

Summer
2015



Camp Discovery Pasture

Financial Assistance for Conservation in Twenty-five Mile Creek Watershed



Financial assistance is available to farmers and landowners in the Twenty-five Mile Creek Watershed to install conservation practices on agricultural lands.

Up to 70% cost share assistance is available for the development of conservation plans on livestock farms and the installation of practices such as cross fencing for rotational grazing, stream exclusion fencing, stream crossings, wells, watering troughs, and more. These best management practices can improve livestock health, forage production, and water quality.

Twenty-five Mile Creek is a tributary of the Wateree River, and the 124 square-mile watershed includes lands in northeastern Richland, western Kershaw, and southern Fairfield Counties. Much of the watershed is rural, but several urban and suburban corridors exist near Blythewood, Sandhills, Pontiac, Elgin, and Lugoff.

Periodic monitoring data suggests the stream experiences elevated levels of bacteria and

macro-invertebrate community impairments. While many factors affect water quality in Twenty-five Mile Creek, including agriculture, suburban and urban development, sanitary sewer overflows, and failing septic systems, this financial assistance program, which is partially funded by a Section 319 Grant from the SC Department of Health and Environmental Control, will focus specifically on agricultural activities.

Participation in the program is voluntary and interested land owners are encouraged to contact **Mike Newman at (803) 602-2585** for more information and to determine if property is eligible for financial assistance. More information is available online at www.rcgov.us/twentyfivemile.

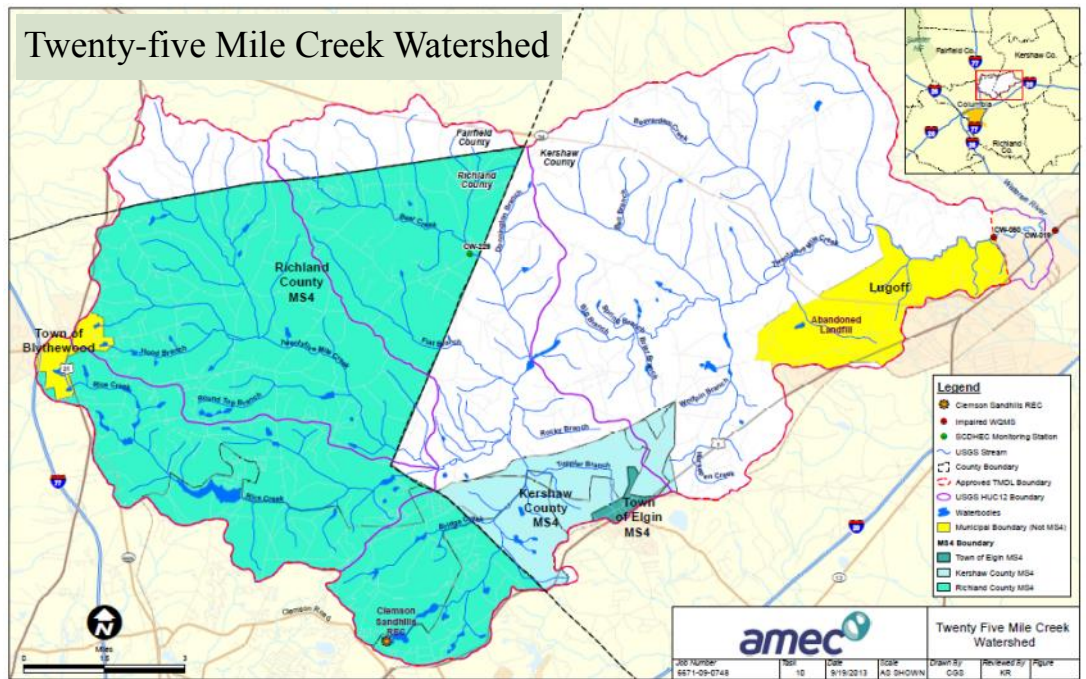
This Watershed Improvement Project is funded, in part, by the US EPA under a Section 319 Grant through the SC Department of Health and Environmental Control. Richland County is working closely with the Richland and Kershaw Soil and Water Conservation Districts, Kershaw County, the Natural Resources Conservation Service, and other partners to implement this three-year initiative.

Richland Soil and Water
Conservation District



WWW.RCGOV.US / RSWCD

Twenty-five Mile Creek Watershed



Urban Organic Farm Demonstrates Value of Cover Crops, Reduced Tillage



At City Roots, an urban organic farm in Columbia, SC, father-son duo Robbie and Eric McClam are on a mission to manage their farm's soil health through cover crops and reduced tillage. For the past three years, the McClams have been finessing their soil management system with support from a Conservation Innovation Grant from the SC USDA-Natural Resources Conservation Service. Over that time period, they have managed to maintain soil nutrient levels without the use of additional fertilizers while removing more than 20,000 pounds of produce annually from a 1.5-acre tract.

While the potential benefits of cover cropping and reduced tillage are compelling, putting these strategies into practice on an organic vegetable farm poses several challenges. First, the simple logistics of knowing how and when to plant or terminate a cover crop, and having the right tools to accomplish the task, are complicated. According to the McClams, timing is

key—roll down a cover crop too early and it may well rise again, interfering with the growth of the vegetable crop planted behind.

Weed management is also affected. Tillage is one of the most common tools in the organic farmer's weed management toolbox, so when the McClams vowed to cut back on their rounds with the plow, their weed management strategy had to adapt. While the thick mat of residue created by rolling down a green cover crop before planting vegetables does provide some weed protection, it's not always 100% effective, especially as the growing season progresses, soil temperatures rise, and the mat is consumed by soil microbes. "You have to be a little weed tolerant with no till," Eric says with a laugh.

Insect pest management has also evolved at City Roots as a result of their new soil management strategies. Cover cropping increases biodiversity above- and below-ground. With the increase in types of plants, flowers, and seeds comes a parallel increase in insect and bird diversity. This diversity helps prevent and control breakouts of pest insects. Similar processes are occurring underground, where the roots and root exudates from cover crops feed a diverse army of bacteria, fungi, and invertebrates. "The aphids are at bay [at City Roots] because the soil fungi give them the

heebie-jeebies," says USC Research Professor and soil health consultant Dr. Buz Kloot. This biological diversity is a key component of integrated pest management.

In spite of the challenges and changes the McClams have faced as they incorporate cover crops and reduced tillage into their farm plan, they are fully committed to these practices. "It unnerves me now to see soil that's not covered or mulched," says Eric.

"The McClams are really pioneering these practices on organic farmland in the midlands. They have had to learn a lot through trial and error because they are blazing a trail into new territory, but their perseverance is paying off," says Chanda Cooper, Education Coordinator for the Richland Soil and Water Conservation District (SWCD). SC Agronomist Gordon Mikell concurs on the importance of trial and error, patience, and persistence on the journey toward improved soil health: "If you go out to the field with the mentality that [cover crops] aren't going to work, and you go out and try it once...it's probably not going to work."

City Roots partnered with the Richland SWCD and other organizations to host two educational field days on organic certification and soil health this spring. Learn more about the farm at www.cityroots.org.



Commissioner Updates



Richland Soil and Water Conservation District (SWCD) Chairman Kenny Mullis has been named SC's Commissioner of the Year by the SC Association of Conservation Districts (SCACD). With a background in agriculture, a degree in Agricultural Engineering from Clemson University, and many years of experience in natural resources management and conservation, service in his local SWCD is a natural fit. "I've always respected the work of Conservation Districts, so when an opportunity to serve in the Richland District [was] presented, I was excited to step into the role," says Mullis. "God gave us these natural resources, and it's our responsibility to take care of them." Mullis was recognized for his achievement at the SCACD Annual Banquet and at a Richland County Council meeting.

Photo: Mullis (left) with Richland County Councilwoman Joyce Dickerson



Jefferson "Jeff" Laney was appointed to the Richland SWCD board in April after serving as an Associate Commissioner for many years. A real estate appraiser and avid outdoorsman with a Bachelor of Arts from Clemson University, Laney comes to the SWCD with interests in youth education, smart development, and building support for conservation through the SWCD's Affiliate Membership Program. "It is vital that Richland County continue to be a leader in conservation," he says. "As a father, it is especially important to me to help ensure that our natural resources be cared for in a way that will afford the youth of today a healthy and safe environment for years to come."

Photo: Laney (left) with SC Department of Natural Resources Deputy Director Ken Rentiers.



Commissioner H. Heath Hill was reappointed to the Richland SWCD board in May. A lifelong resident of Lower Richland, Hill is a successful businessman who owns and operates some three thousand acres of farmland in corn, soybeans, wheat, cotton, and timber. He has served on the Richland SWCD board since 1995. In SC, SWCDs are governed by boards of five commissioners. Three Commissioners are elected in the General Election; two are appointed by the SC Department of Natural Resources. These Commissioners volunteer their time and services to help improve natural resources conservation.

Photo: Hill (left) with SC Department of Natural Resources Conservation Districts Program Manager Marc Cribb.

Dreher High School students coached by Environmental Science Teacher **Judi Ray** represented Richland County in the 19th Annual SC Envirothon at the Clemson Sandhill Research and Education Center on May 1st. North America's largest environmental science competition for high school students, the Envirothon provides opportunities for participants to test their knowledge in five areas of natural resources management: wildlife, forestry, aquatics, soils, and a current topic. This year's current topic was Urban Forestry. The SC Envirothon is coordinated by the SC Department of Natural Resources in cooperation with several federal, state, and local agencies, including the Richland SWCD, which is a major sponsor.





Midlands Local Food Collaborative Explores Lowcountry, Upstate Models

Across the nation, communities and organizations are coming together to address concerns about the future of farming and local food distribution while seeking solutions for a more sustainable farming community. In the Midlands of South Carolina, such efforts are being coordinated by the Midlands Local Food Collaborative (MLFC), a working group whose mission is to “cultivate a sustainable local food system, foster land stewardship, and increase equitable food access in the Midlands.”

Comprised of eleven federal, state, and local agencies; universities; and non-governmental organizations, MLFC members work together to develop, prioritize, and execute strategies to strengthen the local food economy from farm to table. In this spirit of cooperation, the MLFC traveled to the Charleston/Johns Island area in January and to the Greenville/Travelers Rest area in May to learn from the organizations and individuals that have been key to growing new farmers and strengthening the local food system in those regions. Here are some of the highlights from these tours:

1. The **Travelers Rest Farmers Market** is the largest non-profit farmers market in SC, with 85 vendors and some 5,000 shoppers during the peak season.
2. **Mill Village Farms** in downtown Greenville hosts the first Urban Rooftop Farm in SC. The rooftop farm uses an array of 50 vertical aeroponic grow-towers to produce a variety of fruits and vegetables.
3. **Dirt Works Incubator Farm** is SC's first and (currently) only incubator farm. The Dirt Works program provides support and infrastructure to help new farmers launch successful farm businesses.
4. **GrowFood Carolina**, SC's first food hub, is a local food aggregator and distributor which sources produce from 60 local farmers and supplies fresh local food to Charleston's restaurants, grocery stores, and institutions.

Portions of this article were contributed by Sabrenna Bryant, Public Affairs Specialist, USDA-NRCS.



Birds and Bees Workshop Encourages Schoolyard Wildlife Habitats

In June, the Richland Soil and Water Conservation District (SWCD) partnered with the Environmental Education Association of SC, SC Wildlife Federation (SCWF), and Dutch Fork Elementary School (DFES) to present a Schoolyard Wildlife Habitat Workshop. Workshop participants painted gourd birdhouses and made bamboo bee hotels.

Gourds—hard-shelled fruits in the squash family—are among the oldest cultivated plants and have been used as containers and utensils for thousands of years. In the southeastern US, they are commonly used to provide artificial nesting sites for birds, especially purple martins. The overall size of the gourd and the size of the entrance hole determine what type of bird will use a gourd birdhouse; more information is available at <http://americangourdsociety.org>.

Bee hotels made of bundles of hollow stems (like bamboo) or blocks of wood with drilled tunnels can provide habitat for several types of native bees. Some 30% of North America's native bees nest in tunnels and cavities, and mason bees and leaf-cutter bees, in particular, will use these artificial nesting sites. For more information, visit <http://www.xerces.org/>.

Workshop speakers included Dr. Arlene Marturano of the USC Center for Science Education, who spoke about bird biology and provided several classroom resources; and Wildlife Biologist Sudie Daves Thomas of the USDA-Natural Resources Conservation Service, who gave an overview of pollinator diversity and importance and spoke about strategies for creating and improving pollinator habitat. Other speakers included Amy Umberger, Resident Scientist at DFES, and Education Coordinators Sara Green, Jane Hiller, and Chanda Cooper of the SCWF, Sonoco Recycling, and the Richland SWCD, respectively.

By the Numbers

In FY 2015 (July 1, 2014—June 30, 2015), the Richland Soil and Water Conservation District (SWCD):

- Hosted conservation exhibits at 11 community festivals
- Made 9 conservation presentations to community groups
- Funded Conservation Education Mini-Grants at 9 schools
- Mentored 47 conservation projects at nearly two dozen Richland County schools
- Presented 55 youth conservation programs for 1,433 attendees
- Provided professional development workshops for 150 teachers and environmental educators
- Saw 255 acres planted with the SWCD's no-till drill
- Hosted or co-sponsored 8 technical workshops for farmers and natural resource professionals



Conservation Education Awardees



Brooke Broadway Scott was named the SC 2015 K-6th Grade Conservation Teacher of the Year by the SC Association of Conservation Districts (SCACD) in February. She was nominated for this award by the Richland Soil and Water Conservation District (SWCD), which recognized her as Richland County's Conservation Teacher of the Year in 2014. Scott is the third Richland County nominee to receive the statewide award in the past three years. As a 4th Grade Project-Based Learning Instructor at Sandlapper Elementary in Richland School District Two, Scott

spearheaded several school conservation initiatives. In Fall 2014, she transferred to Deerfield Elementary in Lexington School District One and kicked off a series of conservation projects in her new school community. She has received several community grants to support these projects. Scott believes in environmental project-based education which helps students learn to care about the planet, their community, and each other. "I want our students to feel they are leaders who are making great things happen," she says. Scott was recognized at the SCACD Annual Banquet on February 24th.

Karyn Taylor, a third grade teacher at Pontiac Elementary School, was named Richland County's Conservation Teacher of the Year for the 2014-2015 school year by the Richland SWCD. Taylor was nominated by Pontiac Elementary Principal Dr. Katie Wall Barber, who says "Pontiac has a very strong conservation presence as a result of the efforts of Karyn Taylor." Among the many environmental initiatives Taylor spearheads at Pontiac are school-wide recycling efforts, composting,

water conservation, school gardens, classroom air quality improvements, and litter clean-ups. She has provided leadership for the school's Green Steps Team for three years and coordinates a weekly Environmental Club. Her efforts have secured more than \$1,300 in grant funding for conservation projects at Pontiac Elementary. Taylor was recognized at the Richland SWCD's Annual Banquet in May.



Dr. Luvenia Chantelle Baker-Parnell, principal of A.C. Moore Elementary School, was named Richland County's Conservation Principal of the Year for the 2014-2015 school year by the Richland SWCD. With Dr. Baker-Parnell's support and leadership, A.C. Moore Elementary has accomplished a number of environmental goals, including becoming a certified Green Steps School with a number of student-led conservation projects. "Dr. Baker-Parnell has always been very supportive of all

that the Green Steps team does at A.C. Moore...she has been instrumental in gathering resources and helping our faculty to work together to become more environmentally friendly," says second grade teacher Nancy Frick. "She gets involved in all that we do [which] shows our staff, parents, and community that she is not only a principal, but a caring person." Dr. Baker-Parnell was recognized at the Richland SWCD's Annual Banquet in May.

Partnership with SC Cover Crops



Chris Bair
 Lexington
 (803) 530-4315
 Chris@sccovercrops.com



Summer cover crops were planted in seven school gardens at the end of the 2014-2015 school year, thanks to a pilot program made possible by a seed donation from Chris Bair of Lexington-based SC Cover Crops.

The seed blend contained pearl millet, sorghum-sudan grass, berseem clover, cow peas, buckwheat, sunflowers, and sunn hemp and is expected to provide habitat for wildlife and pollinators while protecting the soil, reducing weed competition, and conserving water during the summer months.

Did You Know?

- Antlers and horns are different types of structures.
- Antlers occur in members of the deer family; horns are found on pronghorn antelope, sheep, bison, and other bovine species.
- Antlers are made of true bone and are a single structure; horns are two-part structures with a bony core covered by a sheath of fingernail-like material called keratin.
- Antlers are shed and regrown each year; generally, horns are never shed (except in pronghorns, which shed and regrow the horn sheath each year).
- In general, antlers are only present in males (caribou are an exception), whereas horns are present in both sexes of many species.
- Moose are the largest members of the deer family. Their antlers (which regrow every year) can have a spread greater than 6'.

Partnership with Colorado Parks and Wildlife



The Richland SWCD's wildlife education collection now includes moose, elk, and mule deer antlers, thanks to an exchange coordinated with Colorado Parks and Wildlife. These specimens will provide a great opportunity for local students to learn about the wildlife of North America!



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Thank you for your support!

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Affiliate Members are a vital part of our conservation team. The financial support given by Affiliates helps us carry out many of our conservation and stewardship programs within the County. Please support our efforts by becoming an Affiliate Member today! Affiliate Memberships are good for **one year** from the date of application. Contributions are tax deductible.

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*Titanium Affiliates' logos can be featured in the RSWCD's quarterly newsletter. If you would like your logo included, e-mail the file to cooperc@rcgov.us.

Membership Information

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****Conservation Education Mini-Grants** are awarded to local schools to support conservation projects each fall and spring. Mini-Grants sponsored by individuals or organizations will be awarded through the standard RSWCD award process and donors will be recognized in publicity materials.

Please return this form and a check made payable to Richland Soil and Water Conservation District to:

Richland Soil and Water Conservation District
 2020 Hampton Street, Rm. 3063A
 Columbia, SC 29204

Thank you for your support!