



# NORTH CAROLINA SOIL & WATER CONSERVATION COMMISSION MEETING MINUTES November 28, 2012

Comfort Suites Riverfront Park  
218 East Front Street  
New Bern, NC 28560

| Commission Members | Others Present   |                 |
|--------------------|------------------|-----------------|
| Vicky Porter       | Pat Harris       | Kelly Ibrahim   |
| Craig Frazier      | David Williams   | Ralston James   |
| Bobby Stanley      | Dick Fowler      | Tom Jones       |
| Donald Heath       | Robert Baldwin   | Chester Lowder  |
| Tommy Houser       | Charles Bass     | Ricky May       |
| Charles Hughes     | Steve Bennett    | Ken Parks       |
| Bill Yarborough    | Gretchen Davis   | Eric Pare       |
|                    | Sam Davis        | Tommy Porter    |
|                    | Tom Ellis        | Sandra Weitzel  |
| Commission Counsel | Lisa Fine        | Natalie Woolard |
| Jennie Hauser      | Kristina Fischer |                 |
|                    | Dewitt Hardee    |                 |
| Guest              | Pam Hawkins      |                 |
|                    | Julie Henshaw    |                 |

Chairwoman Vicky Porter called the meeting to order at 8:00 a.m. and charged the Commission members 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 Craig Frazier noted a conflict of interest in item 8A for Randolph SWCD, and Commissioner Bobby Stanley noted a conflict of interest in item 8A for Columbus SWCD.

Chairwoman Porter publicly thanked Commissioner Troxler for his visit to the Heath Farm; Mr. and Mrs. Bill Mclawhorn, East Coast John Deere and Mr. David Heath for their presentations; Commissioner Donald Heath and Mrs. Vicki Heath for their hospitality; Mr. Andy Metts, Mr. Keith Metts, Mrs. Pam Hawkins, Ms. Caroline Sisley and Mr. Patrick Baker for transportation and hospitality. She also thanked the division staff for their effort in organizing a well planned two day event.

**APPROVAL OF AGENDA:** Chairwoman Porter noted that items 5 (NRCS report) and 7B (Technical specialist designation) were removed from the agenda. Commissioner Craig Frazier made a motion to approve the agenda as modified. The motion was seconded by Commissioner Bobby Stanley. Motion carried.

**APPROVAL OF MINUTES:** The minutes of the Commission meeting held on September 19, 2012 were presented. A motion to approve the minutes was made by Commissioner Craig Frazier and seconded by Commissioner Bobby Stanley. Motion carried.

#### **IV. INFORMATION ITEMS**

**3. Division Report:** Mrs. Patricia Harris, Director, NC Division of Soil and Water Conservation, presented the division report. Her presentation included the following:

- Excess hotel rate of \$79 will be honored for commission members for this meeting.
- The division was in process of creating a new listserv for districts only and will include day-to-day district business. Commission members will also be subscribed to this listserv.
- Mrs. Harris publicly thanked Commissioner Troxler for his support and participation in the commission's Craven county tour.

**4. Association Report:** Commissioner Donald Heath, NC Association of Soil & Water Conservation District President (NCASWCD), and Mr. Dick Fowler, NCASWCD Executive Director, presented a brief overview on the following:

- The 2013 Outstanding Conservation Farm Family state winner is P&S Farms in Robeson County
- The Market Based Conservation Initiative's Military Training Route (MTR) project agreement between the NAVY and the NC Foundation for Soil and Water Conservation (foundation) was signed on September 21, 2012. This voluntary incentive-based program utilizes a reverse auction bid process to give landowners the opportunity to enroll parcels, located under the MTR, into the program for annual payments. The landowners agree to keep the land in agriculture or forestry use, and not to build structures over a certain height and to allow no artificial lighting directed upward. Mr. Fowler noted that the first phase counties of Johnston, Harnett, Sampson, and Lenoir have voted to sign the agreement between the local district and the foundation. The Duplin County Commission will meet in early December and is expected to sign the agreement at that time. Mr. Fowler announced that the foundation hired Mr. Tom Potter as project manager to market the program and work with local districts. Mr. Potter has nonprofit and innovative program delivery experience including serving as former division CREP manager.
- 2013 NCASWCD Annual Meeting is scheduled for January 6-8, 2013 at the Sheraton Imperial Hotel and Convention Center in Durham, NC.
- The UNC School of Government's *Basic Training Course for Soil & Water Conservation Supervisors* is scheduled for February 19-20, 2013 in Chapel Hill, NC.
- National Association of Conservation Districts (NACD) National Meeting is scheduled for January 27-30, 2013 in San Antonio, TX.

Attachment 4 is made an official part of the minutes.

**5. NRCS Report:** Mrs. Harris presented an update on behalf of Greg Walker, Acting State Conservationist. She reported that Mr. J. B. Martin accepted a job in Fort Worth, Texas. Mr. Terrence Rudolph will start as acting NC State Conservationist on Monday, December 3, 2012. Mr. Rudolph is currently serving as an Assistant for Field Operations in Tennessee. The NRCS report also included the following:

- Sign-up for 2013 Environment Quality Improvement Program (EQIP) is on-going. General EQIP will have a single batching date of February 15, 2013.
- National Initiatives (within EQIP), Seasonal High Tunnel, Organic, and On-Farm Energy will have multiple batching dates of January 18, February 15, March 15, and April 15.
- EQIP Forestry and Long Leaf Pine Initiatives will batch just as the National Initiatives. No funding level has been communicated to the States at this time.
- Conservation Stewardship Program sign-up is also on-going but the agency cannot act on applications until further authorization from Congress.
- Farm and Ranch Land Protection Program (FRPP) – Applications are due February 15, 2013. Request for proposals will be posted on the North Carolina NRCS website in December. Matching funds will continue to limit enrollments.
- Wetlands Reserve Protection (WRP) – NRCS does not have authority to enroll additional acres, applications will not be accepted. Restoration of existing easements will continue to be the focus.
- NRCS thanked the conservation partners for their hard work in 2012. It was noted that NRCS will be dealing with many retirements in FY 2013.

**6. Neuse and Tar-Pamlico Annual Agriculture Reports:** Mr. Tom Jones, Neuse/ Tar-Pamlico Basin Coordinator presented a brief overview of the following:

- Nutrient Reduction Strategy
- NLEW – Nitrogen Loss Estimation Worksheet
- Graphics showing 30% reduction goals on NLEW
- Changes in buffer width options and nitrogen reduction efficiencies in NLEW
- Estimated reductions in agricultural nitrogen loss
- How nitrogen loss reductions were achieved?
- Acreage of major crops
- Phosphorus loss tracking in Tar-Pamlico River Basin
- Changes in land use and management: Relative effect on phosphorus loss risk in Tar-Pamlico
- Average annual nitrogen fertilization rate for crops
- Total cropland acres

Comments from Commission Members:

- ❖ Chairwoman Porter asked if the public had any knowledge of the excellent work provided in the presentation.
- ❖ Mr. Jones and Mrs. Julie Henshaw noted that because the water quality data is not showing great improvement in the estuary, claiming success is premature.
- ❖ Mrs. Henshaw also noted that this information had also been presented to the Water Quality Committee and Environmental Management Commission.

The PowerPoint presentation for item 6 is attached and is an official part of the minutes.

**V. ACTION ITEMS:** Commissioner Craig Frazier made a motion to approve the consent agenda. The motion was seconded by Commissioner Donald Heath and it passed unanimously.

## **7. Consent Agenda**

### **A. Supervisor Contracts**

| Contract No. | District  | Supervisor Name         | Practice(s)                           | Contract Amount |
|--------------|-----------|-------------------------|---------------------------------------|-----------------|
| 05-2013-002  | Anson     | Larry J. Bare           | Stream Protection System              | \$20,712        |
| 08-2013-001  | Bertie    | S. Pate Pierce          | Cover Crop                            | \$7,534         |
| 27-2013-001  | Currituck | Manly M. West           | Land Smoothing                        | \$10,967        |
| 32-2013-007  | Durham    | Talmage Layton          | Heavy Use Area                        | \$4,377         |
| 46-2013-002  | Hertford  | S. Pate Pierce          | Cover Crop                            | \$7,500         |
| 52-2013-001  | Jones     | Robert H Davenport, Jr. | Critical Area Planting & Field Border | \$1,345         |
| 90-2013-324  | Union     | James Kenneth Mills     | Waste Application System              | \$10,500        |
| 90-2013-325  | Union     | Kelvin Baucom           | Waste Application System              | \$10,500        |
| 90-2013-326  | Union     | Robert S. Brooks, Jr.   | Waste Application System              | \$10,500        |
| 92-2013-008  | Wake      | Thomas R. Dean          | Cropland Conversion to Trees          | \$2,531         |

**B. Technical Specialist Designation**

**C. Job Approval Authority:**

Dennis Wiles; Yadkin SWCD Technician; Water Needs Assessment

**8. Nomination of Supervisors:** Chairwoman Porter noted that Commissioner Frazier and Commissioner Stanley were recusing themselves from voting on their respective reappointments. Mrs. Harris presented the supervisor appointment and reappointment recommendations from the districts. She noted that a few districts were highlighted due to lack of information, etc. as noted in last column of the spreadsheet in attachment 8A, dated November 26, 2012.

- Commissioner Charles Hughes made a motion to approve the first two pages of attachment 8A as presented and excluding recommendations from the Carteret and Stanly districts. The motion was seconded by Commissioner Tommy Houser.
- Commissioner Craig Frazier offered a motion to amended the motion to conditionally approve Carteret and Stanly district recommendations pending receipt of the original signatures on the appointment forms. The motion to amend was seconded by Commissioner Bill Yarborough. Motion to amend carried. The amended motion also carried.
- Columbus district recommendation for reappointment of Commissioner Bobby Stanley: Commissioner Bill Yarborough made a motion to approve the reappointment of Commissioner Stanley to the Columbus SWCD board. The motion was seconded by Commissioner Tommy Houser. Motion carried. Commissioner Bobby Stanley recused himself from voting on this item.
- Randolph district recommendation for reappointment of Commissioner Craig Frazier: Commissioner Donald Heath made a motion to approve the reappointment of Commissioner Frazier to the Randolph SWCD board. The motion was seconded by Commissioner Charles Hughes. Motion carried. Commissioner Craig Frazier recused himself from voting on this item.
- District recommendations for reappointment who have not attended School of Government's *Basic Training Course for Soil & Water Conservation Supervisors* as required by commission policy - Mrs. Harris relayed that the following previously appointed supervisors have not attended the required training but both have agreed to attend the 2013 training:
  - Mr. Terry English, McDowell SWCD and
  - Mr. Henry T. Fowler, Jackson SWCD

- Commissioner Bill Yarborough made a motion to approve the reappointment of Mr. English and Mr. Fowler. The motion was seconded by Commissioner Craig Frazier. Motion carried.
- District recommendations for reappointment who have not attended 2/3 of regularly scheduled district meetings as required by commission policy - Mrs. Harris relayed that four previously appointed supervisors had attendance records that fell below the required 2/3 attendance policy. Based on the justifications for low attendance, Mrs. Harris recommended the following for reappointment:
  - Mr. Albert Madren, Alamance SWCD;
  - Dr. Curtis John Richardson, Durham SWCD;
  - Mr. Jeremy P. Fox, Madison SWCD; and
  - Mr. Trent A. Talbert, Pender SWCD.
- Commissioner Donald Heath made a motion to approve the reappointment of Mr. Madren, Dr. Richardson, Mr. Fox, and Mr. Talbert. The motion was seconded by Commissioner Bobby Stanley. Motion carried.
- Mrs. Harris presented the following district recommendations for supervisor appointment to fill unexpired terms:
  - Mr. Jeff Cornwall, Cleveland SWCD;
  - Mr. Patrick Johnson, Wake SWCD; and
  - Ms. Gerda Rhodes, Washington SWCD.
- Commissioner Craig Frazier made a motion to approve the appointment of Mr. Cornwall, Mr. Johnson and Ms. Rhodes. The motion was seconded by Commissioner Charles Hughes. Motion carried.
- Mrs. Harris presented attachment 8B as an informational item regarding re-elected and newly elected supervisors.
- Mrs. Harris thanked Mrs. Kristina Fischer for creating the template to compile the spreadsheet. She also thanked the other area coordinators for submitting the information from their respective Districts.

Attachments 8A and 8B have been made official parts of the minutes.

**9. AgWRAP Recommendations:** Mrs. Julie Henshaw, Non Point Source Section Chief, presented a brief overview of the following:

**A. Methodology of Evaluation Watershed Language**

- AgWRAP pond applications closed on November 16, 2012. Mrs. Henshaw noted that the Division received 28 applications from 15 Districts. A detailed breakdown on the specifics of the applications and costs were discussed.
- Item 9A – Two types of maps were presented for consideration. One map showed all of the water supply watersheds, statewide (the blue map), and the other map showed only the critical area associated with water supply watershed (the orange map).
- Commissioner Craig Frazier made a motion to approve the blue map from item 9A. The motion was seconded by Commissioner Bill Yarborough. Motion carried.
- Commission members asked clarifying questions on the relative weight of the water supply watershed parameter, and they asked for information on the progress report from last year.
- Mrs. Henshaw deferred a response on the ranking parameters until she could research the answer. Mrs. Henshaw, later in the meeting, noted that the water supply watershed parameter contributed 30 out of a possible 130 points on the pond ranking.

- With reference to the progress report she noted that pond contracts in Pasquotank County and Perquimans County have been completed and paid. She added that several other projects from other counties were underway but not completed.
- Mrs. Natalie Woolard, Technical Services Section Chief informed the Commission that they have hired temporary employees to help with the engineering workload for AgWRAP and CCAP .

The handout provided for item 9 has been made an official part of the minutes.

**10. Poultry mortality BMP Application Period:** Mrs. Kelly Ibrahim, Ag. Cost Share Manager presented this item.

- Commissioner Bill Yarborough made a motion to approve the poultry mortality BMP application period with the revision to include an explanation of what qualifies as “innovative”. The motion was seconded by Commissioner Craig Frazier. Motion carried.

The handout provided for item 10 has been made an official part of the minutes.

**11. Cost Share Committee Recommendations:** Mrs. Julie Henshaw presented this item on revising cost share program manuals.

**A. District Boards’ Responsibility in Technical and Financial Assistance Distribution**

- Commissioner Craig Frazier made a motion to approve the District Boards’ responsibility in technical and financial assistance distribution. The motion was seconded by Commissioner Bobby Stanley. Motion carried.

**B. District Supervisors Requirements for Cost Share Programs**

- Commissioner Craig Frazier made a motion to approve the District Supervisors requirements for Cost Share Programs. The motion was seconded by Commissioner Bill Yarborough. Motion carried.

**C. District Supervisor Use of Cost Share Program Funds**

- Commissioner Craig Frazier made a motion to approve the change in the third bullet of the Guidance section from: “In January 2002 the commission clarified.....district supervisors and commission members”. The motion was seconded by Commissioner Tommy Houser. Motion carried.

**1. Commission Member Addendum**

Commissioner Craig Frazier made a motion to approve the attachment 11C1 with a minor change to remove the word “were”. The question now reads as “Were any higher or equally ranked contracts denied?” The motion was seconded by Commissioner Charles Hughes. Motion carried.

**2. Supervisor Contract Addendum**

Commissioner Craig Frazier made a motion to approve the attachment 11C2 with the same minor change to remove the word “were”. The question now reads as “Were any higher or equally ranked contracts denied?” The motion was seconded by Commissioner Bill Yarborough. Motion carried.

- D. Supervisor Involvement in Spot Checks for Cost Share Program Contracts  
Commissioner Craig Frazier made a motion to approve the attachment 11D. The motion was seconded by Commissioner Charles Hughes. Motion carried.
- E. Commission Advisory to Districts on Secondary Employment  
Commissioner Charles Hughes made a motion to approve the attachment 11E with the addition of a new item f to read,
- “f. Supervisors hiring a district employee from their district in their secondary employment if it creates a conflict of interest or the appearance of conflict of interest.”  
The previous item f was renumbered to item g.

The handout provided for item 11 A-E has been made an official part of the minutes.

**12. Cost Share Issues from Districts:** Mrs. Kelly Ibrahim presented this item.

**A. Post Approval 35-2010-12-13; Franklin SWCD**

- The Franklin SWCD is requesting post approval to a contract to replace expired contract 35-2010-12-13. The district failed to seek extension of that contract prior to its expiration, but the work has been satisfactorily completed.
- Commissioner Craig Frazier made a motion to approve the Cost Share Committee Recommendation for Contract # 35-2010-12-13; Franklin SWCD. The motion was seconded by Commissioner Bobby Stanley. Motion carried.

The handout provided for item 12A has been made an official part of the minutes.

**13. Matching Funds Policy:** Mrs. Harris presented an updated draft policy as attachment 13 that is made an official part of the minutes.

- Commissioner Craig Frazier made a motion to approve the updated matching funds policy. The motion was seconded by Commissioner Charles Hughes. Discussion followed.
- Commissioner Bill Yarborough moved to amend the motion by striking section C from the updated policy. The motion to amend was seconded by Commissioner Craig Frazier. The amendment carried.
- The commission then voted to approve the amended motion. Motion carried.

**14. District Supervisor Mileage, Subsistence & Per Diem Reimbursement Policy:** Mrs. Harris presented an updated draft policy as attachment 14 that is attached and made an official part of the minutes. After some discussion about the need for clarifying language, Commissioner Bill Yarborough made a motion to defer consideration of this policy to the January meeting. The motion was seconded by Commissioner Donald Heath. Motion carried.

**VI. PUBLIC COMMENTS:**

None were noted.

Chairwoman Porter asked the commission, staff and guests to introduce themselves.

**VII. ADJOURNMENT**

With there being no further business, Chairwoman Porter adjourned the meeting at 9:40 a.m. The next commission meeting is scheduled for January 6, 2013 at the Sheraton Imperial Hotel and Convention Center, in Durham, North Carolina.



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Patricia K. Harris, Director  
Division of Soil & Water Conservation, Raleigh, N.C.  
(Sign & Date)



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Daphne Pinto, Recording Secretary  
(Sign & Date)

***These minutes were approved by the North Carolina Soil & Water Conservation Commission on January 6, 2013.***



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Patricia K. Harris, Director  
(Sign & Date)

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

**WORK SESSION**

Comfort Suites Riverfront Park  
218 East Front Street  
New Bern, NC 28560  
November 27, 2012  
**7:30 p.m.**

**BUSINESS SESSION**

Comfort Suites Riverfront Park  
218 East Front Street  
New Bern, NC 28560  
November 28, 2012  
**8:00 a.m.**

**I. CALL TO ORDER**

The State Government Ethics Act mandates that at the beginning of any meeting the Chair remind 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**

November 28, 2012

Welcome

**III. AGENDA / MINUTES**

- |   |                    |
|---|--------------------|
| 1. Approval of agenda                         | Chair Vicky Porter |
| 2. Approval of the September 19, 2012 minutes | Chair Vicky Porter |

**IV. INFORMATIONAL ITEMS**

- |   |                  |
|---|------------------|
| 3. Division report                                  | Ms. Pat Harris   |
| 4. Association report                               | Mr. Donald Heath |
| 5. NRCS report                                      | Mr. JB Martin    |
| 6. Neuse and Tar-Pamlico Annual Agriculture Reports | Mr. Tom Jones    |

**V. ACTION ITEMS**

- |                                     |                     |
|-------------------------------------|---------------------|
| 7. Consent Agenda                   |                     |
| A. Supervisor contracts             | Ms. Kelly Ibrahim   |
| B. Technical specialist designation | Ms. Natalie Woolard |

- C. Job approval authority Ms. Natalie Woolard
- 8. Nomination of Supervisors Ms. Pat Harris
- 9. AgWRAP Recommendations Ms. Julie Henshaw
  - A. Methodology of evaluation watershed language
- 10. Poultry mortality BMP application period Ms. Kelly Ibrahim
- 11. Cost Share Committee recommendations Ms. Julie Henshaw
- 12. Cost Share Issues from Districts Ms. Kelly Ibrahim
  - A. Post approval 35-2010-12-13 Franklin SWCD
- 13. Matching Funds Policy Ms. Pat Harris
- 14. District Supervisor Mileage, Subsistence & Per Diem Reimbursement Policy Ms. Pat Harris

**VI. PUBLIC COMMENTS**

**VII. ADJOURNMENT**

**ASSOCIATION REPORT TO THE COMMISSION**  
**November 28, 2012**

**Outstanding Conservation Farm Family Program** – As reported earlier, the state winner is P&S Farms in Robeson County. The farm is operated by Michael “Bo” Stone with active participation by his wife Missy Stone and parents Bonnie and Tommy Stone. A very successful on-farm celebration was held October 24 with over 150 in attendance to include Agriculture Commissioner Steve Troxler, Farm Bureau President Larry Wooten, and Grange President Jimmy Gentry. Dr. Maurice Cook, retired NCSU soil science professor, gave an outstanding presentation on the history of soil and water conservation to commemorate the 75 anniversary. The Division staff and neighboring SWCDs are to be commended for the support they provided to the celebration. Congratulations go to the Robeson SWCD.

**Market Based Conservation Initiative** – The agreement between the Marines and the Foundation which obligates \$2 million for the first phase of the project was signed on September 21, 2012 at the Farm Bureau office. In addition, the Association has entered into an agreement with the Foundation which spells out the responsibilities of the Association which includes coordinating the initiative with the 18 local SWCDs. Training for the Phase 1 counties which include Johnston, Harnett, Duplin, Sampson, and Lenoir counties was held on October 17 with all five counties participating. The next step is to execute an agreement between each of these phase 1 counties and the Foundation. A tentative time line anticipates landowner workshops in late January or early February with the first bid rounds possibly in March.

**Area Fall Meetings**- The last area fall meeting was held on November 15 and participation has been average for 2012. Attendance through the first five area meetings ranged from a low of 38% of the supervisors participating to a high of 51%.

**2013 Annual Meeting** – Registration is open for the annual meeting at the Sheraton Imperial near Raleigh, January 6-8, 2013. Early registration closes December 1, 2012. After that date, participants must register at the meeting, resulting in an additional registration charge of \$30. An outstanding program is planned with a mixture of tradition and looking into the future. It appears as though there will be one candidate from Area 5 seeking the position of 2<sup>nd</sup> Vice President of the Association. The Association will be assisting with the election of the piedmont Commission seat. As a new initiative this year, Monsanto has donated 100 bags of soybean seed for auction during the annual meeting. Seed will be auctioned in 5 lots of 20 bags per lot and proceeds will benefit the Association's conservation education programs. Contacts have been made with other businesses for donated items for auction but final decisions are pending.

**School of Government Training** -- 2013 training at the UNC School of Government will be held February 19-20, 2013. A large class is expected as 2012 is an election year and is also the anniversary date of appointment for many supervisors. Association Executive Director Dick Fowler is working with staff from the School of Government regarding the training program.

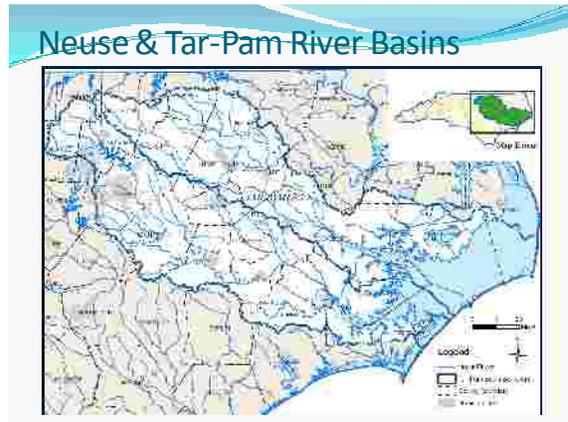
**NACD National Meeting** – The deadline for registration for the 2013 NACD national meeting in San Antonio, Texas is November 30. The meeting will be held January 27-30, 2013. Registration and hotel information can be found on the NACD web page at <http://www.nacdnet.org/events/annualmeeting/index.phtml>.

# Neuse & Tar-Pamlico Basins

Agricultural Nutrient Reduction Strategies

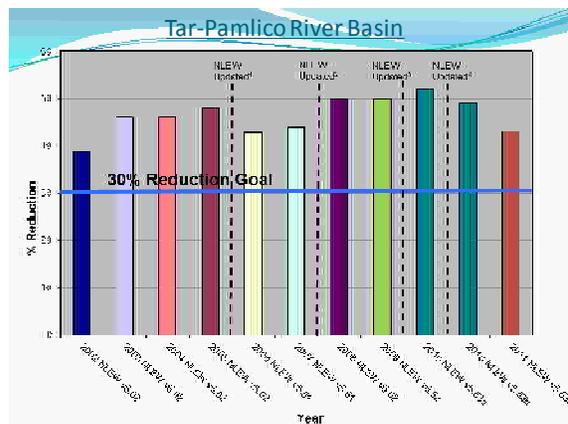
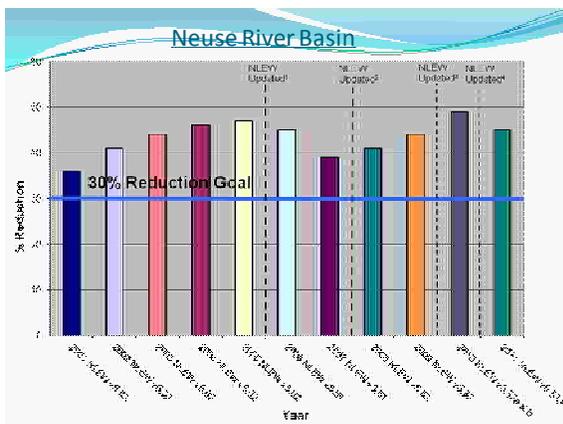
Annual Reports to the Environmental Management Commission

Prepared by the Basin Oversight Committees



- ## Nutrient Reduction Strategy
- Basin Oversight Committees (2)
  - Local Advisory Committees (31)
  - Neuse River Basin (15A NCAC 2B .0238) – adopted 1998
    - 30% reduction of Nitrogen from 1991-1997 baseline
  - Tar-Pamlico River Basin (15A NCAC 2B .0256) – adopted 2001
    - 30% reduction of N from 1991 baseline
    - No net increase of Phosphorus

- ## NLEW – Nitrogen Loss Estimation Worksheet
- Spreadsheet-based model
    - Developed by NCSU, DSWC, DWQ, NRCS
    - Updates that decrease buffer efficiencies
  - Estimates edge-of-field N loss from cropland
    - Compare baseline loss to current crop year
    - Loss determined at the county level
  - Technicians / LACs collect & report data annually
    - Crop acres / crop type / fertilization rates
    - Implement BMPs



### Changes in buffer width options and Nitrogen reduction efficiencies in NLEW

| Buffer Width | NLEW v5.02*<br>% N Reduction | NLEW v5.51<br>% N Reduction | NLEW v5.53b<br>% N Reduction |
|--------------|------------------------------|-----------------------------|------------------------------|
| 20'          | 40% (grass)                  | 30%                         | 20%                          |
| 20'          | 75% (trees & shrubs)         | n/a                         | n/a                          |
| 30'          | 65%                          | 40%                         | 25%                          |
| 50'          | 85%                          | 50%                         | 30%                          |
| 70'          | n/a                          | 55%                         | n/a                          |
| 100'         | n/a                          | 60%                         | 35%                          |

### Estimated Reductions in Agricultural N Loss - Neuse River Basin

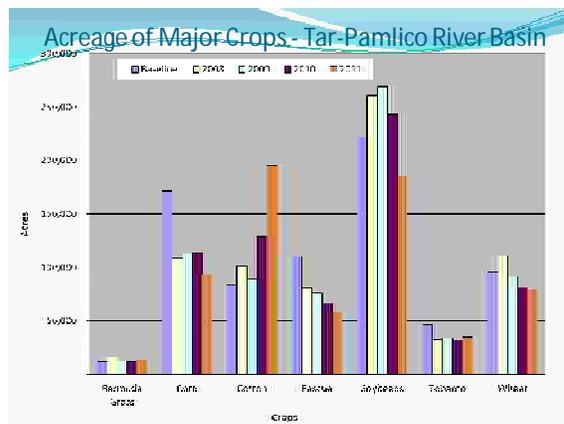
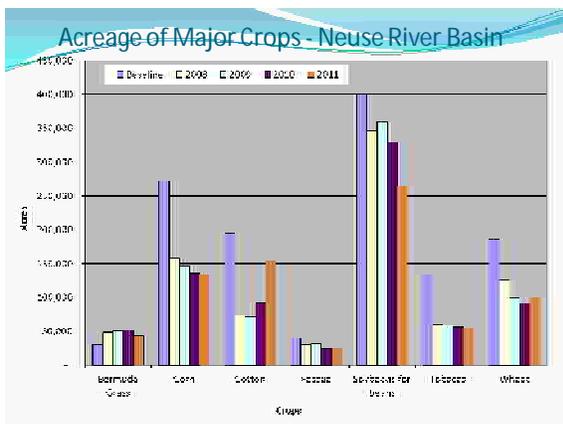
| County       | Baseline N Loss (lb) NLEW | CY2011 N Loss (lb) NLEW | CY2011 N Loss (%) NLEW |
|--------------|---------------------------|-------------------------|------------------------|
| Carteret     | 1,292,556                 | 782,261                 | 39%                    |
| Craven       | 3,938,339                 | 1,990,043               | 49%                    |
| Durham       | 220,309                   | 98,354                  | 55%                    |
| Franklin     | 219,209                   | 69,529                  | 68%                    |
| Granville    | 193,197                   | 81,252                  | 58%                    |
| Greene       | 4,195,637                 | 2,175,880               | 48%                    |
| Johnston     | 6,480,723                 | 3,033,035               | 53%                    |
| Jones        | 3,114,212                 | 1,993,605               | 36%                    |
| Lenoir       | 4,130,061                 | 3,356,248               | 19%                    |
| Nash         | 1,203,439                 | 439,700                 | 63%                    |
| Orange       | 565,454                   | 258,165                 | 54%                    |
| Pamlico      | 2,562,212                 | 1,644,824               | 36%                    |
| Person       | 616,669                   | 303,985                 | 51%                    |
| Pitt         | 3,232,893                 | 1,427,703               | 56%                    |
| Wake         | 1,434,433                 | 452,316                 | 68%                    |
| Wayne        | 7,994,019                 | 4,559,621               | 43%                    |
| Wilson       | 3,275,828                 | 1,908,740               | 42%                    |
| <b>Total</b> | <b>44,890,776</b>         | <b>24,544,438</b>       | <b>45%</b>             |

### Estimated Reductions in Agricultural N Loss - Tar-Pamlico River Basin

| County       | Baseline N Loss (lb) NLEW | CY2011 N Loss (lb) NLEW | CY2011 N Loss (%) NLEW |
|--------------|---------------------------|-------------------------|------------------------|
| Beaufort     | 9,190,250                 | 6,014,967               | 35%                    |
| Edgecombe    | 5,037,628                 | 3,651,075               | 28%                    |
| Franklin     | 2,183,751                 | 798,686                 | 63%                    |
| Granville    | 890,371                   | 449,968                 | 49%                    |
| Halifax      | 2,806,652                 | 2,199,533               | 22%                    |
| Hyde         | 4,975,781                 | 3,289,265               | 34%                    |
| Martin       | 782,152                   | 595,684                 | 24%                    |
| Nash         | 4,963,538                 | 1,547,934               | 69%                    |
| Person       | 153,228                   | 52,799                  | 66%                    |
| Pitt         | 6,147,727                 | 2,646,294               | 57%                    |
| Vance        | 419,485                   | 165,056                 | 61%                    |
| Warren       | 535,517                   | 148,874                 | 72%                    |
| Washington   | 977,801                   | 674,271                 | 31%                    |
| Wilson       | 890,961                   | 545,946                 | 39%                    |
| <b>Total</b> | <b>39,954,842</b>         | <b>22,780,352</b>       | <b>43%</b>             |

### How N loss reductions were achieved

| Practice                          | Neuse CY2011 | Tar-Pamlico CY2011 |
|-----------------------------------|--------------|--------------------|
| BMP implementation                | 8%           | 9%                 |
| Fertilization management          | 14%          | 17%                |
| Cropping shift                    | 11%          | 8%                 |
| Cropland converted to grass/trees | 2%           | 3%                 |
| Cropland lost to idle land        | 4%           | 4%                 |
| Cropland lost to development      | 7%           | 1%                 |
| <b>Total</b>                      | <b>45%</b>   | <b>43%</b>         |



### Phosphorus Loss Tracking - Tar-Pamlico River Basin

- Tar-Pam Ag Rule:
  - No increase in P from baseline year
  - Development of a Phosphorous Loss Accounting Method
- Approved a P accounting method in 2005
  - Qualitatively assess the risk of P loss
  - Indicators characterize changes in land use and management to assess P-loss risk compared against the baseline year (1991)
- 2011 BOC findings - No net increase in P loss risk

### Changes in Land Use and Management: Relative Effect on P Loss Risk - Tar-Pamlico

| Parameter                              | Units          | Source             | 1991       |            |            | 91 - 11 Change | CY2011 P Loss Risk +/- |
|--|----------------|--------------------|------------|------------|------------|----------------|------------------------|
|  |                |                    | Baseline   | CY2010     | CY2011     |                |                        |
| Agricultural land                      | Acres          | FSA                | 807,026    | 731,408    | 721,432    | -11%           | -                      |
| Cropland conversion (to grass & trees) | Acres          | USDA-NRCS & NCACSP | 660        | 31,596     | 31,631     | 4,693%         | -                      |
| CRP / WRP (cumulative)                 | Acres          | USDA-NRCS          | 19,241     | 41,833     | 41,833     | 117%           | -                      |
| Conservation tillage                   | Acres          | USDA-NRCS & NCACSP | 41,415     | 35,946     | 40,612     | -1.94%         | -                      |
| Vegetated buffers (cumulative)         | Acres          | USDA-NRCS & NCACSP | 50,836     | 215,606    | 227,528    | 348%           | -                      |
| Water control structures (cumulative)  | Acres Affected | USDA-NRCS & NCACSP | 52,984     | 82,844     | 84,442     | 59%            | -                      |
| Scavenger crop                         | Acres          | LAC                | 13,272     | 108,888    | 86,283     | 550%           | -                      |
| Animal waste P                         | lbs P/yr       | NC Ag Statistics   | 13,597,734 | 15,202,037 | 16,695,543 | 23%            | +                      |
| Soil test P median                     | mg/kg          | NCDA & CS          | 83         | 86         | 87         | 4.82%          | +                      |

### Looking Forward

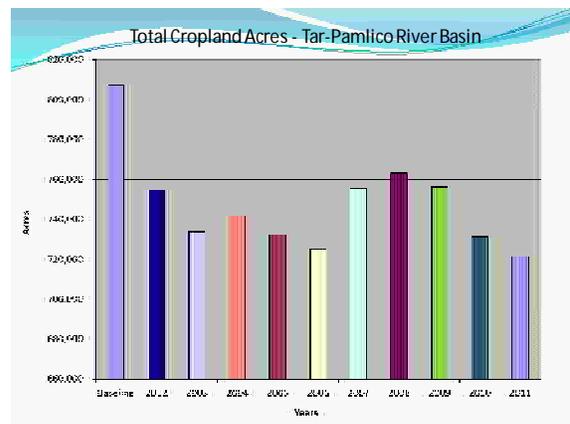
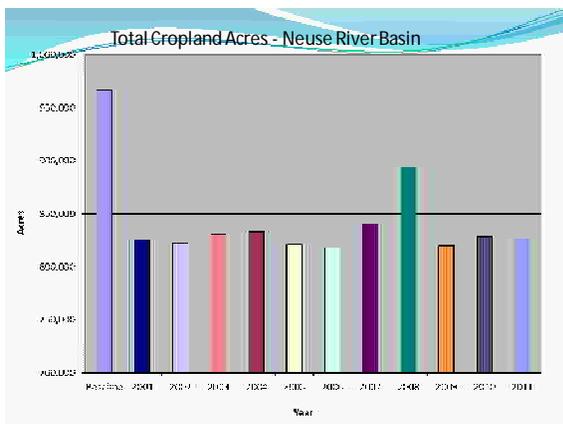
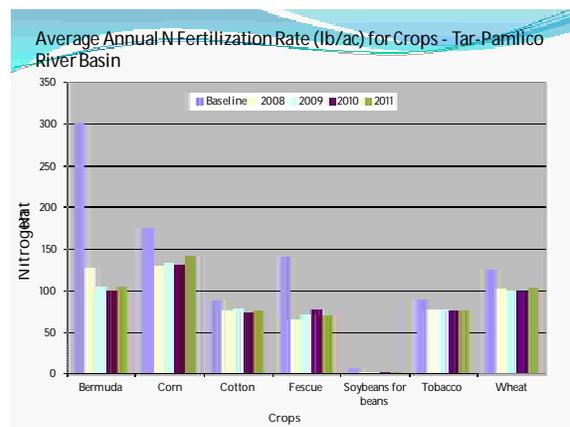
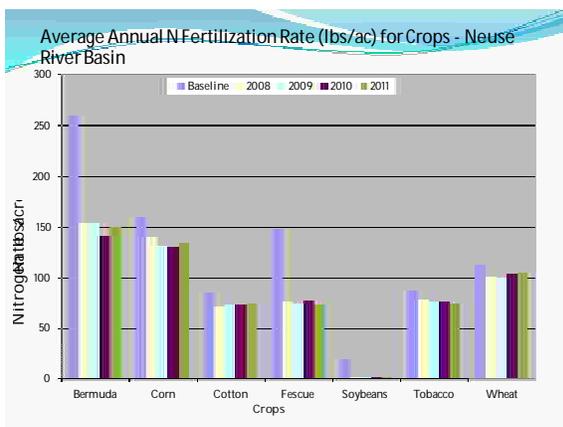
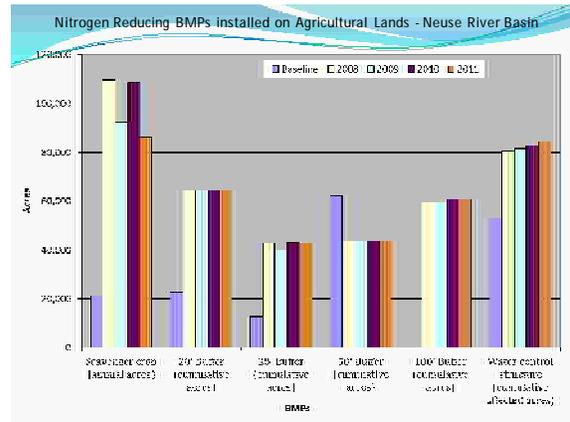
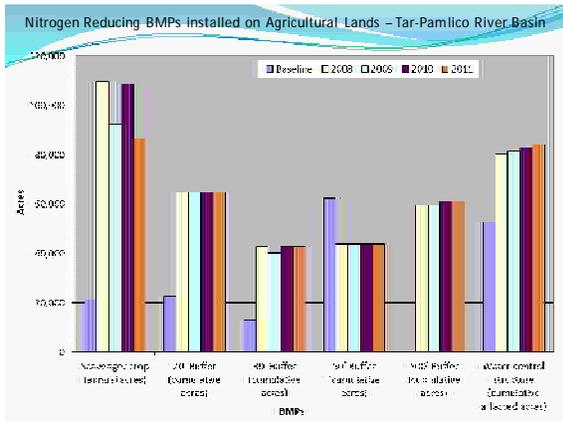
- Funding for technicians is critical, without which tasks would fall to the voluntary LACs for data compilation; needed for BMP installation
- BOCs will continue working with LACs and farmers to implement the rules and adopt nutrient-reduction BMPs
- BOCs will continue to review data from all studies to incorporate into the process
- LACs will meet winter-spring 2013 to compile CY2012 data

### Questions?

### Slides in Reserve

### Nutrient-Reducing Best Management Practices Not Accounted for in NLEW

| BMP                     | Units | Neuse   | Tar-Pamlico |
|-------------------------|-------|---------|-------------|
| Diversion               | Feet  | 149,449 | 394,461     |
| Fencing (USDA programs) | Feet  | 154,885 | 235,865     |
| Field Border            | Acres | 3,337   | 1,001       |
| Grassed Waterway        | Acres | 2,261   | 1,154       |
| Livestock Exclusion     | Feet  | 81,389  | 221,096     |
| Sod Based Rotation      | Acres | 60,115  | 37,052      |
| Tillage Management      | Acres | 34,072  | 40,612      |
| Terraces                | Feet  | 49,970  | 371,936     |



**2012 Annual Progress Report on the Neuse Agricultural Rule  
(15 A NCAC 2B.0238)  
A Report to the NC Environmental Management Commission  
From the Neuse Basin Oversight Committee  
Crop Year 2011**

**Summary**

All seventeen Local Advisory Committees (LACs) met as required. The Neuse Basin Oversight Committee (BOC) received and approved crop year (CY) 2011 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 Agricultural Rule and estimates further producer progress in decreasing nutrients. In CY2011, agriculture collectively achieved an estimated 45% reduction in nitrogen loss from agricultural lands compared to the 1991-1995 baseline, continuing to exceed the rule-mandated 30% reduction. This represents a 4% decrease in reduction compared to the 49% reduction reported in CY2010. All of the LACs achieved their BOC mandated nitrogen loss reduction goal except for Lenoir County, which achieved a 19% loss reduction, down from 22% in CY2010. Reasons for the decrease in percent nitrogen reduction include a significant decrease in buffer nitrogen reduction efficiencies in a revision of NLEW, and cropping shifts to crops with higher nitrogen application rates.

**Rule Requirements and Compliance History**

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. Currently there are five full time technicians that work with Neuse LACs to assist with implementation of best management practices (BMPs) and to coordinate information for the annual reports. They are funded by the EPA 319 grant program, NC Agriculture Cost Share Program (NCACSP) technical assistance funds and county funds.

All seventeen LACs submitted their first annual report to the BOC in May 2002. That report estimated a collective 36% reduction in nitrogen loss with 12 of the 17 LACs exceeding 30% individually. In 2003, all LACs achieved their BOC mandated reduction goal. All have continued to meet their goal annually with the exception of Lenoir County.

LACs use the Nitrogen Loss Estimation Worksheet (NLEW) to calculate their reductions. 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.

| <b>Neuse NSW Strategy</b>  |
|--|
| 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 addressing non-point source pollution in agriculture, urban stormwater, nutrient management, and riparian buffer protection. |

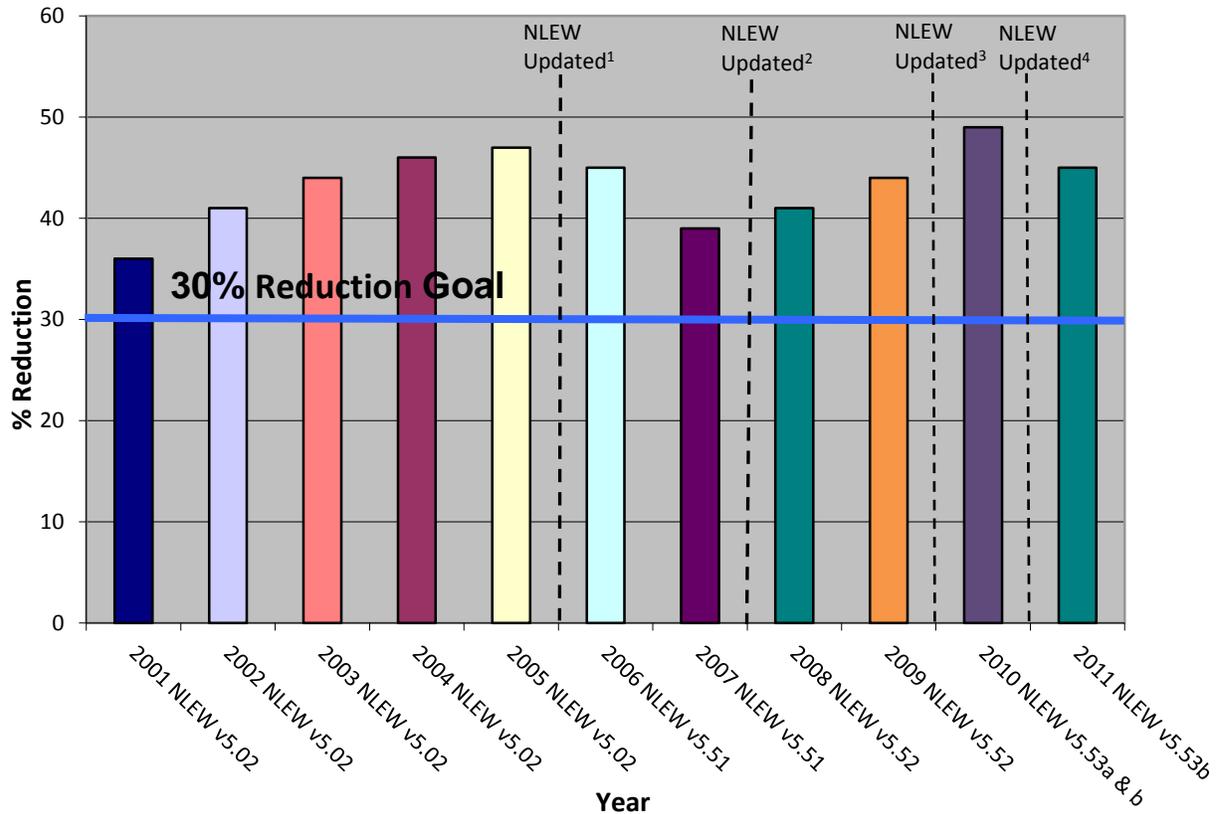
**Scope of Report and Methodology**

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 soil and water conservation district technicians 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 development team included interagency technical interests (NC Division of Water Quality (DWQ), NC Division of Soil & Water Conservation (DSWC) and USDA-Natural Resources Conservation Service (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 does not capture the effects of managed livestock on nitrogen movement, including pastured, confined, and non-commercial livestock. 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 N Loss and the Effect of NLEW Refinements**

As discussed below, 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 2001 to 2011. In 2010 nitrogen reduction efficiencies assigned to buffers in NLEW were significantly decreased (see Table 1).

Figure 1. Collective Nitrogen Loss Reduction Percent 2001 to 2010, Neuse River Basin.



<sup>1</sup>Between CY2005 & CY2006 NLEW was updated to incorporate revised soil management units and buffer nitrogen reduction efficiencies were reduced.

<sup>2</sup>Between CY2007 & CY2008 NLEW was updated to incorporate revised soil management units and correct some realistic yield errors.

<sup>3</sup>Between CY2009 & CY2010 NLEW had an administration software update with no effect on accounting.

<sup>4</sup>In 2011 NLEW was updated to significantly decrease buffer N removal efficiencies; CY2010 and the baseline reductions were recalculated.

The first revision (v5.51) 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 minor updates of soil mapping units. In April of 2011 the NLEW Committee established further reductions (v5.53b) in N removal efficiencies for buffers based on additional research. Table 1 lists the changes in buffer N reduction efficiencies over time.

**Table 1. Changes in buffer width options and Nitrogen reduction efficiencies in NLEW**

| Buffer Width | NLEW v5.02*<br>N Reduction        | % | NLEW v5.51<br>N Reduction | % | NLEW v5.53b<br>N Reduction | % |
|--------------|-----------------------------------|---|---------------------------|---|----------------------------|---|
| 20'          | 40% ( <i>grass</i> )              |   | 30%                       |   | 20%                        |   |
| 20'          | 75% ( <i>trees &amp; shrubs</i> ) |   | n/a                       |   | n/a                        |   |
| 30'          | 65%                               |   | 40%                       |   | 25%                        |   |
| 50'          | 85%                               |   | 50%                       |   | 30%                        |   |
| 70'          | n/a                               |   | 55%                       |   | n/a                        |   |
| 100'         | n/a                               |   | 60%                       |   | 35%                        |   |

*\*NLEW v5.02 - the vegetation type (ie trees, shrubs, grass) within 20' and 50' buffers determined reduction values. Based on research results, this distinction was dropped from subsequent NLEW versions.*

Since the release of the CY2010 Report to the EMC, baseline and CY2010 values have been recalculated to reflect the most recent decrease in N removal efficiencies of buffers in NLEW.

**Current Status: Nitrogen Reduction from Baseline for 2011**

All seventeen LACs submitted their eleventh annual reports to the BOC for approval in September 2012. For the entire basin, in CY2011 agriculture achieved a 45% reduction in nitrogen loss compared to the 1991-1995 baseline. This is a 4% decrease in reduction from 49% achieved in CY2010. Table 2 lists each county’s baseline, CY2010 and CY2011 nitrogen (lbs/yr) loss values, and nitrogen loss percent reductions from the baseline in CY2010 and CY2011. It was reported in 2011 that Lenoir’s CY2010 reduction was 30%. However, after recalculations of the baseline and CY2010 reductions via the revised NLEW, their CY2010 reduction fell to 22%. CY2010 reductions reported in 2011 are included in Table 2 to demonstrate the effect of 2011 NLEW revisions.

**Table 2. Estimated Reductions in Agricultural Nitrogen Loss from Baseline (1991-1995) for 2010 (NLEW v5.53a & b) and 2011 (NLEW v5.53b), Neuse River Basin**

| County       | Recalculated Baseline N Loss (lb) <sup>1</sup> NLEW v5.53b | CY2010 Reported N Loss (%) <sup>2</sup> NLEW v5.53a | Recalculated CY2010 N Loss (lb) NLEW v5.53b | Recalculated CY2010 N Loss (%) NLEW v5.53b | CY2011 N Loss (lb) NLEW v5.53b | CY2011 N Loss (%) NLEW v5.53b |
|--------------|--|---|---|--|--------------------------------|-------------------------------|
| Carteret     | 1,292,556  | 33%   | 855,718                                     | 34%  | 782,261                        | 39%                           |
| Craven       | 3,938,339  | 62%   | 1,505,718                                   | 62%  | 1,990,043                      | 49%                           |
| Durham       | 220,309  | 56%   | 135,402                                     | 39%  | 98,354                         | 55%                           |
| Franklin     | 219,209  | 75%   | 67,636                                      | 69%  | 69,529                         | 68%                           |
| Granville    | 193,197  | 53%   | 73,566                                      | 62%  | 81,252                         | 58%                           |
| Greene       | 4,195,637  | 62%   | 1,585,144                                   | 62%  | 2,175,880                      | 48%                           |
| Johnston     | 6,480,723  | 52%   | 3,037,544                                   | 53%  | 3,033,035                      | 53%                           |
| Jones        | 3,114,212  | 50%   | 1,536,043                                   | 51%  | 1,993,605                      | 36%                           |
| Lenoir       | 4,130,061  | 30%   | 3,228,553                                   | 22%  | 3,356,248                      | 19%                           |
| Nash         | 1,203,439  | 54%   | 518,819                                     | 57%  | 439,700                        | 63%                           |
| Orange       | 565,454  | 63%   | 242,640                                     | 57%  | 258,165                        | 54%                           |
| Pamlico      | 2,562,212  | 35%   | 1,564,759                                   | 39%  | 1,644,824                      | 36%                           |
| Person       | 616,669  | 71%   | 251,163                                     | 59%  | 303,985                        | 51%                           |
| Pitt         | 3,232,893  | 60%   | 1,264,582                                   | 61%  | 1,427,703                      | 56%                           |
| Wake         | 1,434,433  | 81%   | 346,481                                     | 76%  | 452,316                        | 68%                           |
| Wayne        | 7,994,019  | 42%   | 4,658,934                                   | 42%  | 4,559,621                      | 43%                           |
| Wilson       | 3,275,828  | 40%   | 1,912,357                                   | 42%  | 1,908,740                      | 42%                           |
| <b>Total</b> | <b>44,890,776</b>  | <b>49%</b>  | <b>22,777,485</b>                           | <b>49%</b>                                 | <b>24,544,438</b>              | <b>45%</b>                    |

<sup>1</sup>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.

<sup>2</sup>CY2010 N loss percentages are values from the pre-revised NLEW (v.5.53a) 2011 Report, shown here to compare the recalculated CY2010 NLEW (v.5.53b) values used in this 2012 Report.

It should be noted that some counties' reductions decreased due to crop rotations and not a reduction in BMP implementation.

Lenoir County, currently at a 19% reduction, is continually working to improve their reductions. The local Soil and Water Conservation District Board is working to meet their reduction by making nutrient reducing BMPs a higher priority in their annual ACSP strategy plan. The DSWC, LAC and additional stakeholders are working with others in the agricultural community in Lenoir County to communicate the need for more BMP installation at existing commodity outreach events. In CY2010 Lenoir County installed 25 acres of 30' buffers and 1,623 acres of additional nutrient scavenger crop, and experienced a 5,463 decrease in crop acreage. In CY2011 Lenoir County converted 5 acres of cropland to grass and installed over 300 acres of conservation tillage. Unfortunately, BMPs receiving reduction credit in NLEW did not increase, while cropland increased by 3,544 acres. Cotton acreage increased by over 10,000 acres while soybeans, which need no nitrogen application, decreased by nearly 5,000 acres. These factors and the NLEW buffer revisions brought Lenoir's nitrogen reduction down. The BOC will refocus its efforts to monitor Lenoir County's progress and encourage BMP implementation.

Nitrogen loss reductions were achieved through a combination of fertilization rate decreases, cropping shifts, and BMP implementation. The most significant factor this year is due to

fertilizer management, which is consistent among all years except for CY2010. Cropping shifts are attributed to increased commodity prices along with crop rotations. NLEW outputs and staff calculations estimate these factors contributed to the nitrogen loss in the following percent reduction shown in Table 3.

**Table 3. Factors That Influence Nitrogen Reduction by Percentage on Agricultural Lands, Neuse River Basin\***

| Practice                             | CY2008<br>NLEW v5.32 | CY2009<br>NLEW v5.32 | CY2010 NLEW<br>v5.53b | CY2011 NLEW<br>v5.53b |
|--------------------------------------|----------------------|----------------------|-----------------------|-----------------------|
| BMP implementation                   | 5%                   | 7%                   | 6%                    | 8%                    |
| Fertilization management             | 12%                  | 14%                  | 12%                   | 14%                   |
| Cropping shift                       | 10%                  | 8%                   | 17%                   | 11%                   |
| Cropland converted to<br>grass/trees | 1%                   | 1.5%                 | 1.5%                  | 2%                    |
| Cropland lost to idle land           | 6%                   | 6.50%                | 5%                    | 4%                    |
| Cropland lost to development         | 7%                   | 7%                   | 6%                    | 7%                    |
| Total                                | 41%                  | 44%                  | 49%                   | 45%                   |

*\*Percentages are based on a total of the reduction, not a year-to-year comparison.*

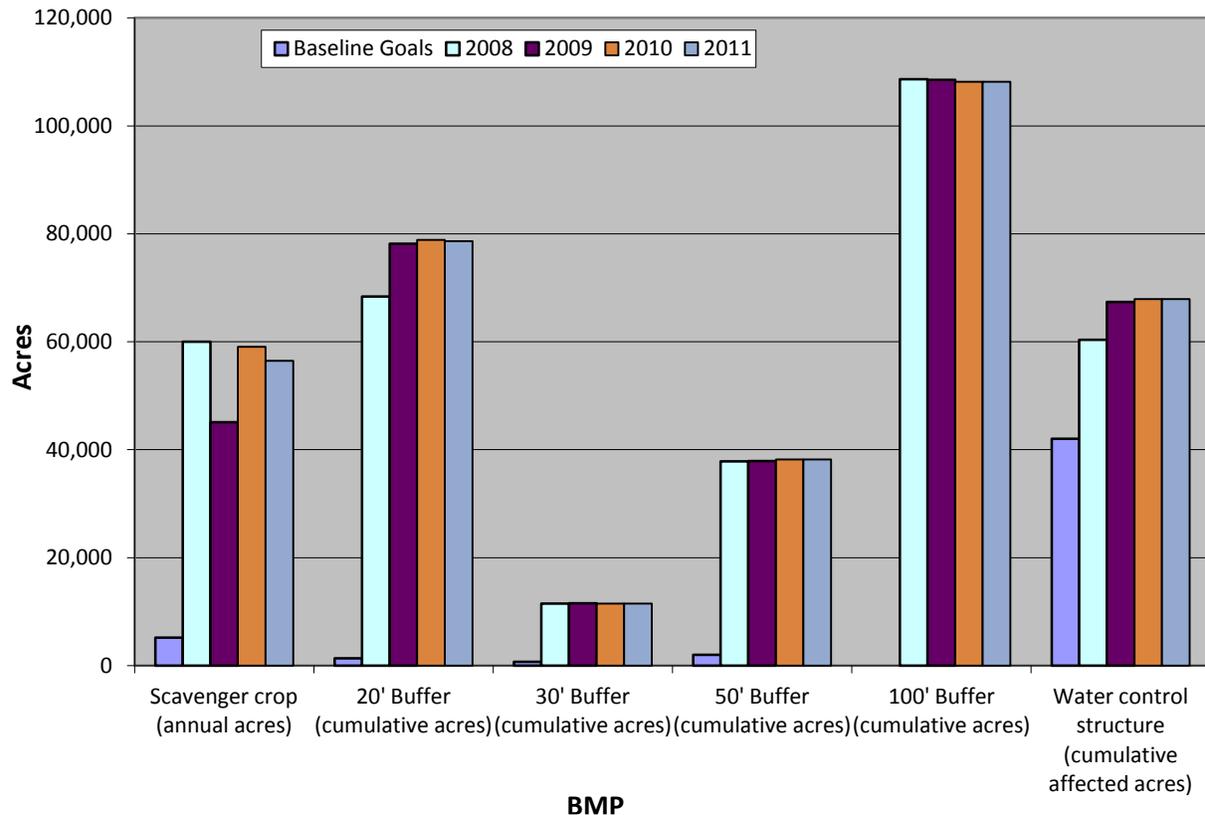
**BMP Implementation**

As illustrated in figure 2, CY2011 BMP implementation yielded a net increase of 24 acres affected by water control structures, and a decrease in 20 ft. buffers and nutrient scavenger crop acres, while 30, 50 and 100 ft. buffer acres remained relatively steady.

DSWC staff and district conservationists continue to make refinements to the accounting as opportunities arise. 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 data that is the best information currently available. As additional data becomes available, the LACs will review the sources and update their methodology for reporting if warranted.

It is estimated that over a third of enrolled croplands receive treatment from the installed BMPs, by comparing the acres of cropland to the acres of BMPs installed through federal, state and local cost share programs. BMP installation goals were set by the local nitrogen reduction strategies, which were approved by the EMC in 1999. The original proposed percent nitrogen loss reduction goals can be found in Figure 2. Agriculture exceeded all of the installed BMP goals in CY2008.

**Figure 2: Nitrogen Reducing BMPs installed on Agricultural Lands and the Approved Goals Baseline (1991-1995) and 2008-2011, Neuse River Basin**



<sup>1</sup> *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. (Bruton 2004)*

**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 benefit. 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 CY2008.

Increased implementation numbers are evident in CY2011 across all BMP types with the exception of terraces. These BMPs will yield reductions in nitrogen loss that are not reflected in the NLEW accounting in this report but will benefit the estuary.

<sup>1</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/>

**Table 4: Nutrient-Reducing BMPs Not Accounted for in NLEW, 1996 to 2010, Neuse River Basin\***

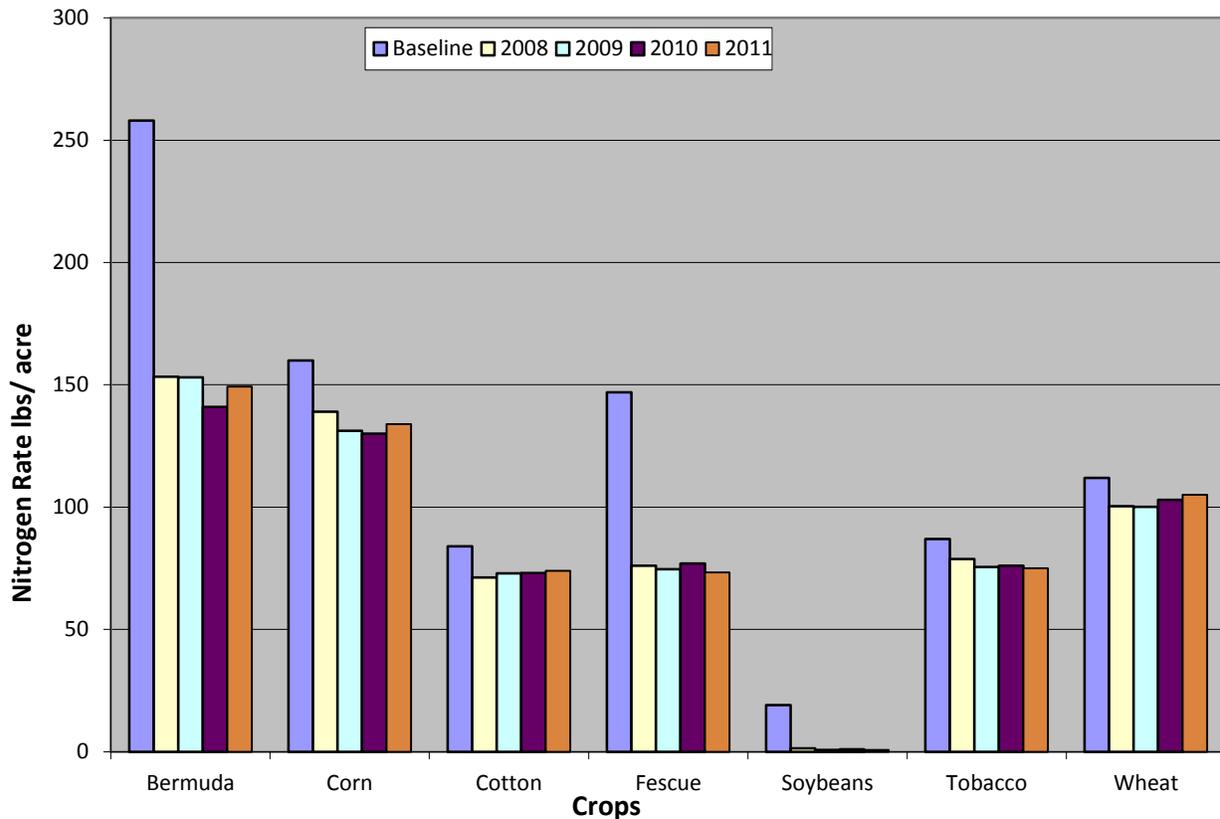
| BMP                     | Units | 1996-2006 | 2008    | 2009    | 2010    | 2011    |
|-------------------------|-------|-----------|---------|---------|---------|---------|
| Diversion               | Feet  | 130,901   | 139,492 | 146,749 | 149,109 | 149,449 |
| Fencing (USDA programs) | Feet  | na        | 53,991  | 98,584  | 112,029 | 154,885 |
| Field Border            | Acres | 610       | 823     | 3,265   | 3,300   | 3,337   |
| Grassed Waterway        | Acres | 2,183     | 2,229   | 2,245   | 2,256   | 2,261   |
| Livestock Exclusion     | Feet  | 64,298    | 71,035  | 71,035  | 74,753  | 81,389  |
| Sod Based Rotation      | Acres | 30        | 27,413  | 40,542  | 49,131  | 60,115  |
| Tillage Management      | Acres | 14,508    | 20,586  | 24,011  | 30,945  | 34,072  |
| Terraces                | Feet  | 13,657    | 40,758  | 41,595  | 49,970  | 49,970  |

*\*Data provided using active contracts in State and Federal cost share programs.*

### **Fertilization Management**

Fertilizer rates are revised annually by LACs using data from farmers, commercial applicators and state and federal agencies' professional estimates. Both increased fertilizer cost and better nutrient management have resulted in farmers in the Neuse River Basin reducing their fertilizer application from baseline levels. Figure 3 indicates that fertilization rates for all major crops in the basin have reduced from the baseline period. In CY2011 fertilizer rates dropped slightly for fescue and tobacco, while wheat, cotton, and corn increased slightly compared to CY2010.

**Figure 3. Average Annual Nitrogen Fertilization Rate (lbs/ac) for Agricultural Crops for the baseline (1991-1995) and 2008-2010, Neuse River Basin\***



\*Bermuda and fescue nitrogen rate data was added starting in CY2008.

**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 significant impact on the cumulative yearly nitrogen loss reduction. The BOC anticipates that the basin will see additional crop shifts in upcoming years based on economic changes.

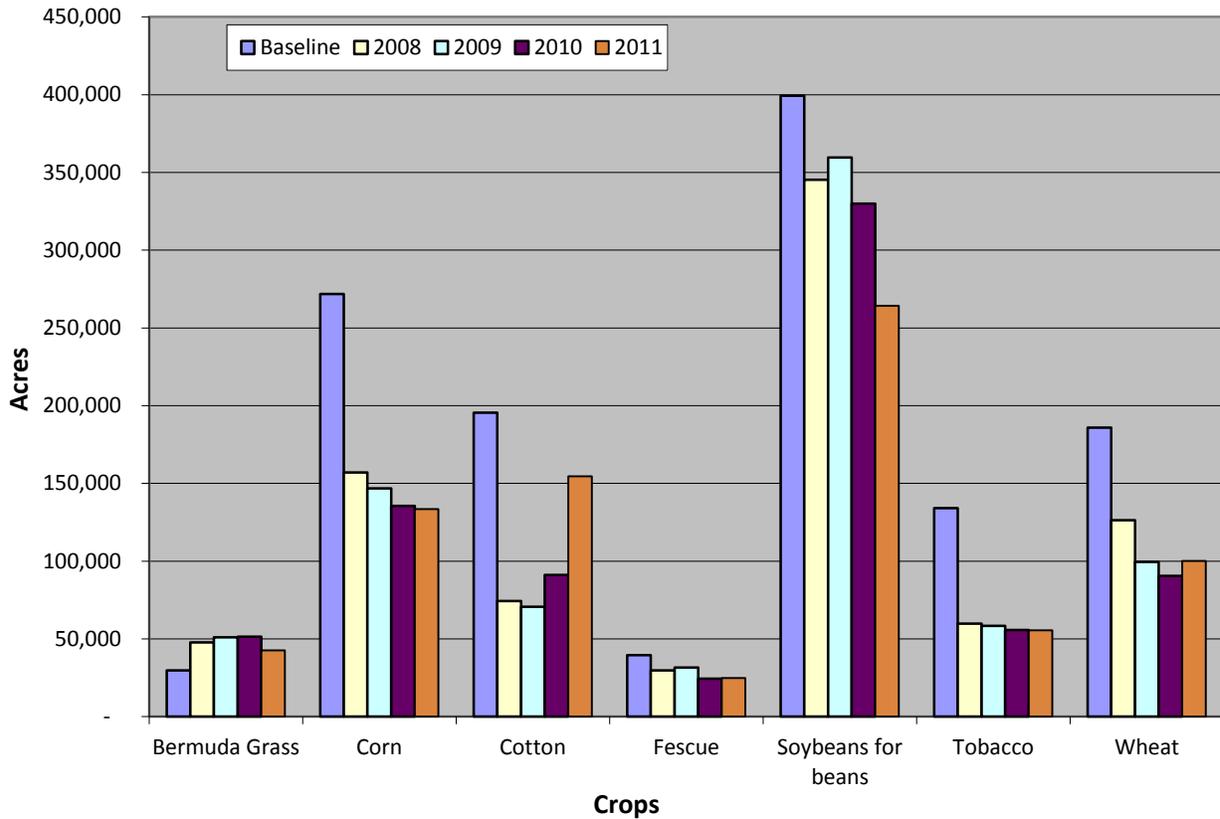
Figure 4 shows the crop acres and shifts for the last five years compared to the baseline.

Cotton acreage has increased significantly, with over 84,000 acres added since 2009. Wheat acreage has increased somewhat, soybean and bermuda grass acreage has decreased, and other crops have remained relatively stable. A host of factors from individual to global determine crop choices.

**Factors Identified by LACs Contributing to Reduced Nitrogen Rates**

- Rising fertilizer costs and fluctuating farm incomes.
- Increased education and outreach on nutrient management (NC Cooperative Extension held 21 nutrient management training sessions, approximately 2,000 farmers and applicators received training.)
- Mandatory animal waste management plans
- The federal government tobacco quota buy-out reducing tobacco acreage.
- Neuse and Tar-Pamlico Nutrient Strategies

**Figure 4. Acreage of Major Crops for the Baseline (1991-1995) and 2008-2010, Neuse River Basin**

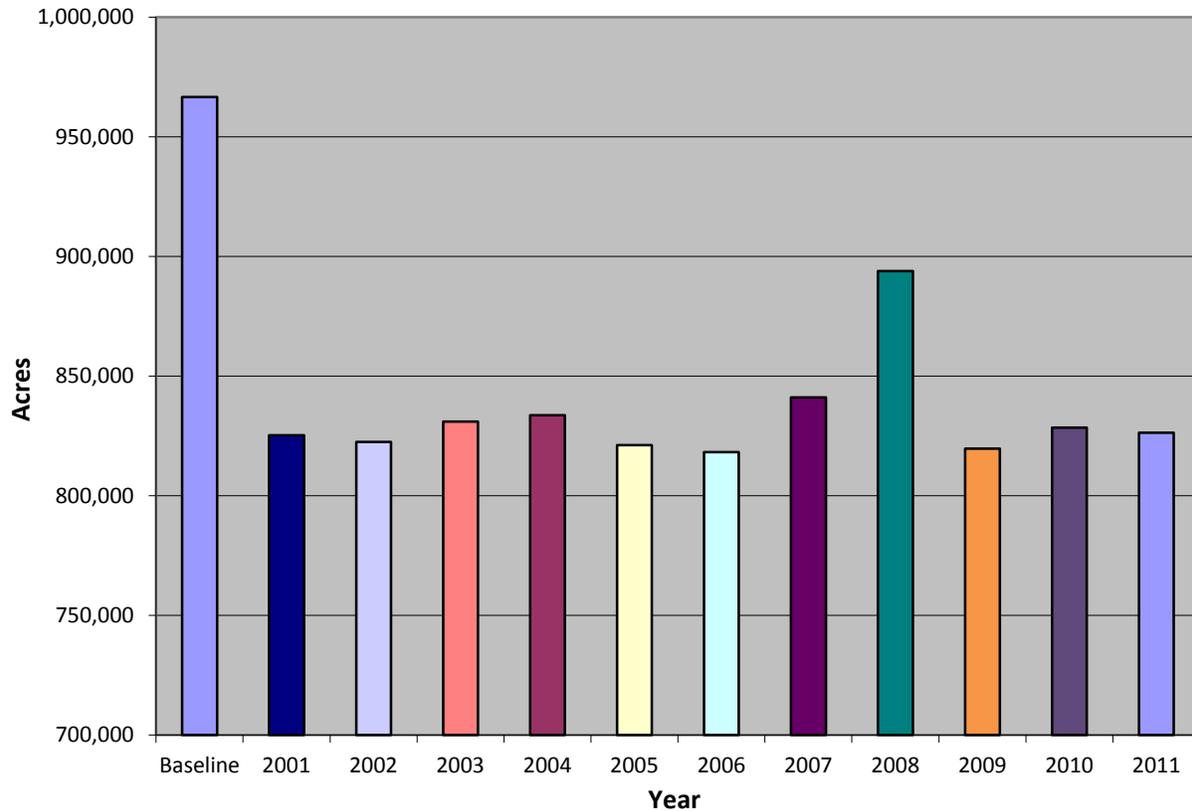


**Land Use Change to Development, Idle Land and Cropland Conversion**

The number of cropland acres will fluctuate every year in the Neuse River Basin. Each year, some cropland is permanently lost to development or converted to grass or trees. However, idle land is 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 is land taken out of agricultural production and is unlikely to be returned to production. Currently it is estimated that more than 69,823 acres have been lost to development, and more than 16,416 acres have been converted to grass or trees since the baseline. For CY2011 there are approximately 42,644 idle acres and a total of 826,356 acres of cropland. These estimates come from the LAC members’ best professional judgment, USDA-Farm Service Agency (FSA) records and county planning departments. The total crop acres are obtained from USDA-FSA and NC Agricultural Statistics annual reports.

Cropland acres have dropped significantly from the baseline period; CY2011 shows a slight decrease from CY2010.

Figure 5. Total Cropland Acres in the Neuse River Basin, Baseline (1991-1995) and 2001-2011.



**Looking Forward**

The Neuse Basin Oversight Committee will continue to work with Local Advisory Committees and farmers to reduce nitrogen loss from agricultural lands in the Neuse River Basin. The BOC continues to encourage counties to implement additional BMPs to further reduce nitrogen loss.

Funding is an integral part in the success. Without funding for the technicians, the annual progress reports would fall on the LACs without assistance to compile data and annual reports. Technicians are essential in promoting and assisting farmers with BMP installation. Farmers and agency staff personnel with other responsibilities serve on the LACs in a

voluntary capacity. If funding for technician positions is not available, the LACs would have a difficult time meeting the workload requirements.

**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 (i.e., long periods of drought or rain)
- Scientific advances in agronomics (i.e., production of new types of crops or improvements in crop sustainability)
- 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)

## ATTACHMENT 6

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. Additionally, if reconvened members of the BOC plan to participate in a land accounting work group to assist in developing a more consistent land accounting framework.

Although significant progress has been made in nitrogen loss reduction by the agricultural community, the 30% nitrogen reduction target established by the General Assembly from all sources has not yet been reached. 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 nutrient management strategy, and agriculture continues to do its part towards achieving the overall goal of a 30% reduction of nitrogen delivered to the Neuse estuary. 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.

**2012 Annual Progress Report on the Tar-Pamlico Agricultural Rule  
(15 A NCAC 02B.0256)  
A Report to the NC Environmental Management Commission  
From the Tar-Pamlico Basin Oversight Committee  
Crop Year 2011**

**Summary**

The Tar-Pamlico Basin Oversight Committee (BOC) received and approved crop year (CY) 2011 annual reports from the fourteen Local Advisory Committees (LACs) operating under the Tar-Pamlico Agricultural Rule as part of the Tar-Pamlico Basin Nutrient Management Strategy. The report demonstrates agriculture’s ongoing collective compliance with the Tar-Pamlico Agricultural Rule and estimates further progress in decreasing nutrient losses. In CY2011, agriculture collectively achieved an estimated 43% reduction in nitrogen loss compared to the 1991 baseline, continuing to exceed the rule-mandated 30% reduction. This represents a 6% decrease in reduction compared to the 49% reduction reported for CY2010. Eleven of the 14 LAC’s exceeded the mandated 30% reduction goal.

**Rule Requirements and Compliance History**

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 LACs were established to implement the rule and to assist farmers with complying with the rule. Currently there are five full time technicians that work with LACs to coordinate information for the annual reports. They are funded by the EPA 319 grant program, NC Agriculture Cost Share Program (ACSP) technical assistance funds, and county funds.

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 LACs exceeded the 30% individually. Collective reductions had gradually increased in succeeding years, and by CY2007 only one LAC was shy of the 30% individually. In CY2008 all LACs individually exceeded the 30% nitrogen loss reduction goal and have continued to do so through CY2010. While the collective reduction of 43% for CY 2011 exceeds the mandated 30%, three individual LAC’s fell below the 30% goal (Edgecombe, Halifax, and Martin).

**Tar-Pamlico NSW Strategy**  
The Environmental Management Commission (EMC) adopted the Tar-Pamlico nutrient strategy in 2000. 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 addressing non-point source pollution in agriculture, urban stormwater, nutrient management, and riparian buffer protection. 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.

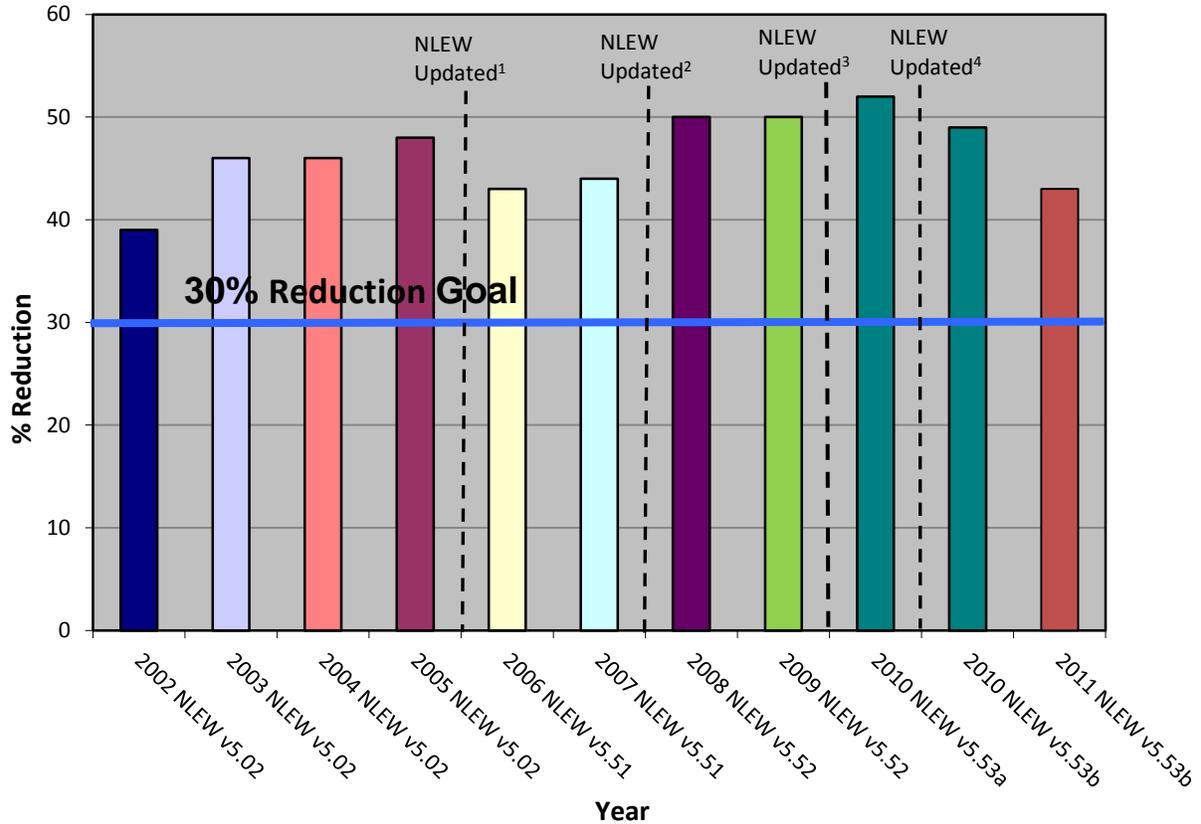
**Scope of Report and Methodology**

The estimates provided in this report represent whole-county scale calculations of nitrogen loss from cropland agriculture in the basin made by soil and water conservation district technicians 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 for use in the Tar-Pamlico Basin. The development team included interagency technical representatives of the NC Division of Water Quality (DWQ), 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 does not capture the effects of managed livestock on nitrogen movement, including pastured, confined, and non-commercial livestock. 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. 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**

As discussed below, 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. In 2010 nitrogen reduction efficiencies assigned to buffers in NLEW were significantly decreased (see Table 1). Figure 1 represents the annual percent nitrogen loss reduction from 2002 to 2011.

Figure 1. Collective Nitrogen Loss Reduction Percent 2002 to 2011, Tar Pamlico River Basin.



<sup>1</sup>Between CY2005 & CY2006 NLEW was updated to incorporate revised soil management units and buffer nitrogen reduction efficiencies were reduced.

<sup>2</sup>Between CY2007 & CY2008 NLEW was updated to incorporate revised soil management units and correct some realistic yield errors.

<sup>3</sup>Between CY2009 & CY2010 NLEW was an administration software update with no effect on accounting.

<sup>4</sup>In 2011 NLEW was updated to significantly decrease buffer N removal efficiencies; CY2010 and the baseline reductions were recalculated to reflect changes in NLEW.

The first revision (v5.51) 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 along with minor updates of soil mapping units. In April of 2011 the NLEW Committee established further reductions (v5.53b) in N removal efficiencies for buffers based on additional research. Table 1 lists the changes in buffer N reduction efficiencies over time.

**Table 1. Changes in buffer width options and Nitrogen reduction efficiencies in NLEW**

| Buffer Width | NLEW v5.02*<br>N Reduction | % | NLEW v5.51<br>N Reduction | % | NLEW v5.53b<br>N Reduction | % |
|--------------|----------------------------|---|---------------------------|---|----------------------------|---|
| 20'          | 40% (grass)                |   | 30%                       |   | 20%                        |   |
| 20'          | 75% (trees & shrubs)       |   | n/a                       |   | n/a                        |   |
| 30'          | 65%                        |   | 40%                       |   | 25%                        |   |
| 50'          | 85%                        |   | 50%                       |   | 30%                        |   |
| 70'          | n/a                        |   | 55%                       |   | n/a                        |   |
| 100'         | n/a                        |   | 60%                       |   | 35%                        |   |

*\*NLEW v5.02 - the vegetation type (ie trees, shrubs, grass) within 20' and 50' buffers determined reduction values. Based on research results, this distinction was dropped from subsequent NLEW versions.*

Since the release of the CY2010 Report to the EMC, baseline and CY2010 values have been recalculated to reflect the most recent decrease in N removal efficiencies of buffers in NLEW. This resulted in a decreased estimate of percent N removed from agricultural loss for CY2010 to 49%, down from the reported 52%.

**Current Status**

**Nitrogen Reduction from Baseline for CY2011**

All fourteen LACs submitted their ninth annual report to the BOC in September 2012. For the entire basin, in CY2011 agriculture achieved a 43% reduction in nitrogen loss compared to the 1991 baseline. This year 11 of the 14 LACs achieved the at-least 30% nitrogen loss reduction goal individually. Table 2 lists each county’s baseline, CY2010 and CY2011 nitrogen (lbs/yr) loss values, and nitrogen loss percent reductions from the baseline in CY2010 and CY2011.

**Table 2. Estimated Reductions in Agricultural Nitrogen Loss from Baseline (1991) for CY2010 (NLEW v5.53a & b) and CY2011 (NLEW v5.53b), Tar-Pamlico River Basin**

| County       | Recalculated Baseline N Loss (lb) <sup>1</sup><br>NLEW v5.53b | CY2010 Reported N Loss (%) <sup>2</sup><br>NLEW v5.53a | Recalculated CY2010 N Loss (lb)<br>NLEW v5.53b | Recalculated CY2010 N Loss (%)<br>NLEW v5.53b | CY2011 N Loss (lb)<br>NLEW v5.53b | CY2011 N Loss (%)<br>NLEW v5.53b |
|--------------|---|--|--|---|-----------------------------------|----------------------------------|
| Beaufort     | 9,190,250   | 42%  | 5,452,562                                      | 41%   | 6,014,967                         | 35%                              |
| Edgecombe    | 5,037,628   | 40%  | 3,183,913                                      | 37%   | 3,651,075                         | 28%                              |
| Franklin     | 2,183,751   | 72%  | 722,189  | 67%   | 798,686                           | 63%                              |
| Granville    | 890,371   | 57%  | 456,089  | 49%   | 449,968                           | 49%                              |
| Halifax      | 2,806,652   | 42%  | 1,679,575                                      | 40%   | 2,199,533                         | 22%                              |
| Hyde         | 4,975,781   | 42%  | 3,100,999                                      | 38%   | 3,289,265                         | 34%                              |
| Martin       | 782,152   | 43%  | 519,235  | 34%   | 595,684                           | 24%                              |
| Nash         | 4,963,538   | 65%  | 1,746,221                                      | 65%   | 1,547,934                         | 69%                              |
| Person       | 153,228   | 77%  | 38,208   | 75%   | 52,799                            | 66%                              |
| Pitt         | 6,147,727   | 67%  | 2,271,194                                      | 63%   | 2,646,294                         | 57%                              |
| Vance        | 419,485   | 73%  | 144,527  | 66%   | 165,056                           | 61%                              |
| Warren       | 535,517   | 76%  | 179,217  | 67%   | 148,874                           | 72%                              |
| Washington   | 977,801   | 39%  | 608,935  | 38%   | 674,271                           | 31%                              |
| Wilson       | 890,961   | 50%  | 437,878  | 51%   | 545,946                           | 39%                              |
| <b>Total</b> | <b>39,954,842</b>   | <b>52%</b>   | <b>20,540,742</b>                              | <b>49%</b>                                    | <b>22,780,352</b>                 | <b>43%</b>                       |

<sup>1</sup>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.

<sup>2</sup>CY2010 N loss percentages are values from the pre-revised NLEW (v5.53a) 2011Report, shown here to compare to the recalculated CY2010 NLEW (v5.53b) values used in this 2012 Report.

Halifax, Martin and Edgecombe Counties’ individual nitrogen reductions dropped below the 30% goal, to 22%, 24% and 28%, respectively, due mostly to cropping shifts. These three counties combined saw cotton increase by 33,232 acres while soybeans and peanuts, which need no nitrogen application, decreased by 37,322 acres (see Table 3). Halifax County saw total cropland increase by 1,839 acres, an 11,733 acre increase in cotton, and soybeans and peanuts decrease by 9,367 acres. The BOC will focus its efforts to work with these LAC’s on their reductions.

**Table 3. Cropping shifts within Halifax, Martin and Edgecombe Counties**

| County        | Acreage Difference - 2010 to 2011 |               |               |                       |              |            |
|---------------|-----------------------------------|---------------|---------------|-----------------------|--------------|------------|
|               | Ag. acres                         | cotton (ac)   | corn (ac)     | soybeans/peanuts (ac) | tobacco (ac) | wheat (ac) |
| Halifax       | 1,839                             | 11,773        | -1,566        | -9,367                | 551          | 483        |
| Martin        | -324                              | 2,235         | -1,184        | -1,245                | 76           | 415        |
| Edgecombe     | -744                              | 19,224        | -6,242        | -26,710               | 1,062        | -797       |
| <b>Totals</b> | <b>771</b>                        | <b>33,232</b> | <b>-8,992</b> | <b>-37,322</b>        | <b>1,689</b> | <b>101</b> |

Nitrogen loss reductions were achieved through the combination of fertilization rate decreases, cropping shifts, BMP implementation and cropland attenuation shown in Table 4. The most significant factor continues to be fertilization management. NLEW estimates these factors contributed to the total nitrogen loss reduction in the following manner:

**Table 4. Factors that Influence Nitrogen Reduction by Percentage on Agricultural Lands, Tar-Pamlico River Basin\***

| Factor                               | CY2008<br>NLEW v5.52 | CY2009<br>NLEW v5.52 | CY2010 NLEW<br>v5.53b | CY2011 NLEW<br>v5.53b |
|--------------------------------------|----------------------|----------------------|-----------------------|-----------------------|
| BMP implementation                   | 10%                  | 11%                  | 9%                    | 9%                    |
| Fertilization Management             | 21%                  | 20%                  | 23%                   | 17%                   |
| Cropping shift                       | 10%                  | 11%                  | 10%                   | 8%                    |
| Cropland converted to<br>grass/trees | 4%                   | 3.50%                | 3%                    | 3%                    |
| Cropland lost to idle land           | 4%                   | 3.50%                | 3%                    | 4%                    |
| Cropland lost to development         | 1%                   | 1%                   | 1%                    | 1%                    |
| <b>TOTAL</b>                         | <b>50%</b>           | <b>50%</b>           | <b>49%</b>            | <b>43%</b>            |

*\*Percentages are based on a total of the reduction, not a year-to-year comparison.*

**BMP Implementation**

As illustrated in Figure 2, CY2011 yielded a net increase of 1,598 acres affected by water control structures and a decrease in acres of nutrient scavenger crops, while buffer acres remained relatively steady.

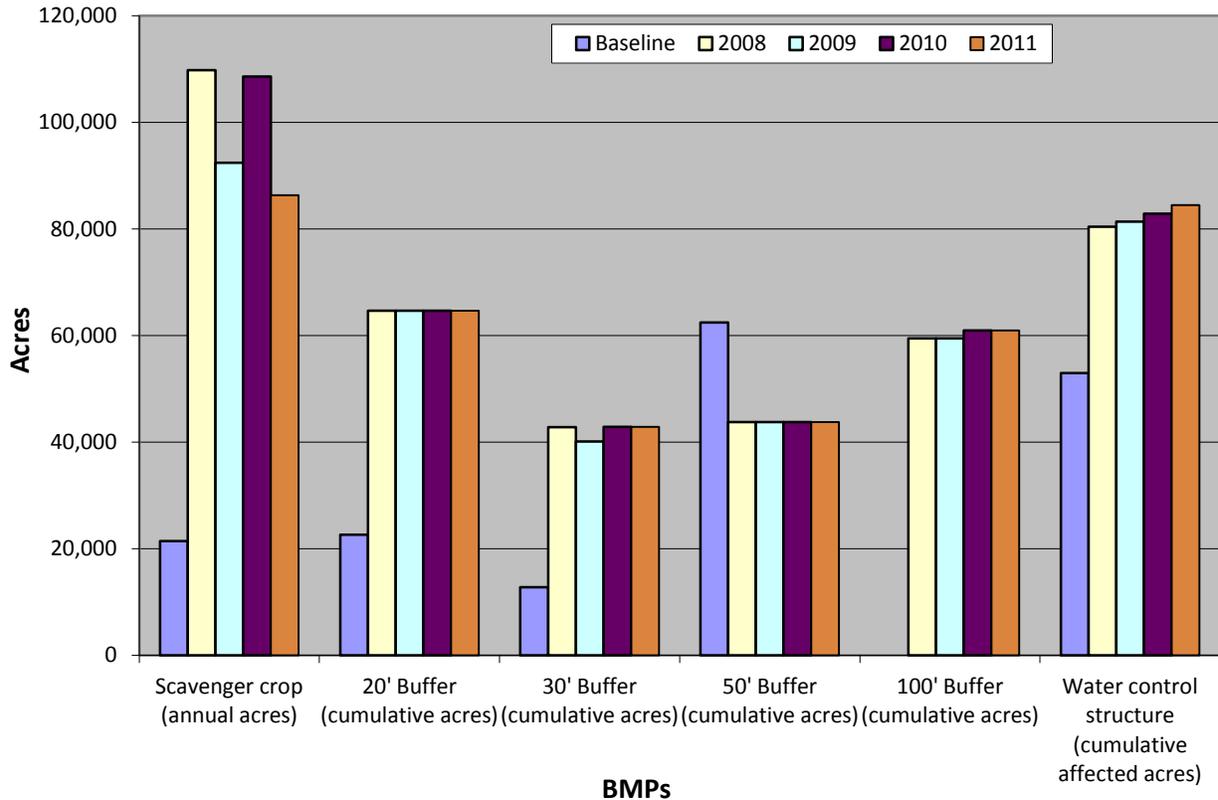
While there is the inherent opportunity for variability in the data reported, LACs are including data that is the best information currently available. As additional sound data sources become available, the LACs will review the sources and update their methodology for reporting if warranted.

Overall, the total acres of implementation of BMPs have increased since the baseline, as illustrated in Figure 2. Based on a comparison of the actual acres of BMPs installed through federal, state and local cost share programs to the total 721,432 cropland acres; over half of all reported croplands receive some kind of treatment by BMPs. However this treatment estimate does 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. (Bruton 2004)<sup>2</sup>

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<sup>2</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 2: Nutrient Reducing BMPs installed on Agricultural Lands for Baseline (1991) and 2008-2011, Tar-Pamlico River Basin\***



*\*The acres of buffers listed represent actual acres. Acres affected by the buffer could be 5 to 10 times larger than the acreage shown above.*

**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 estimating a nitrogen benefit. The BOC believes it is worthwhile to recognize these practices. Table 5 identifies BMPs not accounted for in NLEW and tracks their implementation in the Basin since CY2005.

Increased implementation numbers are evident in CY2011 across all BMP types since the baseline. 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 5: Nutrient-Reducing Best Management Practices Not Accounted for In NLEW, 2008-2011, Tar-Pamlico River Basin\***

| BMP                     | Units | 2001    | 2008    | 2009    | 2010    | 2011    |
|-------------------------|-------|---------|---------|---------|---------|---------|
| Diversion               | Feet  | 176,797 | 388,920 | 389,861 | 390,046 | 394,461 |
| Fencing (USDA Programs) | Feet  | na      | 129,498 | 205,959 | 206,190 | 235,865 |
| Field Border            | Acres | 118     | 471     | 539     | 943     | 1,001   |
| Grassed Waterway        | Acres | 314     | 639     | 646     | 1,115   | 1,154   |
| Livestock Exclusion     | Feet  | 21,662  | 217,302 | 217,302 | 221,088 | 221,096 |
| Sod Based Rotation      | Acres | 1,337   | 17,847  | 16,724  | 26,504  | 37,052  |
| Tillage Management      | Acres | 936     | 31,421  | 33,905  | 35,946  | 40,612  |
| Terraces                | Feet  | 206,560 | 352,819 | 368,914 | 369,914 | 371,936 |

*\*Values represent active contracts in State and Federal cost share programs. The federal information was not included prior to CY2007.*

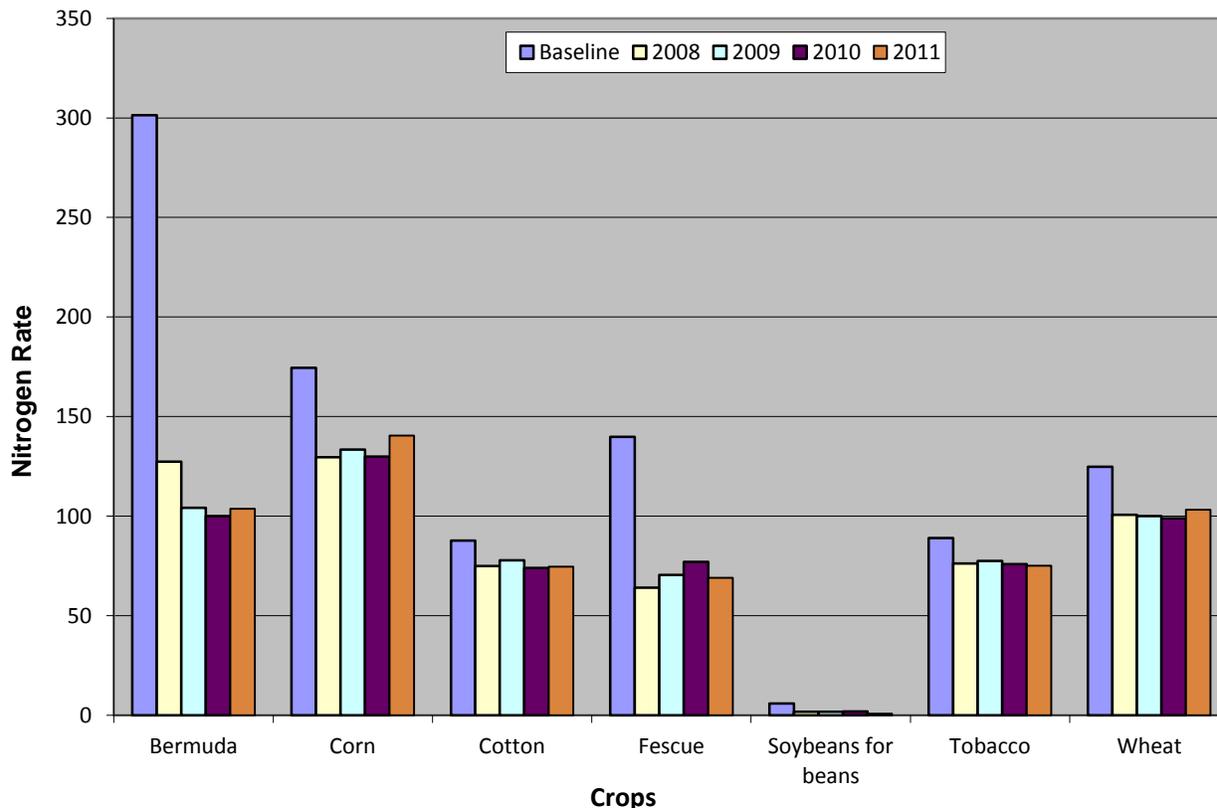
**Fertilization Management**

Both increased fertilizer cost and better nutrient management have resulted in farmers in the Tar-Pamlico River Basin reducing their nitrogen application from baseline levels. Figure 3 indicates that nitrogen rates for the major crops in the basin have reduced from the baseline period. In CY2011 nitrogen rates increased for corn compared to CY2010, and only slightly so for bermuda grass and wheat. The rates for tobacco and fescue slightly decreased, while the rates for soybeans and cotton remained constant. Most pastures are under fertilized throughout the Tar-Pamlico basin. Some bermuda grass and fescue land is used for waste application, but due to the nitrogen concentrations of the waste and the amount of liquid, actual waste applied does not have nitrogen application rates as high as the agronomic rates for the grasses. The pasture and hayland are typically not supplemented with inorganic fertilizers. Fertilizer rates are revisited annually by LACs using data from farmers, commercial applicators and state and federal agencies’ professional estimates.

**Factors Identified by LACs Contributing to Reduced Nitrogen Rates since the Baseline Year**

- Rising fertilizer costs and fluctuating farm incomes.
- Increased education & outreach on nutrient management (NC Cooperative Extension holds an annual nutrient management training session, since 2004 approximately 2,000 farmers and applicators have received training.)
- Mandatory waste management plans
- The federal government tobacco quota buy-out reducing tobacco acreage.
- Neuse & Tar-Pamlico Nutrient Strategies.

**Figure 3. Average Annual Nitrogen Fertilization Rate (lb/ac) for the Major Agricultural Crops for the Baseline (1991) and 2008-2011, Tar-Pamlico River Basin**

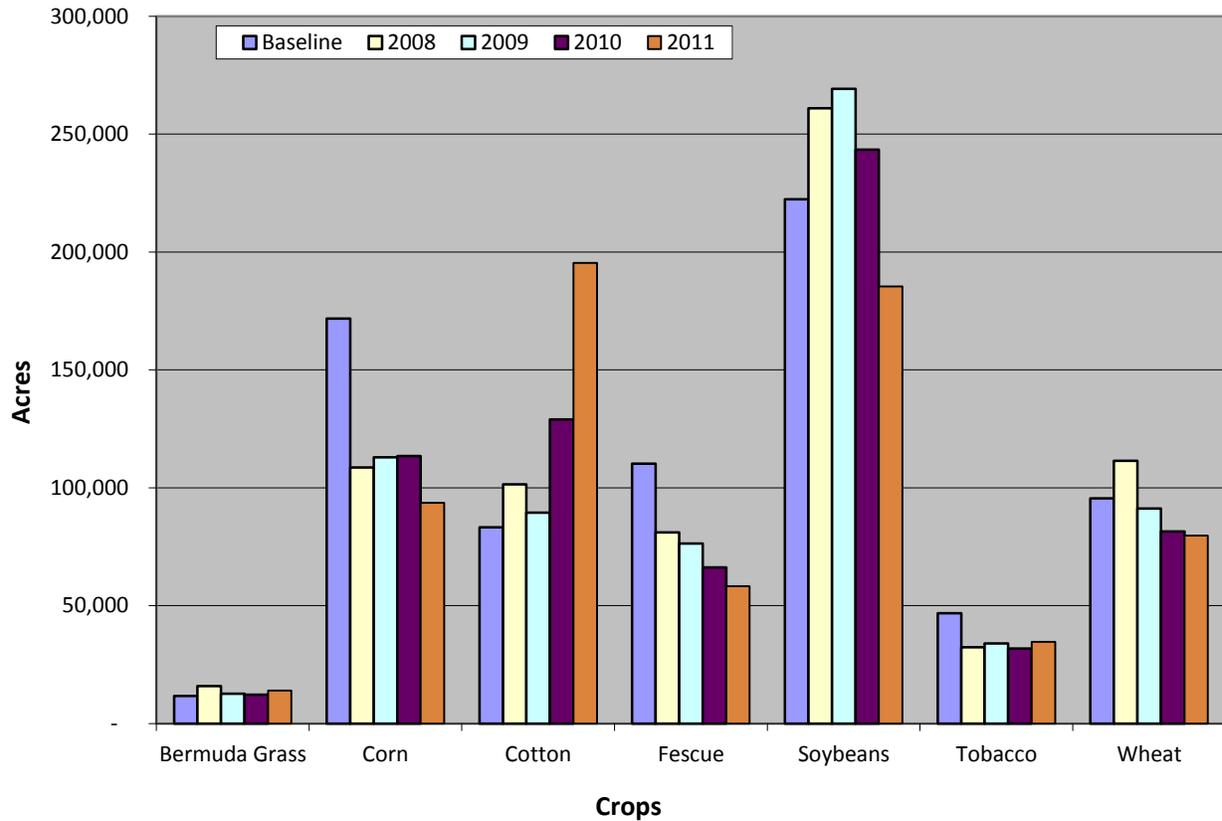


**Cropping Shifts**

The LACs calculated the cropland acreage by utilizing crop data reported by farmers to the USDA-Farm Service Agency. Each crop requires different amounts of nitrogen and use the nitrogen applied with different efficiency rates. Changes in the mix of crops grown can have a significant impact on the cumulative yearly nitrogen loss reduction.

Figure 4 shows crop acres and shifts for the last four years compared to the baseline. While some crops – bermuda grass and tobacco – have remained relatively stable, others show more volatility. Between CY2009 and CY2011, cotton has shown the largest increase in acres while soybeans, wheat, corn and fescue have lost significant acreages. Cotton acreage increased from 89,470 in 2009 to 195,450 acres in 2011. A host of factors from individual to global determine crop choices.

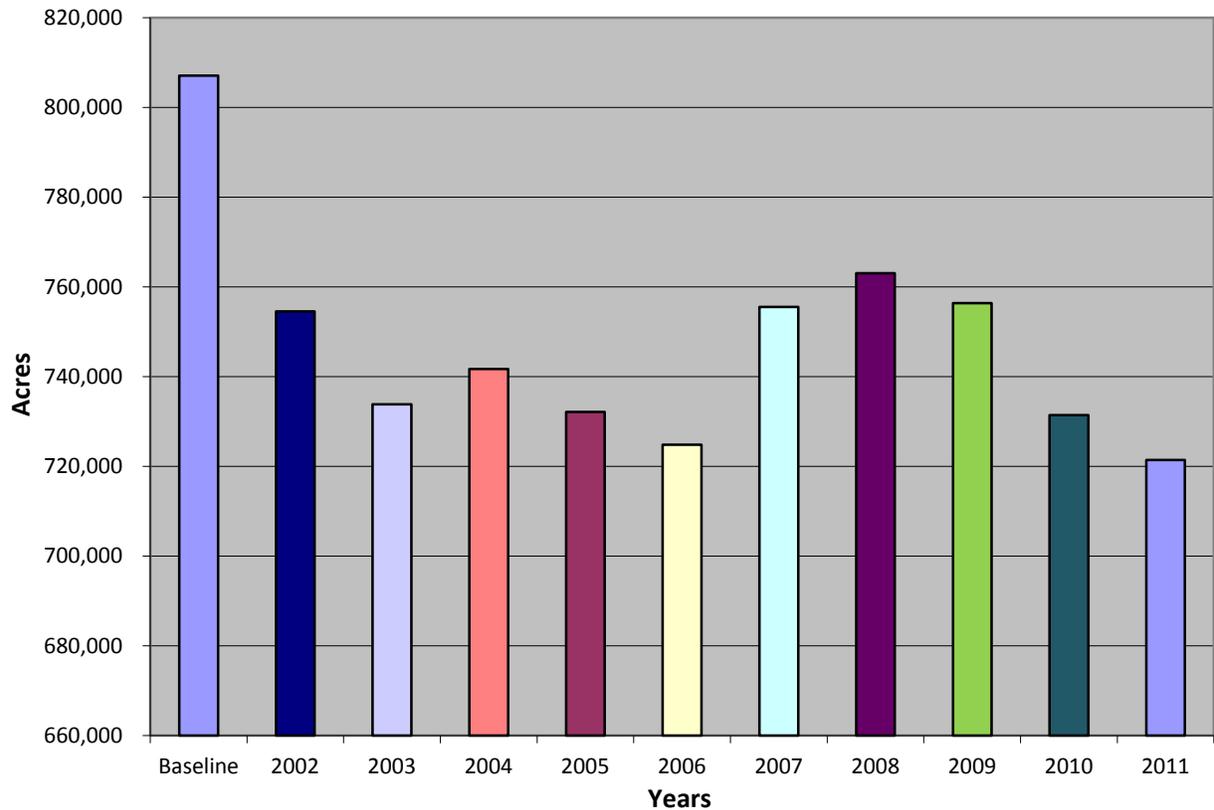
**Figure 4. Acreage of Major Crops for the Baseline (1991) and 2008-2011, Tar-Pamlico River Basin**



**Land Use Change to Development, Idle Land and Cropland Conversion**

The number of cropland acres fluctuates every year in the Tar-Pamlico River Basin due to cropland conversion, idle land and development. Each year, some cropland is permanently lost to development or converted to grass or trees and 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 approximately 10,441 acres have been permanently lost to development in the basin and more than 31,631 acres have been converted to grass or trees since the 1991 baseline. For CY2011 it is estimated that there are approximately 39,130 idle acres and a total of 721,432 total acres of cropland (see Fig. 5). These estimates come from the LAC members’ best professional judgment, USDA-FSA records and county planning department data.

Figure 5. Total Cropland Acres in the Tar-Pamlico River Basin, Baseline (1991) and 2002-2011



## Phosphorus

**Phosphorus Indicators for CY2011:** 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 parallel to the nitrogen NLEW tool. 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 CY2007 through CY2011. Most of the parameters indicate less risk of phosphorus loss than in the baseline.

Contributing to the reduced risk of phosphorus loss is the increase of nutrient reducing BMPs in

### Phosphorous Technical Assistance 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 basin. As indicated in Table 6, the acres affected in the basin by vegetated buffers and water control structures have steadily increased over the past three years. It should also be noted that the soil test phosphorus median number reported for the basin fluctuates each year due to the nature of how 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 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 basin, and have not been adjusted to include only those samples collected in the river basin area.

There was an estimated net gain of 1,493,506 lbs. of phosphorus from animal waste produced in the basin for CY2011 due to an increase of 38,368 animal units (Agricultural Statistics, NCDA&CS, 2012).

**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 | CY 2008      | CY 2009      | CY 2010    | CY 2011    | 91 - 11 Change | CY2011 P Loss Risk +/- |
|--|----------------|--------------------|---------------|--------------|--------------|------------|------------|----------------|------------------------|
| Agricultural land                      | Acres          | FSA                | 807,026       | 763,066      | 756,365      | 731,408    | 721,432    | -11%           | -                      |
| Cropland conversion (to grass & trees) | Acres          | USDA-NRCS & NCACSP | 660           | 31,110       | 31,168       | 31,596     | 31,631     | 4,693%         | -                      |
| CRP / WRP (cumulative)                 | Acres          | USDA-NRCS          | 19,241        | 38,375       | 38,967       | 41,833     | 41,833     | -117%          | -                      |
| Conservation tillage                   | Acres          | USDA-NRCS & NCACSP | 41,415        | 31,421*      | 33,905*      | 35,946     | 40,612     | -1.94%         | -                      |
| Vegetated buffers (cumulative)         | Acres          | USDA-NRCS & NCACSP | 50,836        | 214,043      | 211,360      | 215,606    | 227,528    | 348%           | -                      |
| Water control structures (cumulative)  | Acres Affected | USDA-NRCS & NCACSP | 52,984        | 80,418       | 81,348       | 82,844     | 84,442     | 59%            | -                      |
| Scavenger crop                         | Acres          | LAC                | 13,272        | 109,741      | 92,376       | 108,888    | 86,283     | 550%           | -                      |
| Animal waste P                         | lbs P/yr       | NC Ag Statistics   | 13,597,734    | 14,560,934** | 14,608,377** | 15,202,037 | 16,695,543 | 23%            | +                      |
| Soil test P median                     | mg/kg          | NCDA&CS            | 83            | 89           | 84           | 86         | 87         | 4.82%          | +                      |

\* Conservation tillage is still being practiced on additional acres but this number only reflects active cost share contract acres, not acres where contracts have expired.

\*\* Due to the reporting protocol of the National Agricultural Statistics Service some of the numbers were not available for 2009. The additional numbers were derived from the NCDA & CS Emergency Program and the Division of Water Quality.

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 the EMC annually, and to bring any concerns raised by the results of this effort to the EMC’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.

### **Looking Forward**

The Tar-Pamlico BOC will continue to improve rule implementation, relying heavily on the basin technicians to work with the LACs and farmers.

Because cropping shifts are susceptible to various pressures, the BOC is working with LACs in all counties to continue BMP implementation that provides for a lasting reduction in nitrogen loss in the basin while monitoring cropping changes.

The committee overseeing the development of NLEW has been reviewing BMP efficiencies credited by the nutrient accounting software. This review is part of the ongoing examination of practices utilized to assess agriculture’s nutrient losses. Any recommended changes from the NLEW committee will be incorporated into nutrient accounting in future crop years.

**Basin Oversight Committee recognizes the dynamic nature of agricultural business.**

- Changes in the world economies, energy or trade policies.
- Changes in government programs (i.e., commodity support or environmental regulations)
- Weather (i.e., long periods of drought or rain)
- Scientific advances in agronomics (i.e., production of new types of crops or improvements in crop sustainability)
- 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)

The BOC will continue to review data from all studies as they are completed and become available and will consider the results as they relate to nutrient loadings from land based sources and uses. This includes studies related to the 2004 NPDES permit issued to Rose Acre Farms.

Funding is an integral part in the success of this strategy. Without funding for the technicians, the annual progress reports would fall on the LACs without assistance to compile data and annual reports. In addition, technicians are needed for BMP installation. Farmers and agency staff personnel with other responsibilities serve on the LACs in a voluntary capacity. If funding for technician positions is not available, the LACs would have a difficult time meeting the workload requirements.

**ATTACHMENT 7A**

**NCACSP Supervisor Contracts  
Soil and Water Conservation Commission**

| <b>County</b> | <b>Contract Number</b> | <b>Supervisor Name</b>  | <b>BMP</b>                            | <b>Contract Amount</b> | <b>Comments</b>             |
|---------------|------------------------|-------------------------|---------------------------------------|------------------------|-----------------------------|
| Anson         | 05-2013-002            | Larry J. Bare           | Stream Protection System              | \$ 20,712              |                             |
| Bertie        | 08-2013-001            | S. Pate Pierce          | Cover Crop                            | \$ 7,534               | Pate and Brent Pierce Farms |
| Currituck     | 27-2013-001            | Manly M. West           | Land Smoothing                        | \$ 10,967              |                             |
| Durham        | 32-2013-007            | Talmage Layton          | Heavy Use Area                        | \$ 4,377               |                             |
| Hertford      | 46-2013-002            | S. Pate Pierce          | Cover Crop                            | \$ 7,500               | Stewart Pierce Farms        |
| Jones         | 52-2013-001            | Robert H Davenport, Jr. | Critical Area Planting & Field Border | \$ 1,345               |                             |
| Union         | 90-2013-324            | James Kenneth Mills     | Waste Application System              | \$ 10,500              |                             |
| Union         | 90-2013-325            | Kelvin Baucom           | Waste Application System              | \$ 10,500              |                             |
| Union         | 90-2013-326            | Robert S Brooks, Jr     | Waste Application System              | \$ 10,500              |                             |
| Wake          | 92-2013-008            | Thomas R. Dean          | Cropland Conversion to Trees          | \$ 2,531               |                             |
|               |                        |                         |                                       |                        |                             |
|               |                        |                         |                                       |                        |                             |
|               |                        |                         |                                       |                        |                             |
|               |                        |                         |                                       |                        |                             |
|               |                        |                         |                                       |                        |                             |

Total Number of Supervisor Contracts:  
Total           \$           **86,466**



## SWCC Job Approval Authority Recommendations

November 15, 2012

Mr. Dennis Wiles, Yadkin SWCD technician, has submitted a request to obtain Commission Job Approval Authority for Water Needs Assessment.

Mr. Wiles has successfully completed the requirements and has acquired confirmation of demonstrated technical proficiency from a Division engineer; therefore I recommend that his job approval authority requests be approved.

#### MAILING ADDRESS

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1614 Mail Service Center  
Raleigh, NC 27699-1614

Telephone: 919-733-2302  
Fax Number: 919-733-3559

**An Equal Opportunity Employer**

#### LOCATION

Archdale Building  
512 N. Salisbury Street, Suite 504  
Raleigh, NC 27604

ATTACHMENT 8

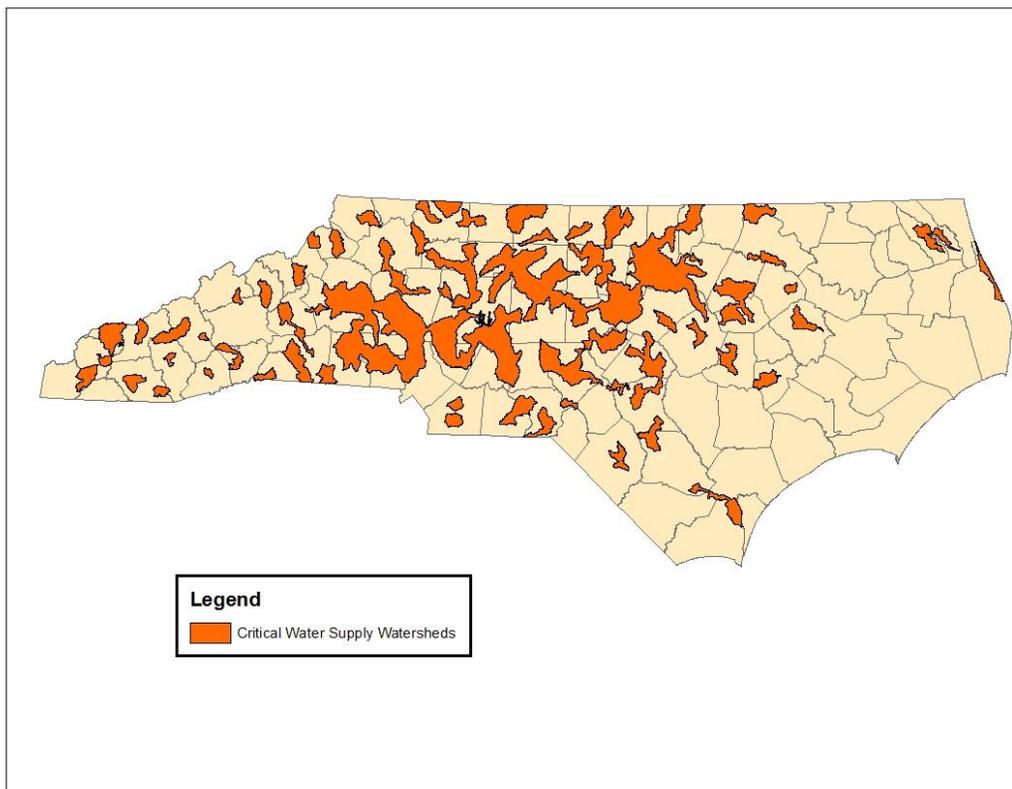
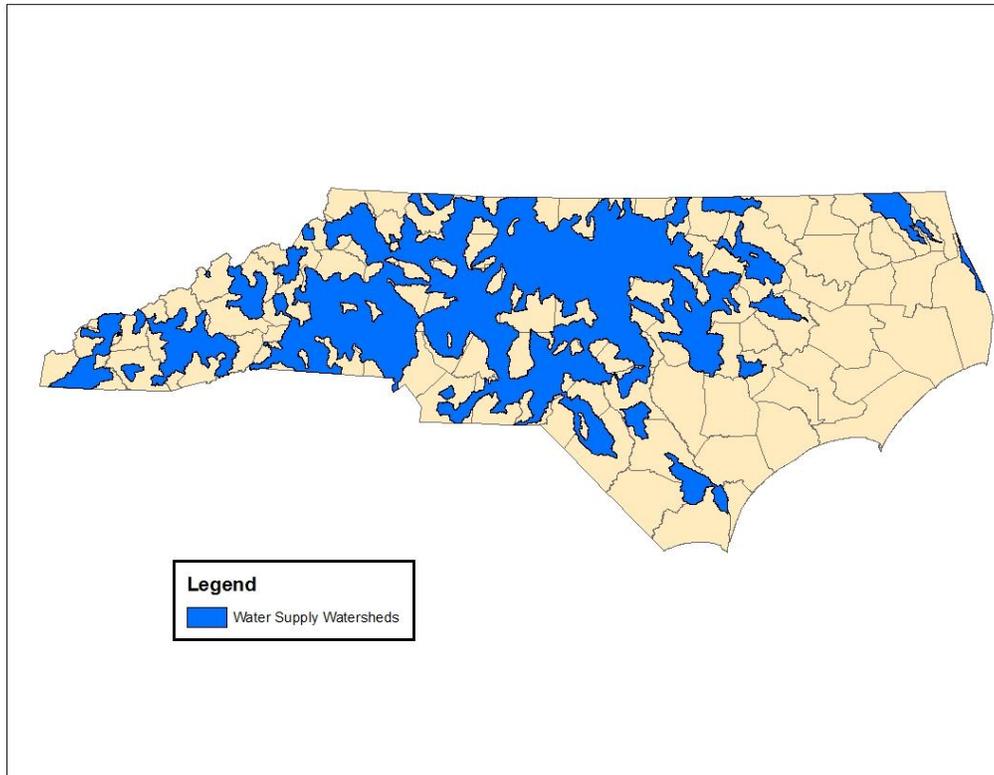
| SWCD Name             | Supervisor First Name / Middle Name | Supervisor Last Name / Suffix | Reappointment              |                   |                    |            | New Appointment  |
|-----------------------|-------------------------------------|-------------------------------|----------------------------|-------------------|--------------------|------------|--|
|                       |                                     |                               | Date Attended SOG Training | Meetings Attended | Meetings Scheduled | Percentage | Name   |
| Albemarle - Currituck | Joan                                | West                          |                            |                   |                    | #DIV/0!    | Recommending to appoint Rodney Johnson to the at large seat; he is located in Pasquotank |
| Alexander             | Wendell                             | Kirkham                       | 1997                       | 41                | 45                 | 91.11%     |  |
| Alleghany             | Jim L.                              | Dixon                         | 2008                       | 43                | 45                 | 95.56%     |  |
| Avery                 | David                               | Banner                        | 0                          |                   |                    | #DIV/0!    | Recommending David Banner (changing from elected seat)                                   |
| Beaufort              | Hiram O.                            | Paul, Jr.                     | 2004                       | 37                | 46                 | 80.43%     |  |
| Bertie                | Henry                               | Matthews, Jr.                 | 2003                       | 22                | 28                 | 78.57%     |  |
| Bladen                | Ray                                 | Allen                         | 2009                       | 24                | 26                 | 92.31%     |  |
| Brown Creek           | Billy E. "Eddie"                    | Edwards, Jr.                  | 2001                       | 34                | 37                 | 91.89%     |  |
| Brunswick             | Bryan R.                            | Smith                         | 2010                       | 27                | 30                 | 90.00%     |  |
| Buncombe              | David                               | Snelson                       | 2003                       | 38                | 45                 | 84.44%     |  |
| Burke                 | Jack H.                             | Huss                          | 1985                       | 34                | 36                 | 94.44%     |  |
| Cabarrus              | Ned Y.                              | Hudson                        | 2000                       | 46                | 46                 | 100.00%    |  |
| Caldwell              | Jack S.                             | Adams                         | 2003                       | 40                | 41                 | 97.56%     |  |
| Caswell               | William R.                          | Boaz                          | 2005                       | 43                | 45                 | 95.56%     |  |
| Catawba               | Joseph Alexander                    | Devine                        | 0                          |                   |                    | #DIV/0!    | Recommending Susan Devine  |
| Chatham               | Keith                               | Stanley                       | 2006                       | 28                | 31                 | 90.32%     |  |
| Cherokee              | Eddie                               | Wood                          | 2009                       | 39                | 46                 | 84.78%     |  |
| Clay                  | Glen                                | Cheeks                        | 2011                       |                   |                    | #DIV/0!    | Recommending Tammy Mull (changing from elected seat); attended SOG in 2011               |
| Cleveland             | J.M. "Jim"                          | Boggs                         | 2009                       | 30                | 35                 | 85.71%     |  |
| Craven                | Dietrich                            | Kilpatrick                    | 2009, 2010                 | 28                | 28                 | 100.00%    |  |
| Cumberland            | Wingate                             | Collier                       | 2007                       | 34                | 36                 | 94.44%     |  |
| Davidson              | Jerry                               | Hilton                        | 2009                       | 42                | 43                 | 97.67%     |  |
| Davie                 | Kevin                               | Marion                        | 2006                       | 39                | 48                 | 81.25%     |  |
| Duplin                | Gordon Rouse                        | Ivey                          | 0                          |                   |                    | #DIV/0!    | Recommending Louis Howard  |
| Edgecombe             | Joseph A.                           | Suggs                         | 1999                       | 26                | 27                 | 96.30%     |  |
| Fishing Creek         | Kenneth                             | Brantley                      | 2008                       | 18                | 21                 | 85.71%     |  |
| Forsyth               | Edward C.                           | Wall                          | 2006                       | 35                | 45                 | 77.78%     |  |
| Franklin              | E. Shane                            | Mitchell                      | 0                          |                   |                    | #DIV/0!    | Recommending Charles Mitchell; attended SOG in 2009                                      |
| Gaston                | Michael L.                          | Ferguson                      | 2009                       | 44                | 46                 | 95.65%     |  |
| Gates                 | Felton J.                           | Outland, Jr.                  | 2004                       | 19                | 20                 | 95.00%     |  |
| Graham                | Allen C.                            | DeHart                        | 2008                       | 34                | 42                 | 80.95%     |  |
| Granville             | Henry B.                            | Hagwood                       | 2009                       | 33                | 36                 | 91.67%     |  |
| Guilford              | David Roy                           | Bowman                        | 0                          |                   |                    | #DIV/0!    | Recommending Harold Alexander;   |
| Harnett               | Gerald R.                           | Temple                        | 2007                       | 37                | 41                 | 90.24%     |  |
| Haywood               | James M.                            | Ferguson                      | 2009                       | 47                | 48                 | 97.92%     |  |
| Henderson             | Wayne S.                            | Carland                       | 2001                       | 35                | 41                 | 85.37%     |  |
| Hertford              | Robert E.                           | Brinkley                      | 2007                       | 28                | 32                 | 87.50%     |  |
| Hoke                  | Joanne H.                           | Hendrix                       | 2009                       | 26                | 29                 | 89.66%     |  |
| Hyde                  | Earl                                | O'Neal                        | 1999                       | 21                | 21                 | 100.00%    |  |
| Iredell               | Jimmy                               | Gray                          | 2003                       | 38                | 42                 | 90.48%     |  |
| Jackson               | Henry T.                            | Fowler                        |                            | 12                | 16                 | 75.00%     |  |
| Johnston              | Jerry Dennis                        | Durham Jr.                    | 2007                       | 42                | 44                 | 95.45%     |  |

ATTACHMENT 8

| SWCD Name    | Supervisor First Name / Middle Name | Supervisor Last Name / Suffix | Reappointment              |                   |                    |            | New Appointment                              |
|--------------|-------------------------------------|-------------------------------|----------------------------|-------------------|--------------------|------------|--|
|              |                                     |                               | Date Attended SOG Training | Meetings Attended | Meetings Scheduled | Percentage | Name   |
| Jones        | Donald W.                           | Stilley                       | 2006                       | 17                | 23                 | 73.91%     |  |
| Lee          | David L.                            | Dycus                         | 2001                       | 36                | 39                 | 92.31%     |  |
| Lenoir       | Steven                              | Putnam                        | 0                          | 3                 | 3                  | 100.00%    | appointed May 2012 & after last SOG class    |
| Lincoln      | Roy                                 | Hoyle                         | 2007                       | 30                | 33                 | 90.91%     |  |
| Macon        | Melinda                             | James                         | 2005                       | 40                | 44                 | 90.91%     |  |
| Martin       | M. J. "Jeff"                        | Harris                        | 1997                       | 31                | 38                 | 81.58%     |  |
| Mecklenburg  | W. Gray                             | Newman, Jr.                   | 2004                       | 40                | 48                 | 83.33%     |  |
| Mitchell     | Doug                                | Harrell                       | 2009                       | 32                | 38                 | 84.21%     |  |
| Montgomery   | Don                                 | Thompson                      | 2000                       | 47                | 48                 | 97.92%     |  |
| Moore        | Harold                              | Brady                         | 2009                       | 29                | 30                 | 96.67%     |  |
| Nash         | John W.                             | Finch                         | 2005                       | 44                | 49                 | 89.80%     |  |
| New River    | Gary                                | Bare                          | 2001                       | 46                | 48                 | 95.83%     |  |
| Northampton  | Gene                                | Bennett                       | 2003                       | 26                | 33                 | 78.79%     |  |
| Onslow       | Timothy C.                          | Huffman                       | 2009                       | 25                | 26                 | 96.15%     |  |
| Orange       | Karen J.                            | McAdams                       | 2012                       | 9                 | 12                 | 75.00%     |  |
| Pamlico      | Patrick K.                          | Baker                         | 2009                       | 25                | 33                 | 75.76%     |  |
| Person       | Harold "Ricky"                      | Carver, Sr.                   | 2005                       | 27                | 28                 | 96.43%     |  |
| Pitt         | Thurston                            | James                         | 1994                       | 34                | 42                 | 80.95%     |  |
| Polk         | Hubert                              | McEntyre                      | 1997                       | 47                | 48                 | 97.92%     |  |
| Richmond     | Robert A.                           | Hill, Sr.                     | 2003                       | 51                | 53                 | 96.23%     |  |
| Robeson      | Walter K.                           | McGirt                        | 2009                       | 24                | 28                 | 85.71%     |  |
| Rockingham   | Kate                                | Campau                        | 2001                       | 39                | 48                 | 81.25%     |  |
| Rowan        | James F.                            | Summers                       | 2011                       | 35                | 43                 | 81.40%     |  |
| Rutherford   | W. Henry                            | Edwards                       | 0                          |                   |                    | #DIV/0!    | recommending David Migala                    |
| Sampson      | Curtis Greylon                      | Barwick                       | 2010                       | 20                | 25                 | 80.00%     |  |
| Scotland     | Aaron F.                            | Stack                         | 2009                       | 15                | 18                 | 83.33%     |  |
| Stanly       | John S.                             | Pickler                       | 2009                       | 26                | 26                 | 100.00%    | need signature on 2nd line of recommendation |
| Stokes       | James D.                            | Booth                         | 2006                       | 25                | 25                 | 100.00%    |  |
| Surry        | Gordon                              | Holder                        | 2009                       | 30                | 33                 | 90.91%     |  |
| Swain        | Mitchell A.                         | Jenkins                       | 2006                       | 48                | 48                 | 100.00%    |  |
| Transylvania | Richard W. "Dick"                   | Bragg                         | 2005                       | 41                | 43                 | 95.35%     |  |
| Union        | J. Kenneth                          | Mills                         | 1994                       | 21                | 22                 | 95.45%     |  |
| Vance        | J.G.                                | Clayton                       | 2009                       | 24                | 29                 | 82.76%     |  |
| Wake         | Thomas R.                           | Dean                          | 2007                       | 33                | 43                 | 76.74%     |  |
| Warren       | Leon S.                             | Williams                      | 0                          |                   |                    | #DIV/0!    | Recommending Russell King                    |
| Washington   | Ernest Wayne                        | Grimes                        | 2002                       | 21                | 22                 | 95.45%     |  |
| Watauga      | Denny                               | Norris                        | 2004                       | 52                | 53                 | 98.11%     |  |
| Wayne        | Dennis R.                           | Waller                        | 2010                       | 22                | 29                 | 75.86%     |  |
| Wilkes       | Zach                                | Myers                         | 2009                       | 31                | 39                 | 79.49%     |  |
| Wilson       | Thad                                | Sharp, Jr.                    | 2007                       | 34                | 35                 | 97.14%     |  |
| Yadkin       | Jo R.                               | Linville                      | 1998                       | 44                | 61                 | 72.13%     |  |
| Yancey       | Dwight H.                           | Johnson                       | 2007                       | 25                | 29                 | 86.21%     |  |

ATTACHMENT 8

| SWCD Name   | Supervisor First Name / Middle Name | Supervisor Last Name / Suffix | Reappointment              |                   |                    |            | New Appointment  |
|---|-------------------------------------|-------------------------------|----------------------------|-------------------|--------------------|------------|--|
|   |                                     |                               | Date Attended SOG Training | Meetings Attended | Meetings Scheduled | Percentage | Name   |
| <b>RECOMMENDED FOR REAPPOINTMENT AND CURRENTLY SERVE ON COMMISSION</b>                                  |                                     |                               |                            |                   |                    |            |  |
| Columbus  | Bobby N.                            | Stanley                       | 2009                       | 52                | 55                 | 94.55%     |  |
| Randolph  | William Craig                       | Frazier                       | 2011                       |                   |                    | #DIV/0!    | Board to take action in November   |
| <b>RECOMMENDED FOR REAPPOINTMENT AND HAVE NOT ATTENDED SOG TRAINING</b>                                 |                                     |                               |                            |                   |                    |            |  |
| McDowell  | Terry                               | English                       | has not attended           | 22                | 26                 | 84.62%     | Started Dec. 1982; has agreed to attend next training per Mott Buff's email  |
| Jackson   | Henry T.                            | Fowler                        | has not attended           | 12                | 16                 | 75.00%     | started March 2011; has agreed to attend next training; awaiting paperwork from Jackson SWCD                         |
| <b>RECOMMENDED FOR REAPPOINTMENT AND HAVE NOT ATTENDED 2/3 OF REGULARLY SCHEDULED DISTRICT MEETINGS</b> |                                     |                               |                            |                   |                    |            |  |
| Alamance  | Albert                              | Madren                        | 2002                       | 27                | 42                 | 64.29%     | Attendance - back surgery (see board letter)   |
| Durham  | Curtis John                         | Richardson                    | 2008                       | 25                | 42                 | 59.52%     | Attendance - Professor Richardson was on sabbatical conducting research outside of district in 2011-2012 (see email) |
| Madison   | Jeremy P.                           | Fox                           | 0                          | 3                 | 5                  | 60.00%     | appointed May 2012 & after last SOG class, attendance - firefighter & new twins; wife dr. appt. (see email)          |
| <b>RECOMMENDED FOR APPOINTMENT FOR UNEXPIRED TERMS</b>  |                                     |                               |                            |                   |                    |            |  |
| Cleveland   | Bill                                | Walker                        |                            |                   |                    |            | Recommending Jeff Cornwall   |
| Wake  | Laura                               | Parker                        |                            |                   |                    |            | Recommending Patrick Johnson (awaiting approval and paper work with signatures)                                      |
| Washington  | Gerald                              | Allen                         |                            |                   |                    |            | Recommending Gerda Rhodes  |



## **REQUEST FOR SPECIAL POULTRY WASTE FUNDS**

The General Assembly appropriated \$450,000 to the Division to fund innovative poultry waste management technology, there is \$146,065 remaining. The commission is opening an application period to contract the remaining funds.

Districts can submit an application at the following website: (Google Document Application)

The request form must be submitted by **March 1, 2013** to be considered.

Funds will be allocated to districts by the commission. These funds will be used for complete installations of the technology at 75% cost share based on the PY2013 ACSP Average Cost List. The commission has approved the following criteria for allocating funds to districts (criteria in priority order):

1. Demonstrate the technologies on various types of operations (e.g., broilers, turkeys, roasters)
2. Demonstrate the technologies on different sizes of birds (e.g., broilers, pullets)
3. Distribute systems geographically

The division will review applications and develop a proposed allocation for commission consideration at its March 20, 2013 meeting in Raleigh.

Questions should be directed to Kelly Ibrahim (kelly.ibrahim@ncagr.gov, 919-715-9631)



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*FRANKLIN SOIL AND WATER CONSERVATION DISTRICT*  
*101 South Bickett Blvd, Suite B • Louisburg, NC 27549 • (919) 496-3137 • Fax (919) 496-7235*

To: North Carolina Soil & Water Commission

From: Franklin County SWCD Board

This is a request from the Franklin County SWCD to pay Carmen Parkhurst (contract number 35-2010-12-13) for work completed. Charles Bass our NCACSP specialist mistakenly did not extend the contract to cover the time needed to finish the contract. The district would appreciate time at the November Commission to resolve this matter.

Tom Gulley

Chair: FCSWCD

**NORTH CAROLINA SOIL AND WATER CONSERVATION COMMISSION**  
**COMMISSION POLICY PERTAINING TO GENERAL EXPENSE FOR DISTRICTS**

**Updated November 28, 2012**

**STATEMENT OF POLICY:**

Each Soil and Water Conservation District (district) embracing a single county and each county within a multi-county district shall be authorized to receive an amount from the "General Expenses" category of the Commission's budget. The current yearly allocation is \$3,600 per county.

**REQUIREMENT:** The Soil & Water Conservation Commission (commission) shall not disburse "general expense" funds until a master contract is established between the state, through the NC Department of Agriculture and Consumer Services, and the individual district to facilitate the payment of obligations like matching and technical assistance funds. The district is responsible for submitting the required contract information and the master contract is to be signed by the district chair and district financial representative.

**LIMITATIONS:**

- A. General expense funds can be budgeted for:
1. Salaries and benefits
  2. Travel and other operating expenses for district staff
  3. Communications
  4. Printing
  5. Supplies
  6. Equipment
  7. Watershed development
  8. Conservation demonstrations
  9. Educational projects
- B. "General Expense" funds cannot be budgeted or spent for:
1. Supervisor mileage, subsistence and per diem in excess of reimbursements normally paid by the Commission
  2. Membership dues including NC Association Soil & Water Conservation Districts area and state dues, and the National Association of Conservation Districts dues.

**AVAILABILITY OF FUNDS**

All authorizations are subject to the availability of funds for the stated purpose.

**EFFECTIVE DATE**

This policy shall be in effect on or after November 28, 2012 and shall remain in effect until rescinded, amended or otherwise altered by the commission. Notice shall not be required.

The NC Soil and Water Conservation Commission adopted this policy in regular session on November 28, 2012.

A handwritten signature in cursive script that reads "Vicky Porter". The signature is written in black ink and is positioned above a horizontal line.

Vicky Porter, Chair  
NC Soil & Water Conservation Commission

**North Carolina Soil and Water Conservation Commission  
Policy for District Supervisor Mileage, Subsistence and Per Diem Reimbursements  
Updated November 28, 2012**

**I. Guiding Principles**

Non-staff travel, as made available through the Division of Soil and Water Conservation (division), supports supervisor mileage, subsistence and per diem for the following functions: monthly local Soil & Water Conservation District (district) board meetings; spot check field reviews required by the NC Agriculture Cost Share Program (ACSP), Agricultural Water Resources Assistance Program (AgWRAP) and Community Conservation Assistance Program (CCAP); Soil and Water Conservation Commission (commission) meetings; annual UNC School of Government's *Basic Training for Soil and Water Conservation District Supervisors*; NC Association of Soil & Water Conservation District (NCASWCD) spring and fall area meetings; and the annual NCASWCD state meeting. The following guiding principles, as a general guide and not as an absolute, will be used to manage the allocation of funds to each of the different functions:

**II. Local District Board Meetings and Spot Check Field Reviews**

- A. Regular monthly meetings of the local district board and spot checks related to the ACSP, AgWRAP and CCAP are a high priority. This budget priority is directly tied to statutory responsibilities of supervisors and is directly related to the mission and goals of the NC Department of Agriculture & Consumer Services (NCDA&CS) and the division.
- B. The budget line item to support local district meetings and spot check responsibilities should constitute approximately 50% of the total available funds, preferably more.

**III. Commission**

- A. Meetings and functions of the commission are critical due to statutory responsibilities and the direct relationship with the mission and goals of NCDA&CS and the division.
- B. The budget line item to support commission travel should be maintained at a level necessary to support six (6) meetings per year.

**IV. School of Government Training**

- A. *Basic Training for Soil and Water Conservation District Supervisors* annual training at the UNC School of Government in Chapel Hill has high priority due to commission policy regarding required training for appointed supervisors and the division's responsibility to provide adequate supervisor training to ensure new supervisors are adequately equipped to fulfill their statutory responsibilities.

B. To maximize the use of available funds, supervisor attendance at the School of Government training should be prioritized as follows: (1) supervisors required to attend for appointment, (2) any new supervisor and/or first time attendee, (3) supervisors who have not had the training within the past five years, and (4) all supervisors.

C. Approximately 5% of available funds should be directed to the School of Government training on a yearly basis. Attendance should be approved as per the above priorities when necessary to stay within budget guidelines.

**V. NCASWCD Annual State Meeting**

A. The annual state meeting is critical to a comprehensive, statewide conservation program and should be conducted on an annual, recurring basis.

**VI. Spring and Fall Area Meetings**

A. Spring and fall area meetings are important to the effectiveness of local districts and the operation of the NCASWCD. It is desirable to conduct both area meetings but critical that at least one area meeting is held per year in each of the NCASWCD's organizational areas.

B. Of the two area meetings, the fall meeting is the most critical due to resolution consideration, standing committee appointments, nominations and election of officers, etc. In addition, the spring area meetings start less than six weeks after the close of the annual state meeting.

**VII. General Budget Planning Guidelines**

A. Budget planning should be guided, not as an absolute, by the following as a percentage of available funds:

- District monthly meetings and spot checks 50.0%
- Commission meetings 3.0%  
(based on funding needed to conduct 6 meetings)
- School of Government training 5.5%
- Spring and fall area meetings 5.5%
- Annual state meeting 36.0%

**VIII. Reimbursement Guidelines**

A. All approvals and authorizations are contingent upon funding availability and are in accordance with the NC Office of State Budget and Management (OSBM) statutory rates for reimbursement. Updates to funding availability and reimbursement rates will be posted to the district listserv and at: <http://www.ncagr.gov/SWC/districts/forms.html>.

- B. State employees (or individuals who receive all or part of their income from state appropriations) who also serve as district supervisors are not eligible to receive per diem and are subject to different subsistence and mileage reimbursements per OSBM guidelines. For specific guidance go to: <http://www.ncagr.gov/SWC/districts/forms.html>
- C. Other eligibility requirements:
- Only original receipts will be accepted with travel vouchers
  - Travel vouchers must be submitted by the last day of the month following the month in which the travel occurred.
- D. Specific policy regarding district supervisor mileage, subsistence and per diem is as follows:
- 1. Annual State Meeting**
    - a. In accordance with GS 139-7, approval of the commission is hereby given to all qualified supervisors to attend the annual state meeting of the NCASWCD.
    - b. All qualified supervisors who attend the annual state meeting are authorized to receive mileage, subsistence and per diem allowances in accordance with the OSBM statutory rates for reimbursement.
    - c. The requirement for a quorum of supervisors from an individual district is hereby waived in the case of attendance at an annual state meeting.
  - 2. Local District Board Meeting**
    - a. In accordance with state statutory rates, each supervisor is authorized to receive mileage, subsistence and per diem allowances for a maximum of 12 local district board meetings during the state's fiscal year, where a quorum is present.
    - b. Officially adopted minutes of district meetings, duly signed by the board secretary or board chair, are required by the commission to support the payment of travel funds and should be provided to the division as soon as they are available. Travel reimbursement may be processed based on draft minutes of district meetings and such minutes must be submitted with travel vouchers, and followed by officially adopted minutes as soon as possible.
    - c. For district supervisors who are not state employees, subsistence will be limited to the equivalent of a dinner allowance only. *(For FY2012-2013, this equivalent is \$17.90)*
  - 3. Area Meetings**
    - a. In accordance with GS-139-7, expressed approval of the state commission is hereby given to all qualified supervisors to receive mileage, subsistence and per diem allowances in accordance with the OSBM statutory rates for reimbursement to attend two NCASWCD semi-annual area meetings within their respective areas.

- b. The requirement for a quorum of supervisors from an individual district is hereby waived in the case of attendance at area meetings.
- c. An area meeting attendance list must be submitted to the division before travel reimbursements can be made.
- d. Subsistence will be limited to the meeting's registration cost not to exceed \$30.00. No other meal allowance equivalent is eligible for reimbursement.

**4. Other Meetings**

- a. A Supervisor shall be authorized to receive mileage, subsistence and per diem allowances for any local district board meeting held outside the district in which he or she ordinarily serves, provided **prior written approval** is obtained from the commission or its designee.
- b. No supervisor shall be authorized to receive mileage, subsistence and per diem allowances to attend meetings relating to any existing or proposed RC&D Project.
- c. In addition to the annual state meeting, two area meetings, regularly scheduled monthly district meetings and spot checks, a supervisor shall be authorized to receive mileage, subsistence and per diem allowances for travel directly related to other duties and responsibilities of their position as approved in advance by the commission.

**5. N.C. Agriculture Cost-Share Program (ACSP), Agricultural Water Resources Assistance Program (AgWRAP) and the Community Conservation Assistance Program (CCAP)**

- a. Supervisors are authorized to receive mileage, subsistence and per diem for meetings called by the division in regard to the ACSP, AgWRAP and CCAP.
- b. District supervisors are authorized to receive mileage, subsistence and per diem for the required five percent (5%) field review of the ACSP, AgWRAP and CCAP contracts and related practices in their county.
- c. The requirement for a quorum of supervisors from an individual district is hereby waived in the case of attendance at spot check field reviews.
- d. Supervisors are authorized to receive mileage, subsistence and per diem for attendance at commission meetings where the supervisor is called upon to represent his/her respective district before the commission.

This policy shall be in effect on and after November 28, 2012, and shall remain in effect until rescinded, amended, or otherwise altered by the Soil and Water Conservation Commission. Any change in policy shall be effective at the discretion of the Commission. Notice shall not be required.

This policy was adopted by the Soil and Water Conservation Commission in regular session on November 28, 2012.

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Vicky Porter, Chair  
Soil and Water Conservation Commission

DRAFT