

THE COMMUNITY CONSERVATION ASSISTANCE PROGRAM

AND

URBAN WATER QUALITY

Background

There are 96 Soil and Water Conservation Districts in North Carolina. Their operations are governed by the provisions of Chapter 139 of the North Carolina General Statutes.¹ Each district is governed by a board of five supervisors. Three members are elected for staggered four year terms in district-wide elections and two are appointed for similar four year terms by the N.C. Soil and Water Conservation Commission.

In the “Dust Bowl” years, the intent of the national government, driven by the N.C. soil scientist Hugh Hammond Bennett, was creation of independent bodies of land owners who could be clearing houses for the work of federal soil conservation technicians and engineers on farms prone to soil loss from wind and water and where there were concurrent farmer suspicions of outsiders trying to change their life-long farming practices.

N.C. General Statutes Chapter 139 defines soil and water conservation districts as a “... governmental subdivision of this State and a public body corporate and politic...” The operations of these independent governmental units were to be financed by state and county appropriations, while personnel and equipment were to be provided by the Federal Soil Conservation Service (now the Natural Resources Conservation Service).² The job of the federal scientists and technicians was to provide advice and demonstrate the production advantage of land practices that retained soil and water on the land. In that early model, there was no cost sharing of practices put on the ground.

Changes in Structure

This early structure has changed dramatically in the 21st Century in accord with changes in agribusiness. The federal legislative and executive branches response was enactment of massive federal Farm Bills. Title II of the several Farm Bills provides for the provision of technical assistance to farmers and for federal sharing of costs with land owners participating in a plethora of programs, such as the Agricultural Conservation Program, the Conservation Reserve Program, and the Environmental Quality Incentives Program. The Congressional Budget Office estimates that spending on Title II conservation programs will total \$67.6 billion in the fiscal years 2014 to

¹ There are similar districts in all 50 states. Their enabling laws follow a general pattern issued in the mid-1930's by the U.S. Department of Agriculture. The laws and terminology have evolved in each state. In some states, the districts are simply “Conservation Districts”, and in some states the legislatures have expanded the range of responsibility to include urban and suburban land.

² It was not unusual, even in the early years of the 21st Century, to have federal District Soil Conservationists round up and transport supervisors to meetings.

2023.³ Federal technicians continue to be based in soil and water conservation districts and the flow of federal conservation money passes through the district boards of supervisors. By and large, the States and counties financed office space and an administrative person to keep minutes and contracts. Many of the districts depended upon federal provision of such minutia as telephone service and duplicating machines.

In North Carolina, massive fish kills in the lower reaches of the Tar, Pamlico, and Neuse River basins were attributed to nutrient runoff from farms, The General Assembly chose to attack the problem by creating the Agriculture Cost Share Program for Nonpoint Source Pollution Control (Ag Cost Share or ACP) "...to reduce the input of agricultural nonpoint pollution into the water courses of the State." The easy choice of a mechanism to implement the program was the existing district organizations. The enactment of the program marked the entry of the State into sharing the cost of land owner installation of practices to achieve a social benefit: improving the quality of the Waters of the State. Enactment of the program also meant that means had to be provided for the districts and the State Division of Soil and Water Conservation to employ technical staff to design and implement management practices and monitor the flow of State money.⁴

The New Hanover County Experience

At the turn of the 21st Century there were virtually no commercial farming operations in New Hanover County, and the Board of County Commissioners began to question the need to fund a soil and water conservation district. However, the condition of the water in the many small estuaries (i.e. tidal creeks) draining into the bays, sounds, and the Cape Fear River, with two exceptions, was listed as impaired, and these rich and abundant shellfish beds were closed to fishing because of high levels of fecal bacteria. The culprit was obviously not farm runoff; it was polluted runoff from impervious surfaces in developed areas, or "urban wash". In addition, the urban runoff changed the pattern of flow in the upper creeks that resulted in severe bank erosion and large sediment loads carried into the estuarine portions of the creeks that changed the bottom habitat that shellfish and other fishes historically thrived in.

By 2002 the Board of Supervisors of the New Hanover Soil and Water Conservation District realized that their future and, by implication, the future of all of the North Carolina soil and water conservation districts laid in dealing with the contribution of stormwater falling on urban/suburban impervious surfaces to non-point source water pollution. Everything in the succeeding 14 years supported that conclusion. This is so because in that span of time, 30 of the state's 100 counties had achieved urban densities as the state's economic base diversified from the previous agriculture-dominated way of life. Urban density equals high ratios of impervious surfaces. The phenomenon was not limited to coastal counties such as New Hanover, but was a major state problem as was becoming evident in the watersheds draining to the Falls and Jordan Lakes.

³ Zulauf, Carl, Department of Agricultural, Environmental and Development Economics, The Ohio State University, May 2014.

⁴ The federal and N.C. Ag Cost Share model used by the SWCDs for 80 years has been chosen by the General Assembly for a variety of purposes, such as, closing swine lagoons and for enhancing farm water supplies under the Agriculture Water Resource Assistance Program (AgWRAP).

By 2004 it was clear to the New Hanover Board of Soil and Water Conservation Supervisors that a State supported program following the Ag Cost Share model was needed to enable the district to deal with the many facets of the urban wash problem or the district would lose relevance in the county and be disbanded.

Further, there was (and is) no federal agency or program for urban wash that parallels the relationship of the U.S. Natural Resources Conservation Service to the soil and water conservation districts for agriculture.

The New Hanover SWCD moved a resolution to the 2004 Annual Meeting of the N.C. Association of Soil and Water Conservation Districts that proposed creation of an urban soil and water conservation program. The proposal was opposed by the N.C. Farm Bureau and many members of the association mistakenly perceived it as a threat to appropriations for Ag Cost Share, and that “urban” was not an appropriate program for agencies designed to serve farms and farmers.

Passage of the Community Conservation Program

A fortuitous combination of circumstances came together in 2006. First, the New Hanover SWCD was able to demonstrate with several property owners in the Hewletts Creek watershed that individual residential property owners would install stormwater treatment facilities on their land if approached with technical and financial assistance. Second, a representative in the General Assembly representing a part of New Hanover understood the nature of the urban wash problem and was willing to take a leadership role in the General Assembly. Third, the director of the Division of Soil and Water Conservation shared with New Hanover supervisors the view that the future of the district approach to non-point source water pollution was dependent on district activity in the urban areas of the state. The result was a Community Conservation Assistance Program (CCAP) bill introduced in the House by Representative Carolyn Justice, and in the Senate by Senator Charlie Albertson. The bill passed both houses unanimously and was signed into law in July of 2006.

For the first time, North Carolina Soil and Water Conservation Districts were authorized to conduct education and outreach on non-farm water quality issues, and to offer technical and financial assistance (cost share) to non-farm property owners with developments that were more than three years old.

With widespread recognition of the critical need for managing stormwater flows, additional funds were granted in fiscal year 2007 for the purpose of installing well designed facilities:

➤ Clean Water Management Trust Fund	\$1,169,000
➤ Environmental Enhancement Grant	325,000
➤ Section 319, Clean Water Act (U.S.EPA/N.C. DWQ)	274,425
TOTAL	\$1,768,425

The stormwater management facilities installed using capital funds plus 25% owner match (\$744,291) are shown in Table 1.

Table 1. Management Practices Installed by Districts 2008 to 2012

CCAP Practice	Measure	Units Performed
Abandoned Well Closure	Units	186
Backyard Rain Garden	Square Feet	15,167
Backyard Wetland	Square Feet	1,738
Bioretention Area	Square Feet	83,645
Cistern	Units	113
Critical Area Planting	Square Feet	936,996
District Bmp	Units	4
Diversion	Feet	1,271
Grassed Swale	Square Feet	54,252
Impervious Surface Conversion	Square Feet	29,853
Marsh Sill	Feet	425
Permeable Pavement	Square Feet	7,327
Pet Waste Receptacle	Units	200
Riparian Buffer	Square Feet	204,101
Stormwater Wetland	Square Feet	240,478
Stream Restoration	Feet	2,178
Streambank And Shoreline Protection	Feet	10,223

The total investment made to install these facilities was \$2,232,872.

In addition to the direct contribution of the installed stormwater management practices to such benefits as nitrogen and phosphorus reduction, most of the practices result in reduction of water used for turf irrigation. The 113 cisterns installed represent an increase in gross water supply through capture and use of rainwater.

A very important benefit that is not yet quantifiable is the amount of petroleum based material that is prevented from reaching the ambient water bodies. It is known that a large amount of oil, fuel, and tire rubber are deposited on pavements. That material is a component of the first rush of stormwater moving over those surfaces and into the state's waters. Major polluting chemicals that come from petroleum-based products are called PAHs (polycyclic aromatic hydrocarbons), which are poisonous to fish, shellfish and invertebrates and carcinogenic to humans. Urban Burnt Mill Creek is polluted by these compounds, for instance, and this creek is on the state's 303(d) list as having an impaired benthic invertebrate community.

Serious Shortcoming

A shortcoming made obvious during the first two years was that the grant money did not provide for augmented district technical staff to contact owners and design projects. During the 2008 legislative session, a coalition of conservation organizations mobilized to seek \$3.4M to provide state funding for a CCAP staff person in each district. The assumption was that there would be continued grant money to install stormwater treatment facilities if there were people on the ground seeking cooperators and designing projects. The proposal was received favorably by the leadership of the House of Representatives. The recession's impact on state revenues that year prevented the appropriation of "new money".

Two Years of Success Produced an Operational System

However, the two years of action by stretched thin district staff put in place the organizational components necessary to implement an urban oriented water quality program. There are basic designs for best management practices, regularly updated data on the costs of earth moving and other costs of installation of stormwater treatment facilities, state approved legal contract templates for use with cooperators, and protocols for inspections during installation and for periodic inspections thereafter to ensure maintenance. The years of practice with agricultural programs shows that the system works. Further, having these tools in place is necessary for any cost share program to be successful

In New Hanover, both of the SWCD staff persons are Certified Conservation Educators. They reach 3,000 to 5,000 thousand elementary and middle school students each year with natural resource conservation programs, including concepts that teach about urban wash/stormwater. Most of the district's staff costs for education are paid for under a contract with the City of Wilmington Stormwater Services. The funding enables the district to provide some of the outreach and education requirements that are required by the city's National Pollution Discharge Elimination Program permit.

Further, the city is also providing funds to the district for use in paying the total cost of homeowner BMPs in two high priority watersheds.⁵ Existence of the CCAP infrastructure influenced the city's decision to run the money through the district rather than gear up a duplicative in-house staff.

According to long term monitoring data, progress in reducing P(hosphorus), N(itrogen), ammonia, and fecal coliform bacteria pollution is being made in two watersheds where intensive

⁵ The city attempted to do the door-to-door work required to enlist homeowner cooperation, but found that it was more efficient to use the existing district framework that included realistic cost figures, design capacity, comprehensive contract formats, and systematic inspection of both work in progress and subsequent maintenance.

efforts are being made. The progress comes from a lot of little things, such as disconnecting or redirecting downspouts, and some big things such as the city's construction of wetlands and doing stream bank stabilization. The New Hanover, Durham, Gaston, and other districts' experience shows that the CCAP style approach to attacking non-point source water pollution one small watershed at a time will reduce the deleterious impacts of stormwater runoff.

Funding Requirements

Three recent Watershed Study and Restoration Plans financed with Section 319 funds (UNC at Chapel Hill, Durham City Stormwater Service, and N.C. Coastal Federation) specifically include the expectation that the relevant districts will employ the CCAP to follow up on installing and monitoring the BMP practices identified in the plans. But for the districts to successfully meet those 319 plan expectations, there will have to be adequate dedicated CCAP staff, funding for large and small projects, and for vigorous outreach and education work.

Currently funding for the required staff and construction for even the three plans is not available. The initial funding of \$200,000/fiscal year provided by the N.C. General Assembly has been continued in FYs 2016 and 2017. The Division of Soil and Water Conservation in the Department of Agriculture and Consumer Services uses \$37,743 of the annual appropriation for program coordination; \$25,320 of the annual appropriations is used to fund ¼ of a staff position in each the Dare and New Hanover SWCDs. That leaves only \$136,937 available for distribution to the 96 districts for water quality issues related to urban runoff. And by Soil and Water Conservation Commission rule, other than in the two named districts, there can be no additional staff to promote and do the technical work for a community conservation program or to do the valuable outreach and education essential to the success of an urban program. All of that is left for existing staff that are largely funded to implement agricultural programs. Most SWCDs consider the amount of money available is a low return on staff time investment.

Compare this with the agricultural soil and water programs: There are staff personnel from a major federal agency and from district technical staff who make regular contact with farm owners (many of whom have had cost share contracts for a number of years), who use a variety of media to advertise the availability of federal and state financial programs. They work with farmers to design conservation practices, and in some cases oversee construction of approved facilities.

Shortcomings in the Law

Annual Cap on Funds. The ten years of CCAP experience has revealed two shortcomings in the law. The first is a cap of \$75,000 per year to each applicant. Among the most prominent existing impervious areas in need of retrofitted stormwater treatment practices are parking lots and stream banks eroded by stormwater surges. Projects that will install bio-retention and other practices will exceed the \$100,000 limit imposed by the law.

Education – Outreach Requirement. The second shortcoming, is a lack of clarity about the use of State funds for technical assistance. One sub-section requires the Soil and Water

Conservation Commission to "...allocate the cost share and technical assistance funds under the Program", while the succeeding sub-section provides that "Areas shall be included in the Program as funds are appropriated and technical assistance becomes available from the local Soil and Water Conservation District". There is no explicit authorization for use of State funding for education and outreach programs; there should be.