



# ANNUAL REPORT

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**WAKE SOIL AND WATER CONSERVATION DISTRICT  
WAKE COUNTY SOIL AND WATER CONSERVATION  
DEPARTMENT**

**2022-2023**  
**FISCAL YEAR**







# Department Overview

## VISION

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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

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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  
**Loren Hendrickson**, Farmland Preservation Coordinator  
**Sheila Jones**, Environmental Educator  
**Winifred Dorer**, 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  
**Scott Lassiter**, Vice-Chair  
**Beth Pugh Farrell**, Treasurer  
**Jenna Wadsworth**  
**Ryan Broadwell**

### ASSOCIATE BOARD OF SUPERVISORS

**Marilyn Grolitzer, Sam Laurie, David Adams, Larry Perry, John Phelps, Robin Hammond**

## WAKE COUNTY AGRICULTURAL ADVISORY BOARD

### APPOINTED OFFICIALS

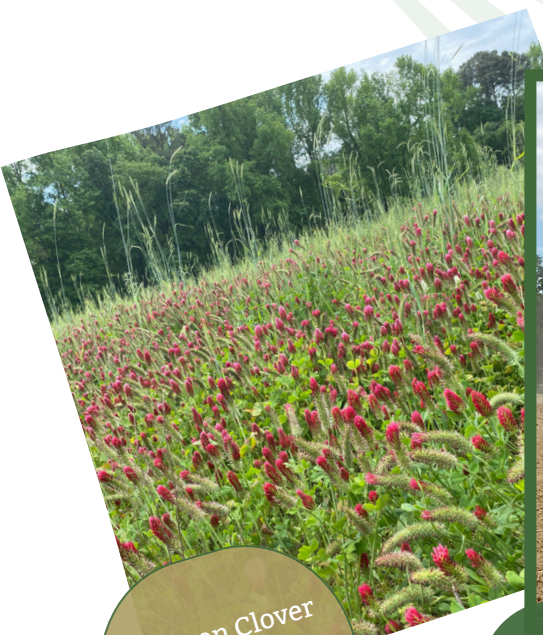
<b>Patrick Johnson</b> , Chair	<b>Joanie Bowden</b> , Vice-Chair
<b>Talmage Brown</b>	<b>William Upchurch</b>
<b>David Canady</b>	<b>Eric Regensburger</b>



# Best Management Practices Conservation Planning and Installation

## 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 implementing Best Management Practices (BMPs) on **825 acres** and distributing over **\$714,527** in financial assistance funds to protect water quality and improve soil health. The Natural Resource Conservationists assisted farmers and landowners by writing **38** contracts for financial assistance and encumbering **\$1,055,843** in state and federal cost share funding. The District assisted local, state, and federal partners by helping secure an 86-acre conservation easement that is valued at over **\$1.3 million**.



Crimson Clover  
& Cereal Rye  
Cover Crop



Sprigging of Midland 99 hybrid  
coastal bermuda as part of a Cropland  
Conversion to Grass practice.



Restored  
Section of  
Stream



# Special Grant Funding Awarded & Implemented



Wake Soil and Water Conservation District completed a three-year grant from the National Fish and Wildlife Foundation (NFWF) called Advancing Soil Health through BMP Adoption and Installation. The grant provided **\$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 the three-year grant the staff implemented **29** NFWF Cover Crop Contracts on **1,155.61** acres and paid out a total of **\$90,000** in grant funds to farmers in Wake County. The cover crops reduced **3,694,000 pounds** of sediment, **9,785** pounds of nitrogen and over **845** pounds of phosphorus from entering streams in Wake County.

The Wake District hosted three cover crop workshop trainings on the benefits of cover crops and how to incorporate them into crop rotation systems. The trainings provided over **20** hours of education and outreach to **710** participants on the benefits of cover crops through field demonstrations and hands on learning opportunities.



Workshop attendees getting a closer look during a rainfall simulation. This activity highlights how keeping various amounts of residue on the land reduces sediment loss.





# CCAP Projects Beechtree HOA

## **STREAM RESTORATION & DAM REMOVAL**

A total of **2,250 linear feet** and **1.9 ac of wetlands** were restored on an urban tributary to Black Creek through a partnership with Piedmont Conservation Council and Kris Bass Engineering. This **25-acre** property was also placed into a permanent **conservation easement**. The goal of this project was to remove an eroded dam and restore an entire stream corridor.

Several areas of massive bank failure have been stabilized and a substantial amount of trapped sediment has been kept in place and vegetated. The future reduction in sediment and protection of utilities is unmeasurable. A pre-construction biologist sweep for bugs showed this reach to be highly impaired. After project completion, numerous reptiles and amphibians were spotted along the stream. We are hopeful that ecological communities have been put on a better trajectory with this project.

### **FUNDING**

NCLWF.....	\$400,000
EPA Section 319.....	\$90,000
DWR WRDG .....	\$75,000
Beechtree HOA .....	\$75,000
CCAP.....	\$50,000
NC RC&D.....	\$36,617

<b>TOTAL PROJECT FUNDING SECURED</b>	<b><u>\$726,617</u></b>
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# CCAP Projects

## Stream Restoration

**90 linear feet of stream restored within the Falls Lake Watershed!**

Previous conditions of the stream consisted of a deep meander bend with unstable 1:1 banks. Approximately **12 tons of sediment** were polluting this stream section each year. To improve water quality, a stream restoration project was conducted to stabilize the stream banks and establish a riparian buffer.

The restoration design included reinforced toe protection, bank sloping, and dense vegetation plantings.

This project was made possible with cost share funding from the NC **Division of Soil and Water Conservation** through the Community Conservation Assistance Program (CCAP), Wake County Government **Falls Lake Watershed IAIA Funding**, and landowner match.



**Before and After Restoration**



A time lapse camera was placed on site to capture the construction process.



# Ag Community & Programs

## Agricultural Leadership & 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



The 18th Annual Keeping the Farm Workshop was back in-person this year at the Wake County Commons Building. Over 170 people attended the free event to learn more about estate planning, properties in the present use value program, farm and rural issues, conservation easements, and farmland preservation. Many people view Wake County as the busy state capital, but there are nearly 700 farms and more than 77,000 acres of farmland still in active production in Wake County.



# Ag Community & Programs

## Farmland Preservation Program



The Wake County Farmland Preservation Program was launched in January of 2023, adding the Enhanced Voluntary Agricultural District (EVAD) and Conservation Easement Programs to the existing VAD program. These programs encourage 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 work with the Agricultural Advisory Board (AAB) to manage all Farmland Preservation applications. The AAB **approved 12 VAD (696 acres), 1 EVAD (87 acres) and 2 Conservation Easement applications (241 acres) totaling 1,024 acres** during the 2022-2023 Fiscal Year. There are currently **11,811 acres** enrolled in the farmland preservation program. Staff also submitted their first application to the NC Agricultural Development and Farmland Preservation Trust Fund for funding on a permanent conservation easement to be held by Wake SWCD. The program also received a **\$4,500 grant** from the NC Grange for Farmland Preservation support. Regarding staff, the new Farmland Preservation Coordinator began in September of 2022 and has attended 5 trainings on conservation easements and farm transition. In May of 2023 the program earned a NACO achievement award for its innovation.



# Environmental Education Youth & Adult Programs

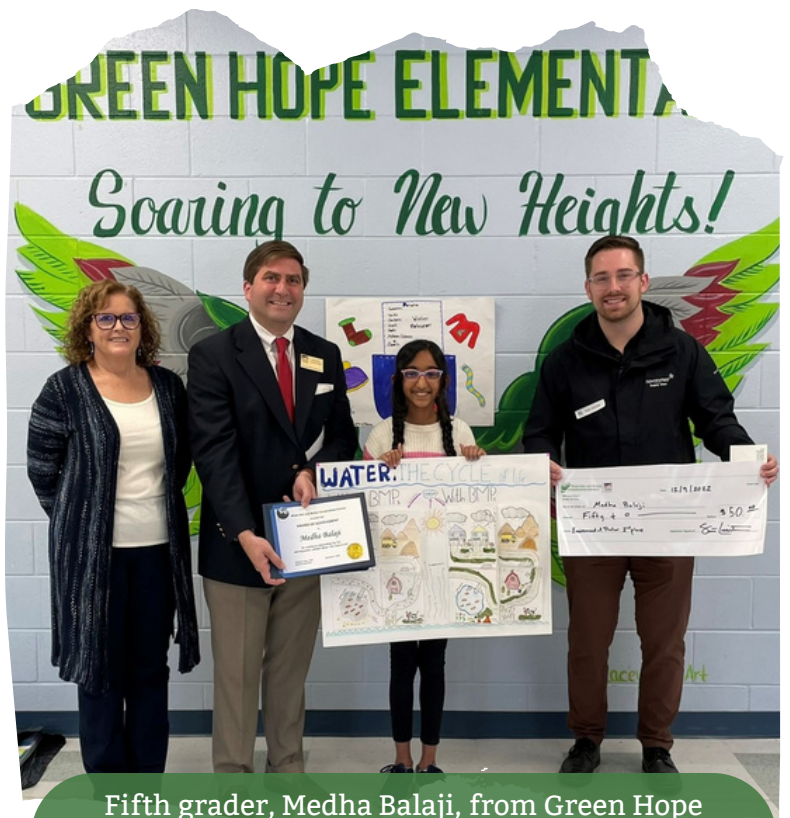
## OVERVIEW

Wake District staff engages citizens of all ages in learning about the importance of natural resources and how to protect them. Wake District staff worked remotely with **1,045** youth and **62** adults to carry out the District's adult and youth environmental education programs. Throughout the year, WSWCD monetarily benefited 118 wake county students (grades 5 - 12) with a total of **\$20,286** in scholarships/awards thanks to thirteen generous sponsors.

## POSTER CONTEST

This year's "Water: The Cycle of Life" conservation poster contest engaged a total of **900** 4th and 5th grade students from **12** elementary schools in Apex, Cary, Knightdale, Morrisville, and Raleigh.

Students researched and spotlighted innovative best management practices (BMPs) designed to slow down stormwater runoff, spread it out, and soak it into the ground to be filtered clean and to recharge groundwater. These BMPs are used in towns and cities across America and across the world to better manage stormwater runoff and make it a valuable resource instead of a polluted waste product.



Fifth grader, Medha Balaji, from Green Hope Elementary in Cary won 2nd place at this year's "Water: The Cycle of Life" state conservation poster contest. This brings her winnings from county, regional, and state competitions to a whopping \$250 in prize money!



# Environmental Education Youth & Adult Programs

## ENVIROTHON

The Envirothon is an academic competition that challenges middle and high school teams' knowledge of aquatic ecology, forestry, soils and land use, wildlife, and current environmental issues.



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 12 Envirothon teams from five Wake County middle and high schools registered for the 2023 Area 4 Envirothon. Wake County teams captured both the high school and middle school Area IV Envirothon championships. **Wake County teams placed 1st, 2nd, and 4th amongst middle school and high school teams.** Enloe High School's Subchronic Exposure, featured above, captured 1st Place at the 2023 NC Envirothon April 28-29 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 6th at the 2023 NCF-Envirothon in New Brunswick, Canada! They competed against the best high school teams from 50 U.S. states, 8 Canadian provinces, Singapore, and China.



# Environmental Education Youth & Adult Programs

## RESOURCE CONSERVATION WORKSHOP

6 Wake County teens joined 40 high school students from around the state in a summer conservation camp in Raleigh, marking the 60th 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 **6 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 Partnerships & Engagement

### VOLUNTEER



Wake County Big Sweep had a successful Fiscal Year, outnumbering our last by almost double thanks to newly formed partnerships, sponsors, and full-time dedication to the program. 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 **39** cleanup events this fiscal year, covering over **2,678** acres, throughout Wake County. The program had **1,079** volunteers who donated **3,013** hours valued at **\$90,224.38**. In total, **64,600** pounds of litter were removed. Of that, **36,309** pounds were diverted from the landfill through recycling. For comparison, FY23 had a **62%** increase in total pounds of trash removed since last fiscal year.



Volunteers from Department of Environmental Quality removing 5,250 lbs. of trash (including 68 tires) via waders and kayaks from Walnut Creek near the Southeast Raleigh YMCA.



# Outreach and Volunteer Services

## Community Partnerships & 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, **43** 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.

<b>Fiscal Year</b>	<b>Total Watersheds</b>	<b>Drinking Water Sources</b>	<b>Impaired 303d Listing</b>
<b>FY23</b>	50%	39%	91%
<b>FY22</b>	39%	30%	69%
<b>FY20</b>	33%	26%	64%
<b>FY19</b>	43%	43%	69%



# Acknowledgements

## THANK YOU

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  
Wake County Environmental Services  
Heidelberg Materials

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  
NC Foundation for Soil and Water  
Conservation

## CONTACT US



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Wake County Office Park

Agricultural Services Building

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