



ANNUAL REPORT

WAKE SOIL AND WATER CONSERVATION DISTRICT

WAKE COUNTY SOIL AND WATER CONSERVATION DEPARTMENT

2021-2022

THE FISCAL YEAR



United States Department of Agriculture
Natural Resources Conservation Service

Department Overview

VISION

The vision for the Wake Soil & Water Conservation District is to be the leader in providing education, natural resource management planning, conservation, and implementation activities in Wake County. In pursuing this vision, we continue to rely on some of the core values that have contributed to over 50 years of conservation success. We value the rights and responsibilities of private property owners and their ability to make informed natural resource conservation decisions on their own land. We value voluntary, non-regulatory efforts to accomplish natural resource conservation objectives. We value locally led, grassroots implementation of conservation practices on the ground.

MISSION

To conserve the soil, water, and related natural resources of Wake County by providing education, information, technical assistance, and economic incentives to County citizens that will protect the water quality of all Wake County watersheds.

Wake County's Conservation District Staff & Board of Supervisors

WAKE COUNTY SOIL AND WATER CONSERVATION DEPARTMENT

COUNTY STAFF

Teresa Furr, District Director
Emily Bateman, Natural Resource Conservationist
Mikayla Renn, Natural Resource Conservationist
Caleb Lippard, Natural Resource Conservationist
Sheila Jones, Environmental Educator
Loren Hendrickson, Conservation Specialist
Alexandra Heinemann, Big Sweep Coordinator

USDA NRCS

(Natural Resources Conservation Service)
Raleigh Field Office Staff - Team 10

Diana Irizarry
Supervisory Soil Conservationist

Gabriela Velez Rodriguez
Soil Conservationist

WAKE SOIL AND WATER CONSERVATION DISTRICT BOARD OF SUPERVISORS

ELECTED AND APPOINTED OFFICIALS

Thomas Dean, Chair
Jenna Wadsworth, Vice-Chair
Patrick Johnson
Scott Lassiter
Robin Hammond

ASSOCIATE BOARD OF SUPERVISORS

Marilyn Grolitzer, Sam Laurie, Larry Perry, John Phelps

WAKE COUNTY AGRICULTURAL ADVISORY BOARD

APPOINTED OFFICIALS

Patrick Johnson , Chair	Joanie Bowden
Talmage Brown	William Upchurch
David Canady	Eric Regensburger
Fred Burt	

Conservation Planning & Installation of Best Management Practices (BMPs)

OVERVIEW OF ACCOMPLISHMENTS

Wake Soil and Water Conservation District staff, in partnership with USDA-NRCS staff, delivered excellent customer service to Wake County's farming community by writing conservation plans for **12,456** acres. They implemented Best Management Practices (BMPs) on **1,147.45** acres and distributed over **\$212,831** in financial assistance funds to protect water quality and improve soil health. The Natural Resource Conservationists assisted farmers and landowners by writing 41 contracts for financial assistance and encumbering **\$619,410** in state and federal cost share funding.



Newly installed watering tank and heavy use area to provide livestock fresh water and remove them from streams

Special Grant Funding Awarded & Implemented



NFWF

Wake Soil and Water Conservation District began implementing a three-year grant from the National Fish and Wildlife Foundation (NFWF) called Advancing Soil Health through BMP Adoption and Installation. The grant provides **\$95,820** in financial and technical field assistance to farmers, training on the benefits of cover crops and grazing cover and encourages long-term adoption of BMPs that improve soil health in Wake County. For Program Year 2021-2022, the staff implemented **10** NFWF Cover Crop Contracts on **405.47** acres and paid out a total of **\$32,940.80** in grant funds to farmers in Wake County. The cover crops reduced **412.40** tons of sediment, **4,785** pounds of nitrogen and over **150** pounds of phosphorus from entering streams in Wake County.



Cool season cover crop of cereal rye that has been established through the NFWF grant to reduce soil erosion and nutrient runoff from a crop field near Knightdale and the Neuse River.

Agricultural Leadership & Community Support

OVERVIEW

Support and connectivity were provided by the Wake Soil and Water Conservation District to the agricultural community through partnerships and service on various committees, boards, and initiatives. The District staff provided representation and leadership by attending or serving on the Wake County Water Partnership, Capital Area Food Network, Wake County Farm Bureau, WakeNature Preserves Partnership, Land Protection Committee, Conservation Strategies Committee, Piedmont Conservation Council, Soil and Water Conservation Society Hugh Hammond Bennett Chapter, and many others. Staff continue to serve on local, state, and national boards, bringing attention to Wake County as a destination to showcase and model conservation projects or events.

KEEPING THE FARM WORKSHOP

Due to the ongoing COVID pandemic, the 17th annual Keeping the Farm Workshop (KTF) was not held in-person but hosted virtually. The workshop streamed live through YouTube on Wednesday, March 23, from 8–12 a.m. In attendance were 112 Wake County farm and forest landowners. During the workshop, topics covered included tax administration, estate planning, water quality and soil health, conservation easements, and farmland preservation.

KTF had over 264 views and garnered over 600 post reactions for both the live stream and recorded events.



The recorded workshop videos can be viewed here:
<https://www.wakegov.com/departments-government/soil-water-conservation/swcd-events/keeping-farm-workshop>

Agricultural Leadership & Community Support

VOLUNTARY AGRICULTURAL DISTRICT



The Wake County Voluntary Agricultural District (VAD) Program promotes agricultural values and the general welfare of Wake County by increasing the identity of, and pride in, the agricultural community and its way of life. The program also encourages the economic and financial health of agriculture, horticulture, and forestry through protection from non-farm development and other negative impacts on properly managed farms. The staff works with the Agricultural Advisory Board (Ag Board) to manage Wake County's VAD Program. The Ag Board **approved 15 VAD applications, totaling 842.88 acres** during the 2021-2022 Fiscal Year. There are currently **10,693.73 acres** enrolled in this farmland preservation program.

Stream Restoration Project Whittington Park Townhomes

Piedmont Conservation Council

A total of **335 linear feet** of stream was restored on an urban tributary to Black Creek through a partnership with Piedmont Conservation Council and Kris Bass Engineering. The goal of this stream restoration project was to move the stream channel safely away from jeopardized infrastructure by building a new, meandering channel that is re-connected to a historic floodplain. The project will stabilize streambanks, improve habitat in and around the stream, and increase connectivity to riparian buffers.

In May 2022, the stream grading, structure installation, stream stabilization and first phase of planting were conducted. The project will be completed this winter (2022) once the remaining plantings, which includes both live stakes and trees, are installed.



FUNDING

EPA Section 319.....	\$50,000
DWR WRDG	\$50,000
Whittington Park HOA	\$55,000
TOTAL PROJECT FUNDING SECURED	<u>\$155,000</u>

Environmental Education Youth Learning & Adult Training

OVERVIEW

Wake District staff engages citizens of all ages in learning about the importance of natural resources and how to protect them. Due to the challenges of COVID-19, Wake District staff worked remotely with **434** youth and **112** adults to carry out adapted versions of the District's adult and youth environmental education programs. Throughout the year, WSWCD monetarily benefited 70 wake county students (grades 5 - 12) with a total of **\$7,625** in scholarships/awards thanks to six generous sponsors.

POSTER CONTEST

This year's "Soil and Water - Yours For Life" conservation poster contest engaged a total of **200** 4th and 5th grade students from **12** elementary schools in Cary, Knightdale, Raleigh, Wendell, and Zebulon.

Students researched and illustrated agricultural best management practices (BMPs) used by NC farmers. Their posters explained the science behind BMPs and how they work to reduce soil erosion, protect water quality, build soil health, and store carbon to aid soil resilience against severe weather associated with climate change.



Fifth grader, Alice Lee, from Poe Magnet Elementary in Raleigh has won all three levels of this year's "Soil and Water – Yours For Life" conservation poster contest – county, regional, and state - amounting to a whopping \$400 in prize money!

Environmental Education Youth Learning & Adult Training

ENVIROTHON



Enloe High School's "Subchronic Exposure" team won big at all three levels of competition: Area 4 Envirothon, NC Envirothon, and NCF Envirothon.

A total of 11 Envirothon teams from six Wake County middle and high schools registered for the 2022 Area 4 Envirothon. Five out of the 11 teams swept the Top 7 scores. From a field of 41 high school teams from across the state, **Wake County teams placed 1st, 2nd, 4th, and 6th. Wake County placed 1st amongst middle school teams.** Enloe High School's Subchronic Exposure, featured above, captured 1st Place at the 2022 NC Envirothon April 29-30 at Cedarrock Park in Alamance County. The state champions won an engraved plaque, \$200 cash prize, a \$500 college scholarship each from the Hugh Hammond Bennett Chapter of the Soil & Water Conservation Society, and two sets of medallions for perfect scores (tied) in Soils and Current Environmental Issues. Our awesome NC Envirothon State Champion team placed in the TOP 5 at the 2022 NCF-Envirothon in Ohio! They competed against 40 of the best high school teams from 36 U.S. states and 4 Canadian provinces. This was the first in-person competition since NC hosted the 2019 NCF-Envirothon at NCSU.

Environmental Education

Youth Learning and Adult Training

RESOURCE CONSERVATION WORKSHOP

A record number of **12** Wake County teens joined 80 high school students from around the state in a summer conservation camp in Raleigh, marking the 59th year of the Resource Conservation Workshop (RCW) at NCSU. An entire day focused on Natural Resource Conservationist roles and responsibilities and was coordinated and taught by Wake Soil and Water Conservation District staff in hopes of inspiring students to pursue careers focused on protecting our areas farms, forests, waterways, and wildlife.

This unique conservation camp experience was made possible for **10 students thanks to scholarships** from Wake SWCD Board of Supervisors and the Friends of Wake SWCD. For the past 30+ years, students have told us they find this week to be a valuable immersion into the art and science of conservation, giving them a new perspective on natural resources management, as well as renewed inspiration to be active environmental stewards at home and in their community.



Outreach and Volunteer Services

Community Partnership & Engagement



VOLUNTEER

Wake County Big Sweep had its first full year since COVID-19. Big Sweep is a citizen volunteer program dedicated to litter-free neighborhoods and waterways since 1986. We accomplish this by focusing on zones within drinking water sources and impaired watersheds. Our goal is to improve water quality by eliminating trash and engaging our communities to protect water resources. Volunteers conducted 38 cleanup events this fiscal year, covering over **975** acres, throughout Wake County. The program had **1,173** volunteers who donated **3,065** hours valued at **\$87,475.10**. In total, **39,831** pounds of litter were removed. Of that, **13,705** pounds were diverted from the landfill through recycling. For comparison, FY21-22 had a **278.4%** increase in total pounds of trash removed since the last active Big Sweep fiscal year (because of COVID) FY19-20 which only consisted of one season. However, this year compared to the last full two season year, FY18-19, had a **65.95%** increase in total pounds removed.



Volunteers from Murphy's Naturals removing 7,140 lbs. of trash from Beech Bluffs, a future Wake County Park managed by Wake County Open Space.

Outreach and Volunteer Services

Community Partnership & Engagement


WATERSHED IMPACT

Watersheds are delineated by United States Geological Survey (USGS) using a nationwide system based on surface hydrologic features. In total, Wake County has **46** 12-digit HUC (hydrologic unit code) subwatersheds that are entirely or partially within the county border. Of those, **23** subwatersheds have drinking water supply sources associated directly. Big Sweep also targets impaired and threatened waterways as designated by the 303(d) list that NC Division of Water Resources with the NC Department of Environmental Quality assembles. In Wake County, **39** subwatersheds have uniquely impaired waters. Watersheds used for Wake County Big Sweep data analysis are the 12-digit HUC subwatersheds. Below is a table outlining the percentages of subwatersheds cleaned in each category throughout past and present fiscal years based on unique targeted areas.

Fiscal Year	Total Watersheds	Drinking Water Sources	Impaired 303d Listing
FY21-22	39%	30%	69%
FY19-20	33%	26%	64%
FY18-19	43%	43%	69%
FY17-18	33%	39%	62%

Future Goals & Projects

WAKE COUNTY APPROVES NEW FARMLAND PRESERVATION PROGRAM ORDINANCE



On June 21, 2022, the Wake County Board of Commissioners passed the new Wake County Farmland Preservation Program Ordinance. Along with updates to the Voluntary Agricultural District (VAD) program, the ordinance includes the addition of a new Enhanced Voluntary Agricultural District (EVAD) program and a new Agricultural Conservation Easement Program. Wake SWCD intends to work closely with program partners to deliver both of these conservation options to interested landowners in the coming months.


EVAD Program

EVAD builds on the foundations of the existing VAD program by enrolling landowners in an irrevocable 10-year agreement on their deed to keep the land in agricultural production. Some other features of the EVAD program include:

- The 10-year irrevocable conservation agreement must be recorded on the deed and landowners may renew for 3 years after the initial period
- The program may provide assessments for utilities be held in abeyance
- Participants may receive up to 25% of gross sales from the sale of non-farm products and retain bona-fide farm status
- Participants are eligible for higher 90% cost share funds from the ACSP program

Agricultural Conservation Easement Program

Wake SWCD will offer conservation easement options to landowners who want their lands protected in perpetuity.



Acknowledgements

THANK YOU

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We would like to thank all of our amazing internal and external partners for their continued support and collaboration to help further our work to protect the natural resources in Wake County.

Wake County Board of Commissioners
Wake SWCD Board of Supervisors
Friends of the District
Triangle Land Conservancy
Green For Life
Wake County Parks & Open Space
NCASWCD

City of Raleigh PRCR
City of Raleigh Stormwater
Town of Cary
Town of Fuquay-Varina Stormwater
Town of Garner
Piedmont Conservation Council
NC Division Soil and Water

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