

2011 ANNUAL REPORT

DURHAM COUNTY GOVERNMENT

Lisa Marochak named Administrative Employee of the Year



Lisa Marochak, Administrative Officer with the Durham SWCD, received the Outstanding Administrative District Employee award from the North Carolina Association of Soil and Water Conservation District. She received this award in January at the Associations Annual meeting held at the Grove Park Inn, in Asheville.

Lisa provides administrative support for Durham District staff, Board of Supervisors and Durham County Farmland Advisory Board. She assists with the preparation and administering of the District's multimillion dollar grant projects and prepares financial statements, minutes, vouchers and agendas for the District Board of Supervisors. She assists the District Director with developing and administering the department budget, serves as department public information officer by managing the District's website and editing the District's bi-annual newsletter, assist with environmental education activities and coordinates District fundraising activities such as Rain Barrel, compost bin, wildflower seed, tree seedlings and birdhouse sales. Lisa also coordinates the annual District Awards Banquet, Pond Clinic and Farmland Workshops.

Lisa has been a District, County and State asset to the Soil and Water world since she was hired in 2006. She has served as a past Area 4 Envirothon committee chair, Durham County United Way Campaign Chair, Durham County Green Team, Durham County Government Planning Committee and as the Area 4 NCCDEA Area Representative before she was elected to the NCCDEA Executive Committee as the Treasurer in 2008. Lisa is a certified Notary Public, Project Food, Land and People facilitator, Wonders of Wetlands facilitator and is in the NC Environmental Educators Certification Program. She has achieved the Professional level award of the NCCDEA Professional District Employees Program. Congratulations to Lisa on her well deserved award!

Special points of interest:

- District completes two stream restoration projects
- Falls/Jordan Lake Rules
- Approximately 12,900 pounds of trash collected in Durham County

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Supervisors

Talmage Layton– Chairman
 Robert Rosenthal– Vice Chairman
 Danielle Adams– Secretary/Treasurer
 Ray Eurquhart– Supervisor
 Curtis Richardson– Supervisor
 Kathryn Spann– Associate Supervisor
 Roger Hansard– Associate Supervisor
 Gus Gray– Associate Supervisor

Staff

Eddie Culberson– Director
 Lisa Marochak– Administrative Officer
 Jennifer Brooks– Soil Conservationist/ EE Coordinator
 Mike Dupree– AG Development/ Watershed Conservationist
 Matthew Kinane– NRCS District Conservationist
 Steve Bennett– Area IV Coordinator

Stream Restoration and Stormwater Projects

During FY 2011, the Durham District completed construction on two of its projects. The R.N. Harris Project was declared completed in January 2011 following the establishment of the plant material in the 2 acre donated conservation easement area. Approximately \$10K was allocated from the original \$236K stream restoration Division of Water Resources grant to establish a variety trees, shrubs and live stakes. The 900 feet restoration reach was installed simultaneously with the stormwater wetland to improve the water quality runoff from the school grounds. The stormwater wetland was funded with a \$189K Clean Water Management Trust Fund grants to capture the runoff from the school's rooftop and parking lot. The nutrient reductions from this practice alone will be 46% nitrogen and 28% phosphorous.



R. N Harris Project
plant material

The second stream restoration project completed was in partnership with Duke University, Center for Wetlands. Phase IV Reach 2 of the Sandy Creek project was completed during the year utilizing the \$295K Division of Water Resources grant the District received. Reach 2 begins at HWY. 751 and proceeds east for approximately 2000 feet. A new channel (priority 1) was constructed that carries flows less than bankfull. All flood flows from the stream spill onto a floodplain with a mature bottomland hardwood forest. The trees that had to be removed for the new channel were used as root wads, cover logs, log vanes, and floodplain habitat. Studies have shown that the use of wood in stream restoration projects have dramatically increased the diversity of fish species, especially where root wads and cover logs are used in meander bends.

“During FY 2011, the Durham District completed construction on two of its projects”

In the spring of 2010, the District was able to recapture its three grants previously recalled by the Governor due to the state's budget issues. These three grants total \$879K and were to be used on two design and permitting stream restoration projects and an innovative stormwater project. During FY 2011, the designs were both started and are scheduled for completion this fall along with the necessary permits need to start construction. Additionally the installation of the Innovative Stormwater grant has begun. This project will construct and evaluate an integrated stream/floodplain/wetland restoration system at the Stream Wetland Assessment Management Park (SWAMP) at Duke University's Wetland Center by constructing a riparian treatment wetland in the stream's floodplain with weirs and berms for controlling flows between the stream channel and the floodplain wetland. This project will evaluate potential improvement in effective use of floodplains for stormwater pollutant removal and volume detention in a Piedmont stream system. The configuration and topography of stream bank will be modified with weirs and berms to cause more frequent access of stream flow into the floodplain and a constructed wetland in the floodplain. The project also will conduct statewide workshops and field training sessions for state and local officials, agency personnel as well as students and citizens.



Future Project– Southern HS

Potential future grants the District has been working on consist of 1) the construction of Phase V of the Sandy Creek project; 2) Southern High School's Stormwater project and 3) the construction of the Stirrup Iron Creek restoration project. Four grants were submitted to various granting entities totaling \$2,546,630. The District has thus far received \$20K for the South High School Stormwater project.

Agricultural Cost Share Program

For Fiscal year 2011, the Durham SWCD is please to say we allocated 100% of funding for the NC Agricultural Cost-Share Program (ACSP). Funding for the ACSP is allocated to NC counties from the NC General Assembly in the state budget. For FY 2011, Durham County was allocated \$40,859 to be used for conservation best management practices (BMPs) on farms.

The NC ACSP is a voluntary assistance program to provide technical, educational and financial assistance to agricultural producers to address natural resource concerns on their land, particularly water quality issues. A wide variety of BMPs are offered through the ACSP to address Sediment/Nutrient Delivery Reduction from fields, Erosion Reduction/Nutrient Loss Reduction in fields, Agricultural Chemical Pollution Prevention, Animal Waste Management and Stream Protection from Animals.

Projects funded during the 2010-2011 Program Year

- 1 well closure
- 38.75 acres of Cropland Conversion to Grass
- 1 Waste Application System
- 1 Rooftop Runoff System
- 1 Pond Renovation/Restoration
- 1384 ft of fencing for Livestock Exclusion from streams
- 0.55 acres in grassed waterways
- 2 wells for alternate watering sources
- 2 watering tanks for alternate watering sources

These projects are either completed or will be completed in the next 2 years.

During the 2010-2011 program year the Durham District program staff, with assistance from the USDA NRCS District Conservationist oversaw the installation and completion of ACSP contracts from prior fiscal year allocations. This included the installation of 2.4 acres of grassed waterways, 1 Ag Pond Repair/Restoration, 1 well for an alternate watering source and over 8 acres of cropland conversion to grass.



Pictured above: grassed waterway in progress

“The NC ACSP is a voluntary assistance program to provide technical, educational and financial assistance to agricultural producers to address natural resource concerns on their land, particularly water quality issues.”



Pictured left: livestock exclusion fencing

Pictured below: watering tank



Annual Spot Check

On June 16, 2011 the District Board conducted its annual spot check for the Agricultural Cost Share Program (ACSP) and the Community Conservation Assistance Program (CCAP). The spots checks are an mandatory compliance measure to ensure Best Management Practices installed using ACSP and CCAP funds are still meeting the requirements of the program and are being maintained. District Supervisors and staff visited 6 CCAP sites and 4 ACSP sites across Durham County. All sites visited were found in compliance and passed the spot check.

Performance Indicators

<u>Program Indicator</u>	<u>2010-2011</u>
Stream Restoration and Stormwater Grants Applied for	\$2,773,955
Stream Restoration and Stormwater Grants received	\$360,000
Tobacco Transition Program	\$1,274,828
State Agricultural Cost Share Contracts	\$40,859 – 8 contracts
State Community Conservation Cost-Share Contracts	\$20,980 - 13 contracts
Federal Dollars Allocated	\$51,164
Durham Farmland Protection Program	Parcels– 6, Acres– 125
Environmental Consultants Assisted	26
Environmental Education	63,000
Drainage Erosion/Inventory and Evaluation	45 sites
Pond Inventory & Evaluation	85 sites
Sediment and Erosion Control Plans reviewed	49 plans
Development Review Board (DRB) Plans Reviewed	16 plans
Big Sweep Program	Volunteers– 619 Pounds of Trash– 12,920 Miles of Stream - 32.1

FY-2011 USDA-NRCS CONSERVATION PROGRAM ACTIVITIES

USDA-Natural Resources Conservation Service (NRCS) program activities remained steady in Durham County this past fiscal year. Interest of eligible Durham County landowners in cost share opportunities continues to increase. NRCS's natural resources conservation programs help people reduce soil erosion, enhance water supplies, improve water quality, increase wildlife habitat, and reduce damages caused by floods and other natural disasters. Public benefits include enhanced natural resources that help sustain agricultural productivity and environmental quality while supporting continued economic development, recreation, and scenic beauty. Applications were received by the Durham Office for Environmental Quality Incentives Program

(EQIP), Wildlife Habitat Incentives Program (WHIP), Agricultural Water Enhancement Program (AWEP), and Farm and Ranch Land Protection Program (FRPP). NRCS has 6 active USDA program contracts in Durham County. These contracts are enabling Durham County farmers to restore, protect, and improve the natural resources on nearly 148 acres of cropland, pasture, and forest land in Durham County. The obligation amount of these contracts totaled nearly \$32,000. In the past fiscal year, the implementation of over \$15,000 of cost-shared best management practices has provided conservation benefits to Durham County agriculture land.

Conservation activities are on the move in Durham

County. To learn more about these and other conservation programs in Durham County, contact the Durham Soil and Water Conservation District.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audio tape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).



“In the past fiscal year, the implementation of over \$15,000 of cost-shared best management practices has provided conservation benefits to Durham County agriculture land.”



Community Conservation Assistance Program



Rain Garden

The CCAP program is a voluntary state-funded program intended to assist landowners with best management practices in order to improve water quality on urban lands. This year, the Durham Soil and Water staff designed and provided technical assistance and cost share for BMP's on thirteen sites totaling \$26,148. The BMP's installed this year included

seven rain gardens, ten cisterns, one diversion and three critical-area plantings. Funds allocated to Durham from the North Carolina Soil and Water Commission for CCAP projects are managed by the Durham Soil and Water Conservation District Board of Supervisors, who rank the sites and proposed BMP's based on water quality benefits.



The District recently received funds from the EPA 319 grant to be used in the Jordan watershed.

“ The Falls rules require that all agriculture operations in the watershed register their operation within twelve months of the passing of the rules”

Watershed Updates

Durham County residents play a vital role in the water quality of two important reservoirs serving the Triangle. The North Carolina Legislature has enacted rules that improve the water quality of the Jordan and the Falls Reservoirs. The rules for the Jordan Reservoir have been in place since August 11, 2009. The Falls Lake rules were passed by the legislature on January 15, 2011. These two plans have very different approaches to improving water quality, as well as different requirements for landowners in Durham County.

The Falls rules require that all agriculture operations in the watershed register their operation within twelve months of the passing of the rules. Registration

forms are available at the district office. The Soil and Water Department staff will be contacting agriculture producers to assist them with the registration process and gathering information regarding potential Cost Share projects for agriculture producers in the county.

The Jordan rules do not require registration of agriculture operations at this time. The rules do have a management strategy for controlling land-applied nutrients in the Jordan watershed. The nutrient management rule requires that a person, who hires an applicator to apply nutrients to land that they own or manage in the Jordan watershed, shall ensure either that the applicator that they hire has attended and com-

pleted nutrient management training, or that the applicator they hire follows a nutrient management plan that has been developed for the land they own or manage. This rule applies to properties that are of at least five acres, including cropland for commercial purposes, commercial ornamental and floriculture production, golf courses, public recreation lands, road or utility rights-of-ways or any other commercial or institutional lands or combination of lands under common management that total at least five acres. The Durham district staff will assist landowners with their nutrient management plan or they can hire their own technical service provider to write the plan for them.

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Piedmont RC&D

Piedmont Conservation Council, Inc. (PCC) had two projects in Durham County during FY10-11 – an energy conservation effort in partnership with Clean Energy Durham and a technology accessibility effort called Fab Labs Carolinas.

PCC was awarded \$13,865 from the Natural Resource Conservation Service (NRCS) for neighborhood-based energy conservation outreach. PCC worked with local non-profit Clean Energy Durham for the project. Clean Energy Durham conducted neighbor-to-neighbor education outreach in North-east Central Durham on low-cost/no-cost energy saving measures. Funding was used to hire two part-time neighborhood organizers to train residents, hold workshops, and re-

cruit neighbors to teach and learn. Overall, a total of 8 workshops were held, training 86 people. Of the homes that reported their energy usage before and after the workshops, the average savings was 2.7% on their previous bills. Fab Labs Carolinas is funded by a 2-year grant from the Z. Smith Reynolds Foundation totaling \$70,000. The first \$35,000 was granted for the FY10-11 year. Fab Labs Carolinas is an effort to bring a state-of-the-art and open sourced fabrication lab to Durham County and provide community access to this technology. The goal is to empower people to create, invent, solve engineering problems, and improve themselves through Fab Labs. The project is a

partnership with the MIT Center for Bits and Atoms, who loaned Fab Labs Carolinas their mobile fab lab unit to help raise awareness of our efforts and get the community excited about a permanent lab. The mobile lab was hosted at the American Tobacco Campus for two weeks in March 2011 and will return in August 2011 for 6-8 months for a longer stay in Durham and a tour around the region. During the mobile lab visit in March, we had over 300 visitors come to the lab and learn about the equipment and mission, how they can be involved, and make small projects to take home with them.



“Durham SWCD has begun a new program to encourage homeowners to reduce fertilizer applications to their property”

Watershed Updates-continued from page 6

Voluntary Nutrient Reduction Program

Durham Soil and Water Conservation District has begun a new program to encourage homeowners to reduce fertilizer applications to their property by 40% and to follow a set of guidelines that will help the county reduce its nutrient loading into the Jordan and Falls reservoirs. This program educates citizens on water quality practices that will further assist the county and prepare for future water demands as the population of Durham increases.

Farmland Protection Advisory Board Retreat



January 22, 2011
FPAB retreat

The FPAB held a retreat on Saturday January 22, 2011 at the Durham Farm Bureau office on S. Miami Blvd. This meeting was facilitated by Ron Brown, a local business consultant, who volunteered his time to assist the board. The purpose of this retreat was to develop a timeline for implementation of the Farmland Board's annual plan of work. The Farm-

land Board and District staff reviewed the farmland plan goals and its implementation matrix to prioritize the goals that will be accomplished in 2011. The top three goals that were selected by the group are to expand Agriculture education, expand marketing opportunities for Durham producers and improve local branding of Durham products. The FPAB and

the District staff wish to thank Mr. Brown and the Durham Farm Bureau for their support and efforts in this endeavor. If you would like to learn more about the Durham County Farmland Protection Program you can review the Farmland plan on our website at www.co.durham.nc.us/departments/swcd/

“Durham Soil and Water Conservation District staff, received a donation from the Durham Farm Bureau for \$2100 for the Jordan High School FFA”



Farm Bureau Chairman, Talmage Layton helps with the installation of the Cool- Pak at Jordan HS.

Workshop

The Farmland Protection Advisory Board hosted a workshop on February 19, 2011 at the Bahama Ruritan Club. The workshop had 58 people in attendance. There were several presentations on local farming opportunities and issues by staff and guest speakers. Guest speaker presentations included: How to qualify for Agriculture Present Use Value tax status, presented by Coleen Scarlett, Durham Tax Office; Estate Planning and Farm Transitions presented by Ted Feitshans, NCSU- Agriculture and Resource Economics; RAFI grant opportunities for individual farm owners presented by Julius Tillery, Tobacco Communities Reinvestment Fund; and information on the Piedmont Processing Center in

Hillsborough presented by Dr. Noah Ranells, Orange County Agriculture Economic Development; Wildlife Conservation programs, Kelly Douglass, NC Wildlife Commission. This workshop is an essential component of the Farmland Protection Advisory Board plan to implement strategies for farmland preservation and enhancement, by keeping farmers informed of the resources available.

The Farmland Protection Advisory Board seeks to promote the expansion of agriculture education within the Durham Public School System. The staff has been assisting teachers at three Durham high schools including Jordan, Southern and the North Carolina School of Science and Math.

Jordan High School

Durham Soil and Water Conservation District staff, received a donation from the Durham Farm Bureau for \$2,100 for the Jordan High School FFA. The funds were used to retrofit and update the greenhouse for their plant fund-raising initiative. The grant paid for a new Toro irrigation system and Cool-Pak cooling system. The equipment was installed by Mike Dupree; Durham Farm Bureau Chairman, Talmage Layton; Agriculture Education Teacher & FFA advisor, Daniel Beasley and his third period Biotechnology class. Four class periods were devoted to teaching the students how to design and install an irrigation system.

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Farmland Education Programs— continued from pg. 8

This new irrigation system and Cool-Pak cooling system was used to grow a variety of plants that sold in April for their FFA fund-raising project. The Durham Soil and Water Conservation District staff was happy to have been able to assist Jordan High with this project and would like to thank the Durham Farm Bureau for their financial support.

Southern High School

The Durham Soil and Water staff has partnered with Amy Jenkins, the Occupational Course of Study teacher at Southern High School to develop a school-based industry. The project received a \$500 donation from the Durham Farm Bureau. Nursery supplies were donated by the Rock Shop, Apex Nursery, Durham Soil and Water Conservation District and Keep Durham Beautiful, Inc. With these donations, the students started a nursery operation. They grew native trees, shrubs and perennials that were sold and installed in rain gardens and stream buffers. The students assisted two landowners in Durham with the excavation and plant installation of their rain gardens. This program allows students in the OCS department to obtain valu-

able hours of experience that are relevant in order for them to pursue careers in horticulture, as well as to give the OCS department a source of revenue. During the 2011-2012 school year, the plan is to expand plant production and offer more opportunities for the OCS students to gain work experience.

North Carolina School of Science & Math

This year the staff of the Soil and Water Department worked with Dr. Linda Schmalbeck to complete three projects.

Rain Gardens-The students of the Accepting The Greener Challenge Club installed two rain gardens. These club members volunteered four Wednesday afternoons/evenings to excavate and mulch a rain garden for a member of the community that was participating in the Community Conservation Assistance Program. This single mom was very excited to have the students assist her with this project and nominated this group for the Urban Conservationist Of The Year Award. The second rain garden was designed by the Accepting The Greener Challenge Club and was installed at the NCSSM campus. The NCSSM campus and this

club intend to add more rain gardens in the future to help improve the water quality and storm water runoff that flows from the campus into Ellerbe creek.

Water Monitoring Effort-The AP Environmental Science students completed a water quality survey on the South Fork of the Little River on May 6, 2011. Students measured the pH, dissolved oxygen, total dissolved solids, nitrogen and benthic diversity of the river at the New Sharon Church Rd bridge. Their report concluded that the water quality was rated as Good, with a WQI score of 73.8. The benthic organisms index score was 11, indicating Fair water quality. This field work was conducted at one of the twelve sites selected for future monitoring efforts by Mary Giorgino, a Water Quality Specialist with the U. S. Geological Survey. She has been advising the Durham Soil and Water Conservation District staff on future monitoring efforts in order to determine jurisdictional nutrient loading. This work will be critical as local governments move forward with the Falls Rules Implementation.

Forty Oaks Farm Mini term Project- Students conducted a seven-day research project on the Forty Oaks Farm, an 86-acre farm in southwest Durham.

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The students at Southern HS help install a rain garden at their school.

“The Durham Soil and Water staff has partnered with Amy Jenkins, the Occupational Course of Study teacher at Southern High School to develop a school-based industry.”



NCSSM- Greener Challenge Club helps to install rain garden.

Farmland Education Projects— *continued*

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Landowner, June Foushee, talks with students from NCSSM about her farm.

The landowner, June Foushee, worked with students from the NCSSM to prepare a report and explore her options for this historical property. The students learned techniques for documenting historical properties and conducted soil and water analysis of the property to determine the suitability of the property for an organic farm.

This project exposed students to the challenges of farmland preservation and protecting tillable land from encroaching development and the science of soil and water resources management for urban organic farms.



Students do research at the Foushee Farm.

Durham County Big Sweep



Durham County volunteers collected approximately 12,920 pounds of trash.



In October of 2010, the Durham Soil and Water Conservation District coordinated the NC Big Sweep clean up event for Durham County. The annual event, sponsored in part by the City of Durham's Stormwater Services Division and Keep Durham Beautiful Inc., tackled the task of removing litter from Durham. Trash disposal assistance was provided by Durham County's General Services Department and the City of Durham's Solid Waste Department.

The event was made possible by a record breaking 619 volunteers covering

over 24 miles of streets, streams, lakes, and parks. In all, Durham County volunteers collected approximately 12,920 pounds of trash including tires, appliances, sewer covers, shopping carts, building materials, car parts, furniture, cigarette butts, plastic bottles, plastic bags and more. Thanks to this group of dedicated volunteers over 12,000 lbs of trash is no longer littering our



streams, clogging our streams, rivers and lakes and washing into our oceans on the coast.

The Durham County Big Sweep is part of the NC Big Sweep, a state-wide event to clean our state's beaches, streams, rivers and lakes. NC Big Sweep is an award winning, 501 (c)(3) grassroots nonprofit organization whose mission is a litter-free environment. The 2010 North Carolina Big Sweep, was the North Carolina component of the International Coastal Cleanup, an event in which volunteers from all 100 counties in the State and approximately 90 countries worldwide come together to clean up our land and waterways. To volunteer for the upcoming 2011 Big Sweep event, contact Jennifer Brooks, Big Sweep county coordinator, at jb Brooks@durhamcountync.gov or 919-560-0558.

Items For Sale

FY 2010/2011– the district sold 62 rain barrels, 9 composting bins, 7 bird boxes, 8 wildflower seeds, 400+ tree seedlings and the left over tree seedlings were donated to Southern High School’s OSC Program. All proceeds go towards Environmental Education.

Rain Barrels

\$90 each

65 gallon barrels (black model only) made from 100% recycled plastic.

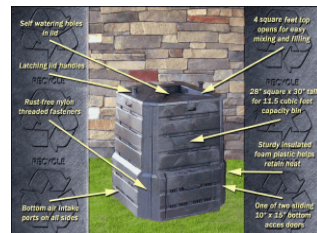


Easy to install, with a screen trap in the top to keep debris and bugs out, with a child resistant lid with built in lock channels, and one spigot that will fit standard size garden hose.

Visit our website to pay online with a credit card. www.co.durham.nc.us/departments/swcd/

Composting Bins

12 cubic feet! \$70.00 each



Bird Boxes/Wildflower seeds:

- A-Frame Blue Bird Box
- Flat Roof Blue Bird Box
- Duck Box
- Bat House
- Bird Feeders



Seeds: \$10 each, cover 400 sq feet

- Bird & Butterfly
- Low Growing
- Shade

Tree Seedlings

We will begin taking tree seedling orders for our FY 2012 Tree Seedling sale the beginning of September. Please check our website or the call Lisa Marochak @ 919-560-0558 for more information.

“ We will begin taking orders for our FY 2012 tree seedling sale the beginning of September.”

Annual Awards Banquet

This years Annual Awards Banquet was held at the Bahama Ruritan Club on Thursday, June 2nd at 6:00pm. There were 116 people in attendance. The Home Plate Restaurant prepared the meal for everyone.

Several Awards were presented at the banquet as follows:

Gold Star Award (Durham Farm Bureau); Urban Conservationist (NC School of Science & Math/ Greener Challenge Club); 2010 Big Sweep Achievement Award (Eno River Association); 2011 Envirothon Awards (Natural Disasters, 5 Muskateers & 5 Leaf Clovers); Public Speaking, Essay & Poster Winners (see page 12)

1st place County Poster, Essay & public Speaking winners received a plaque and \$50 at the Annual Awards Banquet . 2nd place County winners received a certificate and \$25 at the Annual Awards Banquet.

Thank you to Bahama Ruritan for allowing us to use their building.



1st place– 6th grade poster winner

Environmental Education



WOW facilitator Workshop- educators check out the wetland on Duke's campus

“Durham had 183 students participate in the poster, essay &/or public speaking contests.”

The Durham SWCD has a very active and varied environmental education program. From July 2010 to June 2011, the District has been holding workshops, programs, contest and activities for all age groups and grade levels. Some of the highlights of the year include:

Teacher's Workshops:

Project Food, Land & People Teacher's Workshop – In the fall of 2010, the Durham SWCD held a Project Food, Land & People (FLP) teacher's training workshop for a group of teachers from Southern High School. Project Food, Land & People is a 55 lesson plan curriculum developed to add teachers in educating students about agriculture, natural resources, and cultures around the world. The Southern High School teachers completed 6 hr training over a 2 day period after school and received the FLP book and CD. This workshop was made possible thanks to a donation from the Durham County Farm Bureau.



WOW facilitator workshop

WOW! Wonders of Wetlands – On June 23, 2011 the Durham District, in partnership with Environmental Concerns, Inc and Duke University's Wetland Center held a Wonders of Wetlands facilitator's course. The workshop was for educators

who had already taken the basic WOW! Course but wanted to be trained and certified to lead WOW! workshops for others. The one day workshop was held on Duke campus and included a field tour of Duke's Stream and Wetland Assessment Management Park.

Poster, Essay and Public Speaking Contest:

Each year the Durham District sponsors Conservation Education contest for Durham County students. The contests are part of a statewide contest event sponsored by the NC Association of Soil and Water Conservation Districts. The contests include a Poster Contest for 3rd – 6th grade; an Essay Contest for 6th grade; and a Public Speaking Contest for 7th and 8th grade.

The theme for the 2010-2011 contests was “Water...the Cycle of Life” and Durham had 183 students participate in the poster, essay &/or public speaking contests. Of the 183 entries, judges awarded a 1st and 2nd place award for each grade level and contests. 1st place winners also qualified to compete at the Area 4 Conservation Contest level.

Congratulations to Durham County winners:

- 3rd grade Poster - 1st Place winner, Kelsey Fletcher, Southview Academy
- 3rd grade Poster - 2nd Place

- winner, Sydney Diehl, Academy of Higher Learning
- 4th grade Poster - 1st Place winner, Aubrey Fletcher, Durham 4-H Envirothon Club
- 4th grade Poster- 2nd Place winner, Raymond Pedeus, Holt Elementary School
- 5th grade Poster- 1st Place winner, Jamesa Henry, Mangum Elementary School
- 5th grade Poster- 2nd Place winner, Phuan DeShazo, Voyager Academy
- 6th grade Poster- 1st Place winner, Jacob Fletcher, Durham 4-H Envirothon Club
- 6th grade Essay - 1st Place winner, Jacob Fletcher, Durham 4-H Envirothon Club
- 7th grade Public Speaking- 1st Place winner, Alaina Diehl, Academy of Higher Learning
- 8th grade Public Speaking - 1st Place winner, Jarod Diehl, Academy of High Learning
- 8th grade Public Speaking - 2nd Place, Luke Riley, Durham 4-H Envirothon Club

At the Area level, Durham had three participants win 1st place and one 2nd place win. Congratulations to Area 4 winners:

- 3rd grade Poster - 1st place winner, Kelsey Fletcher
- 4th grade Poster - 2nd place winner Aubrey Fletcher

Continued on pg 13.....

Environmental Education-Continued

6th grade Poster - 1st place winner Jacob Fletcher

8th grade Public Speaking - 1st place winner Jarod Diehl

The 1st place Area winners automatically qualify for the state level Conservation Contests to be judged against other posters, essays, and speakers from across NC. At the state level Durham County did very well in 2011.

Congratulations to state Poster and Public Speaking winners:

3rd grade Poster - 2nd place winner, Kelsey Fletcher

6th grade Poster - 2nd place

winner, Jacob Fletcher

8th grade Public Speaking – 1st place winner, Jarod Diehl

Envirothon:

The Envirothon 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 five students, demonstrate their management knowledge and problem-solving skills in a competition centered on five categories: soils/land use, wild-

life, forestry, aquatics, and current environmental issues. The Envirothon consists of a middle school and high school competition level.

The Durham District sponsored and helped to train 13 teams from Durham County schools during the 2010-2011 competition year. Teams were from the Durham County 4-H, Riverside High School, Northern High School, Voyager Academy and the NC School of Science and Math. After months of study and training, the teams competed against others from an 11 county area at the Area 4 Envirothon event in Johnston County on March 25, 2011. Three teams placed in the top 7 of their division, thereby qualifying them to participate in the state level Envirothon event. The middle school team 'The 5 leaf Clovers' from the Durham 4-H Envirothon group placed 4th. In the high school division, the 'Natural Disasters' placed 4th and the '5 Musketeers' placed 3rd. Both teams were from the Durham 4-H Envirothon group.

These 3 teams went on to compete at the NC Envi-

rothon on April 29-30, 2011 at Cedar Rock Park in Burlington, NC. There the middle school team the 5 Leaf Clovers competed against 53 other teams from across NC. They placed 18th overall, but took home a medal for having the top score on the Current Environmental Issues test. On the high school side the teams had a more advanced challenge. Not only did they have 5 tests to complete on the 5 areas of study, but new this year was a 6th component to the testing. Teams had about 65 minutes to develop and present an oral presentation to a group of judges on an assigned environmental issues. This year's Oral Presentation problem dealt with a fish kill in a fictional town on the NC coast. Using the knowledge from their trainings, teams were challenged to present the judges with possible causes and solutions to the problem. In the end, Durham's teams did an excellent job on the presentation and the written test. The '5 Musketeers' placed 7th out of 51 teams and the 'Natural Disasters' placed 5th.

If interested please contact Jennifer Brooks at 919-560-0558



Northern High School Team members conferring



Natural Disasters – 5th place NC high school winners



The 5 Leaf Clovers – tied for 1st place on CEI test

2010-2011 Field Days



R.N. Harris—Aquatic Field Day

In October 2010, the Durham SWCD hosted its annual Durham County Environmental Field Days event. The event was open to 3rd graders in Durham County schools and four schools signed up to attend, Mangum Elementary School, Little River Elementary School, Club Blvd Elementary School and Eno Valley Elementary School. The event was held on farmland in Bahama, NC that was donated to the Durham SWCD. The District is also committed to developing a portion of the farm into an environmental education center for Durham County and as such it was the ideal home for the District's long-running Field Days event.

On October 12, 2010 Little River and Club Blvd Elementary Schools brought over 230 third graders, teachers and parent volunteers out to the farm for the event. The two schools participated in lessons from resource specialist on topics such as soils, wildlife, aquatics and forestry. Presenters for the day included the Durham SWCD, the NC Forestry Service, the Durham County Cooperative Extension Service, the Franklin County SWCD, the NC Division of Soil and Water Conservation, the Eno River Association, the City of Durham's Stormwater Services Division and the City of Durham's Dept of Water Management. Due to rain and cold weather the District was forced to cancel the 2nd day of the event. However, the District held a make-up day for Eno Valley Elementary School on Nov 12th for over 100 third graders.

"On April 13, 2011 the Durham District sponsored for the first time an Aquatic Field Day event for R.N. Harris Elementary school's 5th grade class."

On April 13, 2011 the Durham District sponsored for the first time an Aquatic Field Day event for R.N. Harris elementary school's 5th grade class. The Aquatic field day was held on campus of RN Harris and utilized the school's new stormwater wetland and stream restoration in the aquatic themed stations. 5th graders spent the day learning lessons about water quality, habitat, plants and more. Presenters for the day included the Durham SWCD, the City of Durham's Stormwater Services Division, the Haw River Assembly and the EPA. The R.N. Harris Aquatic Field Day event was a great success and the District hopes to repeat it again next spring.



R.N. Harris Aquatic Field Day— 5th graders check the stream for aquatic life.



Thank you!

The Durham SWCD would like to thank all the presenters who gave of their time to make both events possible for these students. We'd also like to thank the Durham County Government's General Services for setting up tables and chairs for the events each day. Finally, thank you to the schools for taking part in the event. We look forward to seeing you again in 2011 and 2012.

Paperless

Durham Soil & Water is trying to go paperless. If you would like to start receiving our newsletter via email instead of snail mail please email Lisa Marochak— lmrochak@durhamcountync.gov or call her at 919-560-0558.

District Holds Annual Pond Clinic



Tilley Farm pond

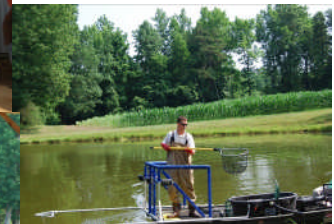
The Durham District held its annual pond clinic on Saturday, June 11, 2011. The event was held at a beautiful pond owned by Roger and Lisa Tilley, located north of Bahama. Roger had built this pond with the assistance of the District back in the 1990's and on several occasions has allowed the District to utilize it for teaching purposes. Approximately 47 people attended this session to gain more knowledge on construction, maintenance, fish production and wildlife found around

a pond. Those in attendance also learned about the important role ponds play in water quality and how they qualify as a best management practice (BMP). Information regarding the passing of the new legislative Ag-WRAP program was introduced to the attendees. Mitch Morton with Foster Lake and Pond Management served as a guest speaker. The highlight of the event was the shock boat demonstration where an analysis is conducted to check the health and population balance of the fish in the pond. Crop Production Services out of Garner, Foster Lake and Pond Management, the Durham Bulls and the Durham Soil and Water Conservation District all

helped sponsor the event. The District staff received positive feedback from the those in attendance.



“The highlight of the event was the shock boat demonstration where an analysis is conducted to check the health and population balance of the fish in the pond.”



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www.co.durham.nc.us/departments/swcd

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.