

**REPORT TO THE ENVIRONMENTAL REVIEW COMMISSION  
AND FISCAL RESEARCH DIVISION OF THE NORTH CAROLINA  
GENERAL ASSEMBLY ON WATER QUALITY ACCOUNTABILITY  
FOR THE AGRICULTURE COST SHARE PROGRAM  
PROGRAM YEAR 2015**



**EXECUTIVE SUMMARY**

The North Carolina Agriculture Cost Share Program (ACSP) was authorized by the General Assembly in 1983 to improve water quality associated with agriculture in three nutrient sensitive watersheds covering 16 counties. In 1990, the program was expanded to include 96 soil and water conservation districts (districts) covering all 100 counties across the state. In program year 2015, districts requested \$ 19,586,411 to address identified water quality concerns. The General Assembly appropriated \$4,052,237 in recurring general funds for BMP installation. Current appropriations do not enable districts to meet demand for financial assistance for installing BMPs to protect water quality in North Carolina.

In 2015, local soil and water conservation districts obligated \$5,717,911 of state appropriated cost share funds to 766 new contracts with farmers. In addition, the North Carolina Agriculture Cost Share Program (ACSP) infrastructure was used to implement conservation practices using several other funding sources. In all, districts obligated \$6,164,207 to 813 contracts. Appendix A presents the total number and value of 2015 contracts for each county. Between 1984 and 2015 it is estimated that an average of 7 million tons of soil have been saved annually during the life of the program. Also the program has reduced nitrogen and phosphorus losses from agricultural land by 21 million and 6.5 million pounds per year average, respectively.

The Soil and Water Conservation Commission (commission) believes the ACSP is being administered cost-effectively and that considerable water quality benefits are being realized for the investment made with state funds. The program aids agricultural operations in making essential water quality improvements. The cost of these water quality practices cannot be passed on to the consumer in the price of the food or fiber product. The ACSP thereby contributes both to water quality and to sustaining a strong state agricultural economy. The commission continues to emphasize prioritizing, targeting, accountability, leveraging, and adaptability in managing these public funds to further improve the water quality benefits intended by the General Assembly. Further information about the program can be found in appendices A-G.

- A. Total number and value of PY2015 contracts by county
- B. Map of 2015 ACSP Contracted BMPs
- C. PY2014 Detailed Implementation Plan
- D. BMP effects table
- E. PY2015 Spot Check Report
- F. Funding and Compliance Process
- G. BMP Photos

## **BACKGROUND**

The North Carolina Agriculture Cost Share Program (ACSP) was authorized by the General Assembly in 1983 to improve water quality associated with agriculture in three nutrient sensitive watersheds covering 16 counties. In 1990, the program was expanded to include 96 soil and water conservation districts (districts) covering all 100 counties across the state.

While the Soil and Water Conservation Commission (commission) has the statutory responsibility to create, implement and supervise the ACSP, it is delivered at the local level by 492 elected and appointed district supervisors who are assisted by their staff and partners in natural resource conservation. These partners include technical and professional employees of the soil and water conservation district or county, the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), the North Carolina Department of Agriculture and Consumer Services (NCDA&CS) Division of Soil and Water Conservation (division), the North Carolina State University Cooperative Extension Service, and the North Carolina Department of Agriculture and Consumer Services.

The commission continues to adapt the program to respond to changing needs and technology. There were 71 approved best management practices (BMPs) in the ACSP for program year 2015. BMPs include both short-term and long-term practices. For a BMP to be approved by the commission, a NRCS technical standard addressing the water quality problem must exist, or the commission must adopt standards for the practice. Sufficient cost information must also be available to determine the appropriate cost share amount. Occasionally, BMPs are approved on a limited scale for evaluation purposes. These are referred to as district BMPs. The definitions of approved BMPs for the ACSP are provided in the Detailed Implementation Plan (Appendix C).

For most practices, the amount provided in cost share is based on 75 percent of a predetermined average cost for the practice up to a maximum of \$75,000 per cooperating farmer per year. However, some practices are cost shared on 75 percent of actual cost due to the variable nature of the practice. Farmers who qualify as beginning farmers or limited resource farmers, and farmers participating in an enhanced voluntary agricultural district are eligible to receive up to 90 percent cost share up to a maximum of \$100,000 per year.

The commission conducts a wholesale review of its cost share average costs every three years, but it makes necessary corrections when presented with information that one of its predetermined costs is inaccurate.

Districts spot check a minimum of 5 percent of randomly selected active contracts each year to ensure that practices are being maintained properly. The division and NRCS also spot check contracts as part of regular reviews of district office implementation of the ACSP. Spot checks for 2015 showed excellent compliance with maintenance requirements by participating farmers. Only 2 percent of contracts all contracts checked were out of compliance. When practices are discovered to need additional maintenance, the district is usually able to assist the cooperator to restore the practice to its intended function. The 2015 Spot Check Report can be viewed in Appendix E.

## **PROGRAM ACCOMPLISHMENTS**

Since the first ACSP contracts were issued in 1984 through the end of program year 2015, 58,504 contracts have been approved for installing BMPs affecting over 3 million acres. Most BMPs have a life expectancy of ten years, which is how long participating farmers must agree to maintain the practices.

Early in the program, the major factor used for determining success was tons of soil saved because the program funded predominantly sediment and erosion control practices. It is estimated that best management practices installed through the ACSP since its inception are saving over 7.6 million tons of soil annually. Since the mid-1990s, while continuing its attention on minimizing soil loss and erosion, the program has increased its attention on reducing and managing nutrients from cropland and livestock production. Part of the impetus for this new attention was the promulgation of the 15A NCAC 2H.0200 (now 15A NCAC 2T) animal waste management rules and the nutrient sensitive waters strategies for the Neuse and Tar-Pamlico River Basins as well as Jordan and Falls Lakes.

Highlights of additional accomplishments include the following:

- 203,270 acres of marginal or environmentally sensitive cropland have been converted to trees, grass or wildlife habitat areas.
- 4,075 waste management practices have been installed to properly store and manage dry and wet animal waste.
- 955 mortality management systems have been installed to properly manage livestock mortalities to minimize water quality impacts.
- 4,176 water control structures have been installed improving water management on and reducing nutrient loss from approximately 323,504 acres.
- 1,305 miles of fencing have been erected, in combination with other practices (e.g., watering sources) to exclude livestock from streams.
- 662,528 acres of cropland have been converted to no-till or conservation tillage to reduce sediment loss associated with traditional practices.
- 17,010 acres of forested riparian buffer have been established to reduce nutrient loss from approximately 68,034 acres of cropland.
- 148 chemical handling and management structures have been installed to provide an environmentally safe means for mixing and storing agricultural chemicals.

## **REPORTING REQUIREMENTS**

### Projects Receiving State Funds

Participating farmers have up to three years to complete the work included in ACSP contracts. Therefore, cost share payments made each year may be for contracts written in the current program year or in the two previous program years. For this reason the fund balance for the program will always exceed the amount appropriated in a given year.

Each contract may include only one BMP or a system of practices that include several BMPs. Cost share payments are made only when installation of a BMP is completed and certified to be in accordance with current NRCS or commission standards.

ACSP payments were applied to 1,311 projects statewide between July 1, 2014 and June 30, 2015. These contracts received total payments of \$4,074,389. A list of individual contracts to which agriculture cost share funds were applied in program year 2015 is available upon request.

### New Contracts for Program Year 2015

In program year 2015, districts requested \$19,586,411 to address identified water quality concerns. The General Assembly appropriated \$4,016,998 in recurring general funds for BMP installation. Current appropriations do not enable districts to meet demand for financial assistance for installing BMPs to protect water quality in North Carolina.

In total, the commission allocated \$6,077,866 to districts. In addition to the 2015 appropriation, the commission also had available for allocation (1) funds allocated to districts in 2015 with which districts were unable to execute contracts with farmers prior to the end of the program year and (2) funds recovered from completed and expired contracts from program years 2013 through 2015. Despite the commission's actions to improve efficiency of the ACSP, districts still must turn away two out of every three farmers requesting cost share assistance due to lack of available funding.

Districts obligated \$5,717,911 of state appropriated cost share funds to 766 new contracts with farmers in program year 2015. In addition, the ACSP infrastructure was used to implement conservation practices using several other funding sources. In all, districts obligated \$6,164,207 from all appropriated and grant funds to 813 contracts. Appendix A presents the total number and value of 2015 contracts for each county.

#### Estimated Water Quality Benefits of ACSP Contracts Initiated in 2015

N.C.G.S 143-215.74(b)(7) requires that each project's benefits to water quality be estimated before funding is awarded. To meet this requirement, the commission chose three indicators of water quality benefits: (1) tons of soil saved, (2) pounds of nitrogen saved or managed, and (3) pounds of phosphorus saved or managed.

Soil savings estimates have been required on all ACSP contracts since the start of the program. Beginning with the 1997 program year, estimates of nitrogen and phosphorus savings were required. The division continues to work with the Division of Water Resources, NRCS, and North Carolina State University to improve and refine the methods used to estimate and account for nutrient reductions.

These estimates have allowed the division to track progress made by agriculture relative to the nutrient reduction requirements in the Neuse, Tar-Pamlico, Jordan Lake and Falls Lake nutrient reduction strategies for agriculture. The ACSP is playing a key role in helping farmers achieve and maintain the nutrient reductions required by these rules.

Local districts determine which projects are eligible for funding in their areas according to a required priority ranking process. The priority ranking is tailored to each district's water quality concerns. The water quality evaluations on each project are carried out at the district level, and the water quality benefit estimates are provided to the division on each contract in the online contracting system.

Between 1984 and 2015 it is estimated that an average of 7 million tons of soil have been saved annually during the life of the program. Also the program has reduced nitrogen and phosphorus losses from agricultural land by 21 million and 6.5 million pounds per year, respectively.

The division does not have a good tool for estimating the benefits for many of important and popular BMPs, such as livestock watering wells and livestock exclusion fencing. Still, these practices are known to improve water quality by reducing livestock dependence upon streams for watering. The Technical Review Committee for the program has formed a conservation effects workgroup to review any new data or potential accounting methods that come available. Another factor impacting benefits is the reduced total number of contracts per year. Fewer contracts are due to the reduced funding for the program and the increase in costs for materials and practices over time.

Some BMPs standing alone will not directly result in sediment or erosion reductions or nitrogen or phosphorus savings, but are used in conjunction with other practices. These BMPs are called "facilitating practices" and are necessary to facilitate and ensure that other practices in the BMP system are effective at reducing nutrient or sediment loading to a water resource. Therefore, their reduction credit is linked to the facilitated practice. An example of a facilitating practice is a water tank, which must be installed for livestock drinking water purposes before fencing can be put up to keep livestock out of a stream.

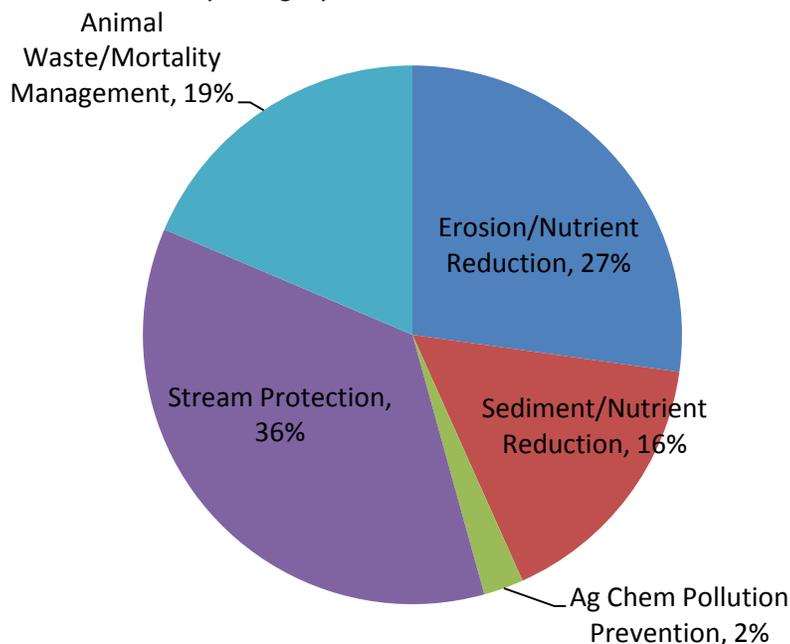
Effectiveness of Each Project to Accomplish Its Primary Purpose

The statutory purpose of the program and each project is to improve water quality by reducing the input of agricultural non-point source pollution into the water courses of the state. Each BMP approved for the ACSP is designed for at least one of five major purposes to protect the water resources of the state:

- (1) sediment/nutrient delivery reduction through reduction of applied nutrients, reduction of soil loss, or interception of nutrients from fields;
- (2) erosion reduction/nutrient loss reduction in fields through reduction of applied nutrients or prevention of soil detachment;
- (3) prevention of agricultural chemical pollution of ground or surface water from improper handling or accidents;
- (4) reduction of nutrient loading through proper management of animal waste;
- (5) stream protection measures to reduce the delivery of sediment and nutrients by animals and stabilize streambanks to minimize further erosion and sediment contribution.

As shown in Figure 1, 27 percent of the 2015 funds from all funding sources were directed toward erosion and nutrient-reducing BMPs (e.g., conservation tillage, cropland conversion to grass or trees); 16 percent were directed toward sediment and nutrient-reducing BMPs (e.g., riparian buffers, field borders, grassed waterways); 36 percent were directed toward stream protection systems (e.g., livestock exclusion); 19 percent were directed toward animal operations for waste and mortality management BMPs (e.g., poultry litter storage structures, closure of inactive lagoons, livestock feeding/waste storage structures); and 2 percent was directed toward agrichemical pollution prevention measures (e.g. agrichemical handling facilities). Appendix D includes charts showing the approved BMPs in these categories and their relationship to water quality improvement.

Figure 1: 2015 ACSP Contracts by Category



Projects for which program funds have been expended are verified by staff to ensure that the practices are installed in accordance with program standards and that it is accomplishing its primary purpose.

## **TARGETING ACSP FUNDS TO WATERSHEDS OF IMPAIRED WATERS**

The commission continues to exercise leadership in allocating ACSP resources to local districts containing impaired waters. This is best illustrated by the fact that the commission targeted \$500,000 of funds available in 2015 for the specific purpose of installing BMPs into watersheds listed on the State's 303(d) list of impaired waters or those impacted due to agricultural nonpoint source pollution. Agriculture was identified as a potential source of pollutants to impaired waters in 94 counties. This allocation was limited to 42 districts that completed Impacted/Impaired Streams Initiative surveys to identify specific project locations to address the potential sources of the impairment.

In 2015, about 8 percent of ACSP funds were used to implement BMPs in watersheds of impaired waters. Considering that only 2.4 percent of North Carolina's stream miles are attributed to being impaired by agricultural sources, this demonstrates that the ACSP funds are being significantly targeted toward improving streams that do not fully meet their uses.

Approximately 28 percent of funds contracted in program year 2015 were contracted with farmers in the Neuse and Tar-Pamlico River Basins to help them achieve and maintain the required 30 percent reduction in agricultural nitrogen losses. Districts in the Neuse and Tar-Pamlico Basins will continue to use ACSP to sustain the reductions already achieved and to attain further voluntary reductions in these nutrient sensitive watersheds. ACSP funds are also being used to reduce phosphorus losses from agriculture to help achieve the goal of no net increase in phosphorus loading to the Tar-Pamlico Basin. Participating farmers continue to assess phosphorus losses using the Phosphorus Loss Assessment Tool (PLAT). The Commission also targeted \$200,000 of program year 2015 funds to districts to assist with implementation of riparian buffers under the Conservation Reserve Enhancement Program (CREP).

### Incorporating Information from the Basinwide Water Quality Plans Published by the Division of Water Resources (DWR)

In 2005, the commission established a policy relating District Strategy Plans to the DWR's Basinwide Water Quality Plans which requires that all strategy plans for ACSP include a section describing waters listed as impaired or with notable water quality problems and concerns as documented in the most recent basinwide water quality plan(s), and for which agriculture is a potential source or stressor. The district should also list any waters of local concern for which agriculture has been identified as a potential source or stressor. This section of the strategy plan should also describe how the district intends to address agricultural nonpoint source problems impacting these waters.

All districts completed this section of the strategy plan and documented the impaired waters in their county and the actions the district plans to take to address the problems impacting these waters.

## **NEW PROGRAM ENHANCEMENTS TO IMPROVE EFFICIENCY AND PROGRAM DELIVERY**

ACSP is focused on continually improving the program's cost effectiveness due to recurring budget reductions in state appropriations. The commission moved forward on enhancements for the 2014-2015 program year. These enhancements were designed to improve the efficiency by which program funds are used by agricultural cooperators to install BMPs and to improve the responsiveness of the program to state and local water quality priorities.

### Database Development and Implementation

The new NCDA& CS Soil and Water Cost Share Contracting System (CS<sup>2</sup>) became fully operational in April 2014 and is now being utilized statewide for all cost share programs. The CS<sup>2</sup> system allows for improved efficiency in contract and payment

functionality as well as an increased level of customer service, system support and reporting. Plans are being made to make additional upgrades to the CS<sup>2</sup> system in 2016 that will allow for more reporting capabilities and improved functionality.

### Program Changes

For program year 2015 the Commission approved the following changes to existing practices:

- a. Waste Application Systems- clarified the BMP policy for existing systems.
- b. Livestock Mortality Management Systems- clarified the BMP policy for existing systems.

## **COST-EFFECTIVENESS CONSIDERATIONS**

The ACSP is a cost-effective program from both a state expenditure perspective and the farmer's perspective. This program has been credited with helping the state to achieve considerable success in protecting and improving water quality. Many farmers could not afford to implement BMPs (many of which are required by regulations) without cost share assistance. Because a farmer must invest at least 25 percent of the cost for BMPs, the farmer has ownership in the practice and is more likely to maintain it. The educational value of local farmers participating in the program is substantial in helping to change local practices.

### Leveraging Additional BMP Implementation Funds from Other Sources

In addition to the appropriated funds for the Agriculture Cost Share Program, the division and districts used the Agriculture Cost Share Program infrastructure to encumber over \$369,000 in grant funds from other funding sources to conservation contracts with NC agricultural producers and landowners. These funding sources included:

- Clean Water Management Trust Fund (grant funds to support implementing water quality best management practices in the French Broad and Yadkin River Basins and in support of the Swine Buyout Program);
- US EPA Section 319 (grant funds to support implementing water quality best management practices in the Dan River Watershed and Jordan Lake Watershed);
- Two separate USDA Conservation Innovation Grants for installing innovative mortality management practices for livestock operations, and installing innovative controlled drainage structures on crop production operations.
- Environmental Defense Fund and NC Foundation of Soil and Water (grant to support implementing practices that reduce agricultural inputs from tile drainage)

ACSP funds are an essential part of the state match for the Conservation Reserve Enhancement Program (CREP), a federal/state partnership. ACSP and other state programs (CWMTF) are providing a total of \$54 million over eight years to match \$221 million in federal payments to North Carolina landowners participating in CREP.

ACSP funds for BMP implementation and technical assistance also provide the required state match for EPA-319 grants for accelerating BMP implementation in the Neuse River Basin, Dan River and Jordan Lake Watersheds.

Whenever possible, the districts use the ACSP in conjunction with other programs, such as the federal Environmental Quality Incentive Program (EQIP) and the Conservation Reserve Enhancement Program (CREP), to stretch scarce resources as far as possible. Districts also partner to meet the needs of cooperating producers and landowners.

### Leveraging of Local and Federal Resources for Technical Assistance and Local Delivery

The ACSP is delivered locally by 492 elected and appointed volunteer district supervisors and by over 440 local staff of districts and NRCS. District supervisors receive no state salary, yet are responsible for seeing that state funds are spent where they are most needed to improve water quality. District supervisors are required to develop a prioritization ranking

system for administering the ACSP in their respective district to maximize the water quality benefits of the program. Applications to each district are evaluated and prioritized according to this system. District supervisors also must inspect at least five percent of all cost share contracts in their district every year to ensure the BMPs are properly maintained.

The ACSP is heavily dependent on the technical resources of the local districts and the NRCS. District and federal employees develop conservation plans, design BMPs, and provide engineering assistance for water quality improvements at no cost to the farmers whose applications are accepted for cost share assistance. The staff also assists farmers and other landowners in implementing water quality projects using other funding sources such as EQIP, the U.S. Environmental Protection Agency's Section 319 Nonpoint Source Program, and North Carolina's Clean Water Management Trust Fund.

A critical portion of the General Assembly's appropriation for ACSP provides a state match for salaries for many of these district technical employees and for their operating expenses to carry out the cost share program. For 2015, the General Assembly appropriated \$2,448,778 in recurring funds for cost sharing technical assistance positions in local districts. County commissions provide more than 50 percent match for salaries and operating expenses, including office space and administrative support for these technical assistance positions. In program year 2015, the cost share technical assistance program cost shared on 106 technical positions in 95 districts to assist farmers in designing and installing BMPs. These state technical assistance cost share funds maintain a local conservation infrastructure that is also used to deliver federal cost share funds to NC landowners and land users. In 2015, local districts cooperated with the NRCS to deliver \$24.5 million of conservation assistance. Technical assistance funds are critical to sustain local county support and funding for local delivery of the program.

NRCS engineers and conservation specialists are also available to each district. These federal employees carry out a portion of the cost share work support without cost to the state, and they provide additional technical resources and expertise to ensure that cost-shared practices are properly installed and maintained for the expected life of the practice.

In addition, NRCS allows district staff in some districts to use federal vehicles for use on state cost share work. NRCS also provides computers and sophisticated natural resources materials and computer software in field offices, and develops the technical standards for most of the BMPs used in the cost share program. This state program leverages a much greater amount of federal funding for water quality improvements in North Carolina.

## **PROGRAM MANAGEMENT**

Appendix F is an overview of the funding and compliance process used for implementing the ACSP.

Five full time division employees administer all commission cost share programs. The staff reviews approximately 1,100 contracts annually and processes about 1,100 requests for payment each year. The division also trains local personnel, provides daily technical assistance to the districts, maintains the Cost Share Programs Manual online, and conducts oversight through district program reviews to ensure proper record keeping and BMP maintenance for continued water quality protection.

Because the state specifies that the purpose of the program is to assist agricultural operations in addressing an existing water quality problem, the program does not assist new operations to go into business. It is the policy of the commission that new producers or companies constructing new agricultural operations should be aware of the existing environmental requirements and technical standards and should be prepared to meet them without state funding assistance. This is especially important when existing operations are struggling to comply with new requirements that were not in place when they began operating. Therefore, the commission has restricted eligibility for ACSP funds to those operations, which have been in existence for three years prior to the date of cost share application. Operations that were not in existence for three years prior to application date may still be eligible for cost-share if changes in environmental statutes or

regulations create new requirements that could, without assistance, make the facility out of compliance. These exceptions require commission approval.

### **IMPACT OF INCREASED COSTS TO THE ACSP**

The ACSP has experienced many challenges due to the increased costs of fuel, labor, and materials over the past few years. Since the ACSP is based on 75 percent of a predetermined average cost for each practice it has been almost impossible to keep up with the cost changes in areas such as gravel, pipe, fencing, lumber, and the cost of operating heavy machinery to install many of the BMPs in the program. In program year 2004, the ACSP was able to contract with 2,053 projects statewide encumbering \$6,827,880 compared to only 1,132 projects in 766 contracts statewide in the 2015 program year encumbering \$5,717,911. Because of the price increase the soil and water conservation districts are not able to help as many farmers install conservation practices.

The ACSP continues to monitor the established average costs list for the program and receives feedback from the local soil and water conservation districts on any adjustments that are needed. Division staff completed a review of the current average cost manual in the spring of 2012 and made the adjustments effective for the 2013 program year. The division staff continues to consider changes in average cost as receipts and documentation determine the current average cost is incorrect. The division plans to conduct another complete review of the average cost manual in the spring of 2016.

### **CONCLUSIONS AND RECOMMENDATIONS**

Based on the above considerations, the commission believes the ACSP is being administered cost-effectively and that considerable water quality benefits are being realized for the investment made with state funds. The program aids agricultural operations in making essential water quality improvements. The cost of these water quality practices cannot be passed on to the consumer in the price of the food or fiber product. The ACSP thereby contributes both to water quality and to sustaining a strong state agricultural economy. The commission continues to emphasize prioritizing, targeting, accountability, leveraging, and adaptability in managing these public funds to further improve the water quality benefits intended by the General Assembly.

Increased costs of fuel, labor, and materials have significantly impacted the amount of conservation the program can effect and the number of cooperating farmers who can be assisted. The commission has taken actions to improve program efficiencies that have helped to partly offset these impacts in the short-term. The ACSP continues to play a vital role in assisting farmers and ranchers with voluntary water quality protection and with compliance with state and federal regulatory requirements. The program is our state's cornerstone in efforts to support private working lands stewardship for the benefit of water quality and all the citizens of the state of North Carolina.

## Appendix A

County	Number of 2015 Contracts	Amount Contracted (Cost Share)	Total Amount Contracted	County	Number of 2015 Contracts	Amount Contracted (Cost Share)	Total Amount Contracted
Alamance	10	\$55,611	\$55,611	Jones	6	\$59,239	\$59,239
Alexander	6	\$84,906	\$84,906	Lee	11	\$30,892	\$30,892
Alleghany	3	\$68,329	\$68,329	Lenoir	13	\$49,615	\$49,615
Anson	3	\$66,974	\$66,974	Lincoln	2	\$75,264	\$75,264
Ashe	5	\$83,690	\$83,690	Macon	4	\$40,858	\$40,858
Avery	8	\$58,106	\$58,106	Madison	13	\$78,313	\$80,201
Beaufort	10	\$65,024	\$65,024	Martin	2	\$495	\$495
Bertie	6	\$49,041	\$49,041	McDowell	3	\$55,079	\$55,079
Bladen	12	\$67,100	\$67,100	Mecklenburg	3	\$47,735	\$54,062
Brunswick	11	\$41,668	\$47,041	Mitchell	6	\$84,661	\$84,661
Buncombe	8	\$79,335	\$79,335	Montgomery	2	\$46,652	\$46,652
Burke	4	\$50,290	\$60,150	Moore	5	\$51,431	\$51,431
Cabarrus	4	\$71,062	\$71,062	Nash	4	\$67,341	\$67,341
Caldwell	5	\$61,618	\$61,618	New Hanover	0	\$0	\$0
Camden	5	\$36,137	\$36,137	Northampton	10	\$39,122	\$39,122
Carteret	2	\$40,000	\$40,000	Onslow	11	\$35,810	\$38,310
Caswell	27	\$75,558	\$156,985	Orange	14	\$87,847	\$94,497
Catawba	5	\$54,835	\$54,835	Pamlico	8	\$63,974	\$68,774
Chatham	9	\$94,346	\$94,882	Pasquotank	10	\$51,759	\$51,759
Cherokee	10	\$47,967	\$47,967	Pender	8	\$42,896	\$63,860
Chowan	9	\$47,524	\$47,524	Perquimans	9	\$40,827	\$40,827
Clay	9	\$60,718	\$60,718	Person	19	\$59,706	\$59,706
Cleveland	8	\$71,415	\$71,415	Pitt	12	\$63,108	\$63,108
Columbus	8	\$54,503	\$54,503	Polk	2	\$41,792	\$41,792
Craven	6	\$33,000	\$16,803	Randolph	10	\$87,421	\$85,381
Cumberland	4	\$36,161	\$36,161	Richmond	4	\$54,517	\$54,517
Currituck	3	\$17,412	\$17,412	Robeson	28	\$80,688	\$72,784
Dare	0	\$0	\$7,110	Rockingham	16	\$83,832	\$178,297
Davidson	10	\$41,332	\$41,332	Rowan	4	\$77,031	\$77,031
Davie	7	\$60,498	\$60,498	Rutherford	8	\$65,534	\$65,534
Duplin	16	\$89,118	\$89,118	Sampson	12	\$86,344	\$86,344
Durham	17	\$51,339	\$126,041	Scotland	3	\$46,896	\$46,896
Edgecombe	4	\$14,832	\$14,832	Stanly	7	\$73,766	\$73,766
Forsyth	6	\$49,692	\$49,692	Stokes	14	\$79,051	\$110,714
Franklin	11	\$84,703	\$84,703	Surry	8	\$105,453	\$105,512
Gaston	2	\$55,227	\$55,227	Swain	2	\$5,528	\$5,528
Gates	2	\$33,829	\$33,829	Transylvania	5	\$52,322	\$52,322
Graham	2	\$7,949	\$7,949	Tyrrell	9	\$43,210	\$43,210
Granville	12	\$61,259	\$61,259	Union	4	\$86,773	\$98,888

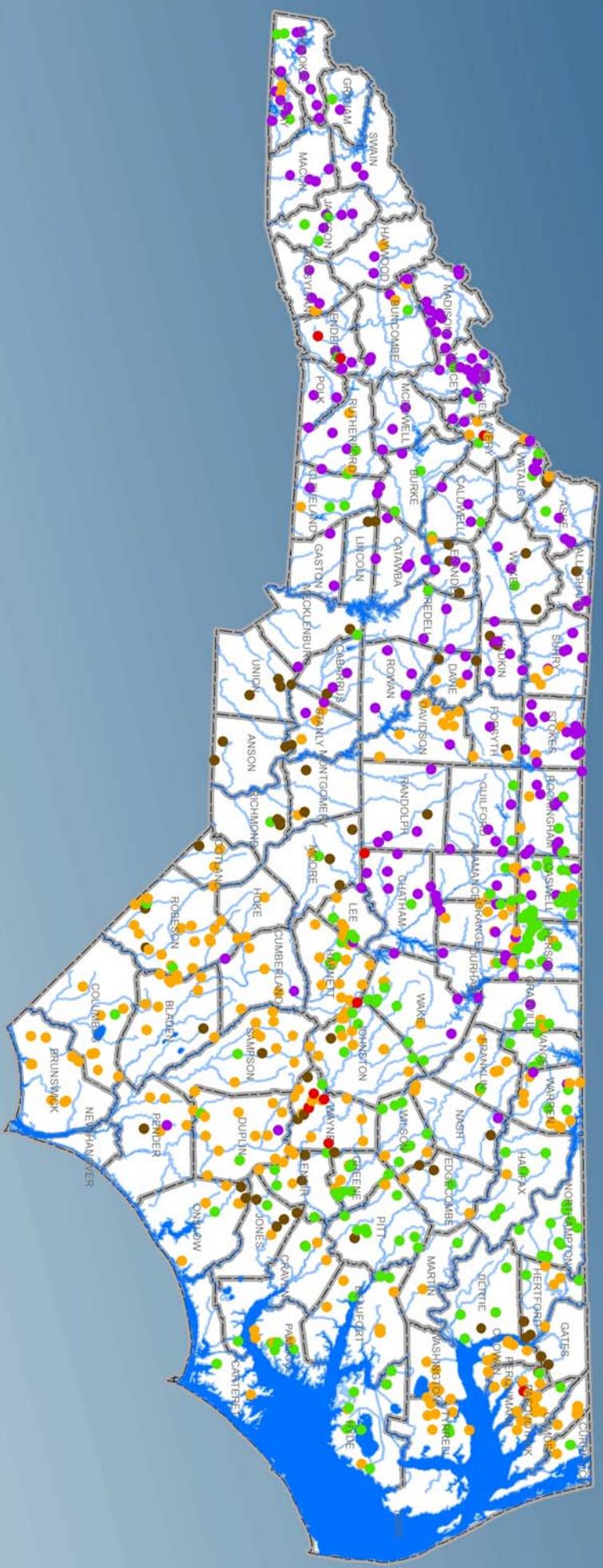
Appendix A

<b>County</b>	<b>Number of 2015 Contracts</b>	<b>Amount Contracted (Cost Share)</b>	<b>Total Amount Contracted</b>	<b>County</b>	<b>Number of 2015 Contracts</b>	<b>Amount Contracted (Cost Share)</b>	<b>Total Amount Contracted</b>
Greene	10	\$46,702	\$46,702	Vance	4	\$12,517	\$12,517
Guilford	8	\$69,862	\$81,368	Wake	17	\$80,850	\$120,390
Halifax	7	\$57,359	\$57,359	Warren	14	\$72,264	\$76,857
Harnett	19	\$37,740	\$37,740	Washington	7	\$36,137	\$36,137
Haywood	3	\$65,996	\$65,996	Watauga	8	\$71,163	\$71,163
Henderson	8	\$83,561	\$95,921	Wayne	21	\$75,191	\$75,191
Hertford	8	\$50,645	\$50,645	Wilkes	5	\$90,416	\$90,416
Hoke	4	\$38,039	\$38,039	Wilson	10	\$52,624	\$52,624
Hyde	10	\$46,542	\$50,541	Yadkin	8	\$87,637	\$127,637
Iredell	4	\$65,436	\$65,436	Yancey	13	\$87,025	\$87,025
Jackson	8	\$42,241	\$42,241				
Johnson	17	\$83,074	\$83,074	<b>Total</b>	<b>813</b>	<b>\$5,717,911</b>	<b>\$6,164,207</b>



# Agriculture Cost Share Program BMPs

Soil and Water Conservation Commission Funded Best Management Practices  
Contracted from July 1, 2014 through June 30, 2015



**Legend**

**BMP**

- AGRICHEMICAL POLLUTION PREVENTION
- EROSION/NUTRIENT REDUCTION
- SEDIMENT/NUTRIENT REDUCTION
- STREAM PROTECTION
- WASTE MANAGEMENT

Water Bodies  
 Major Rivers  
 County Boundaries

Points represent approximate BMP locations based on the latitude and longitude provided by the local soil and water conservation districts. This data represents 1,132 BMPs contracted in FY2015.



**Division of Soil & Water Conservation**

<http://www.ncagr.gov/swc/>



## **AGRICULTURE COST SHARE PROGRAM DETAILED IMPLEMENTATION PLAN (DIP) PROGRAM YEAR 2015\***

(REVISED July 2014)

### **Definition of Practices**

- (1) Abandoned tree removal means to remove Christmas and/or apple tree fields for integrated pest management and for reducing sedimentation. An abandoned tree field can be of any size or age trees where standard management practices (e.g., maintaining groundcover, insect and disease control, fertilizer applications and annual shearing practices) for the production of the trees are discontinued or abandoned. The field must have been abandoned for at least 5 years. Abandonment leads to adverse soil erosion formations such as gullies and to production of disease inoculums and increased pest population. Conversion to grass, hardwoods, or white pine on abandoned fields further protects soil loss by preventing runoff on steep slopes due to a better groundcover thereby providing additional water quality protection. Benefits include water quality protection, prevention of soil erosion, and wildlife habitat establishment.
- (2) An abandoned well closure is the sealing and permanent closure of a supply well no longer in use. This practice serves to prevent entry of contaminated surface water, animals, debris, or other foreign substances into the well. It also serves to eliminate the physical hazards of an open hole to people, animals, and farm machinery. Cost share for this practice is limited to \$1,500 per well at 75% cost share and \$1,800 per well at 90%.
- (3) An agrichemical containment and mixing facility means a system of components that provide containment and a barrier to the movement of agrichemicals. The purpose of the system is to provide secondary containment to prevent degradation of surface water, groundwater, and soil from unintentional release of pesticides or fertilizers. Cost share for this practice is limited to \$16,500 per facility at 75% cost share and \$19,800 per facility at 90%.
- (4) An agrichemical handling facility means a permanent structure that provides an environmentally safe means of mixing agrichemicals and filling tanks with agrichemicals for application and storage to improve water quality. Benefits may include prevention of accidental degradation of surface and ground water. Cost share for this practice is limited to \$27,500 per facility at 75% cost share and \$33,000 per facility at 90%.
- (5) Agricultural pond restoration/repair means to restore or repair existing failing agricultural pond systems. Benefits may include erosion control, flood control, and sediment and nutrient reductions from farm fields for better water quality. This practice is only applicable to low hazard classification ponds. For restoration projects involving dam, spillway, or overflow pipe upgrades, cost share is limited to \$15,000 per pond at 75% cost share and \$18,000 per pond at 90%. For restoration projects involving removal of accumulated sediment only, total charge to NCACSP is restricted to a total of \$3,000 per pond at 75% cost share and \$3,600 per pond at 90%.

- (6) Agricultural road repair/stabilization means repair or stabilization of existing access roads utilized for agricultural operations, including roads to existing crop fields, pastures, and barns.
- (7) Agricultural temporary water collection pond means to construct an agricultural water collection system for water reuse or irrigation to improve water quality. These systems may include construction of new ponds, utilizing existing ponds, water storage tanks and pumps in order to intercept sediment, nutrients, manage chlorophyll a. These systems may have the added benefit of reducing the demand on the water supply, and decreasing withdrawal from aquifers but these benefits shall not be the justification for this practice.
- (8) Chemigation or fertigation backflow prevention is a combination of devices (valves, gauges, injectors, drains, etc.) to safeguard water sources from contamination by fertilizers used during the irrigation of agricultural crops. The practice is intended to modify or improve fertilizer injection systems with components necessary to prevent backflow or siphoning of contaminants into the water supply thereby improving and protecting the state's waters.
- (9) A conservation cover practice means to establish and maintain a conservation cover of grass, legumes, or other approved plantings on fields previously with no groundcover established, to reduce soil erosion and improve water quality. Other benefits may include reduced offsite sedimentation and pollution from dissolved and sediment-attached substances. Eligible land includes that planted to Christmas Trees, orchards, ornamentals, vineyards and other cropland needing protective cover.
- (10) A three-year conservation tillage system means any tillage and planting system in which at least (60) sixty percent of the soil surface is covered by plant residue for the same fields for three consecutive years to improve water quality. Benefits may include reduction of soil erosion, sedimentation and pollution from dissolved and sediment-attached substances. This incentive is broken down into two categories depending on the crop(s) to be grown:
  - (a) Grain crops and cotton
  - (b) Vegetables, Tobacco, Peanuts, and Sweet Corn

Cost share for each category of this practice is limited to \$15,000 per cooperator in a lifetime.

- (11) A cover crop means a crop or mixture of crops grown primarily for seasonal protection, erosion control and soil improvement. It usually is grown for one year or less. The major purpose is water and wind erosion control, to cycle plant nutrients, add organic matter to the soil, improve infiltration, aeration and tilth, improve soil quality, reduce soil crusting, and sequester carbon/nutrients. Benefits may include reduction of soil erosion, sedimentation and pollution from dissolved and sediment-attached substances. Cost share for this incentive practice is limited to \$15,000 per cooperator in a lifetime.
- (12) A critical area planting means an area of highly erodible land that cannot be stabilized by ordinary conservation treatment on which permanent perennial vegetative cover is

- established and protected to improve water quality. Benefits may include reduced soil erosion and sedimentation.
- (13) A cropland conversion practice means to establish and maintain a conservation cover of grasses, trees, or wildlife plantings on fields previously used for crop production to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.
- (14) Crop residue management means maintaining cover on sixty (60) percent of the soil surface at planting to protect water quality. Crop residue management also provides seasonal soil protection from wind and rain erosion, adds organic matter to the soil, conserves soil moisture, and improves infiltration, aeration and tilth. Benefits may include reduction in soil erosion, sedimentation and pollution from dissolved sediment-attached substances. Cost share for this incentive practice is limited to \$15,000 per cooperator in a lifetime.
- (15) A diversion means a channel constructed across a slope with a supporting ridge on the lower side to control drainage by diverting excess water from an area to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.
- (16) A field border means a strip of perennial vegetation established at the edge of the field that provides a stabilized outlet for row water to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.
- (17) A filter strip means an area of permanent perennial vegetation for removing sediment, organic matter, and other pollutants from runoff and waste water to improve water quality. Benefits may include reduced soil erosion, sedimentation, pathogen contamination and pollution from dissolved, particulate, and sediment-attached substances.
- (18) A grade stabilization structure means a structure (earth embankment, mechanical spillway, detention-type, etc.) used to control the grade and head cutting in natural or artificial channels to improve water quality. Benefits may include reduced soil erosion and sedimentation.
- (19) A grassed waterway means a natural or constructed channel that is shaped or graded to required dimensions and established in suitable vegetation for the stable conveyance of runoff to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.
- (20) A heavy use area protection means an area used frequently and intensively by animals, which must be stabilized by surfacing with suitable materials to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved, particulate, and sediment-attached substances.
- (21) A land smoothing practice means reshaping the surface of agricultural land to planned grades for the purpose of improving water quality. Improvements to water quality include:

- (a) Reduction in nutrient loss.
  - (b) Reduction in concentrated flow of water from an agricultural field.
  - (c) Improved infiltration.
- (22) A livestock exclusion system means a system of permanent fencing (board or barbed, high tensile or electric wire) installed to exclude livestock from streams and critical areas not intended for grazing to improve water quality. Benefits may include reduced soil erosion, sedimentation, pathogen contamination and pollution from dissolved, particulate, and sediment-attached substances.
- (23) A livestock feeding area is a sized concrete pad where feeders are located, surrounded by a heavy use area. The livestock feeding area is designed for the purpose of improving the lifespan of the heavy use area and to reduce the runoff of nutrients and fecal coliform to adjacent water bodies. The practice is to be used to address water quality concerns where livestock feeding areas are in close proximity to streams and where relocation or rotation of feeding areas is infeasible due to physical limitations (e.g., slope) and where other stream protection measures are insufficient to protect water quality. Cost share for the concrete pad for this practice is limited to \$4,200 at 75% cost share and \$5,040 at 90%.
- (24) A long term no-till practice means planting all crops for five consecutive years with at least eighty (80) percent plant residue from preceding crops to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances. Cost share for this incentive or this incentive combined with 3-year conservation tillage for grain and cotton is limited to \$25,000 per cooperators in a lifetime.
- (25) A micro-irrigation system means an environmentally safe system for the conveyance and distribution of water, chemicals, and fertilizer to agricultural fields for crop production. A micro-irrigation system is for frequent application of small quantities of water on or below the soil surface as drops, tiny streams, or miniature spray through emitters or applicators placed along a water delivery line. This practice may be applied as part of a conservation management system to support one or more of the following purposes:
- (a) To efficiently and uniformly apply irrigation water and maintain soil moisture for plant growth.
  - (b) To efficiently and uniformly apply plant nutrients in a manner that protects water quality.
  - (c) To prevent contamination of ground and surface water by efficiently and uniformly applying chemicals and fertilizers.
  - (d) To establish desired vegetation.
- Cost share for this practice will be based on actual cost with receipts required not to exceed \$25,000 charge to the NCACSP at 75% cost share and \$30,000 at 90%, including the cost of backflow prevention.
- (26) A nutrient management means a definitive plan to manage the amount, form, placement, and timing of applications of nutrients to minimize entry of nutrients to surface and groundwater and improve water quality.

- (27) A nutrient scavenger crop is a crop of small grain grown primarily as a seasonal nutrient scavenger. The purpose is to scavenge and cycle plant nutrients. The nutrient scavenger crop also adds organic matter to the soil, improves infiltration, aeration and tilth, improves soil quality, reduces soil crusting, provides residue for conservation tillage, and sequesters carbon. Benefits may include reduction of soil erosion, sedimentation and pollution from dissolved and sediment-attached substances. Cost share for this incentive practice is limited to \$25,000 per cooperator in a lifetime.
- (28) A pastureland conversion practice means establishing trees or perennial wildlife plantings on excessively eroding land with a visible sediment delivery problem to the waters of the state used for pasture that is too steep to mow or maintain with conventional equipment to improve water quality. Benefits may include reduced soil erosion and sedimentation.
- (29) A pasture renovation practice means to establish and maintain a conservation cover of grass, where existing pasture vegetation is inadequate. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.
- (30) A portable agrichemical mixing station means a portable device to be used in the field to prevent the unintentional release of agrichemicals to the environment during mixing and transferring of agrichemicals. Benefits may include prevention of accidental degradation of surface and ground water. Cost share for this practice is limited to \$3,500 per station at 75% cost share and \$4,200 at 90%. Cost share is also limited to one station per cooperator.
- (31) Precision Agrichemical Application means using a system of components that enable reduction and greater control of fertilizer and pesticide application. This is accomplished through avoidance of excessive overlapping, unnecessary application to end/turn rows, and more precise control of application rates.
- (32) Precision nutrient management means applying nitrogen; phosphorus and lime in a site-specific manner (with specialized application equipment or multiple application events) based on the site specific recommendations for each GPS-referenced sampling point to minimize entry of nutrients to surface and groundwater and improve water quality. Cost share for this incentive is limited to \$15,000 per cooperator.
- (33) Prescribed grazing involves managing the intensity, frequency, duration, timing, and number of grazing animals on pastureland in accordance with site production limitations, rate of plant growth, physiological needs of forage plants for production and persistence, and nutritional needs of the grazing animals. The goal of this practice is to reduce accelerated soil erosion and compaction, to improve or maintain riparian and watershed function, to maintain surface and/or subsurface water quality and quantity, to improve nutrient distribution, and to improve or maintain desired species composition and vigor of plant communities. Productive pastures maintain wildlife habitat and permeable green space. Cost share for this incentive is limited to \$15,000 per cooperator.
- (34) A riparian buffer means a permanent, long-lived vegetative cover (grass, shrubs, trees, or a combination of vegetation types) established adjacent to and up-gradient from watercourses or water bodies to improve water quality. Benefits may include reduced

soil erosion and nutrient delivery, sedimentation, pathogen contamination and pollution from dissolved, particulate and sediment-attached substances.

- (35) A rock-lined outlet means a waterway having an erosion-resistant lining of concrete, stone or other permanent material where an unlined or grassed waterway would be inadequate to improve water quality. Benefits may include safe disposal of runoff, reduced erosion and sedimentation.
- (36) A rooftop runoff management system means a system of collection and stabilization practices (dripline stabilization, guttering, collection boxes, etc.) to prevent rainfall runoff from agricultural rooftops from causing erosion where vegetative practices are insufficient to address erosion concerns and protect water quality.
- (37) A sediment control basin means a basin constructed to trap and store waterborne sediment where physical conditions or land ownership preclude treatment of a sediment source by the installation of other erosion control measures to improve water quality.
- (38) A sod-based rotation practice means an adapted sequence of crops, grasses and legumes or a mixture thereof established and maintained for a definite number of years as part of a conservation cropping system which is designed to provide adequate organic residue for maintenance or improvement of soil tilth to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances. Cost share for this incentive practice is limited to \$25,000 per cooperator in a lifetime.
- (39) A stock trail or walkway means to provide a stable area used frequently and intensively for livestock movement by surfacing with suitable material to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved, particulate, and sediment-attached substances.
- (40) A stream protection system means a planned system for protecting streams and stream banks that eliminates the need for livestock to be in streams by providing an alternative-watering source for livestock to improve water quality. Benefits may include reduced soil erosion, sedimentation, pathogen contamination, and pollution from dissolved, particulate and sediment-attached substances. System components may include:
  - (a) A spring development means improving springs and seeps by excavating, cleaning, capping or providing collection and storage facilities.
  - (b) A stream crossing means a trail constructed across a stream to allow livestock to cross without disturbing the bottom or causing soil erosion on the banks.
  - (c) A trough or tank means devices installed to provide drinking water for livestock at a stabilized location.
  - (d) A well means constructing a drilled, driven or dug well to supply water from an underground source.
  - (e) A windmill means erecting or constructing a mill operated by the wind's rotation of large vanes and is used as a source of power for pumping water.
- (41) Streambank and shoreline protection means the use of vegetation to stabilize and protect banks of streams, lakes, estuaries, or excavated channels against scour and

erosion. This practice should be used to prevent the loss of land or damage to utilities, roads, buildings, or other facilities adjacent to the banks, to maintain the capacity of the channel, to control channel meander that would adversely affect downstream facilities, to reduce sediment load causing downstream damages and pollution, or to improve the stream for recreation or fish and wildlife habitat.

- (42) A stream restoration system means the use of bioengineering practices, native material revetments, channel stability structures, and/or the restoration or management of riparian corridors in order to protect upland BMPs, restore the natural function of the stream corridor and improve water quality by reducing sedimentation to streams from streambank. Cost share for this practice is limited to \$50,000 per cooperator per year at 75% cost share and to \$60,000 per year at 90%.
- (43) A stripcropping practice means to grow crops and sod in a systematic arrangement of alternating strips or bands on the contour to improve water quality. Benefits may include reduced soil erosion, sedimentation, and pollution from dissolved and sediment-attached substances. The crops are arranged so that a strip of grass or close-growing crop is alternated with a strip of clean-tilled crop, fallow, or no-till crop, or a strip of grass is alternated with a close-growing crop.
- (44) A terrace means an earth embankment, a channel, or a combination ridge and channel constructed across the slope to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.
- (45) A waste management system means a planned system in which all necessary components are installed for managing liquid and solid waste to prevent or minimize degradation of soil and ground and surface water resources. System components may include:
- (A) A closure of waste impoundment means the safe removal of existing waste and waste water and the application of this waste on land in an environmentally safe manner. This practice is only applicable to waste storage ponds and lagoons. Cost share for this practice is limited to \$75,000 per cooperator at 75% cost share and \$90,000 at 90% cost share.
  - (B) A concentrated nutrient source management system is a system of vegetative and structural measures used to manage the collection, storage, and/or treatment of areas where agricultural products may cause an area of concentrated nutrients.
  - (C) A constructed wetland for land application practice means an artificial wetland area into which liquid animal waste from a waste storage pond or lagoon is dispersed over time to lower the nutrient content of the liquid animal waste.
  - (D) A drystack means a fabricated structure for temporary storage of animal waste. Cost share for drystack for poultry and non-.0200 animal operations are limited to \$33,000 per structure at 75% cost share and \$39,600 at 90%.
  - (E) The feeding/waste storage structure is designed for the purpose of improving the collection/storage of animal waste and to reduce runoff of nutrients and fecal

coliform to adjacent water bodies. The practice is intended to be used where livestock feeding areas are in close proximity to streams and where relocation or rotation of feeding areas is infeasible due to physical limitations (e.g., slope) and where other stream protection measures are insufficient to address water quality concerns. Cost share for this practice is limited to \$27,500 per structure at 75% cost share and \$33,000 per structure at 90%.

- (F) An insect control system means a practice or combination of practices (planting windbreaks, pre-charging structures, incorporation of waste into soil, etc.) which manages or controls insects from confined animal operations, waste treatment and storage structures, and waste applied to agricultural land.
- (G) Lagoon biosolids removal means removing accumulated biosolids from active lagoons. The biosolids will be properly utilized on farmland or forestland or processed to a value-added product, including energy production, to reduce nutrient impacts from nitrogen-only based planning and impacts of phosphorus accumulation on application land.
- (H) A livestock mortality management system is a facility for managing livestock mortalities such as to minimize water quality impacts or to produce a material that can be recycled as a soil amendment and fertilizer substitute. Cost shareable mortality management system components include: composter, rotary drum composter, forced aeration static pile composter, mortality freezer, mortality incinerator, and mortality gasification system.
- (I) A manure composting facility is a facility for the biological treatment, stabilization and environmentally safe storage of organic waste material (such as manure from poultry and livestock) to minimize water quality impacts and to produce a material that can be recycled as a soil amendment and fertilizer substitute.
- (J) Manure/litter transportation means transporting dry litter and dry manure from livestock and poultry farms that lack sufficient land to effectively utilize the animal-derived nutrients. The litter/manure will be properly utilized on alternative land or processed to a value-added product, including energy production, to reduce nutrient impacts. Manure/Litter Transportation Incentive payments shall be limited to 3-years per applicant and \$15,000 in a lifetime.
- (K) An odor control management system means a practice or combination of practices (planting windbreaks, pre-charging structures, incorporation of waste into soil, etc.) which manages or controls odors from confined animal operations, waste treatment and storage structures and waste applied to agricultural land and improves air quality by reducing and intercepting airborne particulate matter, chemical drift and odor.
- (L) A retrofit of on-going animal operations means modification of structures to increase storage or to correct design flaws to meet current standards. This practice may also be used to close waste impoundments on on-going operations, including the safe removal of existing waste and waste water and the application of this waste on land in an environmentally safe manner. .

- (M) A solids separation from tank-based aquaculture production means a facility for the removal, storage and dewatering of solid waste from the effluent of intensive tank-based aquaculture production systems. The system is used to capture organic solids from the effluent stream of intensive fish production systems that would otherwise flow to effluent ponds for storage and further treatment. This waste comes from uneaten feed and feces generated by fish while being fed within a tank-or raceway based fish farm.
- (N) A storm water management system means a system of collection and diversion practices (guttering, collection boxes, diversions, etc.) to prevent unpolluted storm water from flowing across concentrated waste areas on animal operations.
- (O) A waste application system means an environmentally safe system (such as solid set, dry hydrant, mobile irrigation equipment, etc.) for the conveyance and distribution of animal wastes from waste treatment and storage structures to agricultural fields as part of an irrigation and waste utilization plan. Cost share for this practice is limited to \$35,000 per cooperator in a lifetime at 75% cost share and \$42,000 in a lifetime at 90%.
- (P) A waste storage pond means an impoundment made by excavation or earthfill for temporary storage of animal waste, waste water and polluted runoff.
- (Q) A waste treatment lagoon means an impoundment made by excavation or earthfill for biological treatment and storage of animal waste.
- (46) A water control structure means a permanent structure placed in a farm canal, ditch, or subsurface drainage conduit (drain tile or tube), which provides control of the stage or discharge of surface and/or subsurface drainage. The management mechanism of the structure may be flashboards, gates, valves, risers, or pipes. The primary purpose of the water control structure is to improve water quality by elevating the water table and reducing drainage outflow. A secondary purpose is to restore hydrology in riparian buffers to the extent practical. Elevating the water table promotes denitrification and lower nitrate levels in drainage water from cropping systems and minimizes the effects of short-circuiting of drainage systems passing through riparian buffers. Other benefits may include reduced pollution from other dissolved and sediment-attached substances, reduced downstream sedimentation and reduced stormwater surges of fresh water into estuarine area.
- This practice is not intended to be used to control water inflow from tidal influence (i.e., no tide gates).
- (47) A wetland restoration system means a system of practices designed to restore the natural hydrology of an area that had been drained and cropped.

\*To be used in conjunction with the most recent version of the APA Rules for the North Carolina Agriculture Cost Share Program for Nonpoint Source Pollution Control and the NC-ACSP Manual.

## BEST MANAGEMENT PRACTICES ELIGIBLE FOR COST SHARE PAYMENTS

- (1) Best Management Practices eligible for cost sharing include the practices listed in Table 1 and any approved District BMPs. District BMPs shall be reviewed by the Division for technical merit in achieving the goals of this program. Upon approval by the Division, the District BMPs will be eligible to receive cost share funding.

**Table 1**

<u>Practice</u>	<u>Minimum Life Expectancy (years)</u>
Abandoned Tree Removal	10
Abandoned Well Closure	1
Agrichemical Containment and Mixing Facility	10
Agrichemical Handling Facility	10
Agricultural Pond Restoration/Repair	10
Agricultural Road Repair/Stabilization	10
Agricultural Water Collection System	10
Backflow Prevention System	
Chemigation	10
Fertigation	10
Conservation Cover	6
3-Year Conservation Tillage System	3
Cover Crops	1
Critical Area Planting	10
Cropland Conversion	10
Crop Residue Management	1
Diversion	10
Field Border	10
Filter Strip	10
Grade Stabilization Structure	10
Grassed Waterway	10
Heavy Use Area Protection	10
Land Smoothing	5
Livestock Exclusion	10
Livestock Feeding Area	10
Long Term No-Till	5
Micro-Irrigation System	10
Nutrient Management	3
Nutrient Scavenger Cover Crop	1
Pasture Renovation	10
Pastureland Conversion	10
Portable Agrichemical Mixing Station	5
Precision Agrichemical Application	5
Precision Nutrient Management	3
Prescribed Grazing	3

Riparian Buffer	10
Rock-lined Waterway or Outlet	10
Rooftop Runoff Management System	10
Sediment Control Basin	10
Sod-based Rotation	4 or 5
Stock Trail and Walkway	10
Stream Protection System	
Spring Development	10
Stream Crossing	10
Trough or Tank	10
Well	10
Windmills	10
Streambank and Shoreline Protection	10
Stream Restoration	10
Stripcropping	5
Terrace	10
Waste Management System	
Closure of Abandoned Waste Impoundment	10
Concentrated Nutrient Source Management System	10
Constructed Wetland for Land Application	10
Drystack	10
Feeding/Waste Storage Structure	10
Insect Control System	5
Lagoon Biosolids Removal Practice	1
Livestock Mortality Management System	
Incinerator	5
Others Systems	10
Manure Composting Facility	10
Manure/Litter Transportation Incentive	1
Odor Management System	1 to 10
Retrofit of On-going Animal Operations	10
Solids Separation from Tank-Based Aquaculture Production	10
Storm Water Management System	10
Waste Application System	10
Waste Storage Pond	10
Waste Treatment Lagoon	10
Water Control Structure	10
Wetlands Restoration System	10

- (2) The minimum life expectancy of the BMPs shall be that listed in Table 1. Practices designated by a District shall meet the life expectancy requirement established by the Division for that District BMP.
- (3) The list of BMPs eligible for cost sharing may be revised by the Commission as deemed appropriate in order to meet program purpose and goals.

**NC AGRICULTURE COST SHARE PROGRAM  
WATER QUALITY IMPROVEMENT PURPOSES OF APPROVED BMPs**

**Purpose: Stream Protection Measures**

<b>BMP</b>	<b>Reduction of applied nutrient</b>	<b>Reduction of soil loss</b>	<b>Facilitating BMP</b>	<b>Life of BMP (yrs.)</b>
Heavy Use Area Protection	-	√	-	10
Livestock Exclusion System	√	√	-	10
Spring Development	-	-	-	10
Stock Trail	-	√	-	10
Stream Crossing	-	√	-	10
Trough or Tank	-	-	√	10
Well	-	-	√	10
Windmill	-	-	√	10
Livestock Feeding Area	-	-	√	10

**Purpose: Waste Management Measures – Mortality and Manure Management**

<b>BMP</b>	<b>Proper mgmt. of nutrients</b>	<b>Reduction of soil loss</b>	<b>Nutrient interception</b>	<b>Facilitating BMP</b>	<b>Life of BMP (yrs.)</b>
Closure of Waste Impoundment	√	-	-	-	10
Constructed wetlands	√	-	√	-	10
Controlled Livestock Lounging Area	-	√	-	√	10
Dry Manure Stack	√	-	-	-	10
Feeding/Waste Storage	-	-	-	-	10
Heavy Use Area Protection	-	√	-	-	10
Insect Control	-	-	-	-	5
Odor Control	-	-	-	-	1-10
Storm Water Management	√	-	-	-	10
Waste Treatment Lagoon/Storage Pond	√	-	-	-	10
Mortality Management Systems	√	-	-	-	10
Incinerators	√	-	-	-	5
Waste Application System	√	-	-	√	10
Tank-Based Aquaculture	√	-	-	-	10
Manure/Litter Transportation Incentive	√	-	-	-	1
Manure Composting Facility	√	-	-	-	10
Lagoon Biosolids Removal Incentive	√	-	-	-	1
Concentrated Nutrient Source Management	√	-	-	√	10

**Purpose: Erosion Reduction/Nutrient Loss Reduction in Fields**

BMP	Reduction of applied nutrient	Reduction of soil loss	Life of BMP (yrs.)
Conservation Tillage 3-yr	√	√	3
Long Term No-till	√	√	5
Critical Area Planting	√	√	10
Cropland Conversion	√	√	10
Water Diversion	√	√	10
Land Smoothing	√	√	10
Wetlands Restoration	√	√	10
Pastureland Conversion	√	√	10
Sod-based Rotation	√	√	4 or 5
Stripcropping	√	√	5
Terraces	√	√	10
Conservation Cover	√	√	6
Nutrient Scavenger Cover Crop	√	√	10
Cover Crop	√	√	1
Pasture Renovation	√	√	10
Micro-Irrigation System	√	√	10
Rooftop Runoff Management		√	10
Prescribed Grazing	√	√	3
Crop Residue Management	√	√	3

**Purpose: Agricultural Chemical Pollution Prevention**

BMP	Interception of chemicals	Life of BMP (yrs.)
Abandoned Tree Removal	√	10
Agri-chemical Handling Facility	√	10
Fertigation Back Flow Prevention	√	10
Chemigation Back Flow Prevention	√	10
Portable Pesticide Mixing Station	√	5
Agrichemical Containment and Mixing Facility	√	10

**Purpose: Sediment/Nutrient Delivery Reduction from Fields**

<b>BMP</b>	<b>Reduction of applied nutrient</b>	<b>Reduction of soil loss</b>	<b>Nutrient interception</b>	<b>Facilitating BMP</b>	<b>Life of BMP (yrs)</b>
Field Border	-	√	√	-	10
Filter Strip	-	√	√	-	10
Grade Stabilization Structure	-	-	-	√	10
Grassed Waterway	-	√	√	-	10
Nutrient Mgmt.	√	-	-	-	3
Riparian Buffer	-	√	√	-	10
Rock-lined Outlet	-	-	-	√	10
Sediment Control Basin	-	-	√	-	10
Water Control Structure	-	√	√	-	10
Streambank and Shoreline Protection	-	√	√	-	10
Stream Restoration		√			10
Agricultural Road Repair/Stabilization	-	√	-	-	10
Abandoned Well Closure	-	-	-	√	1
Agricultural Pond Restoration/Repair		√	√		10
Precision Nutrient Management	√			√	3

**NORTH CAROLINA AGRICULTURE COST SHARE PROGRAM  
SPOT CHECK REPORT SUMMARY FY2015**

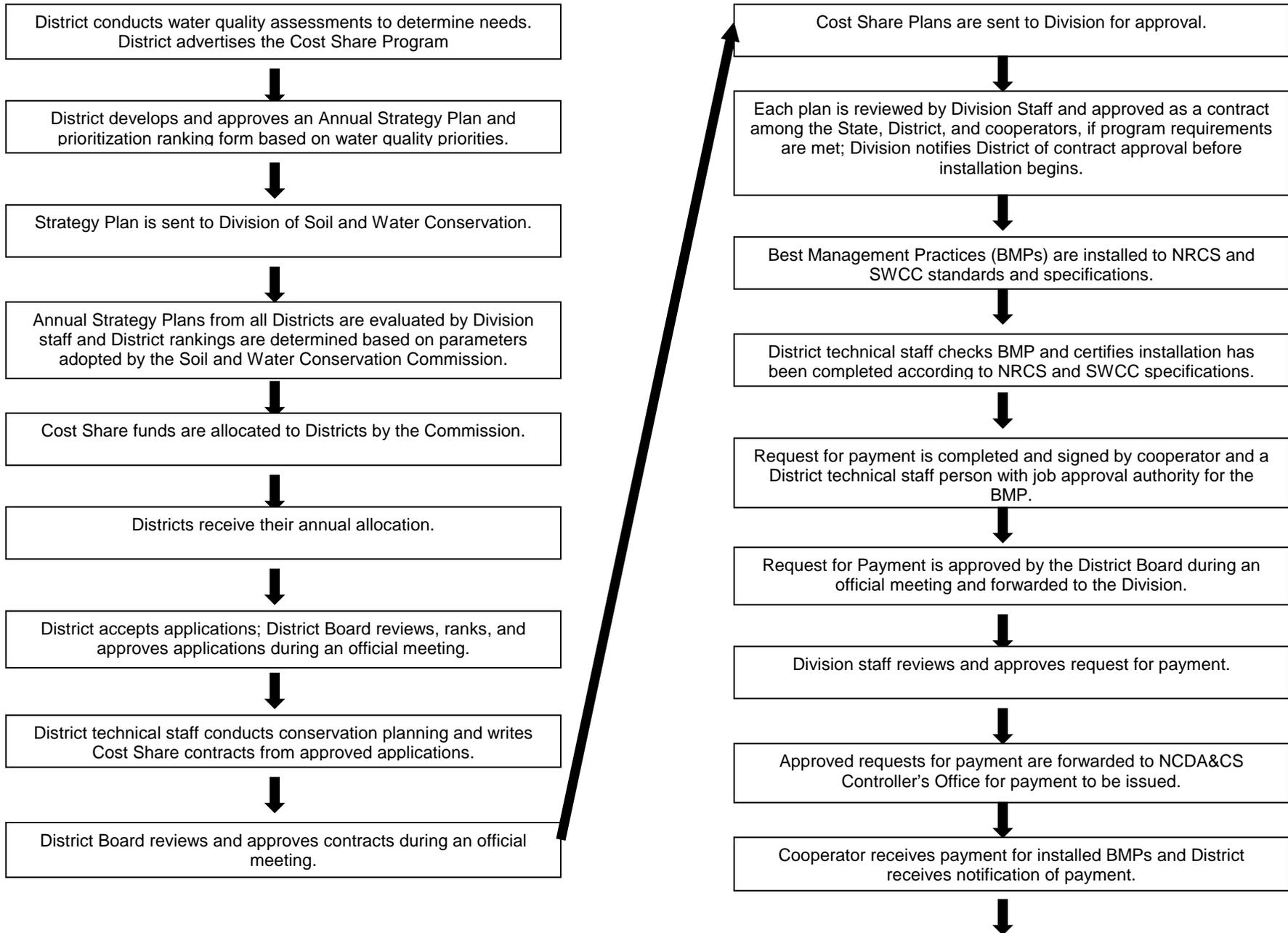
DISTRICTS	PARTICIPATING SUPERVISORS	VISITS	Total # CPOs	PERCENT VISITED	IN COMPLIANCE	OUT OF COMPLIANCE	MAINTENANCE NEEDED
ALAMANCE	4	26	267	9.7%	26	0	2
ALEXANDER	2	20	70	28.6%	20	0	1
ALLEGHANY	5	12	127	9.4%	11	1	1
ANSON (BROWN CREEK)	1	9	29	31.0%	9	0	0
ASHE (NEW RIVER)	4	5	83	6.0%	5	0	0
AVERY	1	6	121	5.0%	6	0	0
BEAUFORT	5	8	42	19.0%	8	0	1
BERTIE	1	9	93	9.7%	7	2	0
BLADEN	1	12	101	11.9%	12	0	0
BRUNSWICK	2	4	41	9.8%	4	0	0
BUNCOMBE	1	6	111	5.4%	6	0	0
BURKE	3	7	76	9.2%	7	0	0
CABARRUS	2	8	70	11.4%	8	0	0
CALDWELL	4	8	105	7.6%	8	0	2
CAMDEN (ALBEMARLE)	3	2	3	66.7%	2	0	0
CARTERET	3	1	1	100.0%	1	0	0
CASWELL	1	14	274	5.1%	14	0	0
CATAWBA	4	6	83	7.2%	6	0	0
CHATHAM	2	12	102	11.8%	12	0	0
CHEROKEE	8	8	135	5.9%	8	0	0
CHOWAN (ALBEMARLE)	3	4	64	6.3%	4	0	0
CLAY	4	4	88	4.5%	4	0	1
CLEVELAND	2	4	52	7.7%	4	0	0
COLUMBUS	1	11	109	10.1%	11	0	0
CRAVEN	1	2	20	10.0%	2	0	0
CUMBERLAND	2	4	67	6.0%	4	0	0
CURRITUCK (ALBEMARLE)	3	1	2	50.0%	1	0	0
DAVIDSON	2	17	71	23.9%	17	0	0
DAVIE	1	12	59	20.3%	12	0	0
DUPLIN	1	19	217	8.8%	19	0	0
DURHAM	3	6	47	12.8%	6	0	0
EDGECOMBE	2	12	106	11.3%	12	0	0
FORSYTH	2	5	80	6.3%	5	0	0
FRANKLIN	3	13	103	12.6%	13	0	0
GASTON	2	4	66	6.1%	3	1	1
GATES	4	6	42	14.3%	6	0	0
GRAHAM	2	5	45	11.1%	5	0	0
GRANVILLE	2	8	149	5.4%	8	0	1
GREENE	1	7	53	13.2%	7	0	0
GUILFORD	5	22	129	17.1%	21	1	3
HALIFAX (FISHING CREEK)	3	10	99	10.1%	8	2	0
HARNETT	5	10	160	6.3%	10	0	2
HAYWOOD	2	6	118	5.1%	6	0	0
HENDERSON	1	8	99	8.1%	8	0	0
HERTFORD	1	3	57	5.3%	3	0	0
HOKE	3	10	25	40.0%	10	0	0
HYDE	3	5	61	8.2%	5	0	0
IREDELL	1	5	47	10.6%	5	0	1
JACKSON	2	6	65	9.2%	6	0	1
JOHNSTON	3	12	170	7.1%	12	0	1
JONES	2	7	72	9.7%	7	0	1
LEE	5	8	85	9.4%	7	1	0

**NORTH CAROLINA AGRICULTURE COST SHARE PROGRAM  
SPOT CHECK REPORT SUMMARY FY2015**

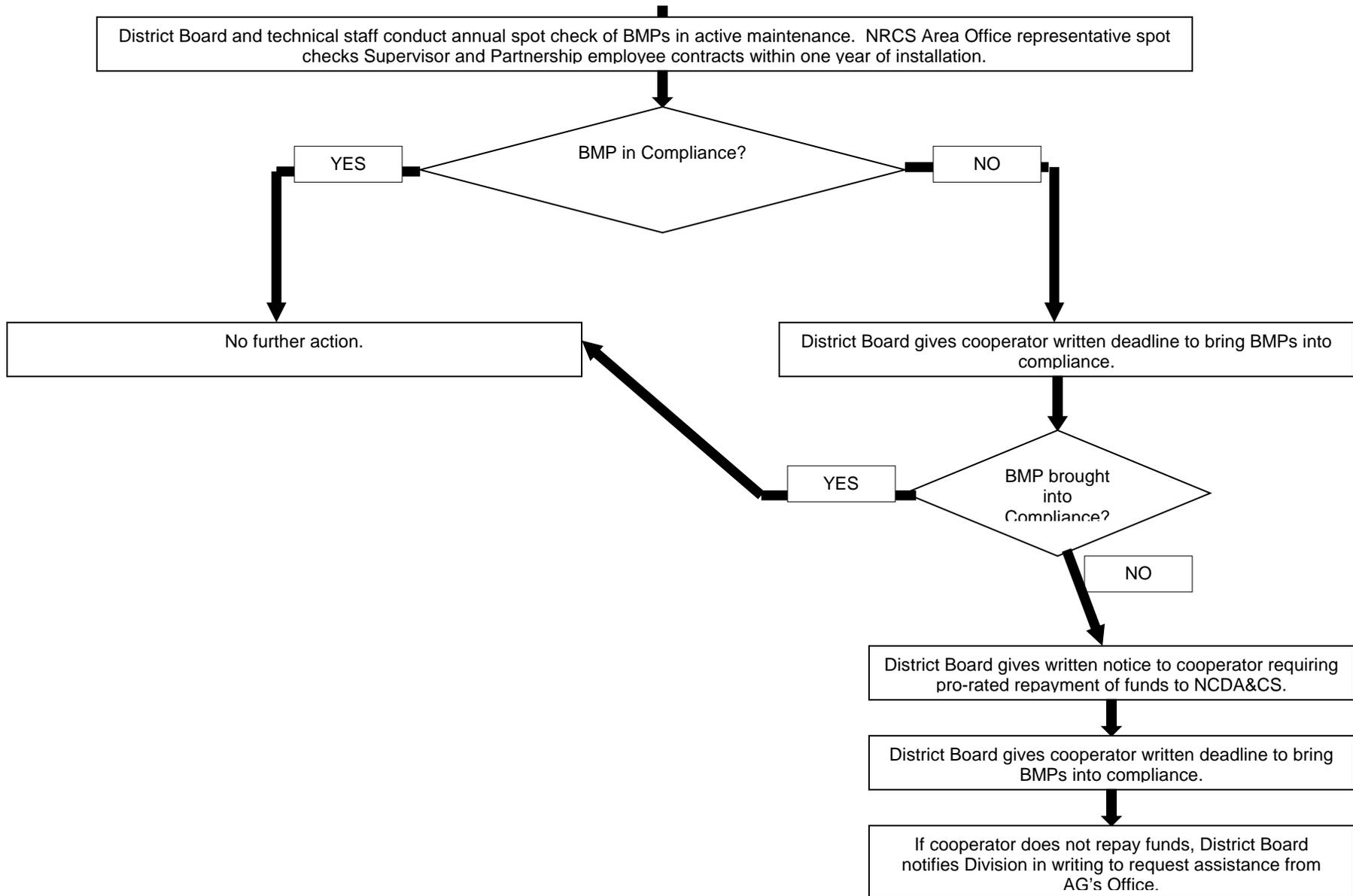
DISTRICTS	PARTICIPATING SUPERVISORS	VISITS	Total # CPOs	PERCENT VISITED	IN COMPLIANCE	OUT OF COMPLIANCE	MAINTENANCE NEEDED
LENOIR	3	16	122	13.1%	15	1	0
LINCOLN	2	7	101	6.9%	5	2	0
MACON	1	4	72	5.6%	4	0	0
MADISON	1	11	187	5.9%	11	0	0
MARTIN	2	5	100	5.0%	5	0	0
MCDOWELL	1	5	19	26.3%	5	0	0
MECKLENBURG	2	3	10	30.0%	3	0	0
MITCHELL	3	12	101	11.9%	12	0	1
MONTGOMERY	3	18	54	33.3%	18	0	0
MOORE	2	17	37	45.9%	17	0	0
NASH	4	4	74	5.4%	4	0	0
NEW HANOVER	2	1	4	25.0%	1	0	0
NORTHAMPTON	1	15	275	5.5%	15	0	2
ONslow	2	9	53	17.0%	9	0	1
ORANGE	1	22	144	15.3%	21	1	0
PAMLICO	1	3	66	4.5%	3	0	0
PASQUOTANK (ALBEMARLE)	4	2	28	7.1%	2	0	0
PENDER	2	4	75	5.3%	4	0	0
PERQUIMANS (ALBEMARLE)	3	3	44	6.8%	3	0	0
PERSON	2	10	164	6.1%	10	0	1
PITT	2	12	160	7.5%	12	0	0
POLK	2	5	38	13.2%	5	0	0
RANDOLPH	5	13	78	16.7%	13	0	0
RICHMOND	4	6	41	14.6%	6	0	0
ROBESON	4	14	120	11.7%	13	1	0
ROCKINGHAM	2	10	188	5.3%	10	0	0
ROWAN	1	5	65	7.7%	4	1	0
RUTHERFORD	1	6	97	6.2%	6	0	3
SAMPSON	2	23	199	11.6%	22	1	0
SCOTLAND	2	6	6	100.0%	6	0	0
STANLY	3	7	104	6.7%	7	0	0
STOKES	4	8	132	6.1%	8	0	0
SURRY	4	13	189	6.9%	13	0	0
SWAIN	3	4	34	11.8%	4	0	0
TRANSYLVANIA	1	5	59	8.5%	5	0	0
TYRRELL	2	3	44	6.8%	3	0	0
UNION	2	15	74	20.3%	14	1	0
VANCE	2	5	73	6.8%	5	0	1
WAKE	4	9	136	6.6%	9	0	1
WARREN	1	9	158	5.7%	9	0	2
WASHINGTON	1	3	35	8.6%	3	0	0
WATAUGA	2	6	68	8.8%	6	0	2
WAYNE	2	15	148	10.1%	14	1	0
WILKES	5	22	79	27.8%	22	0	0
WILSON	4	5	102	4.9%	5	0	0
YADKIN	2	18	141	12.8%	18	0	0
YANCEY	2	13	135	9.6%	13	0	0
<b>TOTALS</b>	<b>245</b>	<b>870</b>	<b>8,994</b>	<b>9.7%</b>	<b>853</b>	<b>17</b>	<b>33</b>
					<b>98.0%</b>	<b>2.0%</b>	<b>3.8%</b>
<b>Note: Districts highlighted have BMPs that are non-compliant or need some maintenance done.</b>							

Appendix F: Funding and Compliance Process

**Cost Share Programs**  
Funding and Compliance Process



Appendix F: Funding and Compliance Process



Appendix G



Cropland Conversion- Long Leaf Pine



Streambank and shoreline protection



Livestock Exclusion System



Dry stack-Poultry



Manure Composting Facility



Rooftop Runoff Management System