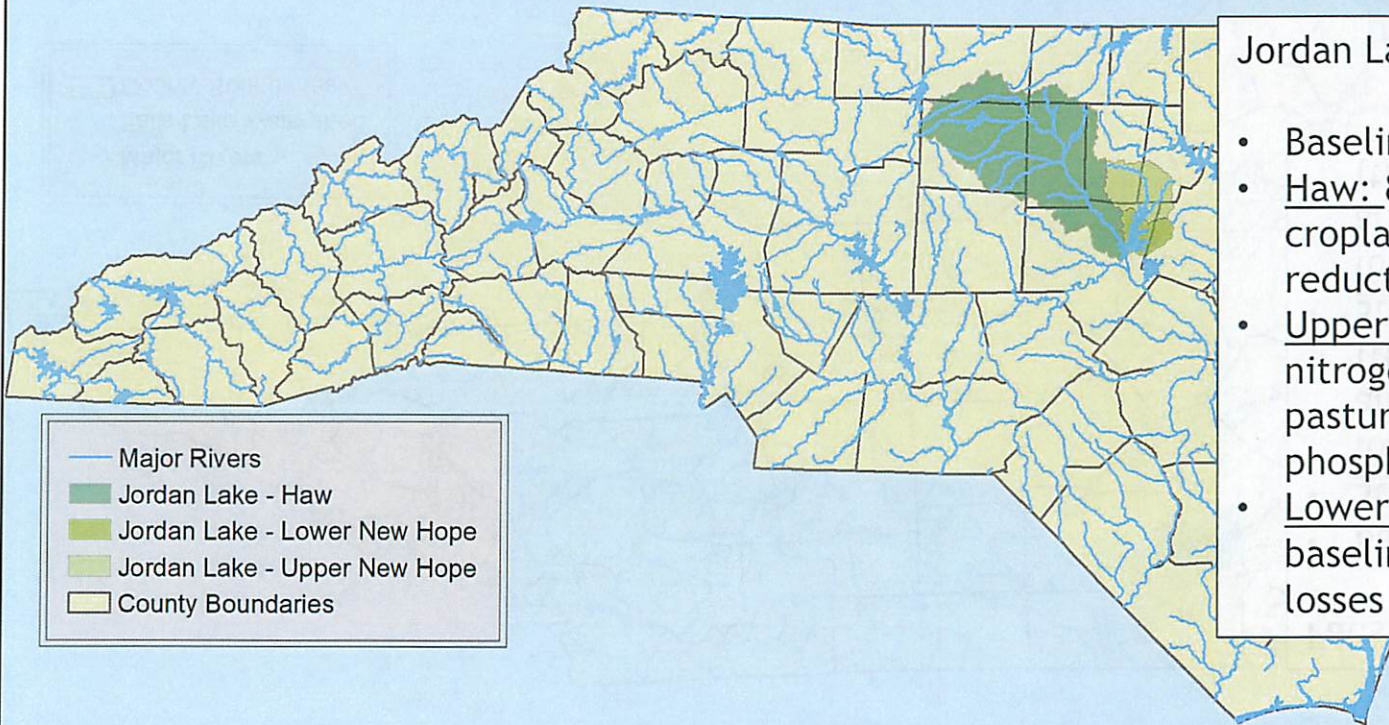
- Major Rivers
- Falls Lake Watershed
- County Boundaries



## Falls Lake Watershed - effective 2011

- Baseline: 2006
- Stage I - 20% reduction in nitrogen loss from cropland and pastureland and 40% phosphorus loss reduction (through 2020)
- Stage II - 40% reduction in nitrogen loss from cropland and pastureland and 77% phosphorus loss reduction (through 2041)

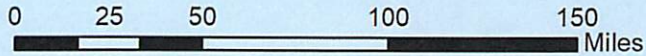
S.L. 2016-94 and S.L. 2018-5 extended Stage I until the Falls Lake Rules are readopted (process to start before December 2024).



— Major Rivers  
■ Jordan Lake - Haw  
■ Jordan Lake - Lower New Hope  
■ Jordan Lake - Upper New Hope  
□ County Boundaries

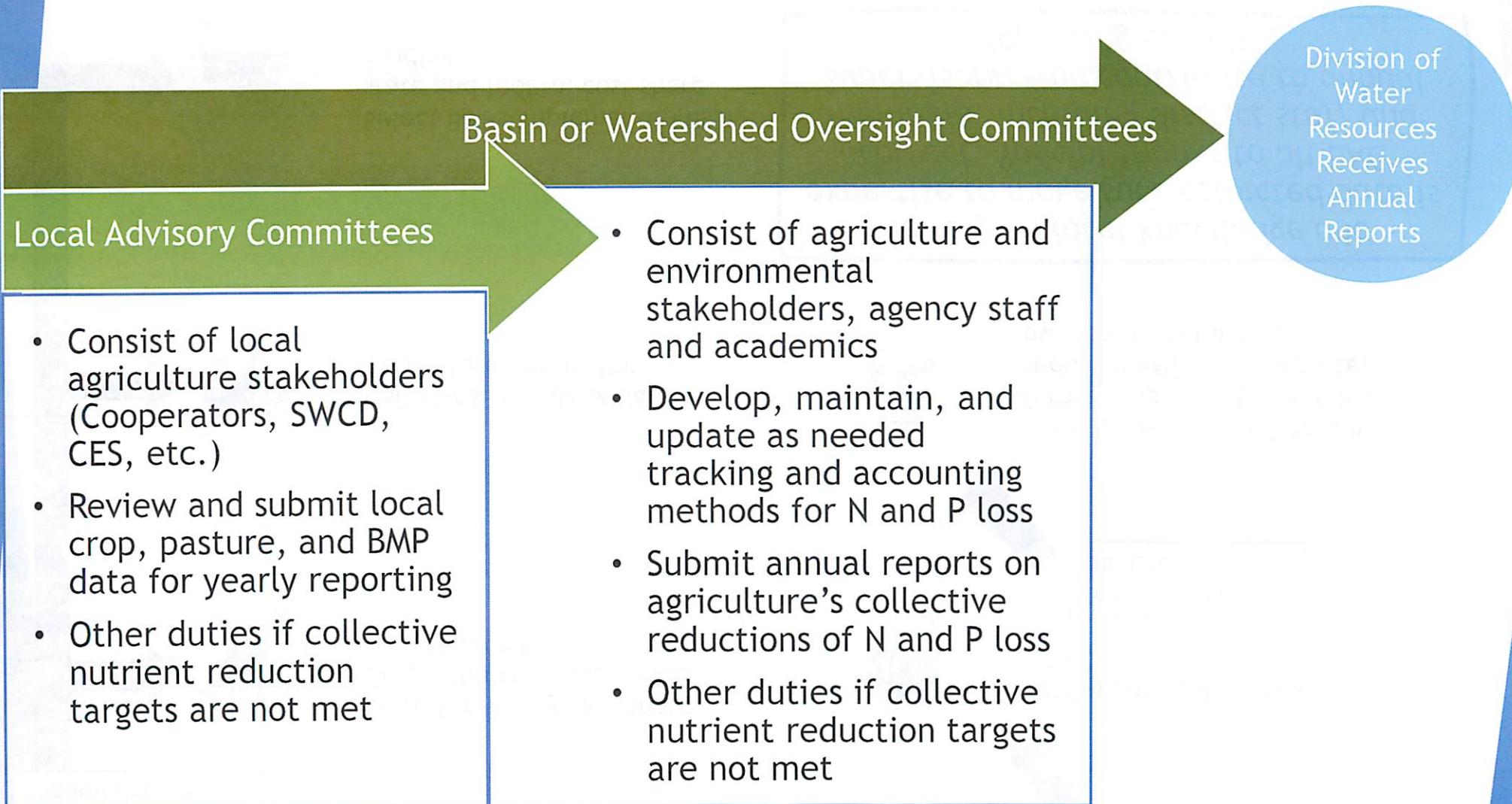
Jordan Lake Watershed - effective 2009

- Baseline: 1997 - 2001
- Haw: 8% reduction nitrogen loss from cropland and pastureland and 5% reduction phosphorus loss
- Upper New Hope: 35% reduction nitrogen loss from cropland and pastureland and 5% reduction phosphorus loss
- Lower New Hope: no increase in baseline nitrogen and phosphorus losses



Jordan Lake Strategy is currently undergoing re-adoption!

# Reporting & Rule Compliance Process





# Data Used in Annual Reporting

Data from state/  
federal databases



Farm Service Agency Annual  
Crop Reports or USDA NASS  
Annual Crop Data



USDA NASS livestock data &  
Agriculture Census Data



Select BMPs implemented using  
state and federal cost share  
funding



Fertilization rate application  
data



Local knowledge and data on  
farmer-implemented nutrient-  
reducing BMPs not supported  
by cost-share funding

Data informed by  
the LAC

Data informed by  
the LAC

*We rely on local knowledge and expertise to make sure collected data is correct. Special thanks to all LAC members, including district staff and Supervisors, who contribute to annual reporting efforts!*



# Reported Crops through NLEW

ATTACHMENT

Not all  
crops are  
reported!

Bahiagrass (Hay)  
Barley (Grain)  
Caucasion/Old World Bluestem (Hay)  
Common Bermudagrass (Hay)  
Corn (Grain - Coastal)  
Corn (Grain - Conventional)  
Corn (Grain - No Till)  
Corn (Silage - Coastal)  
Corn (Silage - Conventional)  
Corn (Silage - No Till)  
Cotton  
Cucumber  
Dallisgrass (Hay)  
Fescue (Hay)  
Hybrid Bermudagrass (Hay)  
Hybrid Bermudagrass overseeded with  
Rescuegrass (Hay)  
Mixed Cool Season Grass (Hay)  
Oats (Grain)

Orchardgrass (Hay)  
Peanuts  
Pearl Millet (Hay)  
Rescuegrass (Hay)  
Rye (Grain)  
Small Grain (Silage)  
Sorghum (Grain)  
Sorghum Sudan (Hay)  
Soybeans (Double Cropped - Manured)  
Soybeans (Double Cropped)  
Soybeans (Full Season - Manured)  
Soybeans (Full Season)  
Sweet Potatoes  
Timothy Grass (Hay)  
Tobacco (Burley)  
Tobacco (Flue Cured)  
Triticale (Grain)  
Tropical Corn (Silage)  
Wheat (Grain)



# Nutrient Reduction Best Management Practices (NRCS & ACSP) - What Do We Report?

Receive N  
Reduction  
Credit

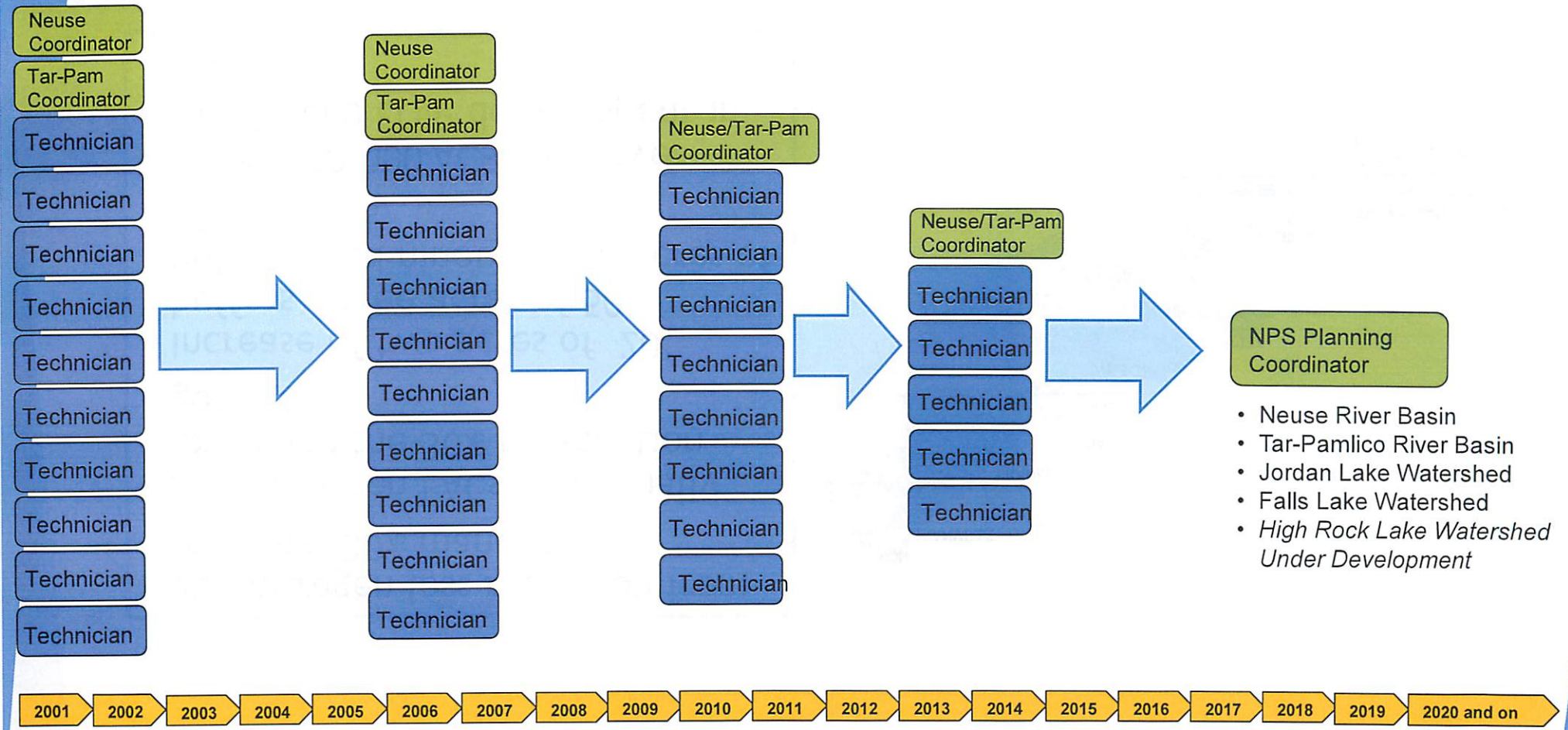
- Unfertilized Cover Crops
  - Wheat, Rye, Oats, Triticale, & Barley
- Buffers
  - Riparian buffers
  - Filter strips
  - Field borders (only if adjacent to a blue line stream)
- Water Control Structures *\*In CY2019 started to report both active and cumulative WCS affected acres*
  - Half round
  - In-line
- Livestock Exclusion Systems (pasture accounting only)
  - Falls Lake & Jordan Lake only

Do not  
Receive N  
Reduction  
Credit

- Additional Nutrient Reducing BMPs
  - Diversion, precision agriculture, sod-based rotation, tillage management, terraces, field borders, & grassed waterways
  - Do not receive nitrogen-reduction credit for implementation of these practices; however cumulative and active contract acre totals are included in the Annual Progress Reports



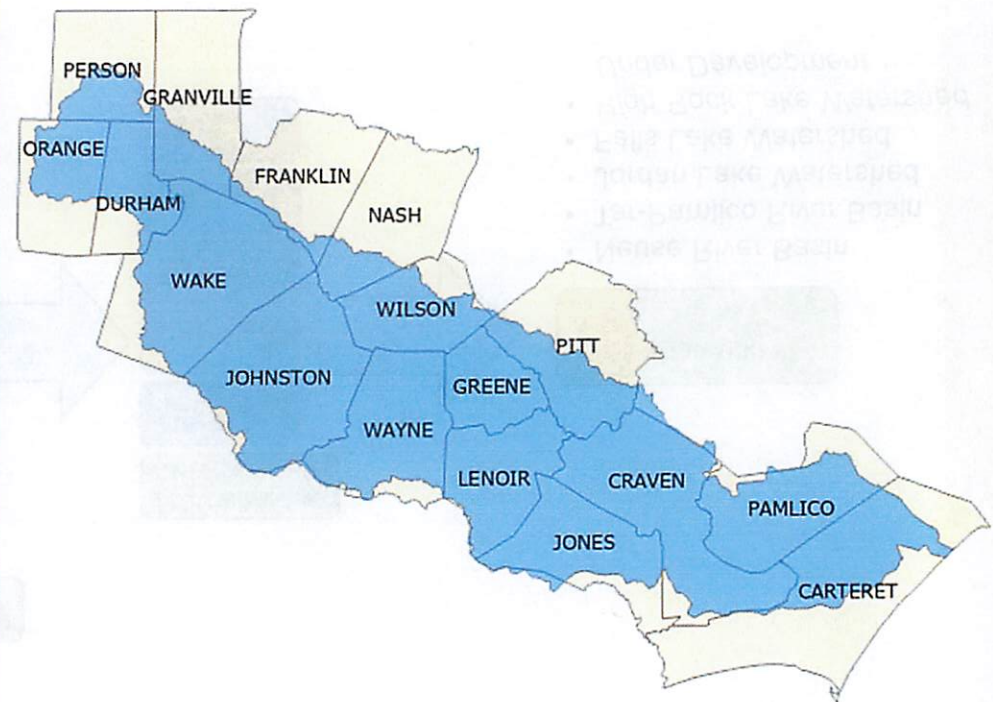
# Funding Changes



# Crop Year 2021 Highlights - Neuse Basin

*Oct. 1, 2020 - Sept. 30, 2021*

- 50% nitrogen loss reduction from baseline (30% mandate)
- All seventeen LACs individually exceeded the 30% N reduction goal
- Increase of two acres of 20' buffers, three acres of 50' buffers, and ninety-three acres of 100' buffers
- Over \$620,000 ACSP and over \$1,608,000 EQIP dollars spent in basin



# Crop Year 2021 Highlights - Tar-Pamlico Basin

Oct. 1, 2020 - Sept. 30, 2021

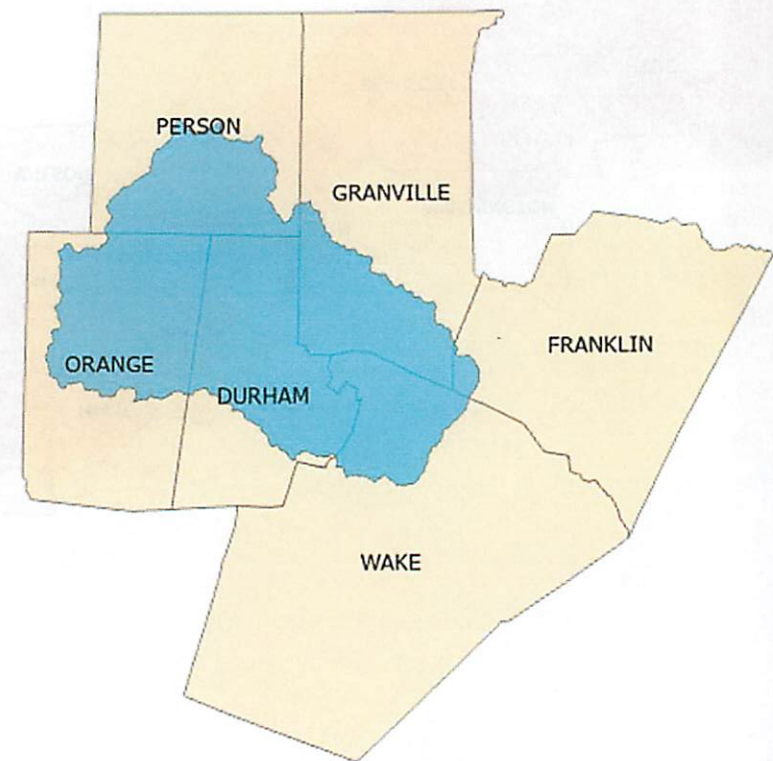
- 54% nitrogen loss reduction from baseline (30% mandate)
- Thirteen LACs individually exceeded the 30% N reduction goal
- Six out of nine tracked parameters for P loss risk indicate reduced risk
- Increase of nineteen acres of 100' buffers
- Over \$354,000 ACSP and over \$1,698,000 EQIP dollars spent in basin



# Crop Year 2021 Highlights - Falls Lake Watershed

Oct. 1, 2020 - Sept. 30, 2021

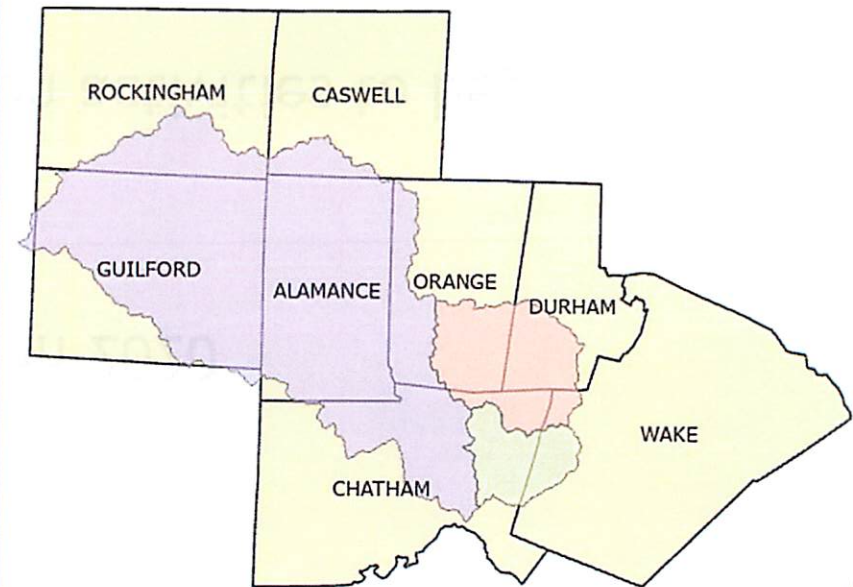
- 71% nitrogen loss reduction for cropland from baseline (20% mandate)
- All LACs individually exceeded 50% N reduction
- All tracked parameters for P loss risk indicate reduced risk
- Since 2006, there has been a 52% decrease of NLEW-accountable crops
- Over \$63,000 ACSP and over \$105,000 EQIP dollars spent in watershed



# Crop Year 2021 Highlights - Jordan Lake Watershed

Oct. 1, 2020 - Sept. 30, 2021

- NASS crop data availability change so an annual % N reduction estimate for cropland was not calculated  
*Next to be calculated with release of US Agriculture Census data (expected 2024)!*
- Majority of tracked parameters for P loss risk indicate reduced risk
- Increase of almost fourteen acres of 20' buffers and six acres of 30' buffers in the Haw subwatershed
- Substantial increase in unfertilized cover crop acreage in the Lower New Hope
- Almost \$165,000 ACSP and over \$276,000 EQIP dollars spent in the watershed





# Nutrient Strategy Activity- Status & Updates

- Neuse:
  - Agriculture Rule was re-adopted in 2020
- Tar-Pamlico:
  - Agriculture Rule was re-adopted in 2020
- Falls Lake:
  - Rule revision/strategy re-adoption activities to begin before December 2024
  - Upper Neuse River Basin Association (UNRBA) finalizing strategy recommendations for Stage II in 2023
  - NC Policy Collaboratory to release Final Report by December 2023



# Nutrient Strategy Activity- Status & Updates

ATTACHMENT

- Jordan Lake:

- Rules were up for revision in 2022 but DWR staffing vacancy paused revision/re-adoption activities

*Expected to resume Summer/Fall 2023!*

- Goal is to finalize strategy re-adoption by 2025
- Jordan Lake One Water (JLOW) updates



# Nutrient Strategy Activity- Status & Updates

- High Rock Lake Watershed:
  - Model finalized (2005-2009 data); 2006 to be the baseline year
  - Site specific Chlorophyll-a standard approved by EPA (Dec 2022)
    - **New Standard:** *Not greater than one exceedance of a growing season geometric mean of 35 ug/L in the photic zone within a three-year period*
    - **Replaces:** *“Not greater than 40 ug/L” statewide standard for Class C waters that previously applied*
  - Strategy development stakeholder process has been initiated:
    - Three Steering Committee Meetings
    - Three Agriculture Technical Advisory Group Meetings
    - Two Public Full Watershed Stakeholder Meetings
    - Several Outreach Meetings with Soil and Water Conservation Districts



# Questions?

Allie Dinwiddie  
*Nonpoint Source Planning Coordinator*  
Phone: 919-707-3795  
Email: [alexandra.dinwiddie@ncagr.gov](mailto:alexandra.dinwiddie@ncagr.gov)

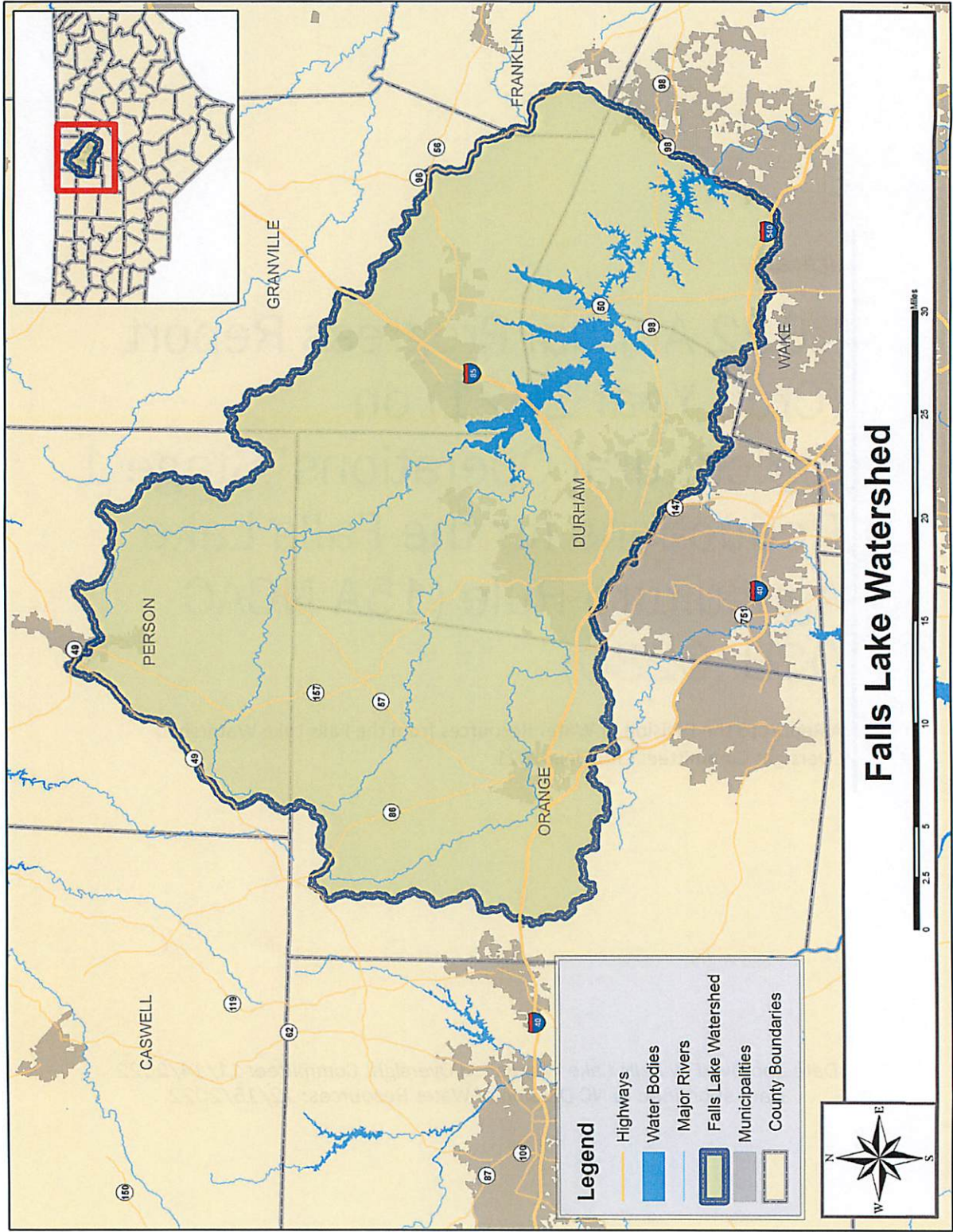


NCDA&CS

2022 Annual Progress Report  
(Crop Year 2021) on  
Agricultural Operations' Stage 1  
Reductions for the Falls Lake  
Agriculture Rule (15A NCAC  
02B .0280)

A Report to the Division of Water Resources from the Falls Lake Watershed  
Oversight Committee: Crop Year 2021

*Date approved by Falls Lake Watershed Oversight Committee: 11/14/2022*  
*Date submitted to NC Division of Water Resources: 12/15/2022*



## Summary

This report provides the annual progress report of collective progress made by the agricultural community to reduce nutrient losses toward compliance with Stage 1 of the Falls Lake Agriculture rule, a component of the Falls Reservoir Water Supply Nutrient Strategy. For this report, the Falls Lake Watershed Oversight Committee (WOC) oversaw the application of accounting methods approved by the Environmental Management Commission's Water Quality Committee in March 2012 to estimate changes in nitrogen loss and phosphorus loss trends in the Falls Lake Watershed. This report is for the period between the strategy baseline (2006) and the most recent crop year (CY)<sup>1</sup> for which data was available, 2021. To produce this report, Division of Soil and Water Conservation staff received, processed and compiled baseline and CY2021 reports from agricultural staff in six counties, for the WOC's review and approval. Agriculture has been successfully decreasing nutrient losses in the Falls Lake watershed since implementation of the Falls Reservoir Water Supply Nutrient Strategy. In CY2021, agriculture collectively exceeded its 20% Stage I nitrogen reduction goal for cropland and pastureland, with a 71% cropland nitrogen reduction and a 42% pastureland nitrogen reduction compared to the 2006 baseline. All six counties exceeded their local 20% reduction goal set by the WOC this year.

Since the baseline, reductions in nitrogen loss have been achieved through an overall decrease in cropland in production, a decrease in nitrogen application rates, and an increase in best management practices (BMPs) such as 20 and 50-foot riparian buffers. In CY2021, reported cropland acres in the watershed decreased by 29,302 acres from baseline acreage. It is assumed that some of the lost agricultural land was converted to development or other uses. Phosphorus qualitative indicators for CY2021 demonstrate that there is no net increased risk of phosphorus loss from agricultural lands in the watershed, with a 21% and 18% decrease in animal waste phosphorus production and tobacco acreage, respectively, and a 50% increase in cropland conversion to grass and trees since the 2006 baseline.

### Falls Lake Watershed Oversight Committee Composition, Falls Agriculture Rule:

1. NC Division of Soil & Water Conservation
2. USDA-NRCS
3. NCDA&CS
4. NC Cooperative Extension Service
5. NC Division of Water Resources
6. Watershed Environmental Interest
7. Watershed Environmental Interest
8. Environmental Interest
9. General Farming Interest
10. Pasture-based Livestock Interest
11. Equine Livestock Interest
12. Cropland Farming Interest
13. Scientific Community

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<sup>1</sup> The 2021 crop year began October 1, 2020 and ended September 30, 2021.

## Rule Requirements and Compliance

In January 2011, the Agriculture Rule in the Falls Reservoir Water Supply Nutrient Strategy rules package became effective. The Agriculture Rule provides for a collective strategy for farmers to meet nitrogen loss reduction goals in two stages. The strategy's goal is to reduce the average annual load of nitrogen and phosphorus to Falls Lake from 2006 baseline levels. Stage I requires that agriculture reach a goal of 20% nitrogen loss reduction and 40% phosphorus reduction from cropland and pasture sources by year 2020. Stage II sets reduction goals of 40% and 77% for nitrogen and phosphorus, respectively, by year 2035, from cropland and pasture sources in the watershed. A Watershed Oversight Committee (WOC) was established to guide the implementation of the rule and to assist farmers with complying with the rule. Six Local Advisory Committees (LACs), previously established through the Neuse Nutrient Sensitive Waters (NSW) Management Strategy Agriculture Rule, were tasked with assisting farmers with complying with the Falls Reservoir NSW Agriculture Rule.

### **Falls Reservoir Nutrient Sensitive Waters (NSW) Strategy:**

The Environmental Management Commission (EMC) adopted the Falls Reservoir Water Supply Nutrient Strategy rules in 2011. The strategy goal is to reduce the average annual load of nitrogen and phosphorus to Falls Lake from 2006 baseline levels. In addition to point source rules, mandatory controls were applied to address non-point source pollution in agriculture, urban stormwater, and riparian buffer protection. The management strategy was modeled after similar nutrient strategies for the Neuse River, Tar-Pamlico River, and Jordan Lake.

All county Local Advisory Committees (LAC) submitted their tenth annual reports to the WOC in October 2022. Collectively, agriculture in the six counties is meeting the cropland nitrogen loss reduction goal, with a 71% reduction. Qualitative indicators for phosphorus suggest there is no increased risk of phosphorus loss from agriculture in the watershed. Pasture nitrogen loss accounting relies on USDA-NASS data which is gathered via the Census of Agriculture every five years. For CY2017 the six Falls Lake counties reported a collective 42% reduction in pastureland nitrogen loss compared to the 2006 baseline. This reduction exceeds the rule-mandated 20% goal.

## Scope of Report and Methodology

The estimates provided in this report represent county-scale calculations of nitrogen loss from cropland agriculture in the watershed made by the NC Division of Soil and Water Conservation (DSWC) using the 'aggregate' version of the Nitrogen Loss Estimation Worksheet (NLEW) and adjusted for the percentage of each county in the Falls Lake Watershed. NLEW is an accounting tool developed to meet the specifications of the Neuse Rule and approved by the Environmental Management Commission's (EMC) Water Quality Committee in March 2012 for use in the Falls Lake Watershed. The NLEW development team included interagency technical representatives of the NC Division of Water Resources (DWR), NC Division of Soil and Water Conservation (DSWC), United States Department of Agriculture (USDA)-Natural Resources Conservation Service (NRCS) and was led by NC State University (NCSU) Soil Science Department faculty. NLEW captures application of both inorganic and animal waste sources of fertilizer to cropland. It is an "edge-of-management unit" accounting tool that estimates changes in nitrogen loss from cropland and pastureland but does not estimate changes in nitrogen loading to surface waters. Assessment methods were



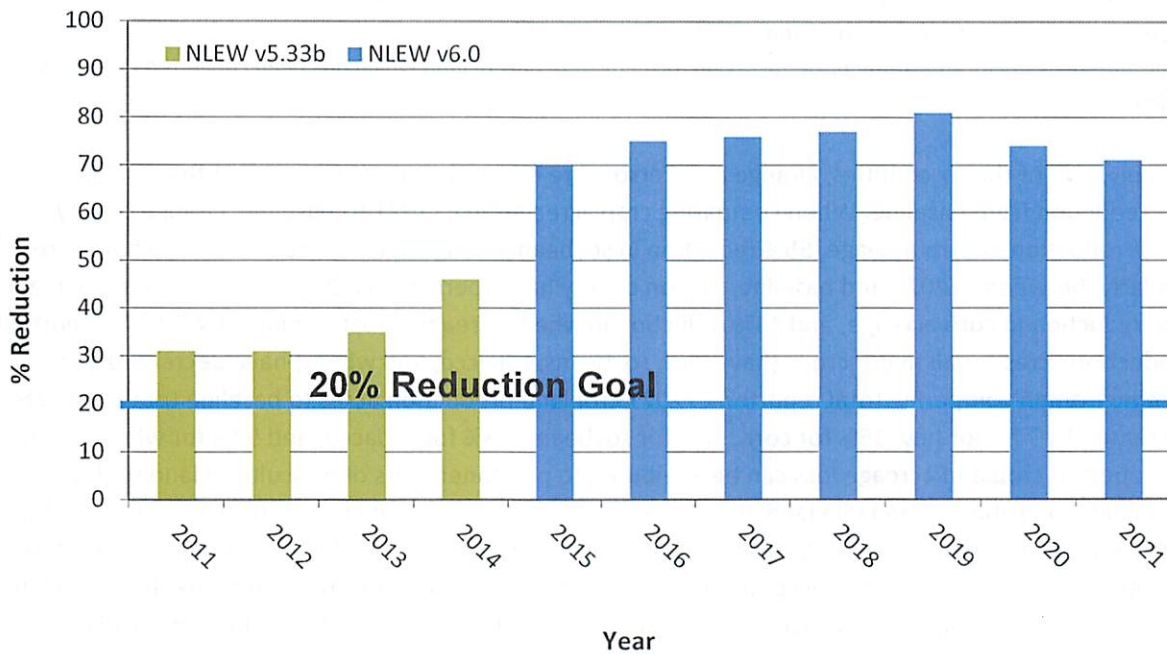
developed and approved by the Water Quality Committee of the EMC for phosphorus and are described later in the report.

Over time NLEW has been updated to incorporate updated realistic yield expectations, nitrogen use efficiencies, and soil management groups. In 2015 a web-based version of NLEW (v6.0) was created on NC Department of Agriculture and Consumer Services servers which corrected user interface bugs and allowed more accurate reporting of aggregate nitrogen loss.

### Nitrogen Reduction from Cropland from 2006 Baseline for CY2021

All counties submitted their tenth progress reports to the WOC in October 2022. In CY2021 agriculture achieved a 71% reduction in nitrogen loss from cropland compared to the average 2006 baseline. Figure 1 shows annual loss percent reductions per year since CY2011, calculated with the two different versions of NLEW. Table 1 lists each county’s baseline, CY2020 and CY2021 nitrogen (lbs/yr) loss values from cropland, along with nitrogen loss percent reductions for CY2020 and CY2021 from baseline.

Figure 1. Collective Cropland Nitrogen Loss Reduction Percent 2011 to 2021, Falls Lake Watershed



**Table 1. Estimated reductions in agricultural cropland nitrogen loss from baseline (CY2006) for CY2020 and CY2021, Falls Lake Watershed**

County	Baseline N Loss (lb)	CY2020 N Loss (lb) §	CY2020 N Reduction (%)	CY2021 N Loss (lb) §	CY2021 N Reduction (%)
Durham	146,090	36,470✘	75%	46,105✘	68%
Franklin	11,772	4,658	60%	4,091	65%
Granville	127,704	46,313	64%	55,022	57%
Orange	347,402	85,586	75%	100,312	71%
Person	484,123	103,721	79%	109,283	77%
Wake	52,405	30,978	41%	26,309	50%
<b>Total</b>	<b>1,169,495</b>	<b>307,726</b>	<b>74%</b>	<b>341,123</b>	<b>71%</b>

§ Nitrogen loss values are for comparative purposes. They represent nitrogen that was applied to cropland in the watershed and neither used by crops nor intercepted by BMPs in an agricultural management unit, based on NLEW calculations. This is not an in-stream loading value.

✘ This number may include some buffer acres on formerly agricultural land which has been converted to other uses (see page 6).

Notably, two of the six counties, Orange and Person, are currently reporting a greater than 70% nitrogen loss reduction from baseline. When comparing crop acreages in CY2021 to baseline, Orange county has seen a 41% reduction in corn acreage, 55% reduction in soybean acreage and 73% reduction in wheat acreage. Similarly, between CY2021 and baseline, Person county has experienced a 90% reduction in hay acreage, 46% reduction in corn acreage, and 44% reduction in wheat acreage. Most significantly, NLEW-reportable production acres for all major crops (hay, corn, soybeans, tobacco, and wheat) have decreased since baseline. When comparing total reported CY2021 cropland production acres to baseline totals, acreage has decreased by 77% for hay, 35% for corn, 16% for soybeans, 18% for tobacco, and 52% for wheat. Some of the reported cropland acreage loss can be attributed to permanent loss of agricultural land to development. Changing crop rotations and idle land, which could return to production in the future, may account for some of the reported production acreage loss seen since baseline. It is also possible that some cropland acres are now grazed as pasture, which is accounted for in the pasture NLEW reporting framework described later in this report. Only non-grazed hay acres are accounted for in the cropland NLEW reduction calculation.

It is important to note that the small amount of agricultural acreage in Durham, Franklin, and Wake Counties tends to result in a magnified effect of year-to-year crop shifts on aggregate nitrogen loss reductions in those counties. Overall, the Falls Lake Watershed is reporting a cropland nitrogen loss reduction of 71% for CY2021.

## Best Management Practice Implementation

Agriculture is credited with different nitrogen reduction efficiencies, expressed as percentages, for riparian buffer widths ranging from 20 feet to 100 feet. NLEW versions 5.33b and 6.0 for the Neuse River Basin provide the following percent nitrogen reduction efficiencies for buffer widths on cropland: 20' receives 20% reduction, 30' receives 25% reduction, 50' receives 30%, and 100' receives 35% reduction (see Table 2). Note that these percentages represent the net or relative percent improvement in nitrogen removal resulting from riparian buffer implementation.

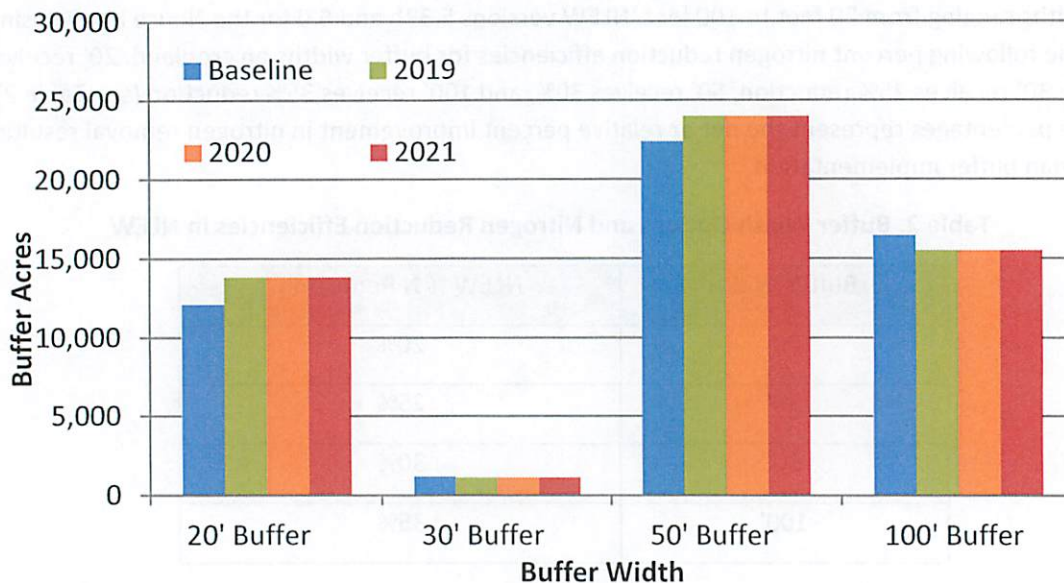
**Table 2. Buffer Width Options and Nitrogen Reduction Efficiencies in NLEW**

Buffer Width	NLEW % N Reduction
20'	20%
30'	25%
50'	30%
100'	35%

An accurate reassessment of active agricultural land and remaining buffer systems is needed due to the rate at which urbanizing counties have lost agricultural land. This reduction in agricultural acreage also has implications for the other counties in the watershed which do not have local staff capacity to perform a new agricultural land inventory. An interim adjustment of Durham's BMP acre totals based on DEQ reports<sup>2</sup> has led to a reduction of 20 ft. buffers by 757 acres, 30 ft. buffers by 683 acres, 50 ft. buffers by 2,123 acres, and 100 ft. buffers by 4,018 acres. These adjusted totals have increased the accuracy of nitrogen loss calculations. Figure 2 illustrates the amount of buffers on cropland in the baseline (2006), CY2019, CY2020, and CY2021.

<sup>2</sup> Osmond, D. L., and K. Neas. "Delineating agriculture in the Neuse River Basin." Final report to NCDENR, Division of Water Quality for USEPA 319 program (2011).

**Figure 2. Nitrogen Reducing Buffers Installed on Croplands from CY2019 through CY2021, compared to Baseline (CY2006), Falls Lake Watershed\***



\*Some of these buffers may be on land that is now in new development and therefore no longer buffering active agricultural operations.

BMP data is collected from state and federal cost share program active contracts, and in some cases BMPs that were installed without cost share funding. While there is some variability in the data reported, LACs are reporting the best available information. As additional data is collected, the LACs will review the sources and update their methodology for reporting if warranted.

Reported riparian buffer acre estimates do not take into account the entire drainage area treated by buffers in the piedmont, which is generally 5 to 10 times higher than the actual acres of the buffer shown in Figure 2.<sup>3</sup> Riparian buffers have many important functions beyond being effective in reducing nitrogen. Research has shown that upwards of 75% of sediment from agricultural sources is from stream banks and that riparian buffers, particularly trees, are important for reducing this sediment.<sup>4</sup> In addition, buffers sequester phosphorus and sediment as they move through the riparian zone and provide other critically important functions such as wildlife habitat and stream shading.<sup>5</sup>

<sup>3</sup> Bruton, Jeffrey Griffin. 2004. Headwater Catchments: Estimating Surface Drainage Extent Across North Carolina and Correlations Between Landuse, Near Stream, and Water Quality Indicators in the Piedmont Physiographic Region. Ph.D. Dissertation. Department of Forestry and Environmental Resources, North Carolina State University, Raleigh, NC 27606.

<sup>4</sup> Sweeney, B. et al., 2004, Riparian deforestation, stream narrowing, and loss of stream ecosystem services, PNAS 101:39, 14132-14137; Sweeney and Newbold, 2014.

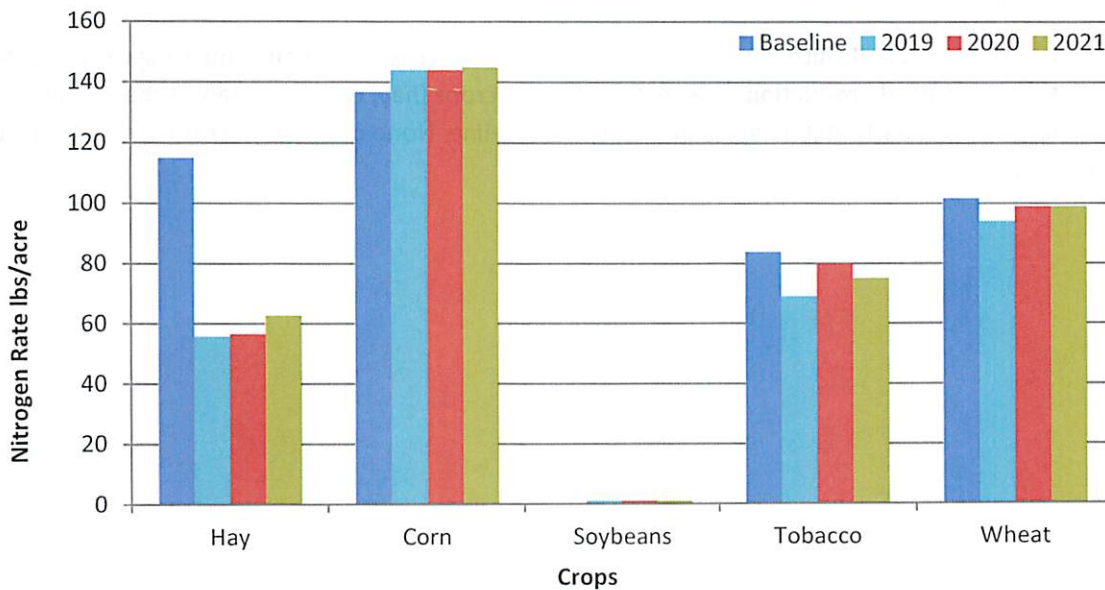
<sup>5</sup> Spruill, T.B., 2004, Effectiveness of riparian buffers in controlling ground-water discharge of nitrate to streams in selected hydrogeologic settings of the North Carolina Coastal Plain, Water Science and Technology 49:3, 63-70.

## Fertilization Management

Since baseline, reduced nitrogen application rates have resulted from improved agronomic decision making, economic conditions, and fluctuating farm incomes. Commodity prices and low profit margins have impacted the application rates of nitrogen on farms in the Falls Lake Watershed. For most crops, farmers have reduced their nitrogen application rates from baseline levels. Figure 3 displays the nitrogen application rates in pounds per acre for the major crops in the watershed. Nitrogen application rates for hay are 52 pounds/acre lower than during the baseline. Nitrogen rates on tobacco acres decreased 5 pounds/acre from CY2020 application rates. Corn, soybeans, and wheat nitrogen rates remained relatively stable (less than 5 pounds/acre fluctuations) between CY2020 and CY2021. Fertilization rates are revisited annually by county local advisory committees using data from farmers, commercial applicators and state and federal agencies' professional estimates.

Agriculture in the six counties within the Falls Lake watershed is focused primarily on pasture-based systems, with pasture ranging from 29-64% of the agricultural land use. On hay and pasture, nitrogen application rates are significantly less than NC State University recommendations and only small amounts of phosphorus are added. Thus, it appears that hay production acres are under-fertilized in the Falls Lake Watershed.<sup>6</sup>

**Figure 3. Average Annual Nitrogen Fertilization Rate (lb/ac) on Cropland from CY2019 through CY2020, compared to Baseline (CY2006), Falls Lake Watershed**



<sup>6</sup> Osmond, D. L., and K. Neas. "Delineating agriculture in the Neuse River Basin." Final report to NCDENR, Division of Water Quality for USEPA 319 program (2011).

## Cropping Shifts

The LACs recalculate the cropland acreage annually by utilizing crop data reported by farmers to the Farm Service Agency. Because each crop type requires different amounts of nitrogen and uses applied nitrogen with a different efficiency rate, changes in the mix of crops grown can have a significant impact on the cumulative yearly nitrogen loss reduction.

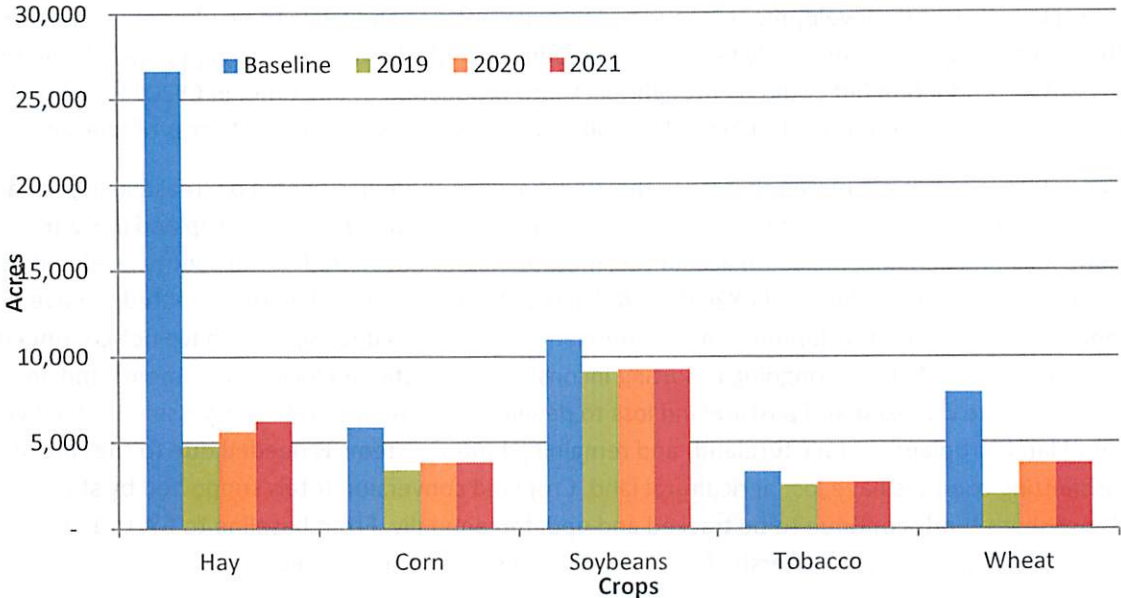
Fluctuating weather conditions markedly impact annual cropping shifts by affecting farmers' ability to prepare fields for harvest and planting as well as overall crop health and yield. Although the 2020-2021 La Niña winter brought wetter than normal conditions to the North Carolina coastal plain from December 2020 to February 2021,<sup>7</sup> overall 2021 concluded as the driest year seen in the state since 2012.<sup>8</sup> Seasonal oscillations in 2021 were extreme and resulted in winter and summer being particularly wet and spring and fall being particularly dry.<sup>8</sup> Annual cropping shifts seen in CY2021 can also be explained by regular crop rotations, which are necessary to minimize the risk of disease from year to year, as well as a host of other factors from individual choice to global markets which impact annual selection. Between CY2020 and CY2021, in total, hay increased by 660 acres, soybeans by 318 acres and tobacco by 486 acres. Moderate increases in corn, cotton, and wheat were also seen. Durham, Orange, and Person counties experienced the largest hay acreage increases (195, 317, and 102 acres respectively). Granville and Person counties experienced the largest soybean increases (113 and 185 acres respectively). Granville, Orange, and Person counties experienced the largest tobacco increases (245, 91, and 108 acres respectively). The WOC anticipates that the basin will see additional crop shifts in the upcoming year based on changing commodity prices and weather.

Figure 4 shows crop acres and shifts for CY2021 compared to the baseline. When comparing CY2021 totals to baseline, NLEW reported production acreage for all major crops (hay, corn, soybeans, tobacco, and wheat) has declined by nearly 29,000 acres in total since baseline. None of the hay acres reported in Figure 4 are grazed by livestock.

<sup>7</sup> Davis, C. 2021. Winter Recap 2020-21: La Niña Lays Low in a Persistent Wet Winter. Prepared by North Carolina State Climate Office for the Climate Blog, Climate Summary. <https://climate.ncsu.edu/blog/2021/03/winter-recap-2020-21-la-nina-lays-low-in-a-persistent-wet-winter/>

<sup>8</sup> Davis C, and K. Dello. 2022. From Deluges to Droughts in 2021: the Weather Year in Review. Prepared by North Carolina State Climate Office for the Climate Blog, Climate Summary. <https://climate.ncsu.edu/blog/2022/01/from-deluges-to-droughts-in-2021-the-weather-year-in-review/>

Figure 4. Reported Acreage of Major Crops from CY2019 through CY2021, compared to Baseline (CY2006), Falls Lake Watershed

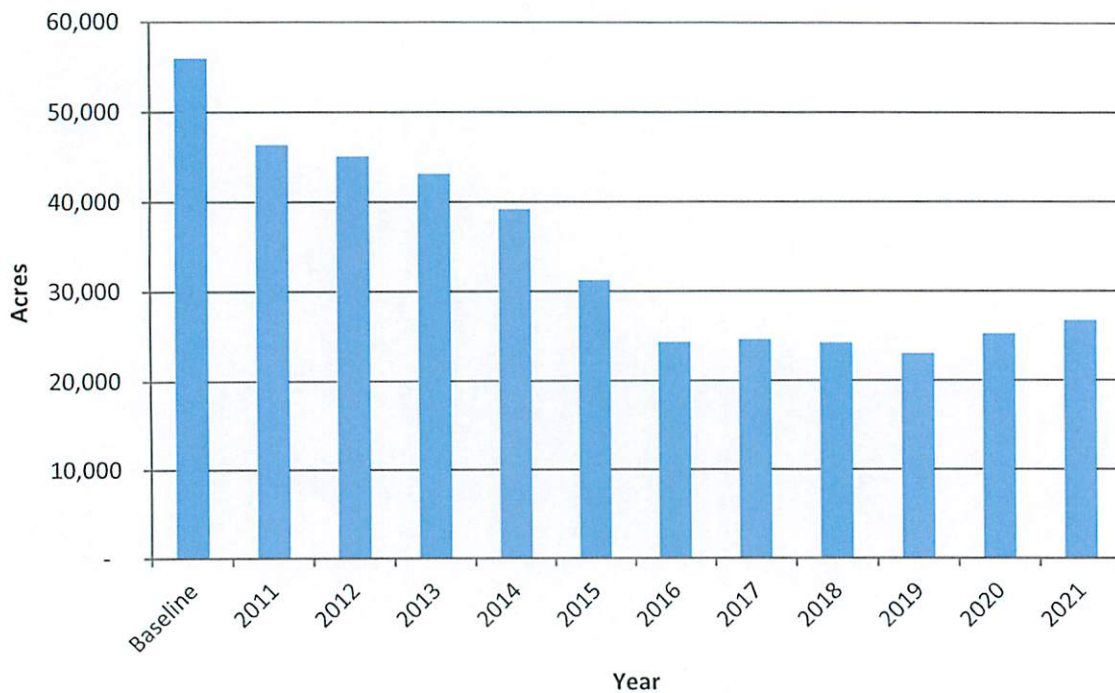


### Land Use Change to Development and Cropland Conversion

The number of cropland acres fluctuates every year in the Falls Lake Watershed. Each year, some cropland is either permanently lost to development, converted to grass or trees and likely to be ultimately lost from agricultural production, or temporarily taken out of production. Idle land represents agricultural land that is currently out of production but could be brought back into production at any time. In CY2021, 26,667 NLEW-accountable crop acres were reported in the Falls Lake Watershed along with 9,812 acres of idle land.

As shown in Figure 5, it is estimated that since the 2006 baseline there has been a decrease in 29,302 acres of NLEW-accountable crops (52% of total reported cropland in baseline). Reported cropland in Figure 5 does not include idle land acreage. Based on accounting methodologies developed at the county level and best available data, between baseline and CY2015, 4,708 acres of agriculture land were estimated to have been permanently converted to development. Agriculture land acres lost to development have not continued to be tracked since CY2015 due to ongoing reporting inconsistencies between local governments and an inability to separate cropland and pastureland loss to development. An accurate reassessment of active agricultural land (cropland and pastureland) and remaining buffer systems is needed due to the rate at which urbanizing counties have lost agricultural land. Cropland conversion totals supported by state or federal cost-share funds continue to be tracked and updated annually. From baseline to CY2021, 2,290 cropland acres in the Falls Lake watershed have been converted to grass or trees.

**Figure 5. Total Reported Cropland Acres in the Falls Lake Watershed, Baseline (2006), 2011-2021**





## Phosphorus Indicators for CY2021

The Phosphorus Technical Advisory Committee (PTAC) was created to establish a phosphorus accounting method for agriculture in the Tar-Pamlico River Basin. In 2005, the PTAC determined that a defensible, aggregated, county-scale accounting method for estimating phosphorus losses from agricultural lands was not feasible due to “the complexity of phosphorus behavior and transport within a watershed, the lack of suitable data required to adequately quantify the various mechanisms of phosphorus loss and retention within watersheds of the basin, and the problem with not being able to capture agricultural conditions as they existed in [baseline year] 1991.” The PTAC instead developed recommendations for qualitatively tracking relative changes in practices in land use and management related to agricultural activity that either increase or decrease the risk of phosphorus loss from agricultural lands on an annual basis. In 2010, the PTAC reconvened to make minor revisions for the tool’s use in Falls Lake Watershed, all of which were approved by the Water Quality Committee of the EMC. The qualitative indicators included in Table 3 show the relative changes in land use and management parameters and their relative effect on phosphorus loss risk in the watershed for baseline (CY2006), CY2019, CY2020, and CY2021.

**Table 3. Relative Changes in Land Use and Management Parameters and their Relative Effect on Phosphorus Loss Risk in the Falls Lake Watershed**

Parameter	Units	Source	Baseline 2006	CY2019	CY2020	CY2021	% change '06-'21	P Loss Risk +/-
Reported Cropland (annual)	acres	FSA, LAC	55,969	22,978	25,166	26,667	-52%	-
Cropland conversion to Grass & Trees (cumulative)	acres	USDA-NRCS & NCACSP	1,527	2,214	2,249	2,290	+50%	-
Conservation tillage (active contract)	acres	USDA-NRCS & NCACSP	26,787	20,216	3,017†	3,017†	-89%	- §
Vegetated buffers (cumulative)	acres	USDA-NRCS & NCACSP	52,139	54,421 ✕	54,424 ✕	54,425 ✕	+4% ✕	-
Unfertilized Cover Crop (annual)	acres	LAC	0	859	1,105	1,651	+1,651%‡	N/A
Tobacco (annual)	acres	FSA, LAC	3,288	2,537	2,198	2,684	-18%	-
Animal waste P (annual)	lbs of P/ yr	NC Ag Statistics	586,612	464,922*	470,945	465,598	-21%	-
Soil test P median (annual)	P Index	NCDA&CS	77	70	77	76	-1%	-

† Conservation tillage is being practiced on additional acres, but this number only reflects estimated acres under active cost share contracts from CY 2011 to CY2021.

§ Overall contracted conservation tillage acres are notably lower than during the 2006 baseline, but this is due primarily to an overall reduction in agricultural acres. The practice has been widely adopted for corn and the WOC believes that this adoption has resulted in an overall reduction of P loss risk for this category.

✕ This number may include some buffer acres on formerly agricultural land which has been converted to other uses (see page 6).

‡ The percent change for unfertilized cover crop acres is assumed to have increased from 1 due to the problem with calculating a percentage difference from zero.

\* Animal Waste P was adjusted for CY2019 based on updated data from USDA NASS since this value was reported.

Most of the parameters in Table 3 indicate less risk of phosphorus loss from agricultural management units than in the baseline period. Factors significantly contributing to the reduced risk of phosphorus loss in the Falls Lake Watershed include:

- Eighteen percent reduction of tobacco acreage from baseline;
- Twenty-one percent decrease in Animal waste P from livestock and poultry from baseline; and
- Cropland conversion to other uses.

Despite the reduction in reported conservation tillage acres, based on field office reports, conservation tillage acres remain high even after contracts expire due to farmer satisfaction with the practice after initial implementation. Additionally, because some farmers have adopted the use of conservation tillage without cost share assistance, a higher percentage of agricultural land is currently being cultivated with reduced tillage than was reported during the baseline due to the overall reduction in agricultural acres. By this metric, the phosphorus loss risk remains negative.

The soil test phosphorus median number reported for the watershed fluctuates each year due to the nature of how the data is collected and compiled. The soil test phosphorus median numbers shown in Table 3 are generated by using North Carolina Department of Agriculture and Consumer Services (NCDA&CS) soil test laboratory results from voluntary soil testing on agriculture land and the data is reported by the NCDA&CS. The number of samples collected each year varies but was approximately 11% lower in CY2021 than the number of samples used to determine the soil test phosphorus median number in baseline. The data does not include soil tests that were submitted to private laboratories. The soil test results from the NCDA&CS database represent data from entire counties in the watershed and have not been adjusted to include only those samples collected in the Falls Lake Watershed.

Given the key role of phosphorus in the Falls Lake nutrient strategy, the Falls WOC recommends that phosphorus accounting and reporting follow a three-pronged approach:

1. **Annual Qualitative Accounting:** Conduct annual qualitative assessment of likely trends in agricultural phosphorus loss in the Falls watershed relative to 2006 baseline conditions using the method established by a 2005 PTAC report that added tobacco acres and removed water control structures.
2. **Phosphorus Loss Assessment Tool (PLAT):** The PLAT has been developed to assess potential P loss from cropland to water resources. A survey of the Falls Lake watershed counties was conducted in 2010, with the next survey to be conducted in the future if funding is available. The results of the 2010 survey demonstrated that the potential for phosphorus loss is very low (< 0.35 lbs/ac/yr) for four of the five counties surveyed. Phosphorus loss in Orange County (1.07 lbs/ac/yr) is rated at the low end of the PLAT medium range (1.1 – 2 lbs/ac/yr). Even with the installation of buffers along all streams and the discontinuation of phosphorus application (fertilizer, biosolids, or animal waste), there would be limited potential for additional phosphorus loss reduction.
3. **Improved understanding of agricultural phosphorus management through studies using in-stream monitoring:** Quantitative in-stream monitoring should be conducted. Such monitoring is contingent upon the availability of funding and staff resources. An appropriate water quality monitoring design would be a paired-watershed study of sub-watersheds with only agricultural land use. This design would allow estimates of phosphorus loading for different management regimes and load reductions after conservation practices have been implemented. However, funding for this study is currently unavailable.

The WOC recommends that no additional management actions be required of agricultural operations in the watershed at this time to comply with the phosphorus goals of the agriculture rule. The WOC will continue to track and report the identified set of qualitative phosphorus indicators to DWR annually, and as directed by the rule to the Environmental Management Commission. The WOC expects that BMP implementation may continue to increase throughout the watershed in future years, and notes that BMPs installed for nitrogen, pathogen and sediment control often provide significant phosphorus benefits as well.

## Pasture Accounting

Pasture nitrogen loss is also calculated using NLEW and is based on the total number of pasture acres, pastured livestock, and implemented livestock exclusion systems in the watershed. Pasture acres and pastured livestock numbers are gathered from USDA-NASS data which is collected for the Census of Agriculture every five years. The next pasture-based nitrogen loss calculation will be included in a future report when the 2022 Census of Agriculture is published. The 2022 Census of Agriculture is currently expected to be released in the Spring/Summer of 2024. In CY2017 counties in the Falls Lake Watershed reported a 42% nitrogen loss reduction from baseline, which exceeds the rule-mandated 20% goal. Current pastureland nitrogen loss reductions are shown in Table 4 for CY2012 and CY2017.

**Table 4. Estimated reductions in agricultural (pastureland) nitrogen loss from baseline (CY2007) for CY2012 and CY2017, Falls Lake Watershed\***

County	Baseline N Loss (lbs)	CY2012 N Loss (lbs)	CY2012 N Reduction (%)	CY2017 N Loss (lbs)	CY2017 N Reduction (%)
Durham	55,564	41,891	25%	36,348	35%
Franklin	1,600	1,776	-11%	1,538	4%
Granville	104,474	72,371	31%	59,288	43%
Orange	47,689	24,861	48%	23,864	50%
Person	50,088	30,824	38%	29,114	42%
Wake	5,747	3,689	36%	3,795	34%
<b>Total</b>	<b>265,162</b>	<b>175,411</b>	<b>34%</b>	<b>153,947</b>	<b>42%</b>

*\*The reduction percentages reported above result from a combination of pastureland loss, fertilization decreases, stocking rate changes, and BMP implementation.*

For more information about pastureland nitrogen loss reductions in the watershed refer to the CY2018 Progress Report.

## BMP Implementation Not Tracked by NLEW

Not all types of nutrient and sediment-reducing BMPs are tracked by NLEW such as: livestock-related nitrogen and phosphorus reducing BMPs, BMPs that reduce soil and phosphorus loss, and BMPs that do not have enough scientific research to support estimating a nitrogen benefit. The WOC believes it is worthwhile to recognize implementation of these practices. Table 5 identifies BMPs and tracks their implementation in the watershed since the end of the baseline period. Table 6 indicates the total number of BMPs not accounted for in NLEW, which are under active contract (implemented from CY2011 to CY2021).

**Table 5. Nutrient-Reducing Best Management Practices Not Accounted for in NLEW, Baseline to CY2021, Falls Lake Watershed\***

BMP	Units	2006 - 2019	2020	2021
Critical Area Planting	Acre	711	712	712
Composting Facility	Number	10	11	11
Diversion	Feet	29,061	29,460	30,041
Dry Stack	Number	8	8	8
Fencing (USDA programs)	Feet	85,510	85,510	85,510
Field Border	Acre	27,412	27,415	27,415
Grassed Waterway	Acre	8,676	8,680	8,681
Nutrient Management Plan	Acre	1,576	1,577	1,577
Pasture Renovation	Acre	326	326	326
Stream Crossing	Number	4	6	6
Sod-Based Rotation	Acre	18,326	20,543	20,644
Tillage Management	Acre	21,029	21,294	21,294
Terraces	Feet	4,163	4,163	4,163
Trough or Tank	Number	99	104	104
Waste Storage Facility	Number	10	10	10

\* Cumulative data quantified by adding BMPs implemented with State and Federal cost share program funding each Crop Year to cumulative totals reported the previous Crop Year. Additional BMPs may exist in the watershed as practices may be installed by farmers without cost share assistance.

**Table 6. Nutrient-Reducing Best Management Practices Not Accounted in NLEW installed from CY2011 to CY2021, Falls Lake Watershed\***

BMP	Units	BMPs Installed (CY2011-CY2021)
Critical Area Planting	Acre	710
Composting Facility	Number	10
Diversion	Feet	15,663
Dry Stack	Number	3
Fencing (USDA programs)	Feet	52,271
Field Border	Acre	764
Grassed Waterway	Acre	180
Nutrient Management Plan	Acre	1,179
Stream Crossing	Number	5
Sod-Based Rotation	Acre	13,939
Tillage Management	Acre	3,017
Terraces	Feet	700
Trough or Tank	Number	89
Waste Storage Facility	Number	5

\*Values represent active contracts in State and Federal cost share programs from CY2011 – CY2021 and were quantified by subtracting CY2021 cumulative totals from CY2011 cumulative totals. Additional BMPs may exist in the watershed as producers may maintain practices after the life of a cost share contract, and other practices are installed by farmers without cost share assistance.

## Looking Forward

The Falls Lake WOC will continue to report on and encourage rule implementation, relying heavily on the local Soil and Water Conservation Districts working directly with farmers to assist with best management practice design and installation.

Because cropping shifts are susceptible to various pressures, the WOC is working with all counties to continue BMP implementation on both cropland and pastureland that provides for lasting reductions in nitrogen and phosphorus loss in the watershed while monitoring cropping changes.

### *Funding*

Ongoing agriculture rule reporting has incorporated data processing efficiencies and improvements in recent years. NLEW upgrades have allowed LAC members to more actively participate in the compilation of data and analysis of nitrogen loss trends, and the Division of Soil and Water Conservation's digital contracting system has helped optimize BMP documentation efforts.

In CY2021, Soil and Water Conservation Districts spent almost \$63,000 through the Agriculture Cost Share Program for nutrient-reducing BMP implementation in the Falls Lake Watershed. The Natural Resources Conservation Service spent almost \$105,000 through the Environmental Quality Incentives Program for BMP implementation in the counties lying in the Falls Lake Watershed. Funds were also expended for installation of these practices by local farmers and landowners either through participation in these cost share programs, or by installing practices at their own cost. Participation by so many members of the local agricultural community demonstrates a commitment toward achieving the nutrient strategy's long-term goals.

Sufficient funding for technical assistance and BMP implementation incentivization is indispensable for continued achievement and maintenance of agricultural nitrogen reduction and phosphorus loss risk reduction goals. Local demand for funding, to support experienced staff versed in conservation planning and cost-share program implementation in addition to supporting adoption of water-quality improving BMPs, far outstrips existing resources. Local levels of technical assistance for BMP implementation have changed since the Falls Reservoir Water Supply Nutrient Strategy Rules were adopted in 2011. As of Fiscal Year (FY) 2016, previously funded basin and watershed technicians assisting farmers with nutrient reducing BMP implementation are no longer supported by granting state entities. Concurrent budget changes at the USDA also resulted in statewide restructuring of North Carolina NRCS field staff, leading to a reduction in federally funded technical capacity at the local level. Consequently, ongoing responsibility for conservation practice planning and installation now largely depends on local Soil and Water Conservation District staff with escalating workload and capacity demands. Additionally, while two EPA 319(h) grants (\$238,643 in total)

### The WOC recognizes several factors affecting agriculture:

- Urban encroachment
- Market Fluctuations
- Changes in government programs (e.g., commodity support or environmental regulations)
- Weather (e.g., long periods of drought or rain)
- Scientific advances in agronomics (e.g., production of new types of crops or improvements in crop sustainability)
- Plant disease or pest problems (e.g., viruses or foreign pests)

were obtained between 2012 and 2017 to support livestock exclusion system implementation and BMP implementation on equine operations, more funding, through existing cost-share programs or outside grants, continues to be needed to incentivize conservation activity in the Falls Lake Watershed. In FY2021, Soil and Water Conservation Districts lying within Falls Lake Watershed requested nearly three times more Agriculture Cost Share Program funding beyond the fiscal year's allocation. Funding of state and federal cost share programs is essential for continued progress in reducing nutrient losses from agricultural land.

Funding is also necessary for continued agricultural data collection and annual reporting. With the loss of grant-supported basin and watershed technicians as of FY2016, annual data collection, compilation and reporting duties for the Falls Lake Watershed and all other basins and watersheds subject to existing NSW Management Strategies with Agriculture Rules were assigned to the NCDA&CS Division of Soil and Water Conservation's Nonpoint Source Planning Coordinator. The Division of Soil and Water Conservation expends approximately \$50,000 on agricultural reporting staff support annually, using funds received through an EPA 319(h) grant administered by the Department of Environmental Quality. Annual agricultural reporting is required by the rules; therefore, continued funding for the DSWC Nonpoint Source Planning Coordinator position is essential for compliance.

Reductions in funding and staffing necessitate implementing a more centralized approach to agricultural data collection and verification for annual progress reports. This evolving approach may include developing additional GIS analysis tools, streamlining FSA acreage documentation, and training LACs on how to handle changing methods. New tools will be vetted by the WOC and may be incorporated into the agriculture rule accounting methodology. While necessary with existing funding and staffing limitations, centralizing and automating data collection and verification may come at the expense of local knowledge.

Previously, funding was available for research on conservation practice effectiveness, realistic yields, and nitrogen use efficiencies. Due to grant eligibility changes and other funding constraints, it is unlikely that new data will be developed. Prior funding sources for such research, which provided much of the scientific information on which NLEW was based, are no longer available. Should new funding be made available, additional North Carolina-specific research information will be incorporated into future NLEW updates. The WOC also sees the need for additional research on accounting procedures for pasture operations, and supports such research being conducted. Should readily accessible information from DEQ become available for permitted biosolids applications to agricultural acres in the watershed, including rate, nutrient content, and spatial application information, the WOC will consider whether separate accounting for those applications of nutrients is feasible and appropriate.

Phosphorus accounting and reporting will continue to address qualitative factors and evaluate trends in agricultural phosphorus loss annually. Periodic land use surveys with associated use of PLAT are needed every five years, but it is unlikely that funding will be available for this activity. Additionally, understanding of agricultural phosphorus management could be improved through in-stream monitoring contingent upon the availability of funding and staff resources.

Lastly, members of the Falls Lake WOC will continue working with DWR on issues regarding nutrient offsets that arise from trades involving agricultural land.





## *Conclusion*

The Falls Lake WOC will continue to monitor and evaluate crop trends. The current shift to and from crops with higher nitrogen requirements may continue to influence the yearly reduction. Significant progress has been made in agricultural nitrogen loss reduction, and the agricultural community is achieving its 20% phase I reduction goal for cropland and pastureland. However, the measurable effects of these BMPs on overall in-stream nitrogen reduction may take years to develop due to the nature of non-point source pollution. Nitrogen reduction values presented in this annual summary of agricultural reductions reflect “edge-of-management unit” calculations that contribute to achieving the 20% phase I nitrogen loss reduction goal. Significant quantities of agricultural BMPs have been installed since the adoption and implementation of the nutrient management strategy, and agriculture continues to fulfill its obligations toward achieving the overall nutrient reduction goals for Falls Lake.

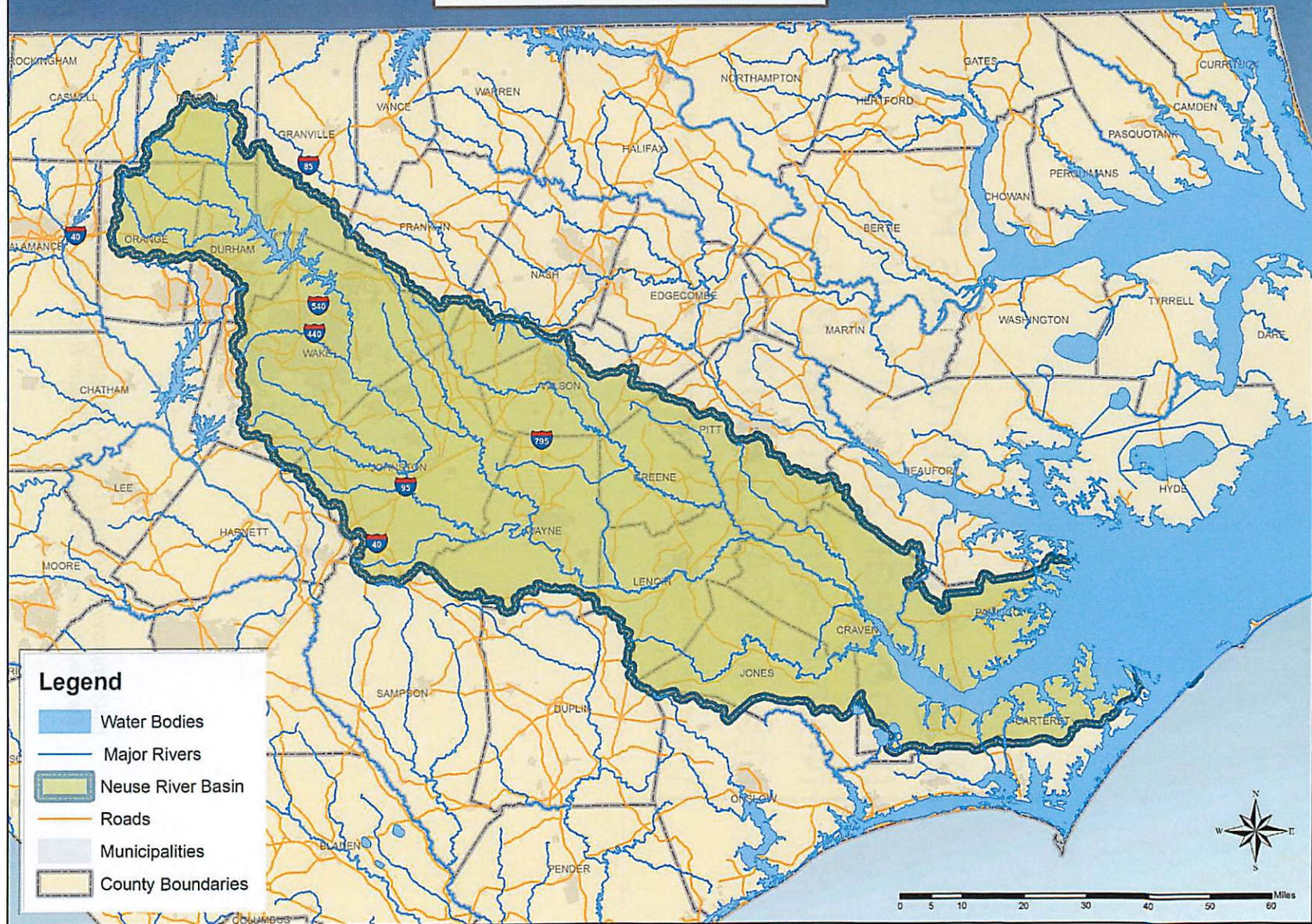
NCDA&CS

# 2022 Annual Progress Report (Crop Year 2021) on the Neuse Agricultural Rule (15 A NCAC 2B.0712)

A Report to the Division of Water Resources from the Neuse Basin Oversight  
Committee: Crop Year 2021

*Date approved by Neuse Basin Oversight Committee: 09/23/2022*  
*Date submitted to NC Division of Water Resources: 09/23/2022*

# Neuse River Basin



## Summary

The Neuse Basin Oversight Committee (BOC) received and approved crop year (CY<sup>1</sup>) 2021 annual reports estimating the progress from the seventeen Local Advisory Committees (LACs) operating under the Neuse Agriculture rule as part of the Neuse Basin Nutrient Management Strategy. This report demonstrates agriculture's ongoing collective compliance with the Neuse Agriculture Rule and estimates producer progress in decreasing nutrients. In CY2021, agriculture collectively achieved an estimated 50% reduction in nitrogen loss from agricultural lands compared to the 1991-1995 baseline, continuing to exceed the rule-mandated 30% reduction. All seventeen LACs exceeded the 30% reduction goal established by the BOC. Significant reasons contributing to nitrogen reduction levels seen in CY2021 in comparison to baseline include reduction in reported crops and cropping shifts to crops with lower nitrogen demands and application rates.

## Rule Requirements and Compliance History

### Neuse Nutrient Sensitive Waters (NSW) Strategy

The Environmental Management Commission (EMC) adopted the Neuse nutrient strategy in December, 1997. The NSW strategy goal was to reduce the average annual load of nitrogen delivered to the Neuse River Estuary by 2003 from both point and non-point source pollution by a minimum of 30% of the average annual load from the baseline period (1991-1995). Mandatory nutrient controls were applied to address non-point source pollution in agriculture, urban stormwater, nutrient management, and riparian buffer protection. The overall 30% nitrogen loading reduction target for the Neuse River Estuary has not yet been reached.

Effective December 1997, the rule provides for a collective strategy for farmers to meet the 30% nitrogen loss reductions within five years. A BOC and seventeen LACs were established to implement the Neuse Agriculture rule and to assist farmers with complying with the rule.

All seventeen Local Advisory Committees (LACs) met as required in 2022. LACs submitted their first annual report to the BOC in May 2002. That report estimated a collective 38% reduction in nitrogen loss with 12 of the 17 LACs exceeding 30% individually. In 2003, all LACs achieved their BOC recommended reduction goal. All counties are currently meeting their 30% nitrogen reduction goal for CY2021. Division of Soil and Water Conservation staff uses input from the

LACs to calculate annual reductions using the Nitrogen Loss Estimation Worksheet (NLEW). Adjustments are made to reflect the most up-to-date scientific research. These revisions lead to adjustments in both individual LAC and basinwide nitrogen loss reduction rates.

<sup>1</sup> The 2021 crop year began October 1<sup>st</sup>, 2020 and ended September 30<sup>th</sup>, 2021.

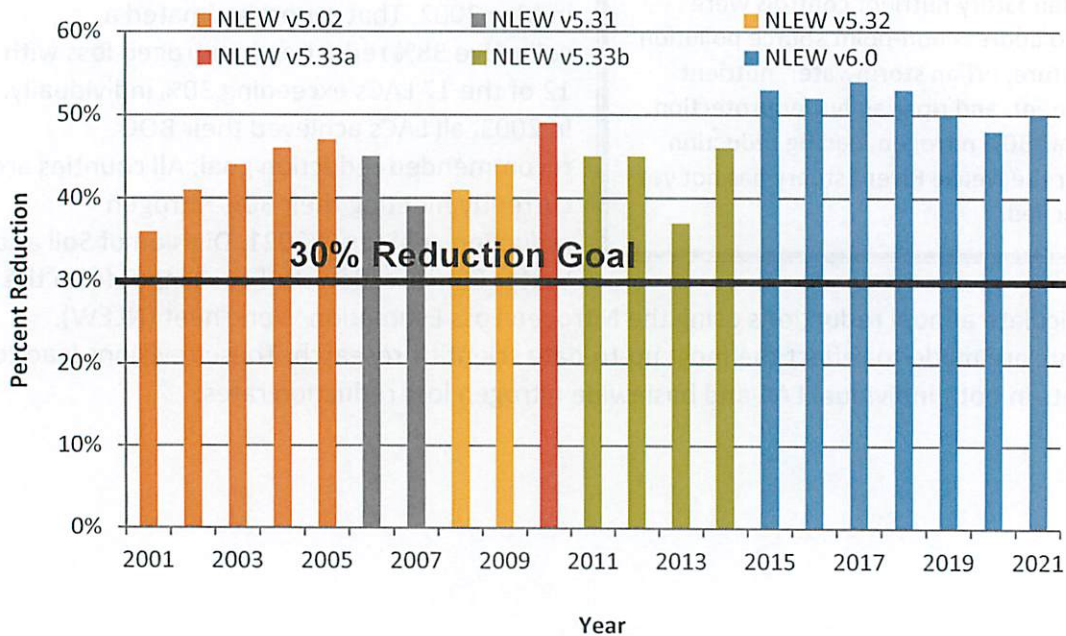
### Scope of Report and Methodology

The estimates provided in this report represent whole-county scale calculations of nitrogen loss from cropland agriculture adjusted for acreage in the basin. These estimates were made by NC Division of Soil and Water Conservation (DSWC) staff using the ‘aggregate’ version of the Nitrogen Loss Estimation Worksheet, or NLEW, an accounting tool developed to meet the specifications of the Neuse Rule and approved by the EMC. The NLEW development team included interagency technical representatives of the NC Division of Water Resources (DWR), NC DSWC and USDA-Natural Resources Conservation Service (NRCS) and was led by NC State University Soil Science Department faculty. The NLEW captures application of both inorganic and animal waste sources of fertilizer to cropland. It does not capture the effects of nitrogen applied to pastureland and NLEW is an “edge-of-management unit” accounting tool; it estimates changes in nitrogen loss from croplands, but does not estimate changes in nitrogen loading to surface waters.

### Annual Estimates of Nitrogen Loss and the Effect of NLEW Refinements

The NLEW software is periodically revised to incorporate new knowledge gained through research and improvements to data. These changes have incorporated the best available data, but changes to NLEW must be considered when comparing nitrogen loss reduction in different versions of NLEW. Further updates in soil management units are expected as NRCS produces updated electronic soils data. The small changes in soil management units are unlikely to produce significant effects on estimates of nitrogen loss reductions. Figure 1 represents the annual percent nitrogen loss reduction from the baseline for 2001 to 2021.

Figure 1. Collective Nitrogen Loss Reduction Percent 2001 to 2021 Based on NLEW, Neuse River Basin.



The first NLEW reports were run in 2001, and agriculture has continued to exceed its collective 30% nitrogen reduction goal since that time. The first NLEW revision (v5.31) marked a significant decrease in the nitrogen reduction efficiencies of buffers based on the best available research information, so baseline and CY2005 were re-calculated, and soil management units were revised. The second (v5.32) and third (v5.33a) revisions were minor updates of soil mapping units. In April of 2011 the NLEW Committee established further reductions (v5.33b) in nitrogen removal efficiencies for buffers based on additional research. In 2016 NLEW software was updated (v6.0) from outdated software and transferred to a web-based platform on NCDA&CS servers. Revised realistic yield and nitrogen use efficiency data from NCSU were incorporated, and some minor calculation errors were corrected for corn, sweet potatoes, and sweet corn. Table 1 lists the changes in buffer nitrogen reduction efficiencies over time.

*Table 1. Changes in Buffer Width Options and Nitrogen Reduction Efficiencies in NLEW*

Buffer Width	NLEW v5.02 % N Reduction 2001-2005	NLEW v5.31, v5.32, v5.33a % N Reduction 2006-2010	NLEW v5.33b, v6.0 % N Reduction 2011-Current
20'	40% (grass)* 75% (trees and shrubs)*	30%	20%
30'	65%	40%	25%
50'	85%	50%	30%
70'	85%	55%	30%
100'	85%	60%	35%

*\*NLEW v5.02 - the vegetation type (i.e. trees, shrubs, grass) within 20' and 50' buffers determined reduction values. Based on research results, this distinction was dropped from subsequent NLEW versions.*

## Current Status

### Nitrogen Reduction from Baseline for CY2021

All seventeen LACs submitted their twentieth annual reports to the BOC for approval in August 2022. For the entire basin, in CY2021 agriculture achieved a 50% reduction in nitrogen loss compared to the 1991-1995 baseline. This percentage is 2% higher than the basinwide reduction reported for CY2020. Table 2 lists each county's baseline, CY2020 and CY2021 nitrogen (lbs/yr) loss values, and nitrogen loss percent reductions from the baseline in CY2020 and CY2021.

*Table 2. Estimated Reductions in Agricultural Nitrogen Loss from Baseline (1991-1995) for CY2020 and CY2021, Neuse River Basin\**

County	Baseline N Loss (lb)	CY2020 N Loss (lb)*	CY2020 N Reduction (%)	CY2021 N Loss (lb)*	CY2021 N Reduction (%)
Carteret	1,292,586	966,672	25%	615,169	52%
Craven	4,153,187	1,980,469	52%	2,107,272	49%
Durham	220,309	36,470	83%	46,365	79%
Franklin	219,209	46,455	79%	49,691	77%
Granville	193,197	46,313	76%	55,634	71%
Greene	4,439,036	2,466,268	44%	2,474,043	44%
Johnston	6,728,638	3,489,180	48%	3,362,729	50%
Jones	3,283,906	1,785,255	46%	1,860,087	43%
Lenoir	4,455,752	2,909,603	35%	2,828,680	37%
Nash	1,042,072	395,104	62%	481,564	54%
Orange	787,040	85,586	89%	100,155	87%
Pamlico	2,023,294	1,800,264	11%	1,380,846	32%
Person	616,669	103,721	83%	109,283	82%
Pitt	3,399,455	1,982,978	42%	1,835,023	46%
Wake	1,434,602	310,103	78%	263,429	82%
Wayne	8,297,408	3,594,017	57%	3,365,378	59%
Wilson	3,273,647	1,744,588	47%	1,863,388	43%
Total	45,860,007	23,743,048	48%	22,798,735	50%

\* Nitrogen loss values are for comparative purposes. They represent nitrogen that was applied to agricultural lands in the basin and neither used by crops nor intercepted by BMPs in a Soil Management Unit, based on NLEW calculations. This is not an in-stream loading value.

Nitrogen loss reductions in CY2021 were achieved through a combination of fertilization rate decreases, cropping shifts, BMP implementation, and cropland acreage fluctuation. Some of this cropping shift is due to the need for regular rotations on agricultural operations. In order to minimize the threat of disease the double-crop planting of wheat and soybeans is usually

followed by a corn crop thus fluctuations within this rotation are to be expected from year to year even in the face of similar weather conditions. In CY2021, overall corn planting decreased by 6,336 acres from CY2020 totals. Soybean acres decreased by 2,124 acres from CY2020 totals but remain high, approximately 20,900 acres above reported soybean acreage in CY2019. Moderate increases were seen in wheat, fescue, and bermuda acreage in CY2021. Tobacco acreage increased by 5,238 acres from CY2020 totals. Reported cotton acreage fell in CY2021, continuing a trend also seen in CY2020. Fluctuating weather conditions markedly impact annual cropping shifts by affecting farmers' ability to prepare fields for harvest and planting as well as overall crop health and yield. Although the 2020-2021 La Niña winter brought wetter than normal conditions to the North Carolina coastal plain from December 2020 to February 2021<sup>2</sup>, overall 2021 concluded as the driest year seen in the state since 2012.<sup>3</sup> Seasonal oscillations in 2021 were extreme and resulted in winter and summer being particularly wet and spring and fall being particularly dry.<sup>3</sup> Factors that influence agricultural nitrogen reductions, calculated from NLEW outputs, are shown in Table 3.

*Table 3. Factors That Influence Nitrogen Reduction on Agricultural Lands (by percentage), Neuse River Basin Since Baseline\**

Practice	CY2018	CY2019	CY2020	CY2021
BMP implementation	9%	6%	5%	5%
Fertilization management	9%	13%	11%	12%
Cropping shift	19%	15%	15%	16%
Cropland converted to grass/trees	2%	2%	2%	2%
Cropland lost to idle land	6%	6%	7%	7%
Cropland lost to development**	8%	8%	8%	8%
Total	53%	50%	48%	50%

\*Percentages are based on a total of the reduction from baseline, not a year-to-year comparison.

\*\*Acreage of cropland lost to development has not been tracked since CY2017.

<sup>2</sup> Davis, C. 2021. Winter Recap 2020-21: La Niña Lays Low in a Persistent Wet Winter. Prepared by North Carolina State Climate Office for the Climate Blog, Climate Summary. <https://climate.ncsu.edu/blog/2021/03/winter-recap-2020-21-la-nina-lays-low-in-a-persistent-wet-winter/>

<sup>3</sup> Davis C, and K. Dello. 2022. From Deluges to Droughts in 2021: the Weather Year in Review. Prepared by North Carolina State Climate Office for the Climate Blog, Climate Summary. <https://climate.ncsu.edu/blog/2022/01/from-deluges-to-droughts-in-2021-the-weather-year-in-review/>



## BMP Implementation

BMP implementation is one of the factors that influence nitrogen reduction on agricultural land. In low elevation coastal counties near and around the Neuse estuary the predominant BMPs implemented by agricultural producers are water control structures. These practices are normally implemented to control salinity and soil moisture, but they have an additional benefit of allowing for increased denitrification. Many water control structures in use in the Neuse Basin were implemented over a decade ago and are no longer under active cost-share contracts with operation and maintenance agreements. Every effort is made to ensure that BMPs reported continue to function as designed and are maintained appropriately. Verification of functionality and appropriate management requires site visits to individual farm owners who may or may not have this BMP under an active cost-share contract. Coastal counties have reported that despite contract expirations for practices installed more than 10 years ago, the water control structures which have been checked and which are no longer covered by an operation and maintenance agreement are still being actively managed by producers.

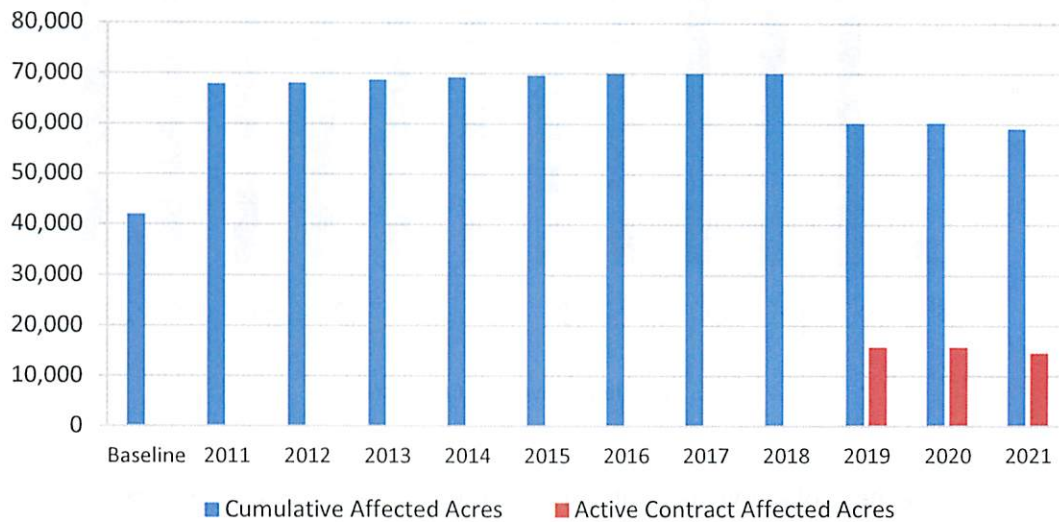
In this report, all acres affected by water control structures reported in CY2011 were manually removed from each county's total to ensure that all affected acres currently being reported are for active contracts only with operation and maintenance agreements. Carteret County is an exception. From CY2015 and on, Carteret has only reported crop acreage for Open Grounds Farm since this facility grows the vast majority, if not all, reportable crops in the portion of the county lying within the Neuse River Basin. In CY2019 Carteret Soil and Water Conservation District staff confirmed with the Open Grounds farm manager that approximately 60% of their overall acres are under actively maintained controlled drainage via water control structures. As a result, total water control structure affected acres for Carteret are annually adjusted to 60% of Open Grounds Farm reported crop acreage. All other water control structure affected acres previously recorded in Carteret County were removed from the cumulative and active contract totals since most of those properties are no longer under active cultivation.

It should be noted that the water control structure reporting change from cumulative affected acres to active contract affected acres began in CY2019. Members of each LAC in coastal counties were notified in Fall 2019 that inactive contract acres, starting in CY2019 and moving forward, would no longer be included in BMP totals until older structures were inspected and determined to be appropriately managed and operational, or until the producer signed a new cost share contract. Several Districts indicated an interest and willingness in re-engaging with cooperators that have older structures. Staff have been working diligently in 2021 and 2022 to set up a field inspection workflow to complete necessary function and management checks for re-adding legacy structures into county BMP totals for nitrogen reduction credit.

The removal of inactive contract BMP acres from annual reports has resulted in a smaller nitrogen loss reduction in CY2021 in coastal counties (primarily Carteret, Craven, Jones, Lenoir, Pamlico, Pitt, and Wayne). It is important to note that this abrupt reduction, first seen in the CY2019 report, is primarily based on a methodological change and not on farmer behavior or BMP functionality. The BOC still expects that most acres where controlled drainage practices were implemented are still actively being managed, but in order to ensure ongoing engagement with cooperators the BOC has decided to adjust reporting guidelines. Due to ever-present

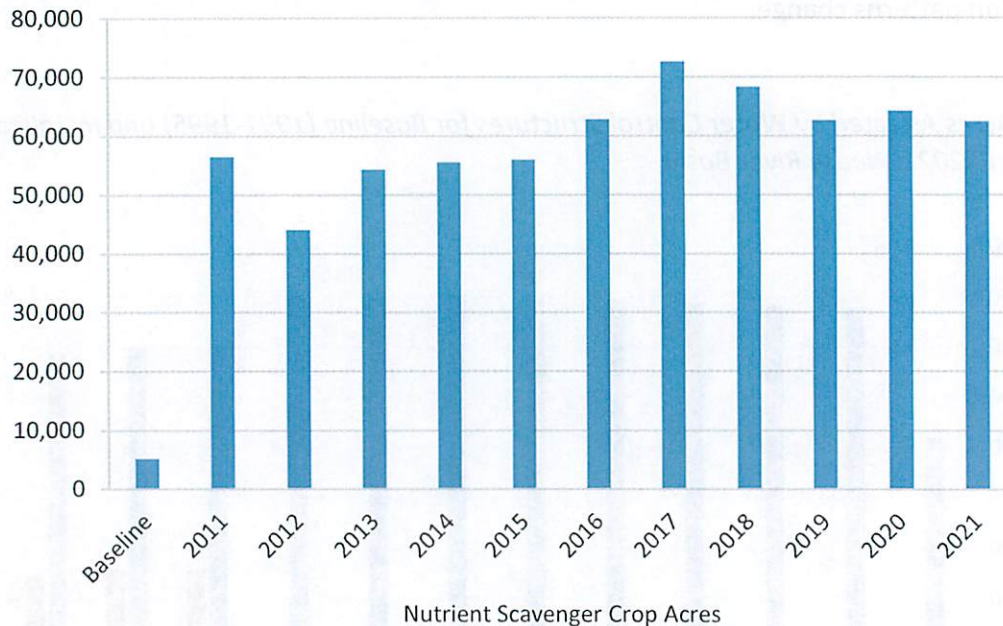
demand, increased prioritization and implementation of water control structure contracts is still evident in many of these counties, and the BOC expects this trend to continue as precipitation patterns change.

Figure 2. Acres Affected by Water Control Structures for Baseline (1991-1995) and Installed from CY2011 to CY2021, Neuse River Basin



The Division of Soil and Water Conservation, Soil and Water Conservation Districts and Natural Resources Conservation Service staff continue to make refinements to the NLEW accounting process as opportunities arise. LAC members estimate annual unfertilized cover crop acres based on crop rotations, producer cropping history, state and federal incentive programs, weather patterns, and seed prices. Buffer and water control structure BMP data is collected from state and federal cost share program active contracts, and in some cases from local partners with knowledge on BMP implementation that occurred without state or federal cost share funding support. While there is some opportunity for variability in the data reported, LACs are including data that is the best information currently available. As additional sound data sources become available, the LACs and the BOC will review these sources and update reporting methodology if warranted. As illustrated in Figure 3, CY2021 BMP implementation yielded a net decrease of 1,813 unfertilized cover crop acres.

Figure 3. Unfertilized Cover Crop Acres Planted Annually on Agricultural Lands for Baseline (1991-1995) and Installed from CY2011 through CY2021, Neuse River Basin



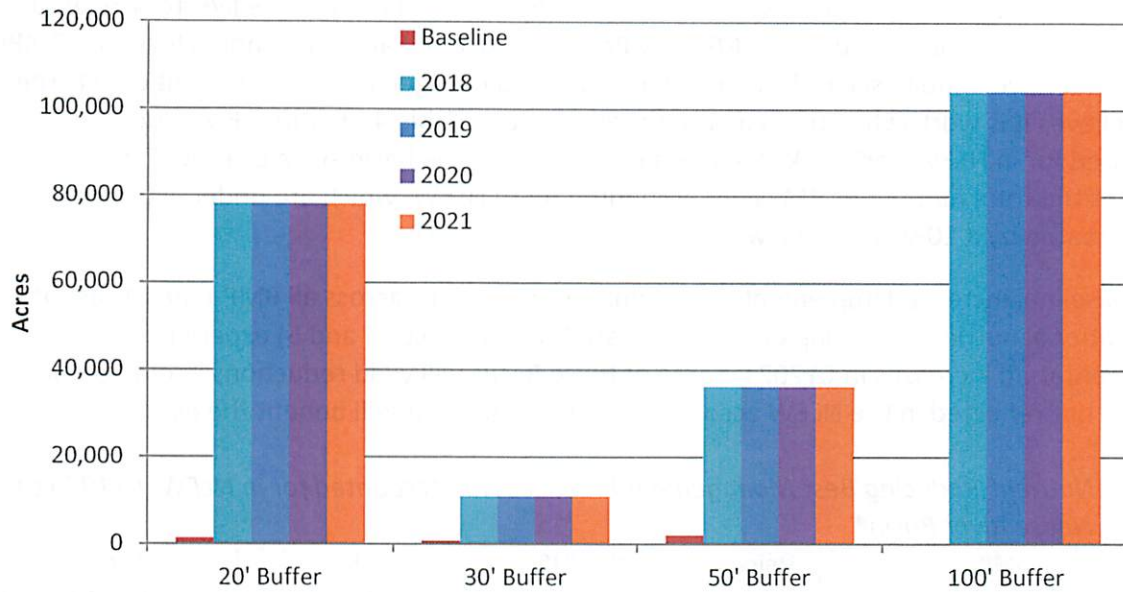
An accurate reassessment of active agricultural land and remaining buffer systems, through GIS analysis or other tools, is needed due to the rate at which urbanizing counties have lost agricultural land. Such assessments will depend on data availability from state and federal agencies. The BOC is considering the feasibility of such assessments for future reporting.

Based on the comparison of total cropland acres and state or federal cost share program BMPs, it is estimated that well over a third of the Neuse River Basin's cropland receives treatment from reported nitrogen-reducing BMPs.<sup>4</sup> This does not include farmer-installed BMPs that are not funded by cost share programs except in some cases where District staff is made aware of work that has been completed and shared that information. Additionally, the estimated acres do not take into account the entire drainage area treated by buffers in the piedmont, which is generally 5 to 10 times higher than the actual acres of the buffer shown in Figure 4.<sup>5</sup> Overall, the total acres of implementation of BMPs have increased since the baseline, as illustrated in Figures 2, 3 and 4. The BMP installation goals were set by the local nitrogen reduction strategy, which was approved by the EMC in 1999. Agriculture exceeded all installation goals in CY2008. As shown in Figure 4, two additional acres of 20-foot buffers, three additional acres of 50-foot buffers, and 93 additional acres of 100-foot buffers were implemented in CY2021.

<sup>4</sup> Osmond, D.L., K. Neas. 2011. Delineating Agriculture in the Neuse River Basin. Prepared for NC Department of Environment and Natural Resources (NCDENR), Division of Water Quality. <http://content.ces.ncsu.edu/delineating-agriculture-in-the-neuse-river-basin>

<sup>5</sup> Bruton, Jeffrey Griffin. 2004. Headwater Catchments: Estimating Surface Drainage Extent Across North Carolina and Correlations Between Landuse, Near Stream, and Water Quality Indicators in the Piedmont Physiographic Region. Ph.D. Dissertation. Department of Forestry and Environmental Resources, North Carolina State University, Raleigh, NC 27606. <http://www.lib.ncsu.edu/theses/available/etd-03282004-174056/>

Figure 4. Buffer Acres Present on Agricultural Lands for Baseline (1991) and Installed from CY2018 through CY2021, Neuse River Basin\*



**BMP**

\*The acres of buffers listed represent actual acres. Acres affected by the buffer could be 5 to 10 times larger in the piedmont than the acreage shown above. <sup>6</sup>

<sup>6</sup> Bruton, Headwater Catchments: Estimating Surface Drainage Extent Across North Carolina and Correlations Between Landuse, Near Stream, and Water Quality Indicators in the Piedmont Physiographic Region. Ph.D. Dissertation. Department of Forestry and Environmental Resources, North Carolina State University, Raleigh, NC 27606. <http://www.lib.ncsu.edu/theses/available/etd-03282004-174056/>

## Additional Nutrient BMPs

Not all types of nutrient-reducing BMPs are tracked by NLEW. These include livestock-related nitrogen and phosphorus reducing BMPs, BMPs that reduce soil and phosphorus loss, and BMPs that do not have enough scientific research to support a nitrogen reduction benefit credit. The BOC believes it is worthwhile to recognize these practices. Table 4 identifies BMPs not accounted for in NLEW and tracks their implementation in the basin since CY1996. Table 5 indicates the total number of BMPs not accounted for in NLEW, which are under active contract approximated by a 10-year rolling window (CY2011 to CY2021).

Since baseline, increased implementation numbers are evident across all BMP types. Most of the additional nutrient-reducing BMPs (which are listed in Tables 4 and 5) experienced implementation increases in CY2021. Some of these BMPs will yield reductions in nitrogen loss that are not reflected in the NLEW accounting in this report but will benefit the estuary.

*Table 4. Nutrient-Reducing Best Management Practices Not Accounted for in NLEW, CY1996 to CY2021, Neuse River Basin\**

BMP	Units	1996-2019	2020	2021
Diversion	Feet	183,017	185,317	186,847
Fencing (USDA programs)	Feet	239,587	239,587	243,131
Field Border	Acres	5,955	5,959	5,964
Grassed Waterway	Acres	2,517	2,531	2,540
Livestock Exclusion	Feet	151,648	153,795	154,299
Precision Agriculture	Acres	4,672	5,326	5,326
Sod Based Rotation	Acres	111,304	122,619	123,782
Tillage Management	Acres	62,478	63,634	64,214
Terraces	Feet	77,633	77,633	77,633

\* Cumulative data quantified by adding BMPs implemented with State and Federal cost share program funding each Crop Year to cumulative totals reported the previous Crop Year. Additional BMPs may exist in the basin as practices may be installed by farmers without cost share assistance.

*Table 5. Nutrient-Reducing Best Management Practices installed from CY2011 to CY2021, Not Accounted for in NLEW\**

BMP	Units	BMPs Installed (CY2011 – CY2021)
Diversion	Feet	37,398
Fencing (USDA programs)	Feet	88,246
Field Border	Acres	2,627
Grassed Waterway	Acres	279
Livestock Exclusion	Feet	72,910
Precision Agriculture	Acres	5,326
Sod Based Rotation	Acres	63,667
Tillage Management	Acres	30,142
Terraces	Feet	27,663

\* Values represent only active contracts in State and Federal cost share programs approximated by a 10-year rolling window. Additional BMPs may exist in the basin as producers may maintain practices after the life of a cost share contract. Practices installed by producers without cost share assistance are not included in BMP totals.

### Fertilization Management

Better nutrient management in the Neuse River has resulted in a reduction of fertilizer application rates from baseline levels. Despite annual fluctuations, fertilization rates for most major crops in the basin have been reduced from the baseline period.

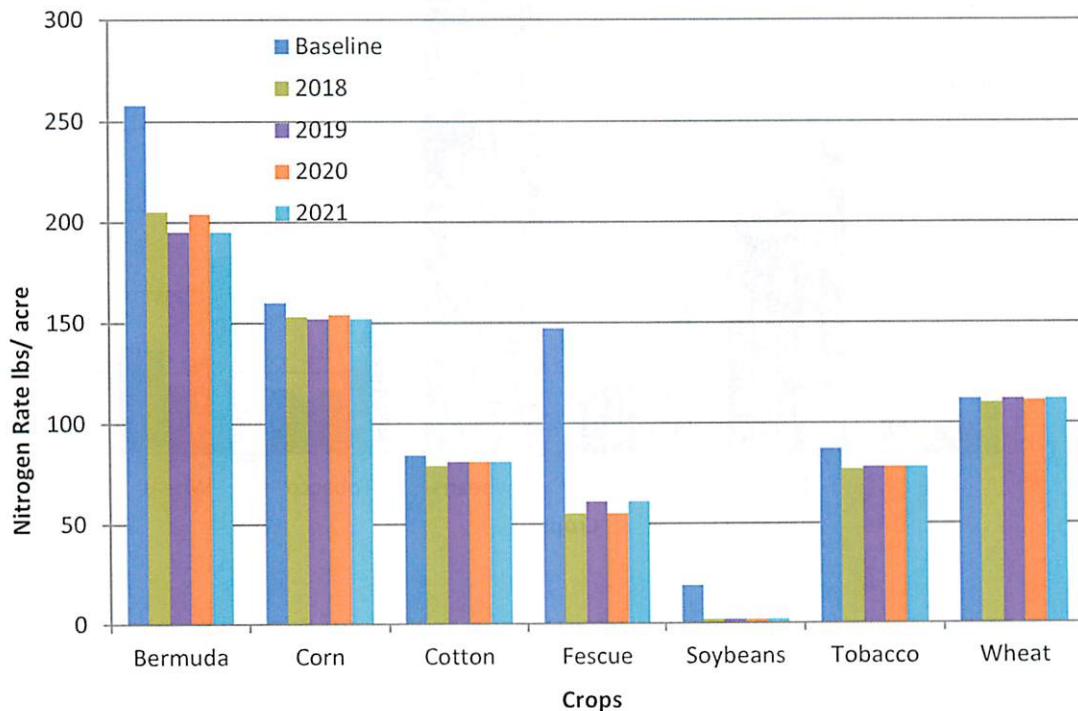
Between CY2020 and CY2021 nitrogen application rates remained relatively stable (less than 5 lbs/acre fluctuations) for corn, cotton, tobacco, soybeans, and wheat. Application rates on fescue increased by 6 lbs/acre and application rates on bermuda decreased by 9 lbs/acre. Figure 5 below displays application rate changes from CY2018 to CY2021.

- Factors Identified by LACs Contributing to Reduced Nitrogen Application Rates**

  - Economic decisions and fluctuating farm incomes
  - Increased education and outreach on nutrient management
  - Mandatory animal waste management plans
  - The federal government tobacco quota buy-out reducing tobacco acreage
  - Neuse and Tar-Pamlico Nutrient Strategies

Over time there has been an economic incentive for producers to improve nitrogen management. Fertilizer rates and standard application practices are revisited annually by LACs using data from farmers, commercial applicators and state and federal agencies' professional estimates.

Figure 5. Average Annual Nitrogen Fertilization Rate (lbs/ac) for Agricultural Crops for the baseline (1991-1995) and 2018-2021, Neuse River Basin

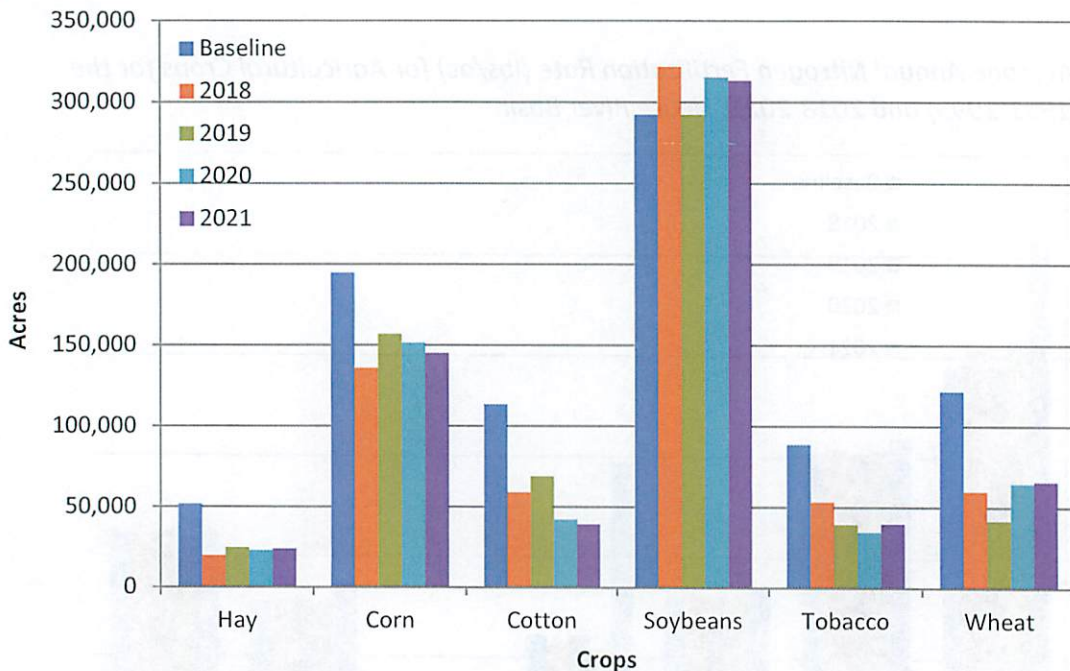


### Cropping Shifts

LACs re-calculate cropland acreage annually by utilizing crop data reported by farmers to the Farm Service Agency. Because each crop type requires different amounts of nitrogen and utilizes applied nitrogen with a different efficiency rate, changes in the mix of crops grown can have significant impact on the cumulative yearly nitrogen loss reduction. The BOC anticipates that the basin will see additional crop shifts in the upcoming year based on changing commodity prices and weather patterns.

Corn requires higher nitrogen application rates than other crops. From CY2020 to CY2021, corn acres decreased by 6,336 acres. Cotton acreage decreased in CY2021 from CY2020 by 3,057 acres, a continuation of an acreage reduction trend discussed in last year’s report. Soybean acres, which require no nitrogen input, decreased by 2,124 acres between CY2020 and CY2021 and wheat acres, many of which are planted in a double-crop rotation with soybeans, increased by 1,023 acres. Tobacco acres increased by 5,238 acres between CY2020 and CY2021. These cropping shifts caused a slight decrease in overall total nitrogen loss in CY2021 from CY2020 totals. A host of factors from individual choice to global markets determine crop selection. Figure 6 below displays acreage changes for major crops from CY2018 to CY2021.

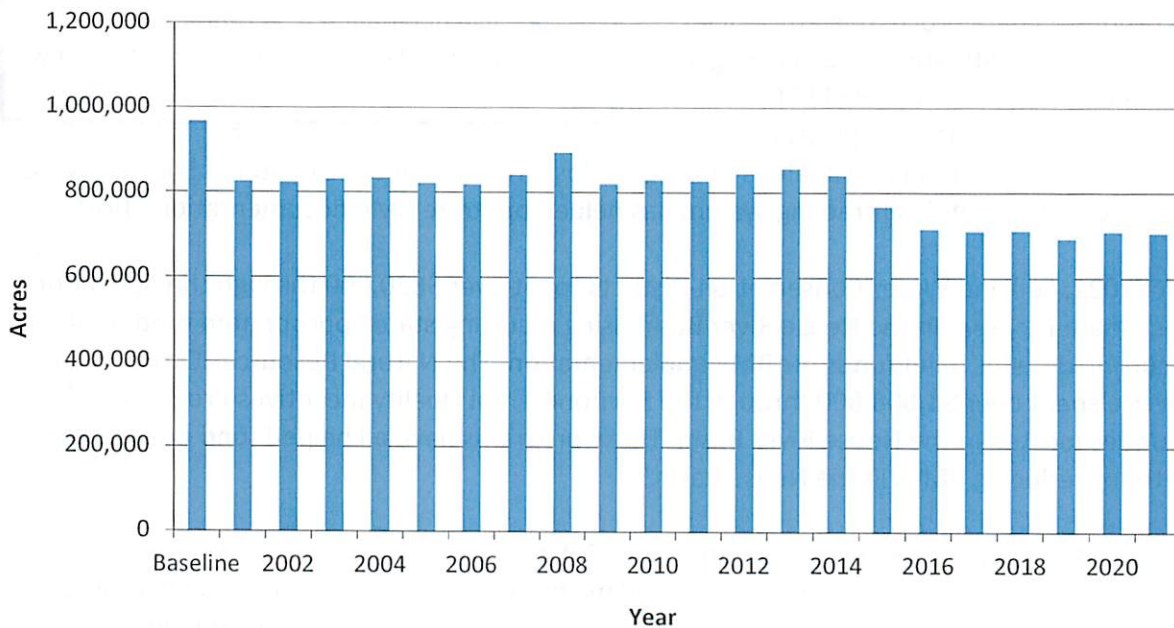
Figure 6. Acreage of Major Crops for the Baseline (1991-1995) and 2018-2021, Neuse River Basin



### Land Use Change to Development, Idle Land and Cropland Conversion

The number of cropland acres fluctuates every year in the Neuse River Basin. Each year, some cropland is permanently lost to development or converted to grass or trees, while some cropland is temporarily taken out of production. Idle land represents agricultural land that is currently out of production but could be brought back into production at any time. Cropland conversion and cropland lost to development represents land taken out of agricultural production that is unlikely to be returned to production. It is estimated that more than 81,000 agricultural land acres in the Neuse basin have been lost to development since baseline, although this metric has not been updated since CY2017 due to incomplete data and reporting inconsistencies among local governments in the basin. Cropland conversion totals supported by state or federal cost-share funds are tracked and updated annually and currently 24,140 acres have been converted to grass or trees in the Neuse Basin since baseline (1991 – 1995). In CY2021 there were 73,913 idle acres reported and a total of 705,039 NLEW-accountable crop acres reported. These estimates come from the LAC members’ best professional judgment, USDA-FSA records and county planning departments. Cropland acres have continued to decrease from the baseline period (see Figure 7).

Figure 7. Total NLEW Accounted Crop Acres in the Neuse River Basin, Baseline (1991-1995) and 2001-2021





## Looking Forward

The Neuse BOC will continue to report on rule implementation, relying heavily on Soil and Water Conservation District staff to compile crop reports. The BOC continues to encourage counties to implement additional BMPs to further reduce nitrogen loss.

Because cropping shifts are susceptible to various pressures, the BOC is working with LACs in all counties to continue BMP implementation that provides lasting reduction in nitrogen loss in the basin.

The Neuse BOC will continue to monitor and evaluate crop trends. The current shift to and from crops with higher nitrogen requirements may continue to influence the yearly reduction.

### *Funding*

Ongoing agriculture rule reporting has incorporated data processing efficiencies and improvements since reporting began. NLEW upgrades have allowed LAC members to more actively participate in the compilation of data and analysis of nitrogen loss trends, and the Division of Soil and Water Conservation's digital contracting system has helped optimize BMP documentation efforts.

In CY2021, Soil and Water Conservation Districts spent over \$620,000 through the Agriculture Cost Share Program in the Neuse River Basin using recurring state appropriated funds and non-recurring disaster relief funds for BMP implementation. The Natural Resources Conservation Service spent over \$1,608,800 through the Environmental Quality Incentives Program in the counties located in the Neuse River Basin. These programs have all helped fund erosion and nutrient-reducing BMPs in the Neuse Basin.

Sufficient funding for technical assistance and BMP implementation incentivization is indispensable for continued achievement and maintenance of agricultural nitrogen reduction goals. Local demand for funding, to support experienced staff versed in conservation planning and cost-share program implementation in addition to supporting adoption of water-quality improving BMPs, far outstrips existing resources. In FY2021, Soil and Water Conservation Districts lying within the Neuse Basin requested over 2.5 times more Agriculture Cost Share Program funding beyond the fiscal year's allocation. Funding of state and federal cost share programs is essential for continued progress in reducing nitrogen losses from agricultural land.

### **Basin Oversight Committee recognizes the dynamic nature of agricultural business.**

- Changes in world economies, energy or trade policies.
- Changes in government programs (i.e., commodity support or environmental regulations)
- Weather and climate (i.e., long periods of drought or rain)
- Scientific advances in agronomics (i.e., production of new types of crops or improvements in crop performance)
- Plant disease or pest problems (i.e., viruses or foreign pests)
- Urban encroachment (i.e., crop selection shifts as fields become smaller)
- Age of farmer (i.e., as retirement approaches farmers may move from row crops to cattle)

Each year, 150 LAC members contribute to agriculture rule reporting to ensure accurate documentation of agricultural acres and fertilization rates. Farmers and agency staff with other responsibilities serve on the LACs in a voluntary capacity. Basin Oversight Committee members meet at least once per year to review and approve this annual progress report, which includes time spent outside of that annual meeting to review draft documents and approve methodology changes. Participation by so many members of the local agricultural community demonstrates a commitment toward achieving the nutrient strategy's long-term goals.

Funding to support agricultural data collection and annual reporting is critical. In the early years of Neuse Agriculture Rule reporting, grant funding supported technicians and basin coordinators at Soil and Water Conservation Districts to assist with BMP implementation and reporting requirements. At present there is no funding for full-time Neuse Basin coordinators or technicians. The Division of Soil and Water Conservation expends approximately \$50,000 on agricultural reporting staff support annually, using funds received through an EPA 319(h) grant administered by the Department of Environmental Quality. Consequently, in addition to other duties, the NCDA&CS Division of Soil and Water Conservation Nonpoint Source Planning Coordinator was assigned the data collection, compilation and reporting duties for the Neuse Agriculture Rule and for all other basins and watersheds subject to existing Nutrient Sensitive Waters Strategies and Agriculture Rules. Responsibility for compilation and review of annual local progress reports for the Neuse Basin also now largely falls on LACs and Soil and Water Conservation District staff. Few currently serving LAC members were active during the stakeholder process for the Agriculture Rule, so some institutional knowledge about annual reporting requirements has been lost. As a result, training of new Soil and Water Conservation District staff and LAC members regarding rule requirements and reporting is necessary and ongoing.

Reductions in funding and staffing necessitates a more centralized approach for collection and verification of agricultural data included in annual progress reports. This evolving approach may involve developing additional GIS analysis tools and streamlining FSA acreage documentation. New tools will be vetted by the BOC and may be incorporated into the agriculture rule accounting methodology. As methods change, LACs will be trained to handle the changing workloads to the best of their ability. Because most District staff have neither the time nor financial resources to synthesize county level data, centralized collection approaches will come at the expense of local knowledge. Annual agricultural reporting is required by the rules; therefore, continued funding for the Division's only remaining nutrient coordinator position is essential for compliance.

Previously, funding was available for research on conservation practice effectiveness, realistic yields, and nitrogen use efficiencies. Due to eligibility changes and other funding constraints, it is unlikely that new data will be developed. Prior funding sources for such research, which provided much of the scientific information on which NLEW was based, are no longer available. Should new funding be made available, additional North Carolina-specific research information should be incorporated into future NLEW updates.

**Conclusion**

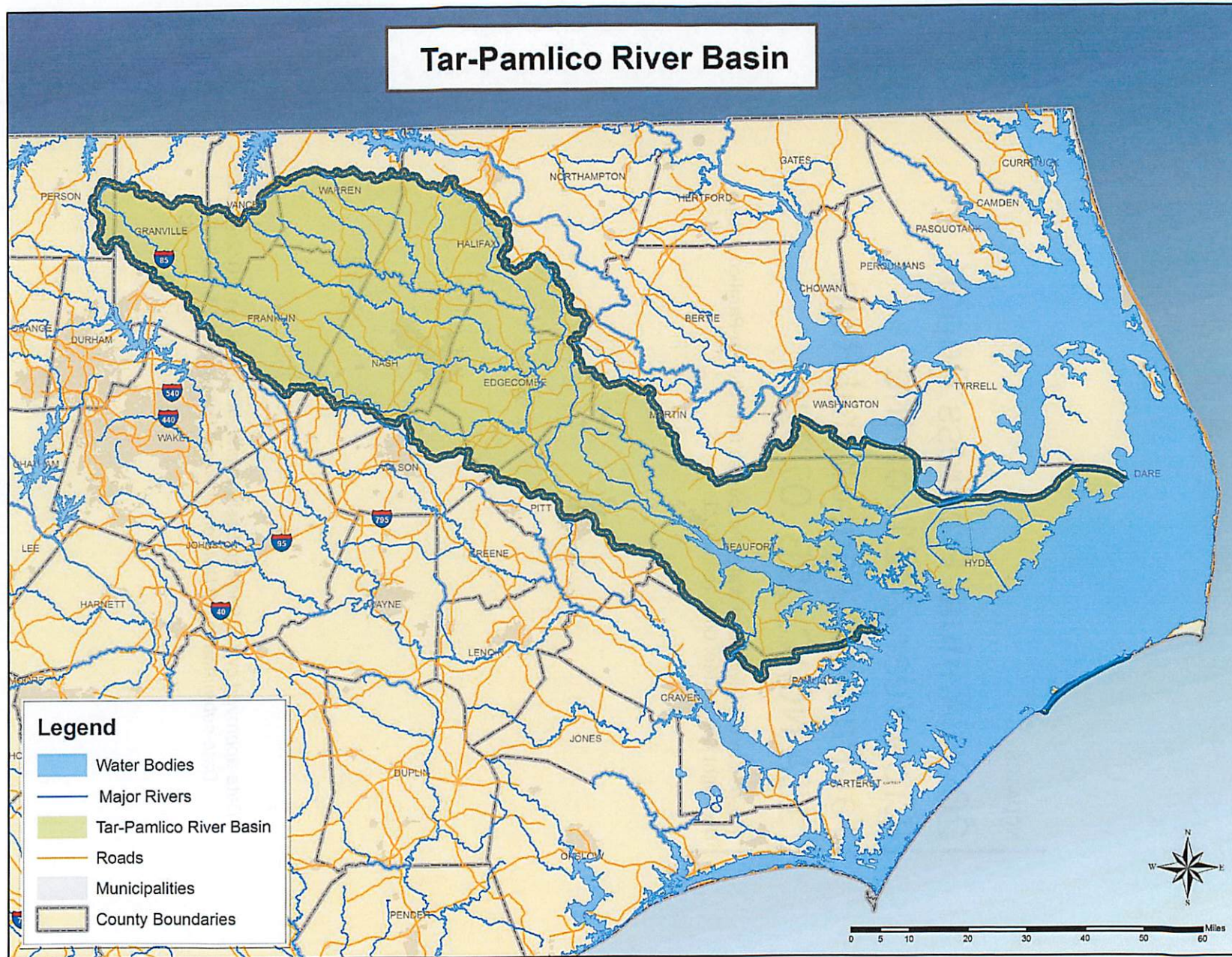
Significant progress has been made in agricultural nitrogen loss reduction, and the agricultural community in the Neuse Basin consistently reaches its 30% reduction goal. However, the measurable effects of management changes and conservation practice implementation on overall in-stream nitrogen reduction may take years to develop due to the nature of non-point source pollution. Nitrogen reduction values presented in this annual summary of agricultural reductions reflect “edge-of-management unit” calculations that contribute to achieving the overall 30% nitrogen loss reduction goal. Significant quantities of agricultural BMPs have been installed since the adoption and implementation of the Neuse Nutrient Management Strategy, and agriculture continues to fulfill its obligations toward achieving the collective goal of a 30% reduction of nitrogen delivered to the Neuse estuary.

NCDA&CS

2022 Annual Progress Report  
(Crop Year 2021) on the  
Tar-Pamlico Agricultural Rule  
(15A NCAC 02B .0732)

A Report to the Division of Water Resources from the Tar-Pamlico Basin  
Oversight Committee: Crop Year 2021

*Date approved by Tar-Pamlico Basin Oversight Committee: 10/26/2022*  
*Date submitted to NC Division of Water Resources: 12/15/2022*



## Summary

The Tar-Pamlico Basin Oversight Committee (BOC) received and approved crop year<sup>1</sup> (CY) 2021 annual reports from the fourteen Local Advisory Committees (LACs) operating under the Tar-Pamlico Agriculture Rule as part of the Tar-Pamlico Basin Nutrient Management Strategy. The report demonstrates agriculture's ongoing collective compliance with the Tar-Pamlico Agriculture Rule and estimates further progress in decreasing nutrient losses. In CY2021, agriculture collectively achieved an estimated 54% reduction in nitrogen loss compared to the 1991 baseline, continuing to exceed the rule-mandated 30% reduction. Thirteen of fourteen LACs exceeded the 30% reduction goal established by the BOC, with Martin County reporting a 22% nitrogen loss reduction from baseline. Phosphorus tracking in the basin indicates less risk of phosphorus loss during CY2021 than in the baseline year for 6 of the 9 qualitative indicators.

## Rule Requirements and Compliance History

### Tar-Pamlico NSW Strategy

The Environmental Management Commission (EMC) adopted the Tar-Pamlico nutrient strategy in 2000. The management strategy built upon the precedent-setting Neuse River Basin effort established three years earlier, which for the first time set regulatory reduction measures for nutrients on cropland acres in the state. The NSW strategy goal is to reduce the average annual load of nitrogen to the Pamlico estuary by 30% from 1991 levels and to limit phosphorus loading to 1991 levels. Mandatory controls were applied to address non-point source pollution in agriculture, urban stormwater, nutrient management, and riparian buffer protection. As of 2020, the Pamlico estuary is still classified as impaired and is not meeting its 30 percent nitrogen loading reduction goals.

Effective September 2001, the Tar-Pamlico Nutrient Sensitive Waters Management Strategy (NSW) provides for a collective strategy for farmers to meet the 30% nitrogen loss reduction and no-increase phosphorus goals within five years. A BOC and fourteen Local Advisory Committees (LACs) were established to implement the rule and to assist farmers with complying with the rule.

All fourteen LACs submitted their first annual report to the BOC in November 2003, which collectively estimated a 39% nitrogen loss reduction, and 10 of 14 individual LACs exceeded the 30% goal. Collective reductions gradually increased in succeeding years, and by CY2007 only one LAC did not meet the 30% goal. All LACs except one are currently

exceeding the 30% reduction target.

Division of Soil and Water Conservation staff use input from the LACs to calculate their annual reductions using the Nitrogen Loss Estimation Worksheet (NLEW). All fourteen LACs met as required in 2022; based on their input, the collective reduction of 54% exceeded the mandated 30% in CY2021.

<sup>1</sup> The 2021 crop year began October 1<sup>st</sup>, 2020 and ended September 30<sup>th</sup>, 2021.

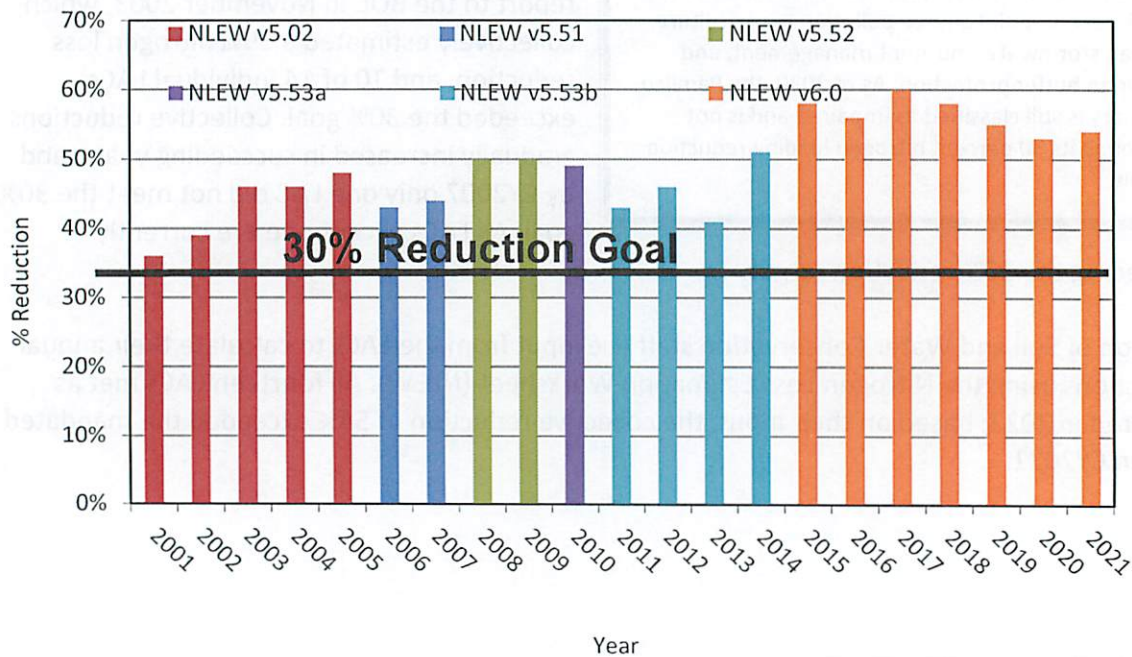
### Scope of Report and Methodology

The estimates provided in this report represent whole-county scale calculations of nitrogen loss from cropland agriculture, adjusted for acreage in the basin. These estimates were made by Division of Soil and Water Conservation staff using the ‘aggregate’ version of NLEW, an accounting tool developed to meet the specifications of the Neuse Rule and approved by the EMC for use in the Tar-Pamlico Basin. The development team included interagency technical representatives of the NC Division of Water Resources (DWR), NC Division of Soil and Water Conservation (DSWC), USDA-NRCS and was led by NC State University Soil Science Department faculty. NLEW captures application of both inorganic and animal waste sources of fertilizer to cropland. It is an “edge-of-management unit” accounting tool that estimates changes in nitrogen loss from croplands but does not estimate changes in nitrogen loading to surface waters. An assessment method was developed for phosphorus, approved by the EMC, and is described later in the report.

### Annual Estimates of N Loss and the Effect of NLEW Refinements

The NLEW software is periodically revised to incorporate new knowledge gained through research and improvements to data. These changes have incorporated the best available data, but changes to NLEW must be considered when comparing nitrogen loss reduction in different versions of NLEW. Further updates in soil management units are expected as NRCS produces updated electronic soils data. The small changes in soil management units are unlikely to produce significant effects on nitrogen loss reductions. Figure 1 represents the annual percent nitrogen loss reduction from the baseline for 2001 to 2021.

Figure 1: Collective Cropland Nitrogen Loss Reduction Percent 2001 to 2021, Tar Pamlico River Basin.



The first NLEW reports were run in 2001, and agriculture has continued to exceed its collective 30% nitrogen reduction goal since that time. The first NLEW revision (v5.51) updated soil management units and marked a significant change in the nitrogen reduction efficiencies of buffers, so both the baseline and CY2005 were re-calculated based on the best available information. The second (v5.52) and third (v5.53a) revisions were administrative and included minor updates to soil mapping units and realistic yields. In April of 2011 the NLEW Committee established further reductions (v5.53b) in nitrogen removal efficiencies for buffers based on additional research. In 2016 NLEW software was updated (v6.0) from outdated software and transferred to a web-based platform on NCDA&CS servers. Revised realistic yield and nitrogen use efficiency data from NCSU was incorporated, and some minor calculation errors were corrected for corn and sweet potatoes. Table 1 lists the changes in buffer nitrogen reduction efficiencies over time.

*Table 1: Changes in Buffer Width Options and Nitrogen Reduction Efficiencies in NLEW*

Buffer Width	NLEW v5.02* % N Reduction 2001-2005	NLEW v5.51, v5.52, v5.53a % N Reduction 2006-2010	NLEW v5.53b, v6.0 % N Reduction 2011-Current
20'	40% (grass)	30%	20%
	75% (trees & shrubs)		
30'	65%	40%	25%
50'	85%	50%	30%
70'	85%	55%	30%
100'	85%	60%	35%

*\*NLEW v5.02 - the vegetation type (i.e. trees, shrubs, grass) within 20' and 50' buffers determined reduction values. Based on research results, this distinction was dropped from subsequent NLEW versions.*



## Current Status

### Nitrogen Reduction from Baseline for CY2021

All fourteen LACs submitted their twenty-first annual reports to the BOC in September 2022. For the entire basin, in CY2021 agriculture achieved a 54% reduction in nitrogen loss compared to the 1991 baseline. This percentage is 1% higher than the reduction reported for CY2020. This year, 13 LACs achieved the target 30% nitrogen loss reduction goal set by the BOC. Table 2 lists each county's baseline, CY2020 and CY2021 nitrogen (lbs/yr) loss values, and nitrogen loss percent reductions from the baseline in CY2020 and CY2021.

*Table 2: Estimated Reductions in Agricultural Nitrogen Loss from Baseline (1991) for CY2020 and CY2021, Tar-Pamlico River Basin\**

County	Baseline N Loss (lb)*	CY2020 N Loss (lb)*	CY2020 N Reduction (%)	CY2021 N Loss (lb)*	CY2021 N Reduction (%)
Beaufort	9,178,262	5,263,928	43%	4,715,659	49%
Edgecombe	5,037,742	2,747,702	45%	2,756,016	45%
Franklin	2,183,680	593,583	73%	628,375	71%
Granville	890,371	128,476	86%	150,186	83%
Halifax	2,902,105	1,336,513	54%	1,389,640	52%
Hyde	5,501,161	2,420,917	56%	2,330,827	58%
Martin	782,152	586,840	25%	609,490	22%
Nash	4,693,868	1,428,732	70%	1,730,035	63%
Person	153,228	66,409	57%	65,667	57%
Pitt	6,229,921	2,982,599	52%	2,757,497	56%
Vance	419,485	102,249	76%	107,008	74%
Warren	535,517	213,141	60%	236,471	56%
Washington	939,912	546,713	42%	566,308	40%
Wilson	890,691	421,245	53%	470,662	47%
<b>Total</b>	<b>40,338,095</b>	<b>18,839,047</b>	<b>53%</b>	<b>18,513,841</b>	<b>54%</b>

*\*Nitrogen loss values are for comparative purposes. They represent nitrogen that was applied to agricultural lands in the basin and neither used by crops nor intercepted by BMPs in a Soil Management Unit, based on NLEW calculations. This is not an in-stream loading value.*

Nitrogen loss reductions were achieved through a combination of fertilization rate decreases, cropping shifts, BMP implementation, and cropland acreage fluctuation. Some of this cropping shift is due to the need for regular rotations on agricultural operations. For example, in order to minimize the threat of disease, a double-crop planting of wheat and soybeans may be followed by a corn crop. This means that fluctuations within rotations are to be expected from year to year even in the face of similar weather conditions. In CY2021, overall corn planting decreased by 10,564 acres and soybean acres increased by 14,939 acres from CY2020 totals. Wheat acres increased by 7,194 acres and moderate increases were seen in the production of tobacco (4,872 acres), cotton (920 acres), and hay (425 acres). Fluctuating weather conditions markedly impact annual cropping shifts by affecting farmers' ability to prepare fields for harvest and planting as well as overall crop health and yield. Although the 2020-2021 La Niña winter

brought wetter than normal conditions to the North Carolina coastal plain from December 2020 to February 2021<sup>2</sup>, overall 2021 concluded as the driest year seen in the state since 2012.<sup>3</sup> Seasonal oscillations in 2021 were extreme and resulted in winter and summer being particularly wet and spring and fall being particularly dry.<sup>3</sup> Factors that influence agricultural nitrogen reductions are shown in Table 3.

Martin County is currently reporting a 22% nitrogen loss reduction from baseline (1991), which is a 3% decrease in reduction from CY2020. In CY2021 Martin County reported 20,651 acres of crops, a 2,255 acre decrease from baseline reported crop acres. In CY2021, Martin County also experienced a 26% decline from baseline in total lbs N applied per acre of cropland. Corn, cotton, peanut, and soybean fertilization rates remain at baseline rates and sorghum and cereal (wheat, oat, and rye) fertilization rates decreased from baseline rates. Only tobacco fertilization rates are estimated to have slightly increased in CY2021 from baseline (5 lbs N per acre increase). Most significantly, Martin County has experienced a 12% decrease in nitrogen uptake by crops in CY2021 from baseline. The overall crop nitrogen uptake estimated in baseline was 57% of the total estimated crop nitrogen needs. In CY2021, overall crop nitrogen uptake was 45% of the total estimated crop nitrogen needs. This decrease is most likely attributable to the increase in reported row crop acreage in CY2021 (all reported acres were row crops) in comparison to baseline (in which 87% of reported crop acres were row crops). The nitrogen use efficiency of agronomic crops is generally 40 to 65% in comparison to 75% for sod crops (hay).<sup>4</sup> Significant BMP installation has occurred in Martin County since baseline. In CY2021 there was an estimated 710% increase in pounds of nitrogen intercepted by annual (cover crops) and cumulative (riparian buffers and water control structures) BMPs from baseline levels. Martin County will continue to work toward reducing nitrogen loss from agricultural land to meet the 30% reduction target.

The most significant factors affecting nitrogen loss reductions across the whole Tar-Pamlico basin are cropping shifts and improved fertilization management. Table 3 shows the NLEW outputs and staff calculations that estimate factor importance (by percentage) in achieving total collective nitrogen loss reduction in the basin (54%).

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<sup>2</sup> Davis, C. 2021. Winter Recap 2020-21: La Niña Lays Low in a Persistent Wet Winter. Prepared by North Carolina State Climate Office for the Climate Blog, Climate Summary. <https://climate.ncsu.edu/blog/2021/03/winter-recap-2020-21-la-nina-lays-low-in-a-persistent-wet-winter/>

<sup>3</sup> Davis C, and K. Dello. 2022. From Deluges to Droughts in 2021: the Weather Year in Review. Prepared by North Carolina State Climate Office for the Climate Blog, Climate Summary. <https://climate.ncsu.edu/blog/2022/01/from-deluges-to-droughts-in-2021-the-weather-year-in-review/>

<sup>4</sup> Gatiboni, L. & Osmond, D. 2019. Nitrogen Management and Water Quality. AG-439-02. <https://content.ces.ncsu.edu/nitrogen-management-and-water-quality>

Table 3: Factors that Influence Nitrogen Reduction by Percentage on Agricultural Lands, Tar-Pamlico River Basin Since Baseline\*

Factor	CY2018	CY2019	CY2020	CY2021
BMP implementation	15%	7%	6%	6%
Fertilization Management	15%	22%	20%	20%
Cropping shift	15%	13%	13%	15%
Cropland converted to grass/trees	5%	5%	5%	5%
Cropland lost to idle land	7%	7%	8%	7%
Cropland lost to development**	1%	1%	1%	1%
<b>TOTAL</b>	<b>58%</b>	<b>55%</b>	<b>53%</b>	<b>54%</b>

\*Percentages are based on a total of the reduction, not a year-to-year comparison.

\*\*Acreage of cropland lost to development has not been tracked since CY2015.

## BMP Implementation

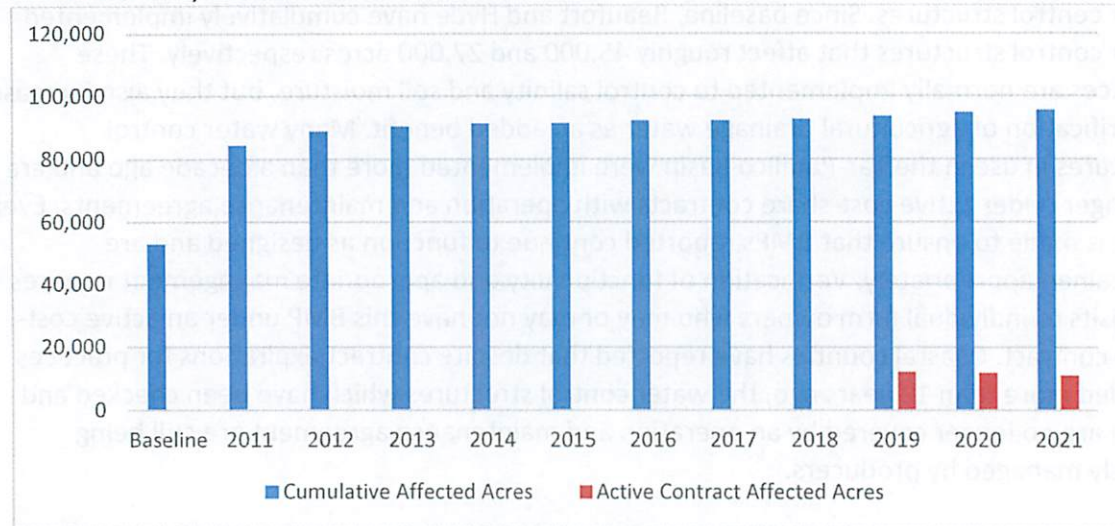
BMP implementation is one of the factors that influence nitrogen reduction on agricultural land. In low elevation coastal counties (Washington, Hyde, Beaufort, and Pitt) near and around the Tar-Pamlico estuary the predominant BMPs implemented by agricultural producers are water control structures. Since baseline, Beaufort and Hyde have cumulatively implemented water control structures that affect roughly 45,000 and 27,000 acres respectively. These practices are normally implemented to control salinity and soil moisture, but they also increase denitrification of agricultural drainage water as an added benefit. Many water control structures in use in the Tar-Pamlico Basin were implemented more than a decade ago and are no longer under active cost-share contracts with operation and maintenance agreements. Every effort is made to ensure that BMPs reported continue to function as designed and are maintained appropriately. Verification of functionality and appropriate management requires site visits to individual farm owners who may or may not have this BMP under an active cost-share contract. Coastal counties have reported that despite contract expirations for practices installed more than 10 years ago, the water control structures which have been checked and which are no longer covered by an operation and maintenance agreement are still being actively managed by producers.

All acres affected by water control structures reported in CY2011 were manually removed from each county's total in this report to ensure that all affected acres currently being reported are for active contracts only with operation and maintenance agreements. This has resulted in a decrease of 959 water control structure affected acres in CY2021 from CY2020, as shown in Figure 2. The water control structure reporting change from cumulative affected acres to active contract affected acres, approximated by a 10-year rolling window, began in CY2019. Members of each LAC in coastal counties were notified in Fall 2019 that inactive contract acres, starting in CY2019 and moving forward, would no longer be included in BMP totals until older structures were inspected and determined to be appropriately managed and operational, or until the producer signed a new cost share contract. Several Soil and Water Conservation Districts indicated an interest and willingness in re-engaging with cooperators that have older structures. Staff have been working diligently in 2021 and 2022 to set up a field inspection workflow to complete necessary function and management checks for re-adding legacy structures into county BMP totals for nitrogen reduction credit.

The removal of inactive contract BMP acres from annual reports has resulted in smaller nitrogen loss reductions in coastal counties, particularly Beaufort, Edgecombe, Hyde, Pitt, and Washington. It is important to note that this abrupt reduction, first seen in the CY2019 report, is primarily based on a methodological change and not on farmer behavior or BMP functionality. The BOC still expects that most acres where controlled drainage practices were implemented are still actively being managed, but in order to ensure ongoing engagement with cooperators the BOC decided to adjust reporting guidelines. Due to ever-present demand and increased prioritization, implementation of water control structure contracts is still evident in many of these counties. The BOC expects this trend to continue as precipitation and sea level patterns change. Figure 2 shows the cumulative total of all acres affected by water control structures since baseline from CY2011 to CY2021, as well as the adjusted totals showing only

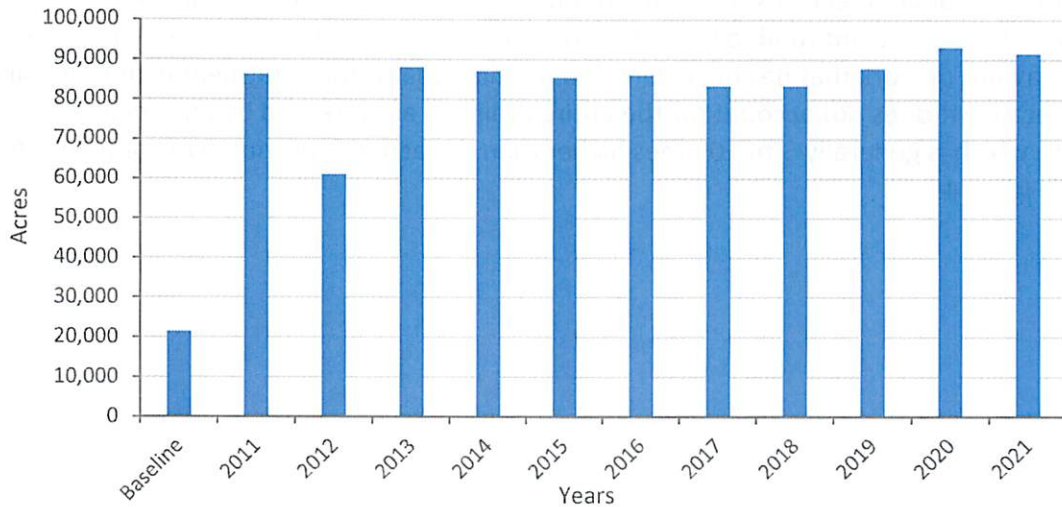
acres affected by water control structures under active cost share contract from CY2019 to CY2021.

Figure 2: Acres Affected by Water Control Structures for Baseline (1991) and Installed from CY2011 to CY2021, Tar-Pamlico River Basin



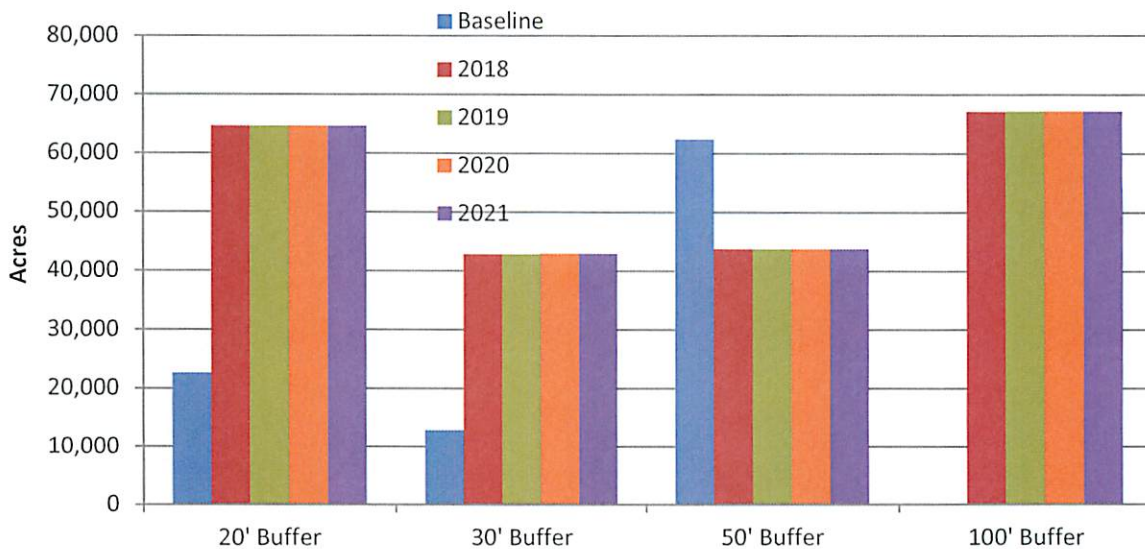
The Division of Soil and Water Conservation, Soil and Water Conservation Districts and Natural Resources Conservation Service staff continue to make refinements to the NLEW accounting process as opportunities arise. LAC members estimate annual unfertilized cover crop acres based on crop rotations, producer cropping history, state and federal incentive programs, weather patterns, and seed prices. Buffer and water control structure BMP data is collected from state and federal cost share program active contracts, and in some cases (especially for unfertilized cover crops) BMPs that were installed without cost share funding. While there is some potential for variability in the data reported, LACs are including data that is the best information currently available. As additional reliable data sources become available, the LACs will review them and update methodology for reporting, if warranted. Unfertilized cover crop acres are documented on an annual basis because their implementation depends on crop rotations. As illustrated in Figure 3, CY2021 yielded a decrease of 1,516 acres of unfertilized cover crops.

Figure 3: Unfertilized Cover Crop Acres Planted Annually on Agricultural Lands for Baseline (1991) and Installed from CY2011 through CY2021, Tar-Pamlico River Basin



From 2001 through 2006, the NLEW program captured buffers 50 feet and wider as one category. After the 2007 update, categories for 70- and 100-foot buffers were added. In CY2006 the buffers larger than 50 feet were redistributed into these new categories. From CY2011 to present, 50- and 70-foot buffers were combined into a single category for everything larger than 50 feet but less than 100 feet. There was an increase of 19 acres of 100-foot buffers implemented in CY2021 (Figure 4).

Figure 4: Buffer Acres Present on Agricultural Lands for Baseline (1991) and Installed from CY2018 through CY2021, Tar-Pamlico River Basin\*



\*The acres of buffers listed represent actual acres. Acres affected by the buffer could be 5 to 10 times larger in the Piedmont than the acreage shown above.<sup>4</sup>

Overall, the total acres of implementation of BMPs have increased since baseline as illustrated in Figures 2, 3, and 4. When cumulative acres of BMPs installed through federal, state and local cost share programs are compared to total reported cropland (604,561 acres), more than half of all reported cropland receives some kind of BMP treatment. This does not include farmer installed BMPs that are not funded by cost share programs, except in some cases where LACs are made aware of work that has been completed. Additionally, the treatment estimate is likely greater because it does not account for the entire drainage area treated by buffers in the Piedmont, which is generally 5 to 10 times higher than the actual footprint acres of the buffer shown in Figure 4.<sup>5</sup>

<sup>5</sup> Bruton, Jeffrey Griffin. 2004. Headwater Catchments: Estimating Surface Drainage Extent Across North Carolina and Correlations Between Landuse, Near Stream, and Water Quality Indicators in the Piedmont Physiographic Region. Ph.D. Dissertation. Department of Forestry and Environmental Resources, North Carolina State University, Raleigh, NC 27606. <http://www.lib.ncsu.edu/theses/available/etd-03282004-174056/>

### Additional Nutrient BMPs

At the field level, many BMPs contribute to nutrient reduction and subsequent water quality improvement; however, not all nutrient-reducing BMPs are tracked by NLEW. These include livestock-related nitrogen and phosphorus reducing BMPs, BMPs that reduce soil and phosphorus loss, and BMPs that do not have enough scientific research to support estimating a nitrogen reduction benefit credit. The BOC believes it is worthwhile to recognize these practices. Table 4 identifies BMPs not accounted for in NLEW and tracks their implementation in the basin since CY2001. Table 5 indicates the total number of BMPs not accounted for in NLEW, which are under active contract (implemented from CY2011 to CY2021).

Since baseline, increased implementation is evident across all BMP types. In CY2021, implementation of most of the additional nutrient-reducing BMPs increased (Tables 4 and 5). Some of these BMPs will yield reductions in nitrogen loss that are not reflected in the NLEW accounting in this report, but that will benefit the estuary.

*Table 4: Nutrient-Reducing Best Management Practices Not Accounted for in NLEW, CY2001 to CY2021, Tar-Pamlico River Basin\**

BMP	Units	2001 - 2019	2020	2021
Diversion	Feet	441,962	441,962	441,962
Fencing (USDA Programs)	Feet	263,205	267,540	267,540
Field Border	Acres	1,309	1,309	1,313
Grassed Waterway	Acres	2,635	2,646	2,652
Livestock Exclusion	Feet	241,960	247,748	250,348
Sod Based Rotation	Acres	101,924	106,851	109,422
Tillage Management	Acres	69,504	72,851	74,429
Terraces	Feet	371,936	371,936	371,936

\* Cumulative data quantified by adding BMPs implemented with State and Federal cost share program funding each Crop Year to cumulative totals reported the previous Crop Year. Additional BMPs may exist in the basin as practices may be installed by farmers without cost share assistance.

*Table 5: Nutrient-Reducing Best Management Practices installed from CY2011 to CY2021, Not Accounted for in NLEW\**

BMP	Units	BMPs Installed (CY2011 – CY2021)
Diversion	Feet	47,501
Fencing (USDA Programs)	Feet	31,675
Field Border	Acres	312
Grassed Waterway	Acres	1,498
Livestock Exclusion	Feet	29,252
Sod Based Rotation	Acres	72,370
Tillage Management	Acres	33,817

\* Values represent only active contracts in State and Federal cost share programs approximated by a 10-year rolling window. Additional BMPs may exist in the basin as producers may maintain practices after the life of a cost share contract. Practices installed by producers without cost share assistance are not included in BMP totals.



### Fertilization Management

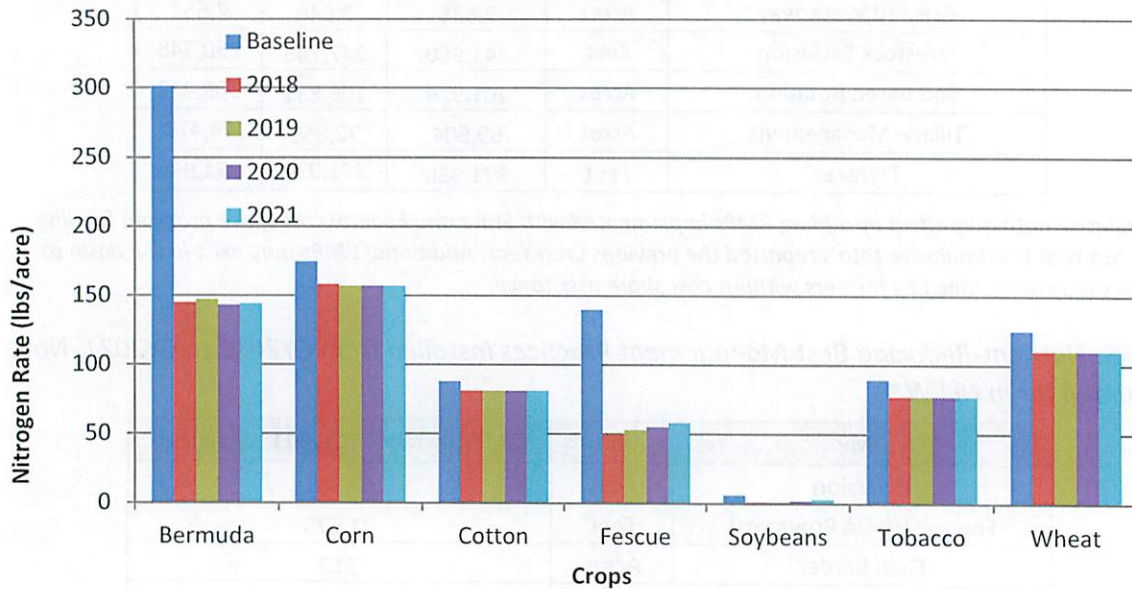
Better nutrient management in the Tar-Pamlico River Basin has resulted in a reduction of fertilizer application rates from baseline levels. Figure 5 indicates that nitrogen rates for the major crops in the basin have reduced from the baseline period.

Between CY2020 and CY2021 nitrogen rates remained relatively stable (less than 5 lbs/acre fluctuations) for bermuda, corn, cotton, fescue, soybeans, tobacco, and wheat. Most pastures are under-fertilized throughout the Tar-Pamlico basin. Pasture and hayland are typically not supplemented with inorganic fertilizers. Figure 5 shows these application rates.

- Factors Identified by LACs Contributing to Reduced Nitrogen Rates since the Baseline Year**
- Economic decisions and fluctuating farm incomes.
  - Increased education and outreach on nutrient management.
  - Mandatory waste management plans.
  - The federal government tobacco quota buy-out reducing tobacco acreage.
  - Neuse and Tar-Pamlico Nutrient Strategies.

Over time there has been an economic incentive for producers to improve nitrogen management. Fertilizer rates and standard application practices are revisited annually by LACs using data from farmers, commercial applicators and state and federal agencies' professional estimates.

Figure 5: Average Annual Nitrogen Fertilization Rate (lb/ac) for the Major Agricultural Crops for the Baseline (1991) and 2018-2021, Tar-Pamlico River Basin

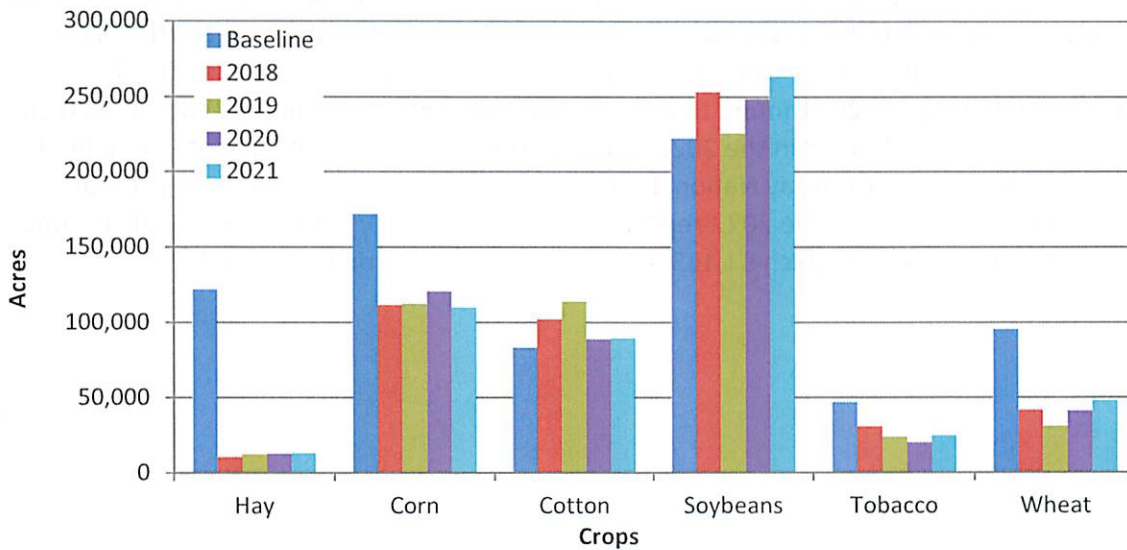


### Cropping Shifts

The LACs calculated the cropland acreage by using crop data reported by farmers to the USDA-Farm Service Agency. Each crop requires different amounts of nitrogen and assimilates applied nitrogen with different efficiency rates. Changes in the mix of crops grown annually can have a significant impact on the cumulative yearly nitrogen loss reduction. The BOC anticipates that the basin will see additional crop shifts in the upcoming year based on changing commodity prices and weather patterns.

Figure 6 shows crop acres and shifts for the last four years compared to the baseline. Some crops have remained relatively stable, while others show more volatility. From CY2020 to CY2021, corn acreage decreased by 10,564 acres. Corn typically requires higher nitrogen application rates than other crops and generally follows the double-crop planting of wheat and soybeans to minimize disease pressures. Cotton acreage increased by 920 acres from CY2020. Soybean acreage increased by almost 15,000 acres, and wheat increased by over 7,000 acres. Tobacco acreage increased by almost 5,000 acres from CY2020 to CY2021, and Hay (Bermuda and Fescue) acreage saw a slight increase of 425 acres. Cropping shift changes contributed to the overall collective nitrogen loss decrease seen between CY2020 and CY2021 in Table 2 (approximately 325,000 less lbs of N lost). A host of factors from individual choice to global markets determine crop selection.

Figure 6: Acreage of Major Crops for the Baseline (1991) and 2018-2021, Tar-Pamlico River Basin



## Land Use Change to Development, Idle Land and Cropland Conversion

The number of cropland acres fluctuates every year in the Tar-Pamlico River Basin. Each year, some cropland is permanently lost to development. Some cropland is also converted to grass or trees each year and is likely to be ultimately lost from agricultural production. Idle land is agricultural land that is currently out of production but could be brought back into production at any time. Currently, it is estimated that almost 13,000 acres have been permanently lost to development in the basin since baseline, although this metric has not been updated since CY2015 due to incomplete data and reporting inconsistencies among local governments in the basin. Cropland conversion totals supported by state or federal cost-share funds are tracked and updated annually. Currently, 47,681 acres have been converted to grass or trees in the Tar-Pamlico Basin since the 1991 baseline. In CY2021, there were 67,001 idle acres reported and a total of 604,561 NLEW-accountable acres of cropland (Figure 7). All the above estimates come from the LAC members' best professional judgment, USDA-FSA records and county planning department data. The total crop acres are obtained from USDA-FSA annual reports. Cropland acres have continued to decrease from the baseline period, although CY2021 experienced an increase of 18,567 NLEW-accountable crop acres from CY2020 reported values (Figure 7).

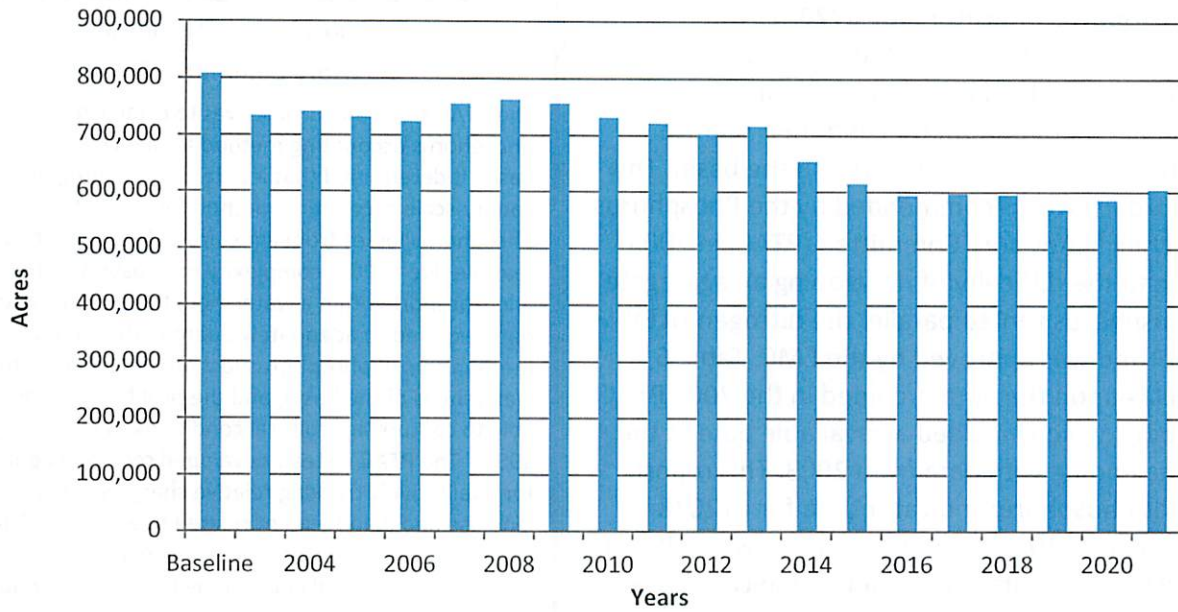
In the last decade, LACs have noted increased conversion of agricultural land to leased and constructed solar facilities in the Tar-Pamlico basin. Although solar land use conversion data in the Tar-Pamlico Basin is not available for this report, the NC Sustainable Energy Association (NCSEA) has been monitoring and collecting data, including land use conversion information, on solar installations since 2009.<sup>6</sup> In 2017, a joint study conducted by NCSEA and NCDA&CS found that statewide 0.19% (9,074 acres) of the total 4.7 million acres of cropland in North Carolina had been repurposed for utility-scale solar development.<sup>7</sup> An updated report in 2022 from NCSEA using data through 2021 found that utility-scale solar photovoltaics (PV) occupied 0.28% of NC agricultural land (defined in the 2022 report as the combination of cultivated cropland, evergreen forest, and pasture/hay National Land Cover Database (NLCD) land use categories from the 2008 dataset). As of the 2022 report, utility-scale solar PV systems statewide occupy 38,081 total acres of land of which 31,125 acres were formerly agricultural land.<sup>6</sup>

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<sup>6</sup> Brookshire, D., Carey, J., & Parker, D. 2022. North Carolina Solar Land Use and Agriculture 2022 Update. North Carolina Sustainable Energy Association. <https://energync.app.neoncrm.com/np/viewDocument?orgId=energync&id=402887968151eed40181a722ef040100>

<sup>7</sup> Aldina, R., Parker, D., Seo, B., Masatsugu, L., Childress, S., & Odera, M. 2017. April 2017 North Carolina Solar and Agriculture. North Carolina Sustainable Energy Association. <https://energync.z2systems.com/np/viewDocument?orgId=energync&id=4028888b76b813ac0176e2e248c20152>

Figure 7. NLEW-Accounted Cropland Acres in the Tar-Pamlico River Basin, Baseline (1991) and 2003 – 2021\*



\*Some of the acres represented here are acres counted twice due to double-cropping on the same field. Some acreage reduction represents double-cropped wheat-soybeans converted to a full-season soybean crop.

## Phosphorus

**Phosphorus Indicators for CY2021:** The qualitative indicators included in Table 6 show the relative changes in land use and management parameters and their relative effect on phosphorus loss risk in the basin. This approach was recommended by the Phosphorus Technical Advisory Committee (PTAC) in 2005 due to the difficulty of developing an aggregate phosphorus tool to parallel the nitrogen NLEW tool and was approved by the EMC. Table 6 builds upon the data provided in the 2005 PTAC report, which included all available data at the time ending with data from 2003. This report adds phosphorus indicator data for CY2018 through CY2021. Except for animal waste P and soil test P, all other parameters indicate less risk of phosphorus loss than in the baseline year. Water Control Structures are reported as both cumulative and active contract acres, which makes determining a positive or negative risk change difficult without additional data. The BOC notes consistent and ongoing implementation of water control structure cost share contracts in coastal counties, and Soil and Water Conservation Districts will complete field verifications of older structures where possible.

### Phosphorous Technical Advisory Committee (PTAC)

The PTAC's overall purpose was to establish a phosphorus accounting method for agriculture in the basin. It determined that a defensible, aggregated, county-scale accounting method for estimating phosphorus losses from agricultural lands is not currently feasible due to "the complexity of phosphorus behavior and transport within a watershed, the lack of suitable data required to adequately quantify the various mechanisms of phosphorus loss and retention within watersheds of the basin, and the problem with not being able to capture agricultural conditions as they existed in 1991." The PTAC instead developed recommendations for qualitatively tracking relative changes in practices in land use and management related to agricultural activity that either increase or decrease the risk of phosphorus loss from agricultural lands in the basin on an annual basis.

The increase of nutrient-reducing BMPs in the basin contributes to the reduced risk of phosphorus loss. The soil test phosphorus median number reported for the basin fluctuates each year due to the way the data is collected and compiled. The soil test phosphorus median numbers shown in Table 6 are generated by using North Carolina Department of Agriculture and Consumer Services (NCDA&CS) soil test laboratory results from voluntary soil testing on agriculture land and the data is reported by the NCDA&CS. The number of samples collected each year varies. The data only includes samples submitted for cropland. It does not include soil tests that were submitted to private laboratories. The soil test results from the NCDA&CS database represent data from entire counties in the basin and have not been adjusted to include only those samples collected in the river basin area.

Based on these findings, the BOC recommends that no additional management actions be required of agricultural operations in the basin at this time to comply with the "no net increase above the 1991 levels" phosphorus goal of the agriculture rule. The BOC will continue to track and report the identified set of qualitative phosphorus indicators to DWR annually, and to bring any concerns raised by the results of this effort to DWR's attention as they arise, along with recommendations for any appropriate action. The BOC expects that BMP implementation will continue to increase throughout the basin in future years, and notes that BMPs installed for nitrogen, pathogen and sediment control often provide significant phosphorus benefits as well.

Table 6: Relative Changes in Land Use and Management Parameters and their Relative Effect on Phosphorus Loss Risk in the Tar-Pamlico

Parameter	Units	Source	1991 Baseline	CY2018	CY2019	CY2020	CY2021	1991 – 2021 Change	CY2021 P Loss Risk +/-
Agricultural land (annual)	Acres	FSA	807,026	595,165**	569,061	585,994	604,561	-25%	-
Cropland conversion (to grass & trees) (cumulative)	Acres	USDA-NRCS & NCACSP	660	47,328	47,462	47,516	47,681	7124%	-
CRP / WRP (cumulative)	Acres	USDA-NRCS	19,241	41,833	41,833	41,833	41,833	117%	-
Conservation Tillage* (cumulative)	Acres	USDA-NRCS & NCACSP	41,415	69,504**	69,504	72,851	74,429	80%	-
Vegetated buffers (cumulative)	Acres	USDA-NRCS & NCACSP	50,836	218,440	218,461	218,584	218,603	330%	-
Water control structures (cumulative)	Acres Affected	USDA-NRCS & NCACSP	52,984	92,668	(93,576)/12,228**	(94,819)/11,975	(95,457)/11,015	-79%***	+/-***
Unfertilized cover crop (annual)	Acres	LAC	13,272	83,382	87,787	93,085	91,569	590%	-
Animal waste P (annual)	lbs of P/yr	NC Ag Statistics	13,597,734	14,654,365	15,054,325**	16,601,897**	16,769,915	23%	+
Soil test P median (annual)	P Index	NCDA&CS	83	93	93	91	84	1%	+

\* Conservation tillage is likely being practiced on additional acres, but this number only reflects cumulative cost share contract acres since baseline, not acres where farmers have implemented conservation tillage without cost share assistance. According to the 2017 Ag Census, conservation tillage (including no-till) was practiced on 451,018 crop acres in the Tar-Pamlico River Basin.<sup>8</sup>

\*\*These numbers were adjusted since reported to correct spreadsheet errors or to include updated data.

\*\*\*Cumulative water control structure acres are reported along with acres currently under active contract. An unknown portion of inactive acres are likely still affected by water control structures, as a result, the BOC believes the P loss risk in this category is difficult to describe as clearly positive or negative.

<sup>8</sup> USDA NASS, 2017 Census of Agriculture, Census by Watershed (HUC 030201). Available at: [www.agcensus.usda.gov/Publications/2017/Online\\_Resources/Watersheds/sag03.pdf](http://www.agcensus.usda.gov/Publications/2017/Online_Resources/Watersheds/sag03.pdf)

## Looking Forward

The Tar-Pamlico BOC will continue to report on rule implementation, relying heavily on Soil and Water Conservation District staff to compile crop reports. The BOC continues to encourage counties to implement additional BMPs to further reduce nutrient losses.

Because cropping shifts are susceptible to various pressures, the BOC is working with LACs in all counties to continue BMP implementation that provides lasting reduction in nitrogen loss in the basin.

The BOC has noted and is monitoring an increase in poultry in some areas of the state. According to Agricultural Statistics data, in CY2021 there was an approximately 8% increase in annual broiler production in the Tar-Pamlico Basin from 1993/1994. CY2021 broiler production totals remain below peak broiler production in the Tar-Pamlico Basin from 1995 to 1997. A significant increase in layer hen inventory from 1993/1994 was seen in the Tar-Pamlico basin with establishment of the Rose Acres facility in Hyde County in the mid-2000s. After establishment of this facility, layer hen inventory in the basin has remained stable, with slight decreases in total inventory seen since 2008. While there was an increase in layer hen inventory in CY2021 compared to CY2020 totals, this increase was predominantly attributable to inventory changes at the Rose Acres facility. There does not appear to be a significant upward trend of total poultry (produced and inventoried) in the Tar-Pamlico Basin compared to baseline, despite notable poultry increase trends in other parts of the state. In the last thirty years since baseline, cattle inventory totals are trending downward, and swine inventory totals are remaining stable with evident decreases from peak production in the late-1990s (1996 to 1999). The BOC will continue to monitor poultry production and inventory changes in the Tar-Pamlico basin as well as the increase in soil test phosphorus since baseline.

### Basin Oversight Committee recognizes the dynamic nature of agricultural business.

- Changes in the world economies, energy or trade policies.
- Changes in government programs (e.g. commodity support or environmental regulations)
- Weather and climate (e.g. long periods of drought or rain)
- Scientific advances in agronomics (e.g. production of new types of crops or improvements in crop sustainability)
- Plant disease or pest problems (e.g. viruses or foreign pests)
- Urban encroachment (e.g. crop selection shifts as fields become smaller)
- Age of farmer (e.g. as retirement approaches farmers may move from row crops to cattle)

## Funding

Ongoing agriculture rule reporting has incorporated data processing efficiencies and improvements since reporting began. NLEW upgrades have allowed LAC members to more actively participate in the compilation of data and analysis of nitrogen loss trends, and the Division of Soil and Water Conservation's digital contracting system has helped optimize BMP documentation efforts.

In CY2021 Soil and Water Conservation Districts spent over \$354,000 through the Agriculture Cost Share Program in the Tar-Pamlico River Basin, and the Natural Resources Conservation Service spent over \$1,698,000 through the Environmental Quality Incentives Program in the counties with land in the Tar-Pamlico River Basin. These programs have all helped fund erosion and nutrient reducing BMPs in the Tar-Pamlico basin.

Sufficient funding for technical assistance and BMP implementation incentivization is indispensable for continued achievement and maintenance of agricultural nitrogen reduction and no additional phosphorus loss goals. Local demand for funding, to support experienced staff versed in conservation planning and cost-share program implementation in addition to supporting adoption of water-quality improving BMPs, far outstrips existing resources. In FY2021, Soil and Water Conservation Districts lying within the Tar-Pamlico Basin requested nearly four times more Agriculture Cost Share Program funding beyond the fiscal year's allocation. Funding of state and federal cost share programs is essential for continued progress in reducing nutrient losses from agricultural land.

Over 150 farmers, local staff, and agency personnel with other responsibilities serve on the Neuse and Tar-Pamlico LACs in a voluntary capacity. Basin Oversight Committee members meet at least once per year to review and approve this annual progress report, which includes time spent outside of that annual meeting to review draft documents and approve methodology changes. Participation by so many members of the local agricultural community demonstrates a commitment toward achieving the nutrient strategy's long-term goals.

Funding is necessary for continued agricultural data collection and annual reporting. In the early years of Tar-Pamlico Agriculture Rule reporting, grant funding supported technicians and basin coordinators at Soil and Water Conservation Districts to assist with reporting requirements. At present, there is no funding for full-time Tar-Pamlico basin coordinators or technicians. The Division of Soil and Water Conservation expends approximately \$50,000 on agricultural reporting staff support annually, using funds received through an EPA 319(h) grant administered by the Department of Environmental Quality. Currently, in addition to other duties, the NCDA&CS Division of Soil and Water Conservation's Nonpoint Source Planning Coordinator completes data collection, compilation and reporting duties for the Tar-Pamlico Agriculture Rule and for all other basins and watersheds subject to existing NSW Management Strategies with Agriculture Rules.

With less funding available for reporting support at the state level, responsibility for compilation of annual local progress reports falls on LACs and Soil and Water Conservation District staff. Few currently serving LAC members were active during the initial stakeholder process for the Tar-Pamlico Agriculture Rule, so some institutional knowledge about annual reporting requirements has been lost. As a result, training of new Soil and Water Conservation District staff and LAC members regarding rule requirements and reporting is necessary and ongoing.

Reductions in funding and staffing necessitate implementing a more centralized approach to agricultural data collection and verification for annual progress reports. This evolving approach



may involve developing additional GIS analysis tools, streamlining FSA acreage documentation, and training LACs on how to handle changing methods. While necessary with existing funding and staffing limitations, centralizing and automating data collection and verification may come at the expense of local knowledge. Annual agricultural reporting is required by the rules; therefore, continued funding for the Division's remaining Nonpoint Source Planning Coordinator position is essential for compliance.

The BOC will continue to review data from recent studies that may be relevant to annual progress reporting, particularly findings providing new information on nutrient loadings from land-based sources and uses. Previously, funding was available to support North Carolina-specific research on conservation practice effectiveness, realistic yields, and nitrogen use efficiencies. Due to grant eligibility changes and other funding constraints, it is unlikely that new data will be developed. Prior funding sources for such research, which provided much of the scientific information on which NLEW was based, are no longer available. Should new funding be made available, additional North Carolina-specific research information should be incorporated into future NLEW updates.

## Conclusion

Significant progress has been made in agricultural nutrient loss reduction, and the agricultural community consistently reaches its collective 30% nitrogen reduction goal and no net increase in phosphorus loss goal. However, the measurable effects of these BMPs on overall in-stream nutrient reduction may take years to develop due to the nature of non-point source pollution. The BOC supports new funding for research and implementation to further improve reductions and enhance agricultural nutrient reporting, including identification of additional sources. Nitrogen reduction values presented in this annual summary of agricultural reductions reflect "edge-of-management unit" calculations that contribute to achieving the overall 30% nitrogen loss reduction goal. Significant quantities of agricultural BMPs have been installed since the adoption and implementation of the Tar-Pamlico NSW Management Strategy, and agriculture continues to fulfill its obligations toward achieving the collective goals of a 30% reduction of nitrogen and no net increase of phosphorus delivered to the Pamlico estuary.

NCDA&CS

# 2023 Annual Progress Report for the Jordan Lake Agriculture Rule (15A NCAC 02B.0264) for the Baseline Period (1997-2001) for Crop Year 2021

A Report to the Division of Water Resources from the Jordan Lake Watershed  
Oversight Committee: Crop Year 2021

*Date approved by Jordan Lake Watershed Oversight Committee: 04/05/2023*  
*Date submitted to NC Division of Water Resources: 04/05/2023*

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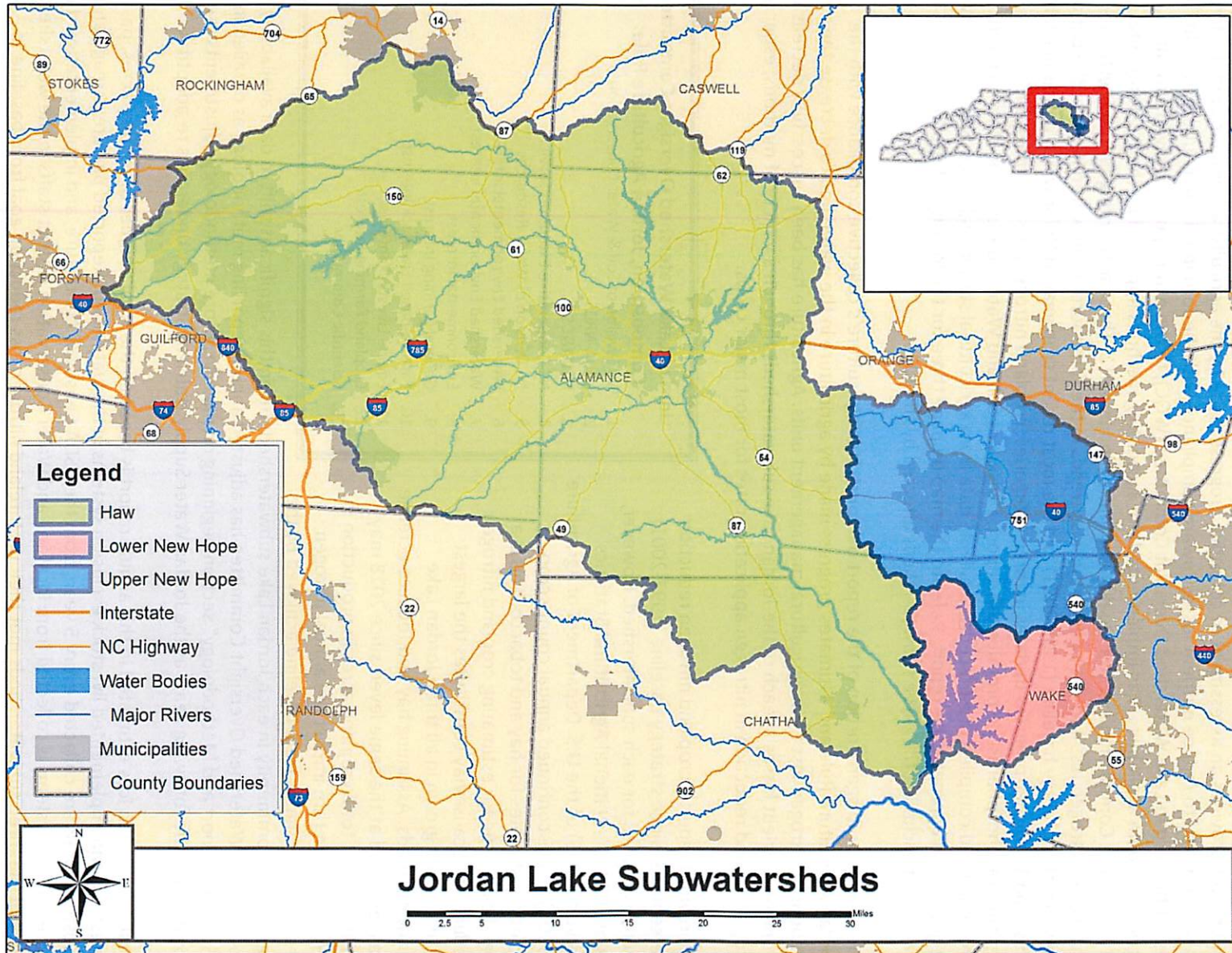
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## Summary

This report provides an assessment of collective progress made by the agricultural community in the Jordan Lake watershed to reduce nutrient losses toward compliance with the Jordan Lake Agriculture Rule. In this report the Jordan Lake Watershed Oversight Committee (WOC), to the extent possible given current agriculture data availability, has implemented the accounting methods approved by the Environmental Management Commission's Water Quality Committee in July 2011. These accounting methods estimate changes in nitrogen loss and the phosphorus loss trends in the three Jordan subwatersheds for the period between the strategy baseline (1997-2001) and the most recent crop years (CY) for which data is available. This report provides progress updates in three categories: cropland nitrogen, pasture nitrogen, and agricultural phosphorus. To produce this report, Division of Soil and Water Conservation staff received, processed and compiled most recently available data from agricultural staff in eight counties, and the WOC reviewed and approved this report. Refer to the map on page three for the location of the Jordan Lake watershed, including the three subwatersheds affected by this rule.

The cropland nitrogen portion of the report demonstrates agriculture's collective compliance with the Jordan Agriculture Rule and estimates progress made by agriculture in the watershed to decrease the amount of nitrogen lost from agricultural management units. Agriculture has been successfully decreasing cropland nutrient losses in each of the Jordan Lake subwatersheds through a variety of methods, especially crop shifts and reduction in nitrogen application rates for most major crops.

In previous reports, cropland nitrogen reduction percentages since strategy baseline (1997-2001) were estimated for each subwatershed. However, as of 2019, the National Agricultural Statistics Service (NASS) of the U.S. Department of Agriculture (USDA) has discontinued annual county crop acreage estimates for hay and tobacco. This is a significant issue for estimating cropland nitrogen reduction because hay constitutes the largest acreage crop grown in all three Jordan Lake subwatersheds. Assuming hay and tobacco acreage has remained at the same levels since 2018 may misrepresent total cropland acres in production in CY2021 and in turn impact the annual nitrogen reduction estimates from baseline achieved by the agriculture community in each Jordan Lake subwatershed. Given this significant shift in data availability, the Jordan Lake Watershed Oversight Committee has adjusted annual reporting methodology as detailed in the "Scope of Report and Methodology" section beginning on page six. More methodology adjustments are expected in the following years as the Jordan Water Supply Nutrient Strategy undergoes re-adoption.

### Jordan Lake Watershed Oversight Committee Composition, Jordan Agriculture Rule:

1. NC Division of Soil & Water Conservation
2. USDA-NRCS
3. NCDA&CS
4. NC Cooperative Extension Service
5. NC Division of Water Resources
6. Watershed Environmental Interest
7. Watershed Environmental Interest
8. Environmental Interest
9. General Farming Interest
10. Pasture-based Livestock Interest
11. Equine Livestock Interest
12. Cropland Farming Interest
13. Scientific Community

Pasture nitrogen loss estimated in this annual report is based on the total number of pasture acres, pastured livestock, and implemented livestock exclusion systems in the watershed. Reported pasture acreage and livestock totals are collected every 5 years from the USDA Census of Agriculture, and implementation data for exclusion systems is collected from local Soil and Water Conservation District staffs in the watershed. Each of the three subwatersheds met their pastureland nitrogen loss reduction goal from baseline to

CY2017, with the Upper New Hope subwatershed reporting a 54% reduction, the Lower New Hope subwatershed reporting a 73% reduction, and the Haw River subwatershed reporting a 49% reduction.

Qualitative phosphorus indicators demonstrate that there is no increased risk of phosphorus loss. Primary factors contributing to this trend include a decrease in the amount of animal waste phosphorus, and wide adoption and implementation of conservation tillage on 90% of cropland in the watershed since baseline.

**Jordan Water Supply Nutrient Strategy:**

The Environmental Management Commission (EMC) adopted the Jordan Water Supply Nutrient Strategy in 2008. The strategy goal is to reduce the average annual load of nitrogen and phosphorus from each of its subwatersheds to Jordan Lake from 1997-2001 baseline levels. In addition to point source rules, mandatory controls were applied to addressing non-point source pollution in agriculture, nutrient management, riparian buffer protection, and urban stormwater. The management strategy built upon efforts in the the Neuse and Tar-Pamlico River Basins.

**Rule Requirements and Compliance**

Effective August 2009, the Agriculture Rule that is part of the Jordan Water Supply Nutrient Strategy provides for a collective strategy for farmers to meet nitrogen loss reduction goals within six to nine years. The goals for this nutrient strategy are specified at the subwatershed level and compared to the 1997-2001 baseline period. The Lower New Hope subwatershed has a goal of no increase in nitrogen or phosphorus loss. The Upper New Hope subwatershed has a goal of 35% nitrogen loss reduction and 5% phosphorus loss reduction. The Haw River subwatershed has a goal of 8% nitrogen loss reduction and 5% phosphorus loss reduction. All reductions are required for both cropland and pastureland, and the two are calculated

separately. A Watershed Oversight Committee (WOC) was established to implement the rule and to assist farmers in complying with the rule.

The Jordan Agriculture Rule also stipulated that if the initial accounting done for CY2010 found that a nitrogen goal had not been achieved in a subwatershed, then Local Advisory Committees were to be formed in that subwatershed and farmers were to register their operations with the committees. Based on the success of cropland nitrogen reductions relative to the strategy goals estimated in initial reports, the WOC found that these actions were not required. However, cooperation and communication with agricultural agency staff at all levels (local, state, and federal) is critical for completion of required annual progress reporting. By January 2023, all staff based in or covering all counties impacted by the Jordan Water Supply Nutrient Strategy provided local information and feedback for inclusion in this annual report.

For reasons discussed in greater detail in the "Scope of Report and Methodology" section, cropland nitrogen loss reductions for each subwatershed (Upper New Hope, Lower New Hope, and Haw River) were not estimated for Crop Year 2021. Only general cropping shift trends were delineated for the Jordan Lake watershed in this report based on available acreage data through NASS and the USDA Farm Service Agency (FSA). For the eight counties in the Jordan Lake watershed, reported major crop acreages through NASS and FSA were largely comparable except for hay acreage. Based on review of these datasets, between CY2020 and CY2021, the Jordan Lake watershed likely experienced a decrease in corn acreage, and an increase in soybean and tobacco acreage. For the portion of hay production captured in FSA data (approximately a quarter of total hay production estimated by NASS in 2018), trends indicate there was no significant decrease in hay acreage in all eight counties in the Jordan Lake watershed between CY2020 and CY2021. Fertilization rates in CY2021 for these major commodity crops in all three subwatersheds mostly remained at levels reported in CY2020, the largest fluctuation being an estimated rate decrease of 11 lbs N/ acre for hay grown in the Lower New Hope subwatershed.

Each of the three subwatersheds is meeting their pastureland nitrogen loss reductions for CY2017, with the Upper New Hope subwatershed reporting a 54% reduction, the Lower New Hope subwatershed reporting a 73% reduction, and the Haw River subwatershed reporting a 49% reduction. These reductions were achieved primarily by reduced nitrogen application rates and an overall reduction in pasture acres. Pastureland nitrogen loss is calculated on a 5-year cycle based on agriculture census data availability, and CY2017 is the most recent year for which data is available.

## Scope of Report and Methodology

Nitrogen reduction estimates provided in this report represent whole-county scale calculations of nitrogen loss from cropland and pastureland agriculture in the watershed using the 'aggregate' version of a nutrient accounting tool called the Nitrogen Loss Estimation Worksheet, or NLEW. The NLEW is an accounting tool developed to meet the specifications of the Neuse Agriculture Rule and approved by the Water Quality Committee of the Environmental Management Commission (EMC) for use in the Jordan Lake watershed. The development team included interagency technical representatives of the NC Division of Water Resources (DWR), NC Division of Soil and Water Conservation (DSWC), USDA-NRCS and was led by NC State University Soil Science Department faculty. A qualitative assessment method was developed and approved by the Water Quality Committee of the EMC for phosphorus and is described later in the report.

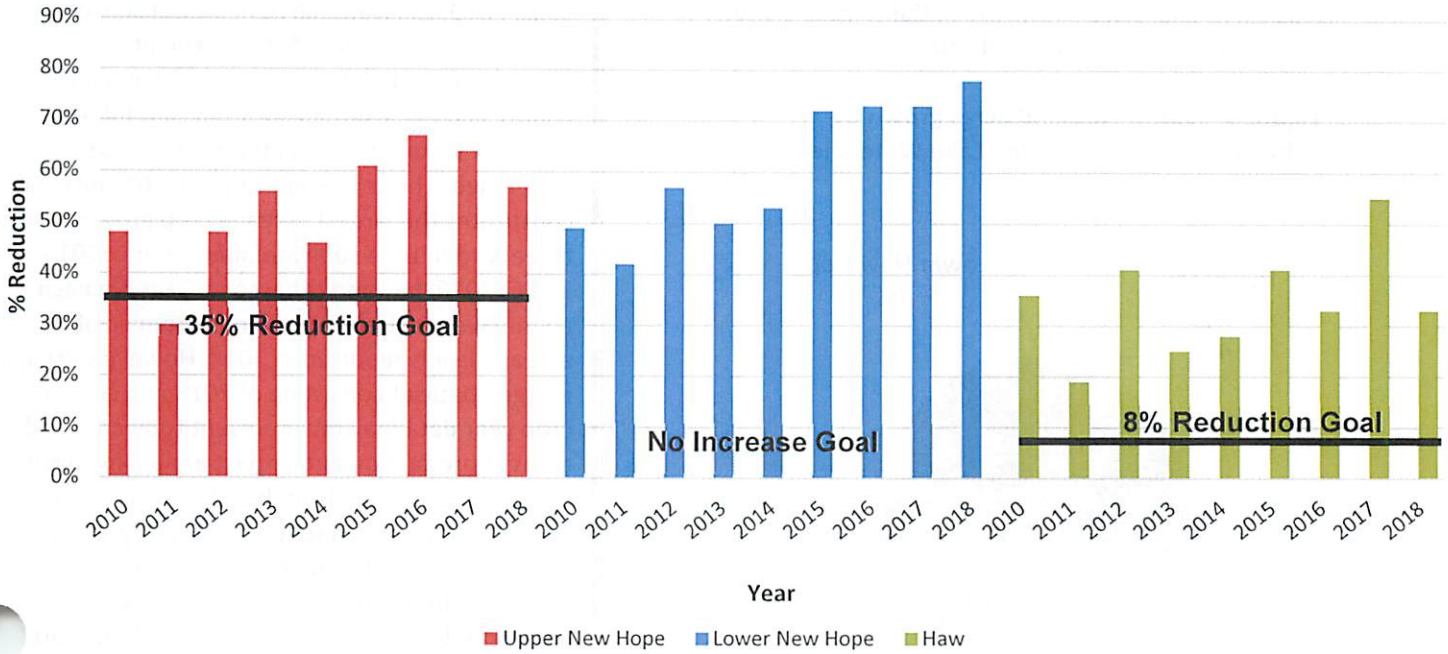
The NLEW was developed to estimate a baseline nitrogen loading and subsequent percent nitrogen reductions. The NLEW is an "edge-of-management unit" tool which estimates changes in nitrogen loss from cropland and pastureland but does not estimate changes in nitrogen loading to surface waters. NLEW is designed to capture changes in agricultural nitrogen resulting from fertilizer management, conservation practice implementation, cropping shifts, and loss of agricultural lands. Both inorganic and animal waste sources of fertilizer to cropland and pastureland are accounted for in NLEW.

For NLEW to generate percent nitrogen reductions, crop and pasture acreage data inputted into the tool must be available. Unfortunately, as of 2019, the NASS discontinued annual county acreage estimates for hay and tobacco in the eight counties lying in the Jordan Lake watershed. This presents a significant issue in calculating cropland nitrogen reductions because hay constitutes the largest acreage crop grown in all three Jordan Lake subwatersheds. For the last two annual progress reports, hay and tobacco acreages in each county were estimated to remain at the acreage levels reported in 2018, due to lack of recent data and not because of supplemental rationale or calculations. However, using a merged dataset consisting of 2018 and current crop year data may misrepresent total cropland acres in production and impact annual nitrogen reduction estimates from baseline achieved by the agriculture community, particularly as the time between 2018 and the current crop year increases. In this report, the Jordan Lake Watershed Oversight Committee, with concurrence from Division of Water Resources, has not included CY2021 cropland nitrogen reduction estimates as a result of data availability change. Instead, best management practice implementation and fertilization management updates are provided along with general discussion of cropping trends based on review of available annual crop acreage data from NASS and the FSA. The WOC anticipates cropland nitrogen reduction estimates for Jordan Lake subwatersheds will next be calculated when USDA Census of Agriculture data is released (expected in 2024). More methodology adjustments are expected in the following years, as the Jordan Water Supply Nutrient Strategy undergoes re-adoption.

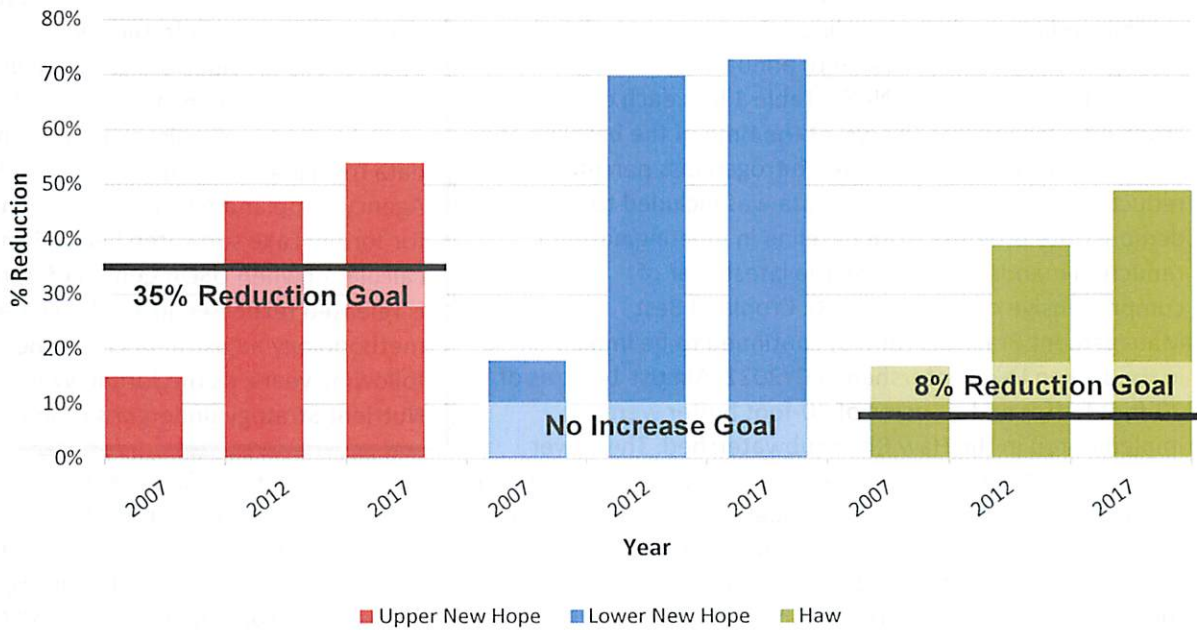
Despite the recent data availability change, the agriculture community has made significant progress to date in achieving nitrogen loss reduction from baseline for both cropland and pastureland. Figure 1 represents the annual cropland percent nitrogen loss reduction from baseline to 2018, the most recent year with

comprehensive crop data. Figure 2 represents the annual pastureland nitrogen loss reduction from 2007 to 2017, the most recent year with comprehensive pasture data.

**Figure 1. Collective Cropland Nitrogen Loss Reduction Percent by Jordan Lake subwatershed 2010 to 2018 Based on NLEW**



**Figure 2. Collective Pastureland Nitrogen Loss Reduction Percent by Jordan Lake subwatershed 2007 to 2017 Based on NLEW**

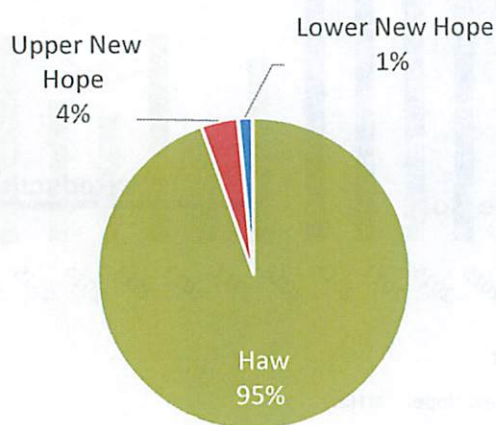




## Nitrogen Reduction from Cropland from Baseline for CY2021

The Jordan Lake watershed encompasses just over 1,000,000 acres, of which approximately a tenth is generally planted in cropping systems. The Haw River subwatershed typically grows 95% of crop acreage, followed by the Upper New Hope (4%), and Lower New Hope (1%). Figure 3 shows a breakdown of typical cropland acres by subwatershed:

**Figure 3: Typical cropland acres grown by subwatershed in the Jordan Lake Watershed**



No cropland nitrogen loss (lbs/yr) or cropland nitrogen loss percent reductions from baseline values were calculated through NLEW for CY2021 due to annual crop acreage data availability changes from NASS. Table 1 lists each county's cropland nitrogen loss (lbs/yr) at the time of the baseline and in CY2018, along with estimated nitrogen loss percent reductions from baseline. This data was included to demonstrate progress from baseline in meeting nutrient reduction mandates based on the latest year of comprehensive crop data (2018). Cropland Best Management Practices (BMPs) continued to be implemented in the Jordan Lake watershed in CY2021. Almost 14 acres of 20-foot buffer and six acres of 30-foot buffer were implemented in the Haw River subwatershed. The Lower New Hope subwatershed experienced a substantial increase in unfertilized cover crop acreage in CY2021; nearly eight times the average annual cover crop acreage from 2015 – 2020. Fertilization rates for major commodity crops in each of the three subwatersheds largely remained consistent with rates reported in CY2020. The largest fertilization rate fluctuation in CY2021 was an estimated rate decrease of 11 lbs N/acre for hay in the Lower New Hope subwatershed. Based on a review of available crop data from FSA and NASS, between CY2020 and CY2021 the Jordan Lake watershed likely experienced a decrease in corn acreage, and an increase in soybean and tobacco acreage.

### Data Changes in CY2021 and Impact on Nitrogen Reduction Estimates from Baseline

Since 2019, the National Agricultural Statistics Service (NASS) of the U.S. Department of Agriculture (USDA) has discontinued annual county acreage estimates for hay and tobacco in the eight counties lying in the Jordan Lake watershed. This is a significant issue because hay constitutes the largest acreage crop grown in all three Jordan Lake subwatersheds. For CY2019 and CY2020, hay and tobacco acreages in each county were estimated to largely remain at the acreage levels reported in 2018. However, using a merged dataset consisting of 2018 and current crop year data may misrepresent total cropland acres in production and impact annual nitrogen reduction estimates from baseline achieved by the agriculture community, particularly as the time between 2018 and the current crop year increases. In this report, the Jordan Lake Watershed Oversight Committee, with support from Division of Water Resources, has not included CY2021 cropland nitrogen reduction estimates as a result of this data availability change. Instead, best management practice implementation and fertilization management updates are provided along with general discussion of cropping trends based on review of available (but incomplete) annual crop acreage data from NASS and the USDA Farm Service Agency. Cropland nitrogen reduction estimates for Jordan Lake subwatersheds will next be calculated when USDA Census of Agriculture data is released (expected in 2024). More methodology adjustments are expected in the following years, as the Jordan Water Supply Nutrient Strategy undergoes re-adoption.

Table 1. Estimated reductions in agricultural nitrogen loss (cropland) from baseline (1997-2001), CY2018, Jordan Lake Watershed †

County	Baseline Nitrogen Loss (lb)†	CY2018 Nitrogen Loss (lb)**	CY2018 N Loss Reduction (%)‡*
Upper New Hope subwatershed: Goal of 35% nitrogen loss reduction (4% of total Jordan Lake Watershed cropland)			
Chatham	43,063	7,996	81%
Durham	37,618	15,565	59%
Orange	68,632	43,039	37%
Wake	9,694	2,175	78%
<b>Total</b>	<b>159,007</b>	<b>68,774</b>	<b>57%</b>
Lower New Hope subwatershed: Goal of no increase in nitrogen loss (1% of total Jordan Lake Watershed cropland)			
Chatham	56,632	11,858	79%
Wake	38,362	8,626	78%
<b>Total</b>	<b>94,994</b>	<b>20,483</b>	<b>78%</b>
Haw subwatershed: Goal of 8% nitrogen loss reduction (95% of total Jordan Lake Watershed cropland)			
Alamance	697,634	458,154	34%
Caswell	260,254	126,569	51%
Chatham	245,458	55,704	77%
Guilford	1,393,551	1,101,023	21%
Orange	231,272	137,983	40%
Rockingham	169,080	127,705	24%
<b>Total</b>	<b>2,997,249</b>	<b>2,007,138</b>	<b>33%</b>

† Nitrogen loss values are for comparative purposes. These are produced via NLEW calculations and based on best available nitrogen application rates to cropland in the watershed. Loss totals represent nitrogen neither used by crops nor intercepted by BMPs in a Soil Management Group. This is not an in-stream loading value.

‡ Total reduction percentages are calculated by comparing current nitrogen loss to baseline nitrogen loss. Individual county totals contribute proportionally, and so smaller watershed trends tend to be more volatile than large watershed trends.

\*Some CY2018 Nitrogen Loss and Reduction values may have changed since originally reported to fix an acreage error.

## Best Management Practice Implementation

Agriculture is credited with different nitrogen reduction efficiencies, expressed as percentages, for riparian buffer practice installation widths ranging from 20 feet to 100 feet. The NLEW for Jordan Lake provides the percent nitrogen reduction efficiencies for buffer practice installation widths on cropland as displayed in Table 2.

**Table 2: Nitrogen loss reduction percentages by buffer practice installation width**

Buffer width	Nitrogen loss reduction percentage
20 feet	20%
30 feet	25%
50 feet	30%
100 feet	35%

Riparian buffers have many important functions beyond being effective in reducing nitrogen. Research has shown that upwards of 75% of sediment from agricultural sources is from stream banks and that riparian buffers are important for reducing this sediment.<sup>1</sup> In addition, riparian buffers can reduce phosphorus and sediment as it moves through the buffer and provide other critically important functions. According to a report completed in 2007, *Delineating Agriculture in the Lake Jordan River Basin*, most agricultural land in the Jordan Lake watershed is already buffered. This study found that six counties within the watershed had more than 75% of their agricultural land buffered, and that the average buffer width was greater than 50 feet.<sup>2</sup> Due to data availability and staffing limitations, a decision was made to utilize GIS technology and aerial photography for baseline BMP totals. Baseline acreage of riparian buffers on cropland among the different widths for which agriculture receives reductions was obtained through this process first in 1998 and then again in 2010. Overall, total acres of buffers slightly decreased between 1998 and 2010 as a result of decreased overall agricultural production acres during the same time period. This is also reflected in the reported buffer acres included in the first annual progress report (CY2010), which were noticeably lower than baseline totals. Since the CY2010 report, total buffer acreage has been obtained through individual contracts implemented through state and federal cost share contracts, and buffer acres are added after each project's completion.

Since the baseline, some buffer practices have been installed in the Jordan Lake watershed through the Division of Mitigation Services (DMS). The DMS has completed 63 projects in the watershed from the baseline through 2021, and at least six private mitigation banks from which DMS purchases credits are currently operating in the watershed. The DMS project data is not tracked either for previous land use or for the area of buffer restored in conjunction with stream restoration projects. However, in their 2022 data report, Guilford County reported that farmers in the watershed installed 20 acres of 50 foot buffer and 12 acres of 100 foot buffer with mitigation funding in CY2021. Because DMS funded these buffers for compensatory mitigation for stream or buffer permitted losses also occurring in the watershed, they are not eligible to be counted for reductions under the agriculture rule, even if they are located on agricultural lands. Thus, DMS buffer restoration projects are not included in the totals provided in this report. As DMS continues to install buffers adjacent to and purchase credits generated on agricultural land, this decreases the possibility for buffers to be installed for credit under agriculture rule progress reporting.

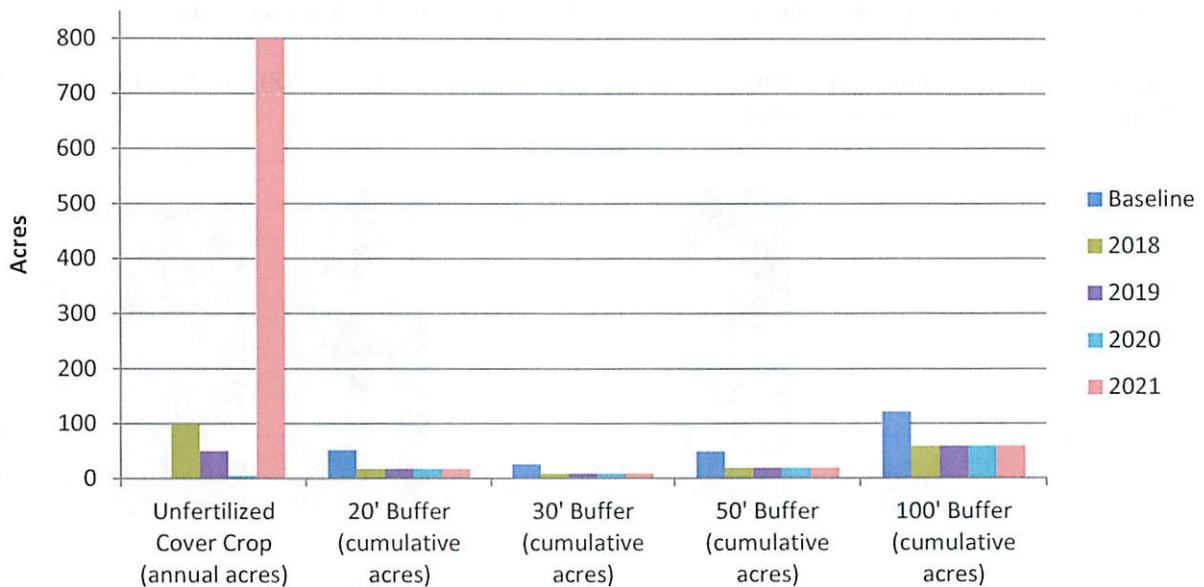
<sup>1</sup> Osmond, D., D. Meals, D. Hoag, and M. Arabi. 2012. How to Build Better Agricultural Conservation Programs to Protect Water Quality: The NIFA-CEAP Experience. Soil and Water Conservation Society, Ankeny, IA.

<sup>2</sup> Osmond, Deanna L. 2007. Final Report for the Sampling Analysis: Delineating Agriculture in the Lake Jordan River Basin. Department of Soil Science, North Carolina State University, Raleigh, NC 27606.

In the Lower New Hope subwatershed, as of 2010, 144 acres (57%) of the buffers in the subwatershed still exist but are no longer eligible for accounting under the agriculture rule because adjacent cropland acres have been taken out of agricultural production. This subwatershed experienced a decrease of 12% of cropland with wide riparian buffers from 1998 to 2010. In the Upper New Hope subwatershed, 531 acres (39%) of baseline buffers still exist but are no longer eligible for accounting under the agriculture rule, also because adjacent cropland acres have been taken out of agricultural production. This subwatershed experienced a decrease of 21% of cropland from 1998 to 2010. For these two watersheds, the limited number of cropland acres greatly increases the effect of any change in agricultural operation land use on overall nitrogen loss reduction percentage. The Haw River subwatershed only saw a decrease of 1% of buffer acres in the watershed from 1998 to 2010. This is to be expected, since the subwatershed did not lose any cropland acres from 1998 to 2010. Detailed information regarding buffer acreages implemented by subwatershed in baseline (1998) and crop years 2018, 2019, 2020, and 2021 is displayed in Figures 4, 5, and 6. In CY2021, 13.5 ac of 20 foot buffer and 6 acres of 30 foot buffer were implemented in the Haw River subwatershed. The Lower New Hope subwatershed experienced a substantial increase in unfertilized cover crop acreage in CY2021 as a result of National Fish and Wildlife funding obtained by Wake SWCD that incentivized cooperators and financed additional unfertilized cover crop implementation in the county.

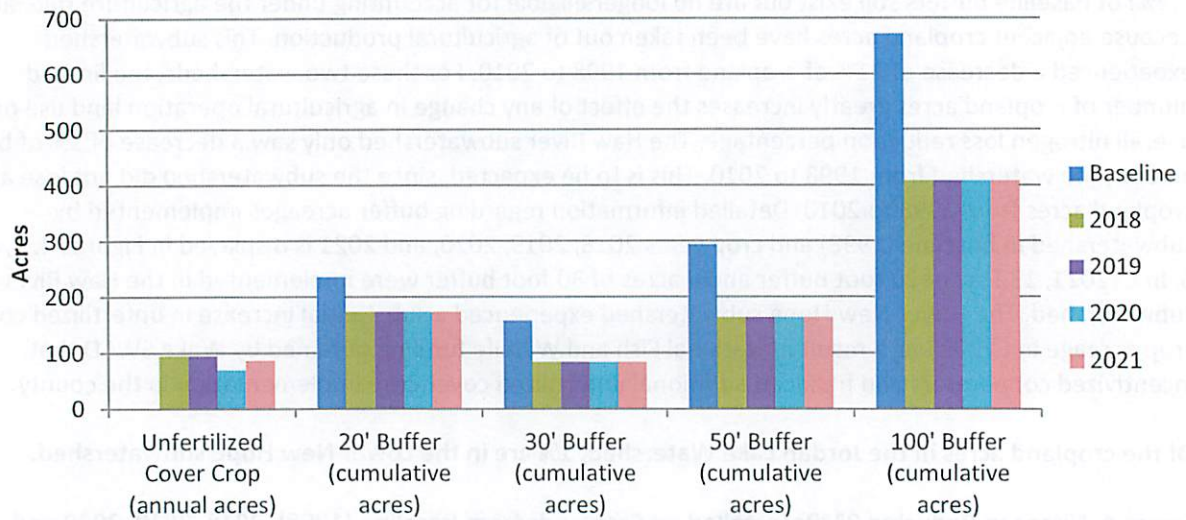
Of the cropland acres in the Jordan Lake Watershed, 1% are in the Lower New Hope subwatershed.

Figure 4. Nitrogen Reducing BMPs installed on Croplands from Baseline (1998), 2018, 2019, 2020 and 2021, Lower New Hope subwatershed, Jordan Lake Watershed \*



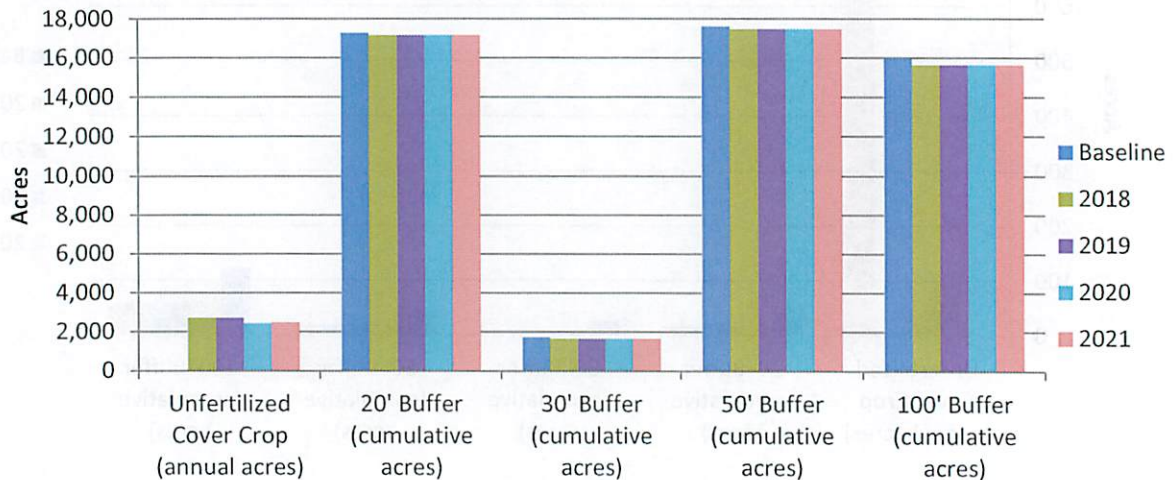
Of the cropland acres in the Jordan Lake Watershed, 4% are in the Upper New Hope subwatershed.

Figure 5. Nitrogen Reducing BMPs installed on Croplands from Baseline (1998), 2018, 2019, 2020 and 2021, Upper New Hope subwatershed, Jordan Lake Watershed\*



Of the cropland acres in the Jordan Lake Watershed, 95% are in the Haw subwatershed.

Figure 6. Nitrogen Reducing BMPs installed on Croplands from Baseline (1998), 2018, 2019, 2020 and 2021, Haw subwatershed, Jordan Lake Watershed\*



\* The acres of buffers listed include estimated acres from GIS analysis from 1998 and 2010 aerial photography and acres implemented through cost share programs since baseline. Cropland acres affected by the buffer could be 5 to 10 times larger than the acreage shown above.<sup>3</sup>

<sup>3</sup> Bruton, Jeffrey Griffin. 2004. Headwater Catchments: Estimating Surface Drainage Extent Across North Carolina and Correlations Between Landuse, Near Stream, and Water Quality Indicators in the Piedmont Physiographic Region. Ph.D. Dissertation. Department of Forestry and Environmental Resources, North Carolina State University, Raleigh, NC 27606.

## Fertilization Management

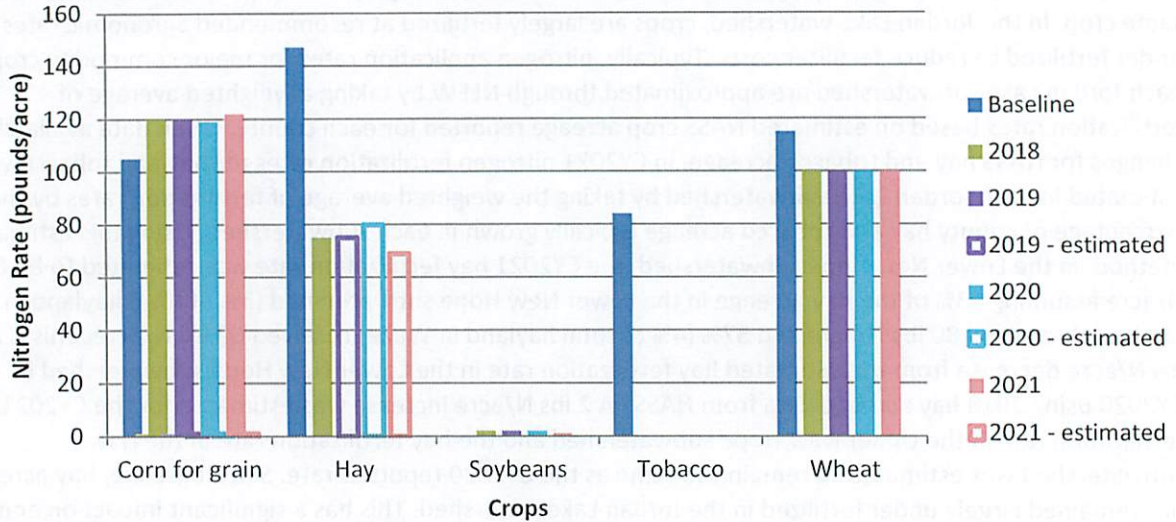
Fertilization rates are revisited annually by counties using data from farmers, commercial applicators and state and federal agencies' professional estimates. Total nitrogen application rates include both organic (waste) and inorganic (fertilizer) sources, even in situations where a producer applies some of both to the same crop. In the Jordan Lake watershed, crops are largely fertilized at recommended agronomic rates or under fertilized to reduce fertilizer costs. Typically, nitrogen application rates for major commodity crops in each Jordan Lake subwatershed are approximated through NLEW by taking a weighted average of fertilization rates based on estimated NASS crop acreage reported for each county. Given data availability changes for NASS hay and tobacco acreage, in CY2021 nitrogen fertilization rates for hay and tobacco were estimated in each Jordan Lake subwatershed by taking the weighted average of fertilization rates by the percentage of county hay and tobacco acreage typically grown in each subwatershed. Using this estimation method, in the Lower New Hope subwatershed, the CY2021 hay fertilization rate was estimated to be 69 lbs N/acre assuming 43% of the hay acreage in the Lower New Hope subwatershed (3% of total hayland in Chatham) received 80 lbs N/acre and 57% (4% of total hayland in Wake) received 60 lbs N/acre. This is an 11 lbs N/acre decrease from the estimated hay fertilization rate in the Lower New Hope subwatershed in CY2020 using 2018 hay acreage data from NASS. A 2 lbs N/acre increase was estimated for the CY2021 hay fertilization rate in the Upper New Hope subwatershed and the hay fertilization rate in the Haw subwatershed was estimated to remain the same as the CY2020 reported rate. Since baseline, hay acreage has remained largely under fertilized in the Jordan Lake watershed. This has a significant impact on annual cropland nitrogen loss given hay acreage is the dominant crop commodity grown in all three Jordan Lake subwatersheds. CY2021 tobacco fertilization rates in all three subwatersheds fluctuated less than 2 lbs N/acre from tobacco fertilization rates reported in CY2020 using 2018 NASS crop data.

CY2021 nitrogen application rates for other major commodity crops – corn, soybeans, and wheat – were approximated through NLEW based on 2021 NASS county crop acreage data. Soybean fertilization rates remained below 2 lbs N/acre in all three subwatersheds. Corn fertilization rates remained at CY2020 application rates in the Haw and Upper New Hope subwatersheds and increased by 3 lbs N/acre in the Lower New Hope subwatershed. Wheat fertilization rates remained at CY2020 application rates in the Upper and Lower New Hope subwatersheds and decreased by 1 lb N /acre in the Haw subwatershed.

Figures 7, 8, and 9 display the nitrogen fertilization rates in pounds per acre for the major crops in the watershed. For many of the high acreage crops in the Jordan Lake watershed, farmers have reduced nitrogen fertilization rates from baseline levels. Only corn fertilization rates have increased from baseline levels, although there have been slight decreases in application rates for corn in the Haw subwatershed, which grows approximately 95% of the corn acreage in the Jordan Lake watershed.

Of the cropland acres in the Jordan Lake Watershed, 1% are in the Lower New Hope subwatershed.

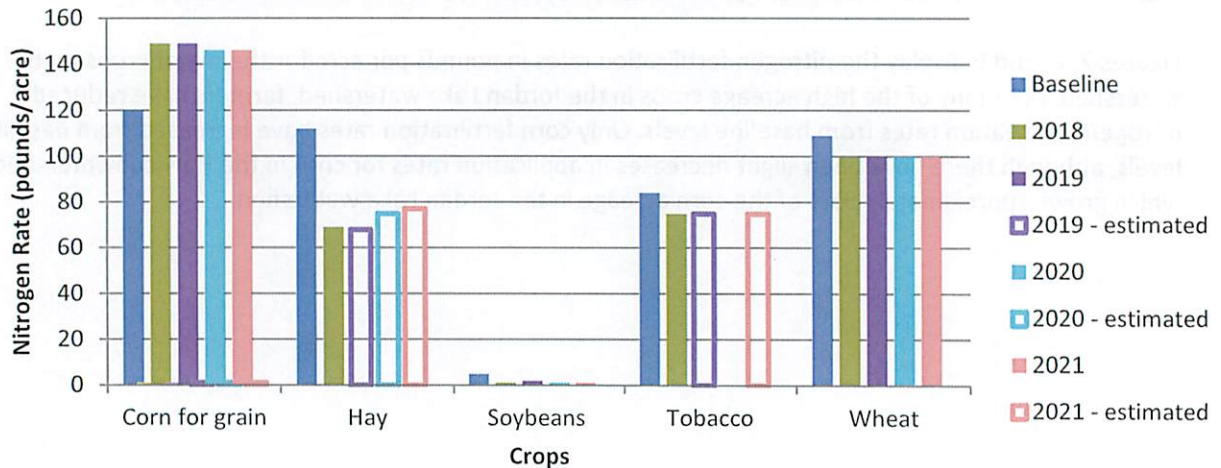
Figure 7. Average annual nitrogen fertilization rate (lb/ac) on cropland for the baseline (1997-2001) 2018, 2019, 2020, and 2021, Lower New Hope subwatershed, Jordan Lake Watershed\*



\*CY2019 and CY2020 fertilization rates for tobacco and hay are graphed as estimated above because CY2018 crop acreage from NASS was used to determine the weighted average fertilization rate for those commodities during those reporting years. The CY2021 fertilization rate above for hay was estimated by taking the weighted average of fertilization rates by the percentage of county hay acreage typically grown in the Lower New Hope subwatershed.

Of the cropland acres in the Jordan Lake Watershed, 4% are in the Upper New Hope subwatershed.

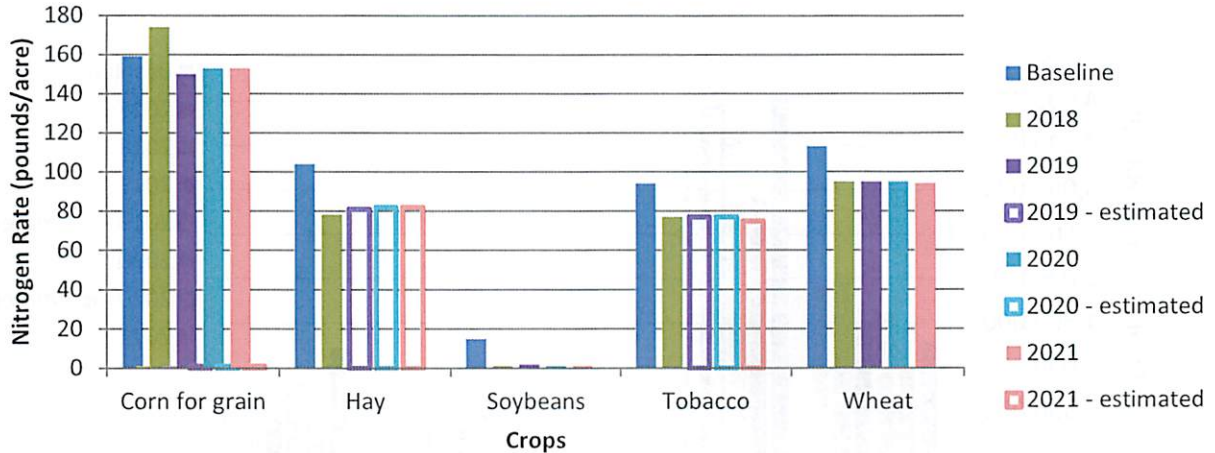
Figure 8. Average annual nitrogen fertilization rate (lb/ac) on cropland for the baseline (1997-2001) 2018, 2019, 2020, and 2021, Upper New Hope subwatershed, Jordan Lake Watershed\*



\*CY2019 and CY2020 fertilization rates for tobacco and hay are graphed as estimated above because CY2018 crop acreage from NASS was used to determine the weighted average fertilization rate for those commodities during those reporting years. CY2021 fertilization rates above for tobacco and hay were estimated by taking the weighted average of fertilization rates by the percentage of county hay and tobacco acreage typically grown in the Upper New Hope subwatershed.

Of the cropland acres in the Jordan Lake Watershed, 95% are in the Haw subwatershed.

Figure 9. Average annual nitrogen fertilization rate (lb/ac) on cropland for the baseline (1997-2001) 2018, 2019, 2020 and 2021, Haw subwatershed, Jordan Lake Watershed\*



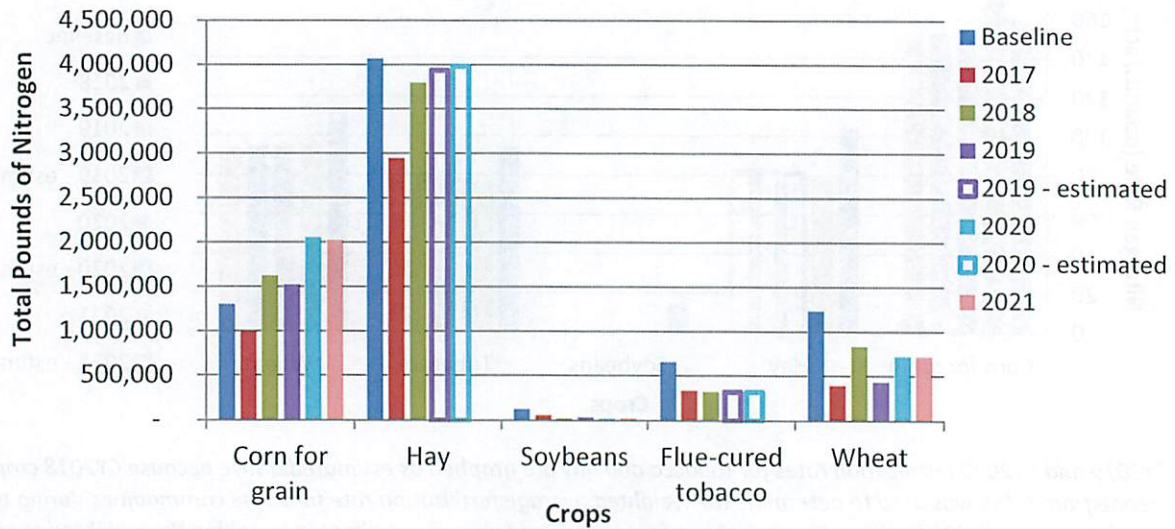
\*CY2019 and CY2020 fertilization rates for tobacco and hay are graphed as estimated above because CY2018 crop acreage from NASS was used to determine the weighted average fertilization rate for those commodities during those reporting years. CY2021 fertilization rates above for tobacco and hay were estimated by taking the weighted average of fertilization rates by the percentage of county hay and tobacco acreage typically grown in the Haw subwatershed.

Figures 10, 11, and 12 depict the total annual nitrogen (in pounds) applied to cropland during the baseline (1997-2001), 2017, 2018, 2019, 2020, and 2021, to show the impact of fertilization rates related to crops that are grown in each subwatershed. Due to the small size of the subwatersheds in Jordan Lake, minor changes in nitrogen fertilization rates result in significant effects on the reported nitrogen reductions on cropland for smaller subwatersheds. The total amount of nitrogen lost in each of these subwatersheds is a function of the fertilization rate for each crop and the number of acres planted, which means that the largest nitrogen fluxes in the Jordan Lake watershed occur on hay, wheat, and corn acres in the Haw subwatershed. Total annual nitrogen applied to hay and tobacco in 2021 are not included because of the NASS crop acreage data availability change for those commodities. Of all crops grown in the Jordan Lake watershed, hay acres grown in the Haw subwatershed encompass most of all nitrogen applied to cropland.



Of the cropland acres in the Jordan Lake Watershed, 95% are in the Haw subwatershed.

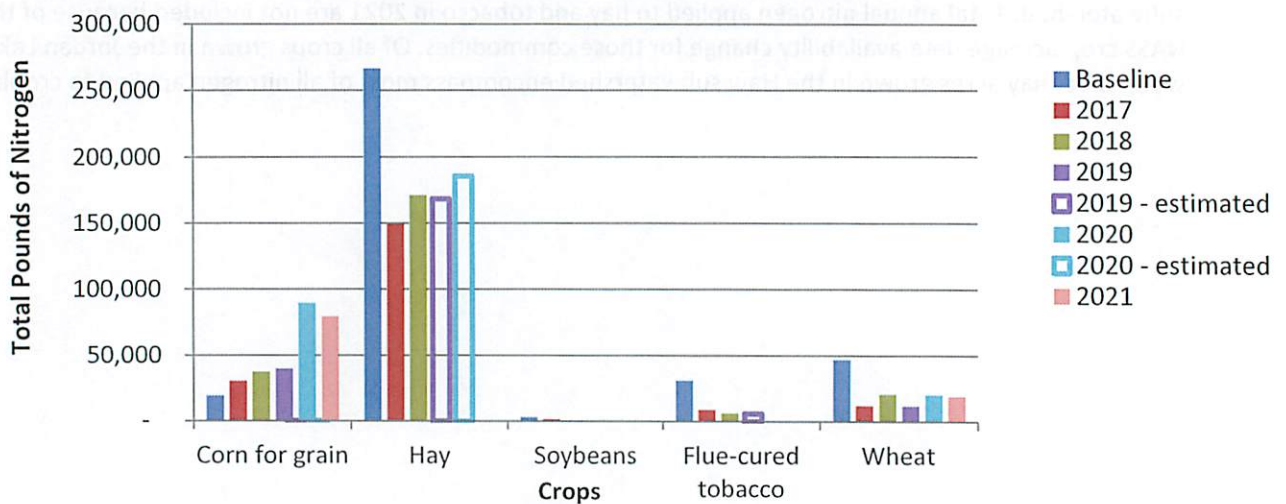
Figure 10. Total annual nitrogen (lbs) applied annually to cropland for the baseline (1997-2001), 2017, 2018, 2019, 2020, 2021, Haw subwatershed, Jordan Lake Watershed\*



\*CY2019 and CY2020 total pounds of nitrogen for tobacco and hay are graphed as estimated because the North Carolina Agriculture Statistics Service (NASS) discontinued reporting annual acreages for those crops in 2019, and total pounds of nitrogen calculated for those commodities uses CY2018 acreage totals.

Of the cropland acres in the Jordan Lake Watershed, 4% are in the Upper New Hope subwatershed.

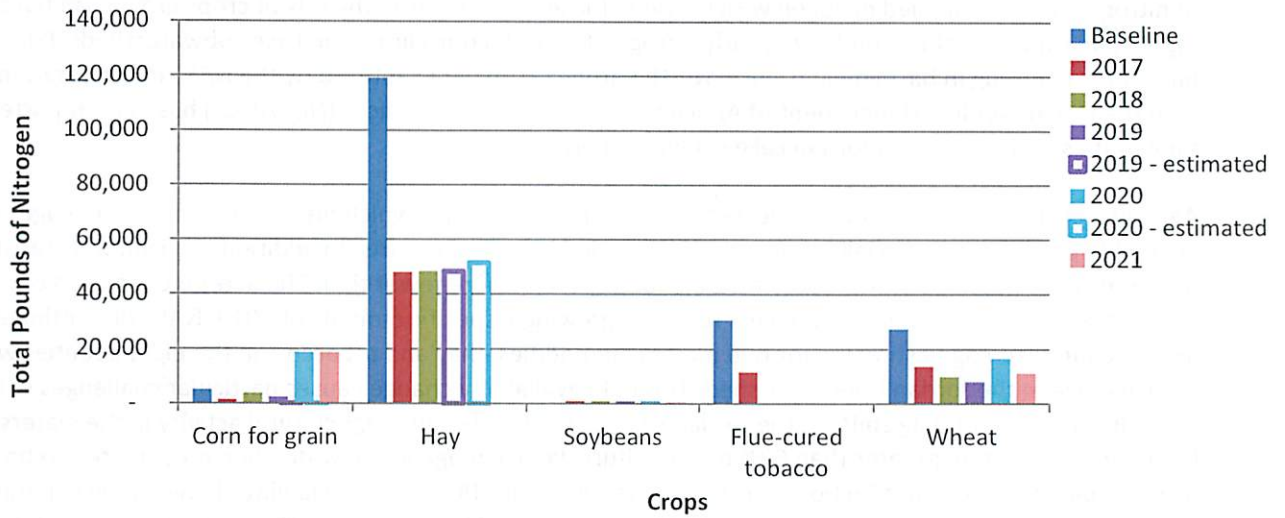
Figure 11. Total annual nitrogen (lbs) applied annually to cropland for the baseline (1997-2001), 2017, 2018, 2019, 2020, 2021, Upper New Hope subwatershed, Jordan Lake Watershed\*



\* CY2019 and CY2020 total pounds of nitrogen for tobacco and hay are graphed as estimated because the North Carolina Agriculture Statistics Service (NASS) discontinued reporting annual acreages for those crops in 2019, and total pounds of nitrogen calculated for those commodities uses CY2018 acreage totals.

Of the cropland acres in the Jordan Lake Watershed, 1% are in the Lower New Hope subwatershed.

Figure 12. Total annual nitrogen (lbs) applied annually to cropland for the baseline (1997-2001), 2017, 2018, 2019, 2020, 2021, Lower New Hope subwatershed, Jordan Lake Watershed\*



\* CY2019 and CY2020 total pounds of nitrogen for tobacco and hay are graphed as estimated because the North Carolina Agriculture Statistics Service (NASS) discontinued reporting annual acreages for those crops in 2019, and total pounds of nitrogen calculated for those commodities uses CY2018 acreage totals.

## Cropping Shifts

A host of factors from individual choice to global markets determine crop selections. As a result, crop acreages in the Jordan Lake watershed fluctuate annually. Because distinct crops require different amounts of nitrogen and use applied nitrogen with varying efficiency, changes in the mix of crops grown can have a significant impact on the cumulative yearly nitrogen loss reductions in Jordan Lake subwatersheds. For nutrient accounting in baseline and since, North Carolina crop data captured by the NASS in cooperation with the North Carolina Department of Agriculture and Consumer Services (NCDA&CS) has been reported for counties with acreage in Jordan Lake subwatersheds.

Agricultural Statistics only reports selected major commodity crops, which means that smaller acreages of vegetable produce and specialty crops are not included in annual reports. In addition, Agricultural Statistics does not report planted or harvested acreage for any crop where fewer than 500 acres were grown or where fewer than 3 individual producers reported growing a specific crop. As of 2019, NASS discontinued annual county acreage estimates for two major commodities - hay and tobacco – in the eight counties with crop acreage in the Jordan Lake watershed. This data availability change causes particular challenges with assessing annual cropping shifts in the Jordan Lake watershed because agricultural activity in the watershed is pasture dominated; greater than 60% of agricultural land acreage in the watershed is estimated to be used for pasture or hay production. For this report, given the NASS data availability change, only general cropping shift trends were delineated between CY2020 and CY2021. When 2022 agriculture census data becomes available, acreage shift estimations for all major commodity crops will be provided.

To delineate general cropping shift trends between CY2020 and CY2021, available annual crop data from NASS as well as annual crop data published by the USDA Farm Service Agency (FSA) was consulted. Annual crop data published by the USDA NASS remains the primary cropland acreage data source for nutrient accounting in this watershed as it was used to establish baseline. In 2020 and 2021, major crop acreages in the eight counties in the Jordan Lake watershed were largely comparable between NASS and FSA datasets except for hay acreage totals. Total summed hay acreage reported by NASS in 2018 for Alamance, Caswell, Chatham, Durham, Guilford, Orange, Rockingham, and Wake was approximately four times the total summed hay acreage FSA published for those eight counties in the same year. As a result, FSA data for hay in the Jordan Lake watershed is limited and only captures a fraction of the hay acreage changes experienced in any given crop year. For the portion of hay production captured in FSA data, there was no significant loss of total reported hay acreage in all 8 counties between CY2020 and CY2021. FSA reported tobacco acreage is more comparable to tobacco acreage data published by NASS. In 2018, there was a 30% difference between NASS and FSA total tobacco acreage in the eight counties assessed. Between CY2020 and CY2021, FSA data indicates a 14.5% increase in total tobacco acreage grown in the eight counties with acreage in the Jordan Lake watershed. Despite this increase, agriculture census data indicates that statewide the number of NC farms devoted to tobacco production has decreased by 90% between 1997 and 2017. Agriculture agency field staff are also not reporting a significant increase in tobacco production in the Jordan Lake watershed since baseline.

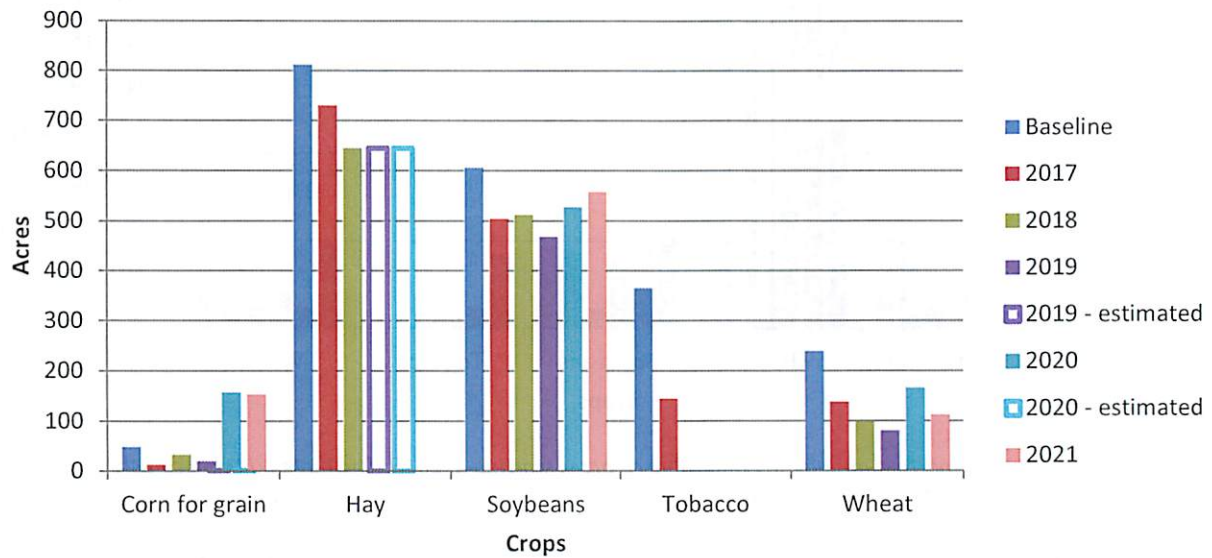
For remaining major commodity crops grown in the Jordan Lake watershed – corn, soybeans, and wheat – crop acreage data from both NASS and FSA was available to be examined to identify cropping shift trends. Corn acreage in CY2021 in the eight counties with acreage in Jordan Lake watershed decreased by less than 5% from CY2020 levels in both NASS and FSA datasets. Soybean acreage increased by approximately 10% in CY2021 in both datasets. There was no clear trend for total wheat acreage among the two datasets. Total wheat acreage in CY2021 decreased by 8.5% from the previous year in the NASS dataset, whereas the FSA

dataset showed a wheat acreage increase by 3.6% in CY2021. This discrepancy is likely due to differences in how these entities collect and report crop data.

Figures 13, 14, and 15 show NASS reported crop acres and shifts for the baseline, 2017, 2018, 2019, 2020, and 2021. In these figures hay and tobacco acreages for CY2019 and CY2020 are shown as 'estimated' because acreages for those commodities in those reporting years used CY2018 NASS data.

Of the cropland acres in the Jordan Lake Watershed, 1% are in the Lower New Hope subwatershed.

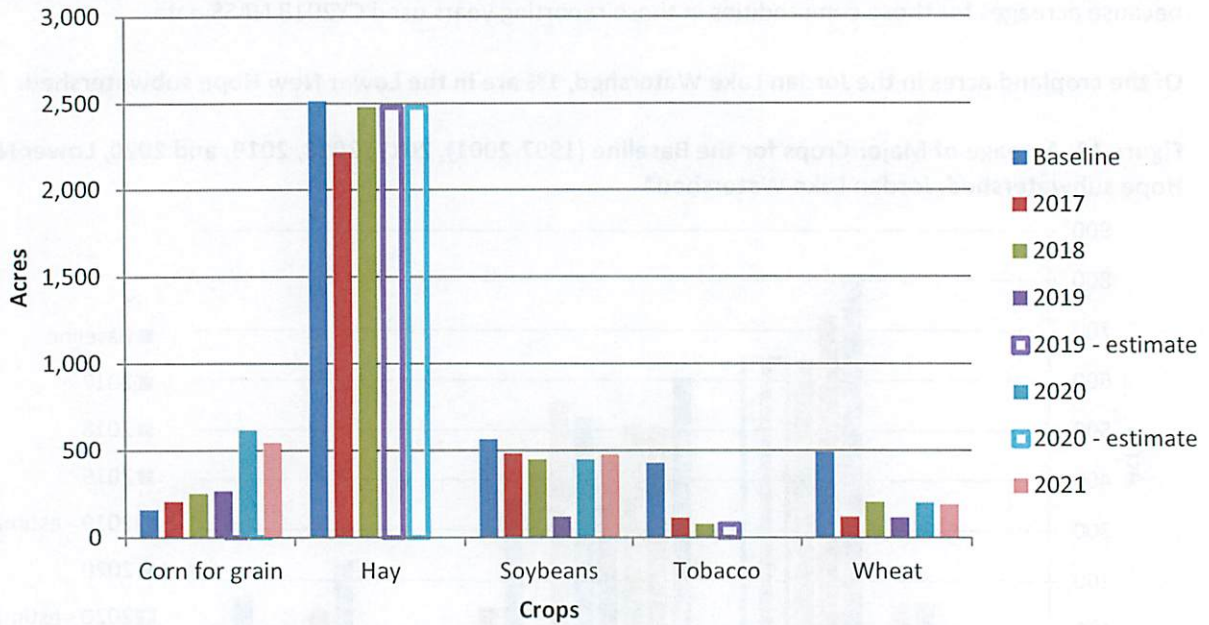
**Figure 13. Acreage of Major Crops for the Baseline (1997-2001), 2017, 2018, 2019, and 2020, Lower New Hope subwatershed, Jordan Lake Watershed\***



\*NASS discontinued reporting annual hay acres starting in 2019. The hay acreage graphed as estimated for 2019 and 2020 is the 2018 reported acreage.

Of the cropland acres in the Jordan Lake Watershed, 4% are in the Upper New Hope subwatershed.

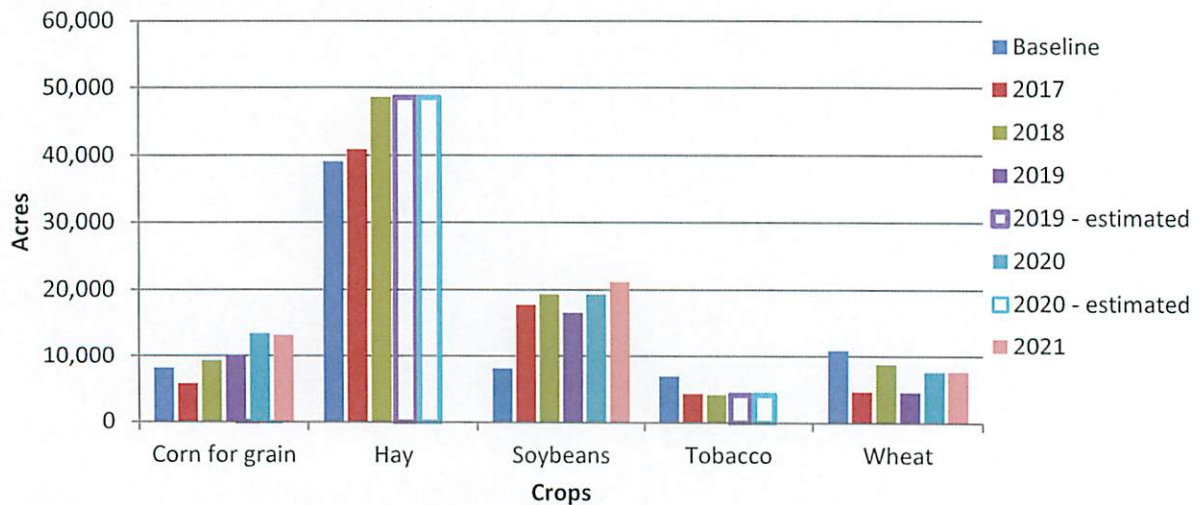
Figure 14. Acreage of Major Crops for the Baseline (1997-2001), 2017, 2018, 2019, and 2020, Upper New Hope subwatershed, Jordan Lake Watershed\*



\*NASS discontinued reporting annual hay and tobacco acres starting in 2019. The hay and tobacco acreage graphed as estimated for 2019 and 2020 is the 2018 reported acreage.

Of the cropland acres in the Jordan Lake Watershed, 95% are in the Haw subwatershed.

Figure 15. Acreage of Major Crops for the Baseline (1997-2001), 2017, 2018, 2019, and 2020, Haw subwatershed, Jordan Lake Watershed\*

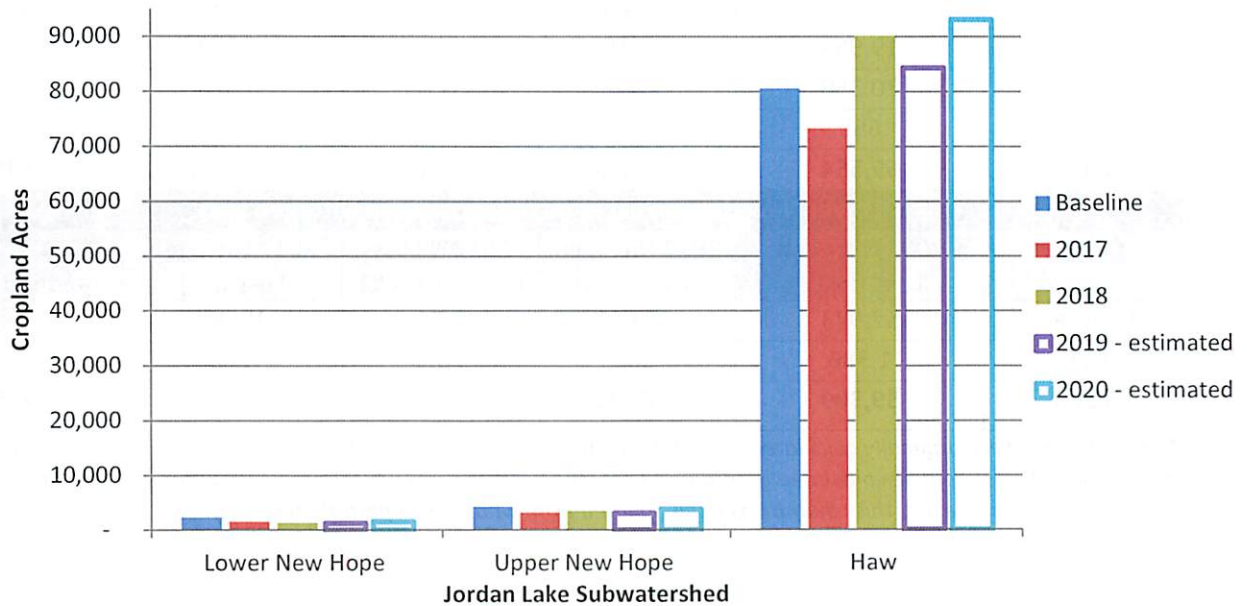


\*NASS discontinued reporting annual hay and tobacco acres starting in 2019. The hay and tobacco acreage graphed as estimated for 2019 and 2020 is the 2018 reported acreage.

## Land Use Change to Development and Cropland Conversion

Cropland acres fluctuate every year due to cropland conversion and development. Each year, some cropland is permanently lost to development and some is converted to grass or trees and likely to be ultimately lost from agricultural production. Agricultural acres lost permanently to development are also not reported due to the varying accounting methodologies counties and municipalities employ in documenting land use changes in their jurisdictions (if such information is collected at all). In addition to development, cropland can be converted to other uses. The WOC tracks the acres of cropland that are converted to grass or trees through state or federal cost share programs. Since the baseline, the following cropland acres in each subwatershed have been converted to grass or trees through state or federal cost share programs: 47 acres in the Lower New Hope subwatershed, none in the Upper New Hope subwatershed and 2,349 acres in the Haw subwatershed. Due to NASS data availability changes for hay and tobacco acreage, total cropland acres in each Jordan Lake subwatershed were not calculated for CY2021. Figure 16 displays the total cropland acres in the watershed in baseline, 2017, 2018, 2019, and 2020. In 2019 and 2020, a merged dataset consisting of NASS data from CY2018 and the respective crop year was used to estimate total cropland acres in the Jordan Lake watershed and its subwatersheds.

**Figure 16. Total Cropland Acres in the Jordan Lake Watershed, Baseline (1997-2001), 2017, 2018, 2019, and 2020\***



*\*For CY2019 and CY2020, a merged dataset was used that consisted of CY2018 acres for hay and tobacco and current crop year acreages for all other crops reported by USDA NASS.*

## Pasture Accounting

Pasture nitrogen loss is also calculated using NLEW and is based on the total number of pasture acres, pastured livestock, and implemented livestock exclusion systems in the watershed. Reported pasture acreage and livestock totals are collected every 5 years from the USDA Census of Agriculture, and implementation data for exclusion systems is collected from local Soil and Water Conservation District staff in the watershed. Because of this reporting cycle the next pasture-based nitrogen loss calculation will be included in a future report when the 2022 Census of Agriculture is published. In CY2017, the Upper New Hope subwatershed reported a 54% nitrogen loss reduction from baseline, the Lower New Hope subwatershed reported a 73% nitrogen loss reduction from baseline, and the Haw subwatershed reported a 49% nitrogen loss reduction from baseline. For pasture accounting, 2002 was chosen as the baseline year because the closest possible Census of Agriculture was collected and published based on 2002 data. Table 3 lists each county's baseline, CY2012 and CY2017 nitrogen (lbs/yr) loss values from pastureland, along with nitrogen loss percent reductions from the baseline in CY2012 and CY2017. For CY2017, all three subwatersheds have exceeded their mandated goals.

**Table 3. Estimated reductions in pasture land nitrogen loss from baseline (CY1997-CY2002) for CY2012 and CY2017, Jordan Lake Watershed**

Upper New Hope: Goal of 35% Nitrogen Loss Reduction					
County	Baseline Nitrogen Loss (lbs) †	2012 Nitrogen Loss (lbs)	2012 N Loss Reduction (%)	2017 Nitrogen Loss (lbs)	2017 N Loss Reduction (%)
Chatham	28,977	18,328	37%	15,808	45%
Durham	19,952	8,615	56%	6,352	68%
Orange	20,350	9,892	51%	9,520	53%
Wake	655	261	60%	276	58%
<b>Total</b>	<b>69,554</b>	<b>37,096</b>	<b>47%</b>	<b>31,956</b>	<b>54%</b>
Lower New Hope: Goal of no net increase in Nitrogen Loss					
County	2002 Nitrogen Loss (lbs) †	2012 Nitrogen Loss (lbs)	2012 N Loss Reduction (%)	2017 Nitrogen Loss (lbs)	2017 N Loss Reduction (%)
Chatham	57,923	17,642	70%	15,808	73%
Wake	1,386	332	76%	295	79%
<b>Total</b>	<b>59,309</b>	<b>17,974</b>	<b>70%</b>	<b>16,103</b>	<b>73%</b>

† These figures were originally calculated using total watershed pasture acres. The Pasture Points Committee concluded that nitrogen loss should be calculated according to only the pasture acres which remain unbuffered at the time of each data collection. As a result, this column has been updated from what was reported previously.

Table 3 continued. Estimated reductions in pastureland nitrogen loss from baseline (CY1997-CY2002) for CY2012 and CY2017, Jordan Lake Watershed

Haw: Goal of 8% Nitrogen Loss Reduction					
County	2002 Nitrogen Loss (lbs) †	2012 Nitrogen Loss (lbs)	2012 N Loss Reduction (%)	2017 Nitrogen Loss (lbs)	2017 N Loss Reduction (%)
Alamance	201,646	151,357	25%	129,550	36%
Caswell	61,026	27,717	55%	28,513	53%
Chatham	132,263	81,473	38%	68,434	48%
Guilford	211,063	110,495	48%	74,457	65%
Orange	20,313	9,124	55%	8,277	59%
Rockingham	46,637	29,733	36%	33,845	27%
<b>Total</b>	<b>672,948</b>	<b>409,899</b>	<b>39%</b>	<b>343,076</b>	<b>49%</b>

† These figures were originally calculated using total watershed pasture acres. The Pasture Points Committee concluded that nitrogen loss should be calculated according to only the pasture acres which remain unbuffered at the time of each data collection. As a result, this column has been updated from what was reported previously.

The reduction percentages reported above result from a combination of pastureland loss, fertilization decreases, stocking rate changes, and BMP implementation. Table 4 shows how these factors have changed in the Jordan Lake watershed since the 2002 baseline.

Table 4. Pasture operation changes from baseline (CY2002) for CY2012 and CY2017, Jordan Lake Watershed

Factor	Baseline	2012	2017	2002-2017 % Change
Pasture Land	99,595 acres	83,096 acres	74,478 acres	-25%
Fertilization†	103 lbs N/acre	81 lbs N/acre	80 lbs N/acre	-22%
Stocking Rate	0.58 animal units/acre	0.72 animal units/acre	0.68 animal units/acre	+18%
Livestock Exclusion System Implementation	976 acres	4,224 acres	6,022 acres	+517%

† Total fertilization rate equals direct waste deposition times volatilization factor plus supplemental fertilizer application



## Phosphorus Indicators for CY2018 through CY2021 Since Baseline

The qualitative indicators included in Table 5 show the relative changes in land use and management parameters and their relative effect on phosphorus loss risk in the watershed from the baseline. This approach was recommended by the Phosphorus Technical Advisory Committee (PTAC) in 2005 due to the difficulty of developing an aggregate phosphorus tool parallel to the nitrogen NLEW tool. The PTAC reconvened in April 2010 to make minor revisions for the tool's use in this watershed and the approach was approved for use in the Jordan Lake watershed by the Water Quality Committee of the EMC. This report includes phosphorus indicator data for the baseline period (1997-2001), CY2018, CY2019, CY2020, and CY2021. Most of the parameters indicate less risk of phosphorus loss than in the baseline.

Contributing to the reduced risk of phosphorus loss since baseline is the reduction in the acres of tobacco, the decrease in the amount of animal waste phosphorus, and a movement to 90% conservation tillage on cropland in the watershed.

The soil test phosphorus median number reported for the watershed fluctuates each year due to the nature of how the data is collected and compiled. The soil test phosphorus median numbers shown in Table 5 are generated by using NCDA&CS soil test laboratory results from voluntary soil testing on agricultural land and the data is reported by the NCDA&CS. The number of samples collected each year varies. The data does not include soil tests that were submitted to private laboratories. The soil test results from the NCDA&CS database represent data from entire counties in the watershed and have not been adjusted to include only those samples collected in the Jordan Lake watershed.

### Phosphorus Technical Advisory Committee (PTAC):

The PTAC's overall purpose was to establish a phosphorus accounting method for agriculture in the basin. It determined that a defensible, aggregated, county-scale accounting method for estimating phosphorus losses from agricultural lands was not feasible due to "the complexity of phosphorus behavior and transport within a watershed, the lack of suitable data required to adequately quantify the various mechanisms of phosphorus loss and retention within watersheds of the basin, and the problem with not being able to capture agricultural conditions as they existed in 1991." The PTAC instead developed recommendations for qualitatively tracking relative changes in practices in land use and management related to agricultural activity that either increase or decrease the risk of phosphorus loss from agricultural lands in the basin on an annual basis.

**Table 5. Relative Changes in Land Use and Management Parameters and their Relative Effect on Phosphorus Loss Risk in the Jordan Lake Watershed Since Baseline**

Parameter	Units	Source	Baseline (average 1997-2001)	CY2018	CY2019	CY2020	CY2021	Percent change (baseline to CY2021)	CY2021 P Loss Risk +/-
Reported Cropland (annual)	Acres	NC Ag Statistics	87,077	95,004	88,559 <sup>■</sup>	98,342 <sup>■</sup>	- <sup>▮</sup>	-	-/+
Cropland conversion to Grass & Trees (cumulative)	Acres	USDA-NRCS & NCACSP	1,359	2,266 <sup>**</sup>	2,297 <sup>**</sup>	2,342 <sup>**</sup>	2,396	76%	-
Conservation tillage <sup>4</sup> (10-year window)	Acres	USDA-NRCS & NCACSP	1,997	19,645 <sup>**</sup>	19,645 <sup>**</sup>	2,022 <sup>**†</sup>	2,109 <sup>†</sup>	6%	-
Vegetated buffers (cumulative)	Acres	GIS analysis	54,212	52,861 <sup>**</sup>	52,861 <sup>**</sup>	52,861 <sup>**</sup>	52,880	-2% <sup>‡</sup>	+
Tobacco acres (annual)	Acres	USDA-NRCS & NCACSP	7,667	4,302	- <sup>§</sup>	- <sup>§</sup>	- <sup>§</sup>	- <sup>§</sup>	-/+
Scavenger crop (annual)	Acres	USDA-NRCS & NCACSP	0	2895 <sup>**</sup>	2,845 <sup>**</sup>	2,500	3,369	3,369%	-
Animal waste P (annual)	lbs of P/ yr	NC Ag Statistics	7,310,274 <sup>***</sup>	4,539,692 <sup>**</sup>	4,670,020 <sup>**</sup>	4,799,688 <sup>**</sup>	4,751,444	-35%	-
Soil test P median (annual)	P-Index	NCDA & CS	72	64	71	78	74	3%	+

■ CY2019 and CY2020 reported cropland approximates hay and tobacco acreage at CY2018 levels.

▮ Total cropland was not reported for CY2021 given hay and tobacco acreage data availability changes. See the 'Scope of Report and Methodology' section for details.

† Contracted conservation tillage acres are notably lower than CY2019 data. Older contracts implemented at the start of annual reporting have since expired; however, conservation tillage continues to be widely used (see footnote 4).

‡ Total acres of buffers have slightly decreased. Additional agricultural land in the Jordan Lake watershed may be buffered as a result of Division of Mitigation Services activities in the watershed, which cannot be included in this report for nutrient reduction credit.

§ Tobacco acreage was last reported by NASS in 2018. Tobacco acreage declined in North Carolina since the phase out of the Federal Tobacco Quota Program and enactment of the Fair and Equitable Tobacco Reform Act in 2004. The Jordan Lake watershed is not an exception to this statewide trend and has seen a decline in tobacco acreage grown since baseline.

\*\* Values were updated from prior reporting to incorporate updated data from USDA NASS or to fix spreadsheet errors.

\*\*\* Animal waste P baseline was updated. The number of animals instead of total lbs of P generated for layers had previously been included in the baseline calculation. Additionally, total lbs of P generated by animals for baseline had been previously only for the year of 1997 instead of averaged between 1997 and 2001.

<sup>4</sup> Conservation tillage is being practiced on additional acres but this number only reflects acres under active cost share contracts, not acres where farmers have adopted the use of conservation tillage without cost share assistance. An estimated 93% of producers are practicing conservation tillage on cropland in the Jordan Lake watershed. Source: O'Connell, C. and D.L. Osmond. 2018. *Carolina Dreamin': A case for understanding farmers' decision-making and hybrid agri-environmental governance initiatives in agricultural communities as complex assemblages in Agri-environmental Governance as an Assemblage: Multiplicity, Power, and Transformation*. Editors: Jérémie Forney, Hugh Campbell, Chris Rosin. Rutledge Press.

The WOC finds that the decreased risk of P loss from baseline is associated with the following three important parameters:

- continued high adoption of conservation tillage;
- decrease in animal waste phosphorus; and
- decrease in tobacco acreage.

A 35% reduction in animal waste phosphorus is due primarily to an overall reduction in watershed animal numbers, including a past closure of a large poultry processing plant in Siler City, which temporarily decreased the demand for broilers in the region and resulted in a significant downturn in production. That plant reopened in 2019 and is currently operating at their 250,000 broilers per day production capacity. The WOC expects local producers to meet increased demand incrementally, which could increase animal waste phosphorus produced annually. A substantial increase in animal waste phosphorus produced annually would have to occur to increase phosphorus loss risk from baseline (1997 – 2001) for the animal waste phosphorus category tracked in Table 5. From baseline (average of animal counts from 1997 to 2001) to CY2021, the Jordan Lake watershed has seen a decline of 7.5 million broilers, 13,281 swine, and 14,565 cattle. Over that same time period, the number of inventoried layers and pullets has increased by roughly 351,480. In addition, the permanent closure of many dairy operations in the watershed have also contributed to reduced animal waste phosphorus.

Most poultry operations are deemed permitted in North Carolina. Operations that are deemed permitted have: (1) fewer animals than the state requires to obtain a state permit or (2) have a waste management system that does not require a state or federal permit. Most poultry operations have dry-litter poultry waste management systems and do not require any additional state or federal permits. Owners or operators of dry-litter poultry waste facilities are, however, required to adhere to rules set forth under 15A NCAC 02T .1303 (Permitting by Regulation) and General Statute 143-215.10C, which include minimum stream setbacks, land application rates, soil analysis, and recordkeeping requirements. Because specific information about the location, number of animals, amount of dry-litter poultry waste produced and fields on which the dry-litter poultry waste is applied is unknown, the extent of potential impacts to water quality due to nutrient contributions from dry-litter poultry waste is difficult to assess.

Relative to CY2021 and the baseline, the WOC recommends that no additional management actions be required of agricultural operations in the watershed based on available data at this time to comply with the phosphorus goals of the agriculture rule. The WOC will continue to track and report the identified set of qualitative phosphorus indicators to the Division of Water Resources (DWR) annually, and to bring any concerns raised by the results of this effort to the DWR's attention as they arise, along with recommendations for any appropriate action. The WOC expects that BMP implementation may continue to increase throughout the watershed in future years, and notes that BMPs installed for nitrogen and sediment control often provide significant phosphorus benefits as well.

Due to the number of permitted human biosolids application fields in the piedmont, the Jordan Lake Watershed Oversight Committee also initially recommended adding tracking of the annual application of biosolids, but ultimately removed this element from the tracking methodology due to lack of readily accessible biosolids data. Since then, human biosolids applicators have begun submitting annual reports electronically to DEQ in a digital Portable Document Format (PDF) and that data is being manually entered into a DEQ database. However, the data are not complete nor in a useable format. To improve nutrient management strategies that are part of the residuals (human biosolids) application program, the WOC recommends DEQ provide rate, nutrient content, and spatial application information for permitted biosolids application data in a usable format for incorporation in future reporting.

## BMP Implementation Not Tracked by NLEW

Not all types of nutrient- and sediment-reducing best management practices (BMPs) are tracked by NLEW. Other BMPs include: livestock-related nitrogen and phosphorus reducing BMPs, BMPs that reduce soil and phosphorus loss, and BMPs that do not have enough scientific research to support estimating a nitrogen benefit. The WOC believes it is worthwhile to recognize these practices because overall conservation practice implementation gives a comprehensive picture of the work that is being done on agricultural land in the watershed. Table 6 identifies these BMPs and tracks their implementation in the watershed since the end of the baseline period.

**Table 6. Best management practices installed from 2002 to 2021, Jordan Lake Watershed\***

Conservation Practice	Units	2002-2021 (cumulative)	2011-2021 (active contracts – 10-year rolling window)
Ag road repair-stabilization	feet	3,207	327
Agricultural pond restoration/repair	units	26	9
Closure-waste impoundments	units	21	4
Conservation cover	acres	862	77
Constructed wetland	acres	2	0
Critical area planting	acres	87	22
Cropland conversion - grass	acres	1,305	335
Cropland conversion - trees	acres	1,092	239
Diversion	feet	5,412	340
Fencing (USDA programs)	feet	80,587	73,846
Field border	acres	164	25
Filter strip	acres	0.4	0
Grassed waterway	acres	314	25
Habitat management	acres	332	35
Nutrient management	acres	5,448	338
Nutrient management plan	no.	30	1
Pasture renovation	acres	3,325	503
Pastureland conversion to trees	acres	31	0
Pond	no.	2	1
Prescribed grazing	acres	7,044	3,692
Sediment control basin	units	2	0
Sod-based rotation	acres	11,272	1,593
Streambank and shoreline protection	feet	18,816	1,911
Terrace	feet	20,409	0

\* Additional BMPs may exist in the watershed as producers may maintain practices after the life of a cost share contract, and other practices are installed by farmers without cost share assistance.

## Looking Forward

### WOC recognizes the dynamic nature of agricultural business:

- Urban encroachment (e.g., crop selection and production shifts as fields become smaller)
- Age of farmer (e.g., as retirement approaches farmers may move from row crops to livestock)
- Changes in the world economies, energy or trade policies
- Changes in government programs (e.g., commodity support, crop insurance or environmental regulations)
- Weather (e.g., long periods of drought or rain)
- Scientific advances in agronomics (e.g., production of new types of crops or improvements in crop sustainability)
- Plant disease or pest problems (e.g., viruses or foreign pests).

The Jordan Lake WOC will continue to improve rule implementation, relying heavily on the local soil and water conservation districts working directly with farmers to assist with best management practice design and installation.

Because cropping shifts are susceptible to various pressures, the WOC continues to encourage BMP implementation on both cropland and pastureland that provides for a lasting reduction in nitrogen and phosphorus loss in the watershed while monitoring cropping changes. Previously, members of the Falls and Jordan Lake WOCs worked with DWR on issues regarding nutrient offsets that arise from trades involving agricultural land. The WOC will continue to stay engaged if additional offset work involving agriculture land occurs in the watershed.

The WOC supports and recommends additional research on accounting procedures for pasture operations. Similarly, the WOC supports DWR efforts to

provide information on human biosolids applications on agricultural acres in a usable format. When such data becomes available, the WOC will consider whether separate accounting for human biosolids nutrient applications is feasible and appropriate.

Funding for technical assistance and BMP implementation is necessary to successfully reach and maintain agricultural nutrient reduction goals. In 2001, grants from several sources funded a total of two watershed technicians and two basin coordinators to work within the Jordan Lake watershed. The technicians' primary responsibility was to assist farmers with BMP implementation and to support existing county staff to expedite the installation of nutrient reducing BMPs in the basin. On June 30, 2015 the last technician funding was expended, and technician funding is no longer eligible for grant awards by funding entities in the state. Concurrent budget changes at the USDA in the early to mid-2000s also resulted in statewide restructuring of North Carolina NRCS field staff and led to a reduction in federally-funded technical capacity at the local level. Therefore, less technical assistance for BMP implementation is available and ongoing responsibility for conservation practice planning and installation now largely depends on local staff with other duties and escalating workload and capacity demands.

Sufficient funding is also necessary for data collection and reporting activities to track the agriculture community's progress in meeting nutrient reduction goals. Technicians and basin coordinators previously supported by grant funds used to assist with reporting requirements for the Neuse and Tar-Pamlico Agriculture Rules. At present, there is no funding for a specific Jordan Lake watershed coordinator. In addition to other duties, the Nonpoint Source Planning Coordinator position within the NCDA&CS Division of Soil and Water Conservation funded by EPA 319(h) funds has been assigned the agriculture data collection, compilation and reporting duties for all basins and watersheds under Nutrient Sensitive Waters Agriculture Rules. Because most district staff have neither the time nor financial resources to synthesize county level

data with watershed technician and coordinator funding eliminated, a more centralized approach to annual reporting data collection and verification through GIS analysis or other tools is necessary. Automating data collection and verification may come at the expense of local knowledge. Annual agricultural reporting is required by the rules; therefore, continued funding for the Division's only remaining nutrient coordinator position is essential for compliance.

Previously, funding was available for research on conservation practice effectiveness, realistic yields, and nitrogen use efficiencies. Due to grant eligibility changes and other funding constraints, it is unlikely that new data will be developed. Prior funding sources for such research, which provided much of the scientific information on which NLEW was based, are no longer available. Should new funding be made available, additional North Carolina-specific research information could be incorporated into future NLEW updates.

Phosphorus accounting and reporting will continue to address qualitative factors and evaluate trends in agricultural phosphorus loss annually. Periodic land use surveys with associated use of the Phosphorus Loss Assessment Tool (PLAT) are needed every five years, but it is unlikely that funding will be available for this activity. Additionally, understanding of agricultural phosphorus management could be improved through in-stream monitoring, which is also contingent upon the availability of funding and staff resources.

In upcoming years, the WOC anticipates engaging with other watershed stakeholders in discussions on watershed-scale priorities and the potential establishment of a "One Water" framework for incentivizing work in and around the Jordan Lake watershed to promote pollutant reduction alongside economic development and community resilience. The "One Water" integrated watershed management movement in the Jordan Lake watershed is led by Jordan Lake One Water, a stakeholder coalition working in partnership to build watershed-wide consensus on how to address issues impacting water resources.

## Conclusion

The Jordan Lake WOC will continue to monitor and evaluate crop trends. The current shift to and from crops with higher nitrogen requirements may continue to influence the yearly reduction. Significant progress has been made in agricultural nitrogen loss reduction to achieve reduction goals; however, the measurable effects of BMPs on overall in-stream nitrogen reduction may take years to develop due to the nature of non-point source pollution. Nitrogen reduction values presented in this annual summary of agricultural reductions reflect "edge-of-management unit" calculations that contribute to achieving the nitrogen loss reduction goals. Significant quantities of agricultural BMPs have been installed since the adoption and implementation of the nutrient management strategy, and agriculture continues to fulfill its responsibilities toward achieving the overall nutrient reduction goals in the Jordan Lake watershed.



**Currituck County**

Soil & Stormwater  
Post Office Box 70  
Currituck, North Carolina 27929  
252-232-3360  
FAX 252-232-3026

4/28/23

John Langdon, Chairman  
NC Soil and Water Conservation Commission  
1614 Mail Service Center  
Raleigh NC, 27699-1614

Subject: Diana Settles Post Approval, Contract 27-2023-501

Dear Chairman Langdon:

The Currituck District is requesting the Soil and Water Conservation Commission's consideration of a post approval for the Diana Settles Riparian Buffer and Critical Area Planting contract, number 27-2023-501. This post approval is a result of a misunderstanding of the notification to Currituck regarding the allocation of funds and Board approval of the Application and Agreement being mistaken for contract approval by district staff. The Cooperator had been working with a plant nursery grower and installer to get the plant material in the ground during the appropriate spring growing season. She provided a plan of her plantings along with maps and photographs to the district for her project. She received notification that she could begin the work and began implementing the project immediately after receiving word that the contract was approved.

The Currituck District is now aware of Division and Commission contractual processes and obligations and pledge to follow all guidelines in the future.

Sincerely,

A handwritten signature in cursive script that reads "Manly West".

Manly West  
Chairman, Currituck Soil and Water Conservation District

## ATTACHMENT 15B

### Post Approval for Conservation Reserve Enhancement Program Contract 74-2023-300

District	Cooperator	Contract	Amount	BMP	ACRES
PITT	SLM Farms Inc.	74-2023-300	\$4,343	Cropland Conversion - Trees	10.75

Pitt Soil and Water Conservation District (SWCD) is requesting post approval for contract 74-2023-300 to provide cost share funds to SLM Farms Inc. for a Cropland Conversion - Trees BMP as part of a Conservation Reserve Enhancement Program (CREP) contract. Site preparation activities and tree planting were completed, in accordance with plans and specifications, prior to the district creating a cost share contract for this project. The cooperator worked with Pitt FSA to create the Conservation Reserve Program (CRP) and CREP contracts. The cooperator began work on the project after receiving approval of their CRP contract from FSA. Pitt staff was not made aware of the CREP contract by FSA or CREP staff until site preparation and tree planting had already been completed. Pitt SWCD has since created cost share contract 74-2023-300 to pay for a portion of the implemented practices.

The need for a post approval for this contract is in no way the fault of the cooperator or the Pitt SWCD. The confusion with this contract resulted from a lack of communication and coordination from FSA and CREP staff with Pitt district staff.

**Division staff is recommending a post approval for contract 74-2023-300.**