

Conservation Corner



District Win Award

Recently, the Durham Soil and Water received the 2016 NC Source Water Protection Education and Leadership Award from the NC Water Resources Research Institute/NC Source Water Collaborative. It was awarded for the District’s Bionomic Education Training Center (BETC) at the Water Resources Research Institute Annual Conference on March 17th.

BETC is a workforce development training program with curriculum that addresses water quality via stormwater retrofit design and implementation. BETC introduces new technology and provides school faculty with curriculum and experiential learning opportunities for their students, including data-collection and scientific methodology, while demonstrating the relevance of classroom science and math instruction to teachers and students. The curriculum provides students an opportunity to obtain hands-on work experience in STEM, encourages them to pursue careers in Green Infrastructure Technology and develop entrepreneurial skills. The BETC program taps into the need to further educate the students on water quality issues and ensures its sustainability by developing an agribusiness where students learn to grow, sell and install native plants for rain gardens and riparian buffers for homeowners across Durham, improving Durham’s water quality.

The Water Resources Research Institute Annual Conference is a two-day conference highlighting diverse topics in water research, management, and policy in North Carolina. The Durham District is a two time winner of a NC Source Water Protection Award, having won an Excellence Award in 2015 for it’s Upper Sandy Creek Watershed & Stream Restoration Project at Duke. Accepting the 2016 award was Association Supervisor David Harris and Ag Development and Environmental Services Manager Mike Dupree. District Director Eddie Culberson and Natural Resources Coordinator Jennifer Brooks were also in attendance.

Inside this issue

- Stream Restoration and Stormwater Grant info. 2
- CCAP 3
- New Employee 4
- Contractors 4
- Conservation Contest Winners ... 5
- Farmland Breakfast Series 6
- Gap Training..... 6
- BETC..... 7
- Durham Roots Farmers Market .. 7
- Bookmark Contest 8
- Durham SWCD host Area IV Spring Meeting..... 8
- Pond Clinic 9
- Hummingbirds 10
- No-till Drill Grant Awarded..... 11

Upcoming Events

- Durham and Orange Soil & Water Conservation District’s Pond Clinic– May 7, 2016 (p.9)



Stream Restoration and Stormwater Grant Update



The Durham Soil and Water District recently received funding to restore approximately 3,900 feet of stream on Mr. James Ward’s property near the headwaters of Falls Lake. The purpose of the project is three-fold and includes: 1) conversion of 3,900 feet of an unnamed tributary (UT) to Falls Lake from an eroding, degraded channel to a natural, stable system with excellent aquatic habitat; 2) reduction of sediment loading from a 303 (d) listed Falls Lake, and; 3) establishment of a vegetated riparian buffer along the UT to Falls Lake Corridor



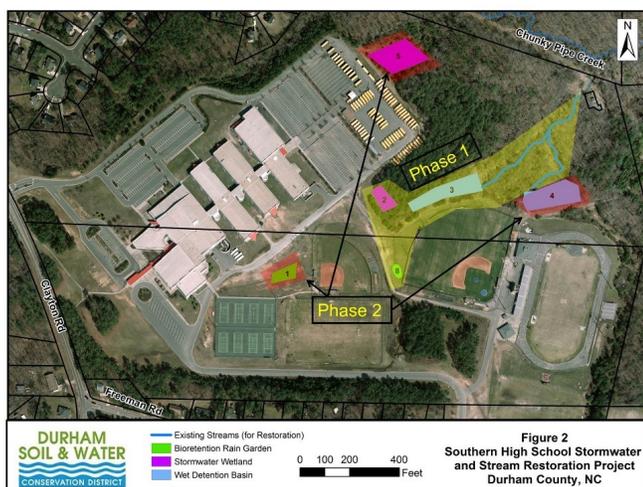
Eno River Vinyard owner, Jimmie Ward assess stream with Durham Soil and Water Director, Eddie Culberson

which will be protected in perpetuity through a donated conservation easement. The Soil and Water Department will monitor this 9 acre easement for compliance. The project is divided into Phase 1 and Phase 2. Phase 1 (1575 ft.) design and construction plus Phase 2 (2325 ft.) design will be funded with a Clean Water Management Trust Fund (CWMTF) grant (\$400,000). Phase 2 construction will be funded with an Upper Neuse Clean Water Initiative (UNCWI) grant (\$360,000). The project will reduce the sediment delivery to Falls Lake by 968 tons while reducing the nitrogen and phosphorous footprint by 682 lbs. and 44 lbs. respectively.

The Durham Soil and Water Conservation District secured a third large grant (\$435,000) for the Southern High Stormwater/Stream Restoration project from the Environmental Enhancement Grant (EEG) This grant is administered through the Department of Justice with funds from the Smithfield Hog settlement. These funds will be utilized to design and construct Phase 2 of the campus project which will consist of a wetland cell for treatment of parking lot runoff and a



reuse pond to irrigate the athletic fields. The project’s goal is to improve water quality to Chunky Pike Creek, Little Lick Creek and Falls Lake by capturing and reducing stormwater flow, sediment and nutrients from entering watercourses. Additionally, the project will capture the runoff from the parking lots and reuse the water on athletic fields thus reducing the school’s dependency on potable water and saving the county \$15,000 annually. Phase 1 of the project is scheduled to begin in June of this year (2016) with Phase 2 slated for the summer of 2017.



Community Conservation Assistance Program (CCAP)

The Durham Soil & Water Conservation District has been ramping up its outreach efforts to educate students, teachers, landowners and other community members about local water quality issues, stormwater management, the Community Conservation Assistance Program (CCAP), and the Voluntary Nutrient Reduction Program (VNRP). This fiscal year, District staff have participated in 20 community outreach events, reaching nearly 600 individuals.

CCAP is a voluntary state-funded program that provides landowners with site consultations, technical assistance, conservation plans and potential cost-share for best management practices (BMPs) to improve water quality. The Durham district has allocated nearly \$112,000 this fiscal year in cost-share assistance for BMP installation, with approximately \$53,000 in cost-share funds available for future CCAP project installations. Through CCAP consultations and outreach events, staff also encourage landowners to participate in the VNRP to improve fertilizer application practices and reduce fertilizer use by 40%.

In the coming weeks, Supervisors from the Durham Soil & Water Conservation District Board will be accompanying District staff to perform annual spot checks on 5% of randomly selected installed CCAP projects to verify that the projects have been maintained and are fully functional. The Board is integral in reviewing and approving landowners' applications for assistance and cost-share contracts.

If you have an erosion or storm water issue on your property or would like more information about the CCAP or VNRP program, please contact the Durham Soil and Water staff at 919-560-0558 or email hdutra@dconc.gov.



1,100 gallon cistern installed November 2015 at Immaculate Conception Catholic Church



Duke Energy Grant



Durham Soil & Water Conservation District received a \$100,000 Water Resources Fund grant from Duke Energy to continue its commitment to protecting and enhancing regional waterways and the environment. This grant will be used by both Durham and Wake Soil & Water Conservation Districts to implement BMP installations through CCAP in the Jordan Lake Water-

New Employee

Heather Dutra joined the Durham Soil & Water Conservation District as a Watershed Conservationist in December 2015. She assists citizens with erosion and drainage issues, designs stormwater best management practices (BMPs), and administers cost-share for BMP installation through the Community Conservation Assistance Program (CCAP). She previously served as an NPDES Program Specialist and Community Restoration Coordinator for Frederick County, Maryland's Office of Sustainability & Environmental Resources. Heather received her Bachelor's degree in Environmental Science from the University of Virginia and is a certified Project Management Professional and ISA Arborist.



Contractors



Elizabeth Zander is working as a contractor with Durham County Soil and Water to survey and inventory all agricultural operations within Durham County. She has her Masters in Environmental Management from Duke University and serves as the Executive Director for the Piedmont Conservation Council, Inc.



Sarah Ludwig-Monty is working as a contractor with Durham County Soil and Water to help enter data into their new software, Practice Keeper. She has a Masters of Environmental Management in Water Resources from Duke University.

NC Resource Conservation Workshop (RCW)

What: Camp for students interested in natural resource careers. Watch the video to find out more at <http://bit.ly/1RWRrlw>

Who: Durham County public or private school students in high school. Rising juniors or seniors

Where: NC State University campus

When: June 26, 2016– July 1, 2016

Goals: Part college fair, part job fair; the RCW introduces students to many degree and career options that they might have never heard about or thought of. Students who are interested in the environment and might like to pursue a career in it one day learn about soils, wildlife, forestry and more during the RCW. Students are housed in NCSU campus dormitories under the guidance of live-in counselors.

Scholarships and awards: Multiple scholarship and awards are available to participants during the week.

Registration: The Durham SWCD sponsor's a scholarship for a Durham County student to attend the RCW. Interested students should contact us at 560-0558 or email jbrooks@dconc.gov for an application packet. Deadline to apply for the scholarship is May 2, 2016 at 5pm.

Conservation Contest Winners

The Durham SWCD recently held its annual Conservation Contests for 3rd through 9th graders in Durham County. Each year the District invites students to participate in several different contests. The Poster Contest is open to 3rd-6th grade, the Essay Contest for 6th graders, Computer Slide Show contest for 6th grade, Computer Designed Poster for 9th grade and the Public Speaking Contest for 7th-8th graders. The theme for the 2015-2016 contest was 'We All Live in a Watershed Ecosystem'. The District awards a 1st and 2nd place entry from each contest and grade level. The first place winner advanced on to an Area level contest.

The District also awards a Teacher of the Year, a Farm Family of the Year, and an Urban Conservationist.

The Durham County 2016 winners are:

Poster

6th grade

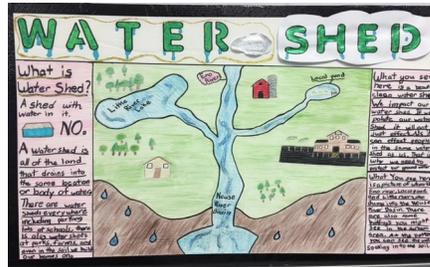
- 1st – Faith Murray, Voyager Academy – Carrie Miller, teacher
- 2nd – Isabella Anderson, Voyager Academy – Carrie Miller, teacher

5th grade

- 1st – Eli Konvalinka, Mangum Elementary, Karen Kellett, teacher
- 2nd – Owen Stirrup, Mangum Elementary, Karen Kellett, teacher

4th grade

- 1st – Kacy Fletcher, Southview Academy, Elaine Fletcher, teacher



6th grade 1st place

Essay

- 1st – Esther Adesina, Voyager Academy – Carrie Miller, teacher
- 2nd – Zachary Zilles, Voyager Academy – Carrie Miller, teacher

Public Speaking

8th grade

- 1st – Sarah Tolman, Rogers Herr Middle School, Kecia Rogers, Principal
- 2nd – Kelsey Fletcher, Southview Academy – Elaine Fletcher, teacher



5th grade 1st place

Computer Slide Show

- 1st - Riley Fernandez, Voyager Academy – Carrie Miller, teacher
- 2nd - Jayden Matthew Livan, Voyager Academy – Carrie Miller, teacher

Computer Designed Poster

- 1st – Keith Gibbs, Josephine Dobbs Clement Early College High School, Elaine Fletcher, teacher



4th grade 1st place

Urban Conservationist of the Year

Northeast Creek Streamwatch

Farm Family of the Year

Waller Family Farm

High School Teacher of the Year

Meghan Sauer

In the Area IV level contests Faith Murray won 1st place for 6th grade Poster Contest, Keith Gibbs from Josephine Dobbs Clement Early College High School won 1st place for Computer Designed Poster Contest, Riley Fernandez won 1st place for Computer Slide Show and Sarah Tolman from Roger Herr won 1st place for 8th grade Public Speaking Contest. All four entries advanced on to a state level contest.

Farmland Breakfast Series



December 10, 2015 Breakfast Series: Full Steam Brewery
The group discussed the economic opportunities available

regarding supplying distilleries and breweries with grain, hops and other agricultural commodities. There were 45 people served.

November 12, 2015 Breakfast series: Beef cattle production and pasture management. Johnny Rogers with NCSU Cooperative Extension and a rancher gave a presentation of pasture management and proper rotation and grazing. There were 25 people served.



January 21, 2016 Breakfast Series: The Bull City Cool Food Hub hosted a panel discussion on Good Agricultural Practices and economic opportunities that they have been able to access. The farmers on the panel included Earl Brooks, *Sunrise Market Farm*, Gary Wise, *Wise Farm*, & Cecilia Redding, *Down 2 Earth Farm (D2E)* and James Cooper, with the *Carolina Farm Stewardship Association*. After the panel discussion there was a fast track to GAP certification workshop in which 6 farmers received a training packet and template for the GAP audit process. There were 64 people served.

February 18, 2016 Breakfast Series: PFAP The group visited the Piedmont Food and Agriculture Processing (PFAP) center in Hillsborough. The tour was led by Eric Hallman the Executive Director of the processing center. There were 25 people served.



Gap Training

On April 6, 2016, a Post-Harvest Handling and Produce Grading workshop was conducted at Bull City Cool. The workshop had 13 farmers present and three buyers for local and national food chains. The group learned how to grade and package produce to ensure safe delivery to wholesalers and direct retail markets. The farmers were also able to network with the potential buyers and discuss product pricing and future contracts.



Bionomic Educational Training Center (BETC) Program



The BETC program has received state and national attention for its achievements.

Nationally the BETC program has been selected to be a presenter at the 2016 joint Transforming Local Government (TLG) and League of Minnesota Cities Conference scheduled for June 14th - 17th in Minneapolis, Minnesota. The program was selected out of

the 60+ case studies received and was identified as meeting the highest criteria and highest overall ratings for the International Conference in the twin cities.

The BETC program was presented to County Commissioners from 10 counties at the North Carolina Association of County Commissioners meeting held in Raleigh on Thursday January 28, 2016. The presentation highlighted the stormwater project for Southern High and the Agribusiness that was developed for the Occupational Course of Study (OCS) program.

A STEM training workshop was conducted on April 6th for 16 teachers from multiple counties at the North Carolina School of Science & Mathematics. The workshop focused on the BETC program stormwater curriculum that was created for the State of North Carolina Department of Public Instruction. The curriculum introduces the engineering principles of designing and installing rain gardens and cistern.



OPENS April 16, 2016.

Saturdays 8am-12pm

1058 W Club Blvd

durhamroots.org
northgatemall.com

100% of what they sell is grown by local farmers in Durham County.

Durham Soil & Water Conservation District
721 Foster St
Durham, NC 27701
919-560-0558 or lmarochak@dconc.gov
<http://dconc.gov/swcd>



Bees & Butterflies

DEADLINE: Monday,
May 9, 2016

Bookmark Contest

Durham County kids in K - 2nd grade are invited to participate in the annual Spring Bookmark Contest sponsored by the Durham Soil & Water Conservation District. This year's theme is:

Bees & Butterflies

Winners from each grade level will have copies of their bookmark given to their whole class! The contest is open to any public, private or homeschool K-2nd grader in Durham County from March 1 - May 9, 2016. Contact us at 919-560-0558 for full rules and the official entry form.



Soil & Water

Pond Clinic

This year Durham Soil and Water Conservation District is partnering with Orange Soil and Water Conservation District to help put on the event and it's going to be bigger and better than ever! We are planning to kick off the day with a catch and release fishing tournament. We will be offering several trainings and we are bringing back the popular shock boat. Last but not least, we will be having a fish fry for lunch and all of this is being provided **FREE** thanks to our many sponsors.

Please call 919-560-0558 to sign-up for this event by April 29th.

Durham & Orange Soil and Water Conservation District's Pond Clinic
Saturday, May 7, 2016 
 7am-8:30am (fishing tournament)
 (9am- Pond Clinic) for pond owners or potential pond owners



Bring aquatic weed samples to be ID

Join Us!	
•Pond Maintenance	•Pond construction
•Fish production	•Wildlife management
•Shock boat	•Fishing Tournament

Presenters: Durham Soil and Water Conservation District, Orange Soil and Water Conservation District, Durham Soil and Water Department, Orange County DEAPR Department, NC State Cooperative Extension and Foster Lake and Pond Management.

Registration

Register by **April 29th** **919-560-0558**

Location
 Blackwood Farm Park
 4215 NC 86, Hillsborough, NC 27572
[View Map](#) *Please note if you are putting this address into a GPS/Nav system they may have the city listed incorrectly as Chapel Hill, NC.*



FREE Lunch (fish fry)
 Must pre-register by 4/29
 919-560-0558

FISHING TOURNAMENT

Tournament 7:00am-8:30am
Ages 5 + Prizes: Youth & Adult
Register 919-560-0558 by 4/29/16

Please bring a lawn chair



Hummingbirds



A hummingbird's wings beat between 50 and 200 flaps per second depending on the direction of flight and air conditions.



Flowers That Attract Hummingbirds

Lantana, Butterfly Bush, Zinnias, Pentas, Milkweed, Salvia, Batface Cuphea, Hot Lips, Fire Bush, Nasturtiums, Coreopsis, and other hummingbird-friendly plants, annuals and perennials.

Hummingbirds have returned to Durham after a winter spent in southern Mexico or Central America. They are fascinating, tiny powerhouses and fun to watch. If you don't have any that frequent your yard, then you can attract them with a few simple steps:

Make Your Own Nectar

- Dissolve one part sugar in four parts warm water to make it easier to dissolve the sugar and to purify the solution so that it will stay fresh longer. You do not need to boil the water.
- If bees are a problem at your hummingbird feeder, reduce the amount of sugar to a 5-to-1 ratio, which will reduce the interest of bees in the nectar.
- Let the solution cool to room temperature before putting it in your feeder. You can store homemade nectar for up to a week in the refrigerator.
- Never use honey, which ferments easily and spoils quickly and is, therefore, prone to culture a bacterium that is dangerous to hummingbirds.
- Never use artificial sweeteners, which are harmful chemicals.

Feeders

- Put feeders up by mid-March to attract early migrants-- (average arrival dates is April 1– April 10). DON'T wait until you see your first Ruby-throated Hummingbird of the spring, which may be well after the first ones arrive.
- Early in the season just fill feeders one-third full; no need to waste sugar water until hummers start draining the feeder. Likewise, as the season winds down, re-load each feeder with less sugar water.
- Maintain feeders all summer;
- It is important to keep the feeders clean. During refilling, we inspect each feeder, and scrub with a brush and clean water any areas where mold, dirt, ants or other debris have accumulated.

No-till Drill Grant Awarded

The Durham District has been awarded a \$22,000 grant from the North Carolina Agricultural Development and Farmland Preservation Trust Fund for the purchase of a No-Till Drill. The drill will meet a growing need among Durham County and surrounding area farmers who want to seed or re-seed bare land. The drill will also improve local water quality which is currently being mandated by the Falls Lake and Jordan Lake Rules.

No-till farming is a way of growing crops or pasture from year to year without disturbing the soil through conventional tillage. No-till increases the amount of water that infiltrates into the soil, increases organic matter retention and improves the cycling of nutrients in the soil. It also reduces or eliminates soil erosion from crop fields. A huge benefit of no-tillage farming is improvement in soil health. It increases the amount and variety of life in and on the soil, making soils more resilient and capable of growing better quality crops. Farm operations that utilize No-Till farming are much more efficient and will often see a cost-savings in fuel and fertilizer usage quickly.

The No-Till Drill will be housed at a local Durham County farm and available to producers through a rental program administered by the District. The District hopes to purchase the drill soon and begin the rental program for the 2016 fall planting season. Complete details on the rental program will be available on our website soon.



Area IV Spring Meeting



On February 25, 2016 Durham SWCD hosted the Spring meeting for Area IV Soil and Water Conservation Districts. The meeting was held at the Frontier Building in RTP. Area IV Chair, Danielle Adams called the meeting to order, and Brenda Howerton, Vice Chairman of the Durham County Board of Commissioners,

provided the welcome. There are eleven counties that make up Area IV: Durham, Granville, Wake, Franklin, Wilson, Nash, Vance, Edgecombe, Halifax, Warren and Johnston.





Soil & Water

Durham Soil & Water Conservation District

721 Foster Street

Phone: 919-560-0558

Fax: 919-328-6192

Board Members

Talmage Layton– Chairman

Danielle Adams– Vice Chairman

Katie Locklier– Secretary/Treasurer

Ray Eurquhart– Supervisor

Curtis Richardson– Supervisor

Associate Supervisors

Mark Dewitt

David Harris

Melissa Rooney

Kathryn Spann

MISSION STATEMENT

To conserve, enhance, promote the natural resources of Durham County by providing technical assistance, environmental education information, and economic incentives to County citizens and by exhibiting a diversified program to meet its changing needs.

Staff

Eddie Culberson– Director

Lisa Marochak– Senior Administrative Officer

Jennifer Brooks– Natural Resources Coordinator

Mike Dupree– Agribusiness & Environmental Services Manager

Heather Dutra– Watershed Conservationist

Matthew Kinane– USDA/ NRCS District Conservationist

Louise Hart-Regional Coordinator, NC Division Soil and Water Conservation Districts

Envirothon

On March 18, 2016 District staff and Board members volunteered at the Area IV Envirothon competition, held at the beautiful Rose Hill Farm in Nash County. The event is the qualifying event for the statewide NC Envirothon. Six Durham County high school teams competed on this day, testing their knowledge of natural resources; The 'Kewl Kidz' and the '(Not So) Kewl Kidz' from Northern High School, the 'The Bears' and the 'The Dandy-lions' from Voyager Academy, the 'Fighting Ferns' and the 'Killer Kudzu' from the NC School of Science and Math (NCSSM) and the 'Sassyfrass' team from the Durham Co 4-H Envirothon Club.



The Envirothon program is a hands-on, natural science academic event that challenges and engages students to think critically about the natural world and their role in it. The teams, each consisting of three to five students, demonstrate their management knowledge and problem-solving skills in a competition centered on five categories: soils/land use, wildlife, forestry, aquatics, and current environmental issues.

At the Area IV Envirothon, Durham's teams, and 45 other high school and middle school teams, took 5 tests in the areas of soils, aquatics, wildlife, forestry and current environmental issues. The tests incorporate book-learned knowledge and hands-on practical skills. Some of the hands-on test questions included determining the amount of usable lumber in a tree for harvest, the age determination of a tree, the identification of aquatic insects to determine water quality, the identification of various NC wildlife species, use of the Nash Co Soil Survey to determine land management practices and more.

The tests scores were compiled and teams were ranked according to their scores. The top 7 scoring teams from each division, high school and middle school, qualify to advance on to the NC Envirothon event. Durham had two teams place in the top 7 of the high school division. The 'Fighting Ferns' team placed 6th and the 'Killer Kudzu' team took home the 2nd place win for Durham County.