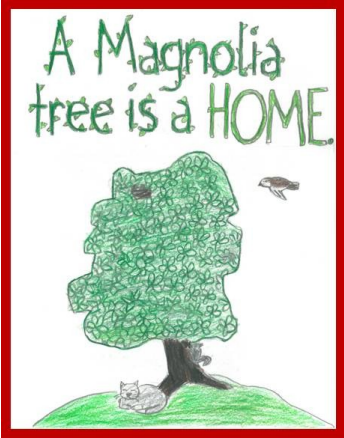


Richland SWCD Receives Federal Grant



MaryKathryn Davidson
8th Grade, Home School

WWW.RCGOV.US / RSWCD

Richland Soil and Water Conservation District



The Richland Soil and Water Conservation District (Richland SWCD) has received a three-year Conservation Innovation Grant (CIG) from the USDA-SC-Natural Resources Conservation Service (NRCS) for \$45,000 to conduct agricultural field trials in Richland, Dillon, and Marlboro Counties. In partnership with the University of South Carolina's Earth Sciences and Resources Institute, the Dillon and Marlboro SWCDs, and five row-crop farmers, the Richland SWCD will monitor soil health indicators and crop yields during three years of multi-species cover cropping and no-till management.

The purpose of the grant is to demonstrate how cover-cropping and no-till management can reduce commercial fertilizer inputs while maintaining crop yields. Reduced commercial fertilizer inputs and no-till management will increase profitability and reduce agriculture's environmental impact. Results of the field trials will be shared with other farmers and researchers at a number of educational events.



This project was one of seven to receive CIG funding statewide. The grants are administered by the NRCS to demonstrate innovative approaches to conservation on private lands and to encourage the adoption of practices addressing resource concerns. For a complete list of CIG awardees and more information about NRCS conservation programs, visit www.nrcs.usda.gov.



CIG Fieldwork

As a part of the Conservation Innovation Grant project, our team surveyed and sampled the soils in five demonstration fields to establish a baseline. These measurements will be repeated after three years of multispecies cover cropping and no-till management to demonstrate the effects these conservation practices have on the soil. **Top left:** Soil scientists characterize soil by a variety of factors, including color, texture, and structure. **Top right:** Radishes and rye are components of the multispecies cover crop blends used in this project. **Bottom right:** Researcher Dr. Buz Kloot from the USC-Earth Sciences and Resources Institute and NRCS soil scientist Jackie Reed collect and characterize soil samples. For more photos and stories from the field, visit www.midlandsgrown.blogspot.com and www.facebook.com/rswcd.

A Different Kind of “Healthcare” Taking Root in SC

By Pam Thomas, State Soil Scientist, USDA Natural Resources Conservation Service (NRCS)

There’s a potentially game-changing movement coming from America’s heartland. It has broad implications regarding the vitality of our farms, the health of our planet and our ability to feed more than nine billion people who will be coming to dinner by the year 2050. This movement continues to grow thanks to a different kind of healthcare—the health and care of our precious soil.

Previously, we looked at soil in terms of its “quality.” But as one farmer observed recently, “Anything can have quality, but only *living* things can have health.”

So while it might seem like a trivial, word-choice decision important only to copy writers in the marketing department, focusing on “soil health” versus “soil quality” reflects a fundamental shift in the way we now care for our nation’s soil.

Talk to any farmer working to improve the health of the soil and he or she will likely tell you that the “ah-ha” moment came upon the realization that soil isn’t just an inert growing medium. In fact, the soil is alive and teeming with trillions of microorganisms and fungi that are the foundation of an elegant, symbiotic ecosystem.

This new reality has quietly spawned an agricultural revolution. Increasingly, more and more producers in SC and throughout the nation are harvesting a wide range of production, environmental, sustainability and business benefits—on and off the farm—by improving soil health.

USDA’s Natural Resources Conservation Service recently launched a new education and awareness campaign titled “Unlock the Secrets in the Soil” to help more farmers discover the basics and benefits of soil health—and to encourage the adoption of soil health-improving practices such as diverse cover crops, no-till, and crop rotations.

We realize the journey to improving soil health has its challenges. Every farm is different and has its own set of unique resource issues. Fortunately, our nation’s farmers are innovative, courageous and tenacious. NRCS is committed to assisting these soil health pioneers—and to help make their farms more productive, resilient, and profitable along the way.

As we face mounting production, climate, and sustainability challenges, we believe there is no better time to make a long-term commitment to improve the health of our *living* and *life-giving* soil. The promise of our future depends on it.

The District’s new Conservation Innovation Grant (page 1) is a great example of how NRCS is working with Conservation Districts and farmers to improve and promote soil health.

For more information on soil health or the NRCS “Unlock the Secrets in the Soil” campaign, visit www.nrcs.usda.gov.



Soil Life

Healthy soil is living soil! Living organisms comprise some 15% of soil organic matter and weigh 2,000 to 30,000 pounds per acre. One teaspoon of soil can host 100 million to 1 billion bacteria; several yards of fungal hyphae; several thousand flagellates and amoeba; several hundred ciliates; dozens of nematodes and tiny arthropods such as millipedes (above-right); and as many as five earthworms (above-left and center).

NRCS News: EQIP, FRPP, and CSP Deadlines

The deadline for 2014 financial assistance from the South Carolina USDA-Natural Resources Conservation Service (NRCS) through the **Environmental Quality Incentives Program (EQIP)** is **December 20, 2013**.

NRCS provides financial and technical assistance to help eligible South Carolina landowners address natural resource concerns, promote environmental quality, and protect wildlife through EQIP. This program helps farmers improve production while protecting environmental quality by addressing such concerns as soil erosion and productivity, grazing management, water quality, animal waste, and forestry concerns.

There is a continuous signup for this program; however, to increase your chances of funding, apply by the December 20th deadline.

NRCS is accepting applications for the **Farm and Ranch Lands Protection Program (FRPP)** through **January 3, 2014**.

FRPP is a voluntary Farm Bill program that helps farmers and ranchers keep their land in agriculture. Eligible entities include State, Tribal, and local governments and non-government organizations that acquire conservation easements from landowners who agree not to convert their land to non-agricultural uses and to develop and implement a conservation plan for any highly erodible land.

Land proposed for FRPP must meet one of two eligibility categories: land with at least fifty percent prime and unique farmland soils, and soils of Statewide and local importance, or land with historic or archeological resources.

Although a continuous process, applications must be received by the January 3rd deadline to be considered for the first round of requests.

NRCS will accept applications for new enrollments in the **Conservation Stewardship Program (CSP)** through **January 17, 2014**.

The CSP is a Farm Bill conservation program that helps proven conservation stewards improve agricultural production and provide valuable conservation benefits such as cleaner water, healthier soils and better wildlife habitat.

The program emphasizes conservation performance — producers earn higher payments for higher performance. In CSP, producers install conservation enhancements to make positive changes in soil quality, soil erosion, water quality, water quantity, air quality, plant resources, animal resources and energy.

Some popular enhancements used by farmers and ranchers include:

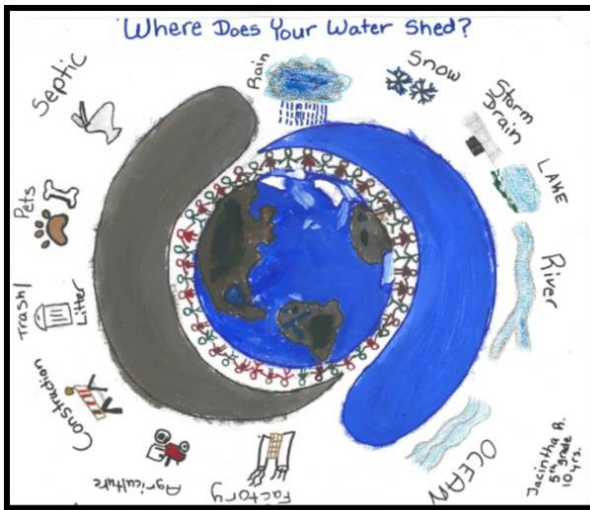
- Using new nozzles that reduce the drift of pesticides, lowering input costs and making sure pesticides are used where they are most needed;
- Modifying water facilities to prevent bats and bird species from being trapped;
- Burning patches of land, mimicking prairie fires to enhance wildlife habitat; and
- Rotating feeding areas and monitoring key grazing areas to improve grazing management.

While local NRCS offices accept CSP applications year round, NRCS evaluates applications during announced ranking periods. To be eligible for this year's enrollment, producers must have their applications submitted to NRCS by January 17, 2014.

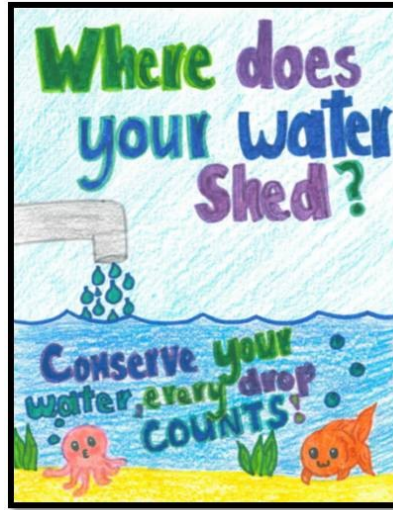
For more information about these and other conservation programs in South Carolina, contact the Richland/Calhoun USDA Service Center at 904 F.R. Huff Dr., Suite 104, St. Matthews, SC 29135, or call the District Conservationist, Ajoa Harris at (803) 874-3337 ext. 105. Information is available online at www.sc.nrcs.usda.gov.

USDA's Natural Resources Conservation Service (NRCS) helps America's farmers and ranchers conserve the Nation's soil, water, air and other natural resources. All programs are voluntary and offer science-based solutions that benefit both the landowner and the environment.

“Where Does Your Water Shed?” Contest Winners



First Place
Jacintha Ravindran
 5th grade, Pontiac Elementary School



Second Place
Fiona Aldighieri
 8th grade, Longleaf Middle School



Third Place
Joseph Ravindran
 2nd grade, Pontiac Elementary School

The Richland SWCD has named three County winners in the national “Where Does Your Water Shed?” conservation poster contest:

- First Place (\$50 prize): **Jacintha Ravindran**, 5th grade, Pontiac Elementary School
- Second Place (\$30 prize): **Fiona Aldighieri**, 8th grade, Longleaf Middle School
- Third Place (\$20 prize): **Joseph Ravindran**, 2nd grade, Pontiac Elementary School

These students were recognized by Richland County Council on October 15, 2013.

The conservation poster contest, sponsored annually by the National Association of Conservation Districts, raises awareness about soil and water conservation issues through youth outreach. In this year’s competition, K-12 students were invited to create posters with the title “Where Does Your Water Shed,” telling the story of our watersheds and imparting a conservation message.

The County winners will advance to the State competition, sponsored by the South Carolina Association of Conservation Districts, and State winners will progress to the national competition, sponsored by the National Association.

Two Schools Receive Conservation Mini-Grants



Left: Students use iPads to collect data in the St. John Neumann school garden. Above: Catawba Trail Elementary students plant shrubs in their outdoor classroom.

Conservation Education Mini-Grants (\$250) were awarded to St. John Neumann Catholic School and Catawba Trail Elementary School to support school gardening initiatives in the fall funding cycle. Schools may apply for mini-grants to support a range of conservation programs at schools, including outdoor classrooms, nature trails, composting, rainwater harvesting, wildlife habitats, and erosion control. Applications for spring funding are due by February 15, 2014. Details and the application are available online at www.rcgov.us/rswcd.

Celebrating SC Arbor Day



Arbor Day at Bookman Road Elementary

During the Arbor Day celebration at Bookman Road Elementary School, Richland County Councilwoman Julie-Ann Dixon presented an Arbor Day proclamation to Principal Kendra James. Educational entertainer Tim Womick involved first graders in a high-energy performance exploring the value of trees. Following the assembly, students and teachers planted a maple tree near one of the school's outdoor classrooms.

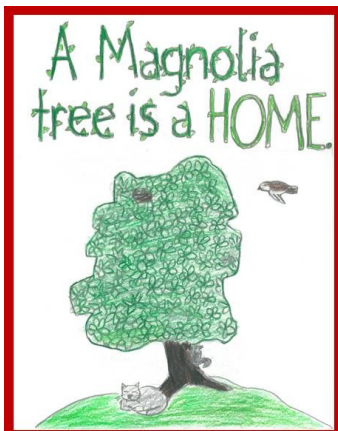
Since 1934, South Carolinians have celebrated Arbor Day on the first Friday in December—the optimum time to plant trees in the south because plants are dormant, rainfall is abundant, and trees suffer less from the shock of transplantation.

The Richland SWCD celebrated Arbor Day 2013 with a special program at Bookman Road Elementary School, pictured above. The assembly was attended by the school's first graders, Principal Kendra James and Assistant Principal Chris Reliford, Richland County Councilwoman Julie-Ann Dixon, performer Tim Womick, and several Richland SWCD representatives.

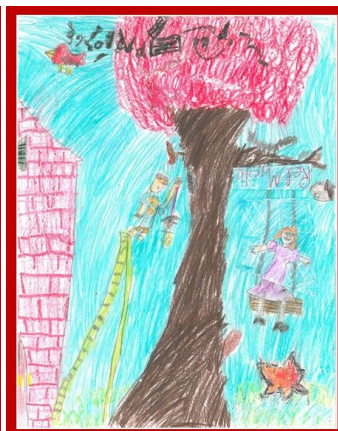
The Richland SWCD also coordinated a series of youth contests focused on the theme “Trees of SC.” Students were asked to create posters, bulletin boards, videos, and compositions exploring the life history and importance of any of the nearly 150 native SC tree species. Twenty contest entries were selected as winners, and five schools were recognized with special “School Spirit Awards” for their exceptional efforts. Four winning entries are featured below, and a complete list of winners is available online at www.rcgov.us/rswcd. Additional photographs are available on our Facebook page at www.facebook.com/rswcd.



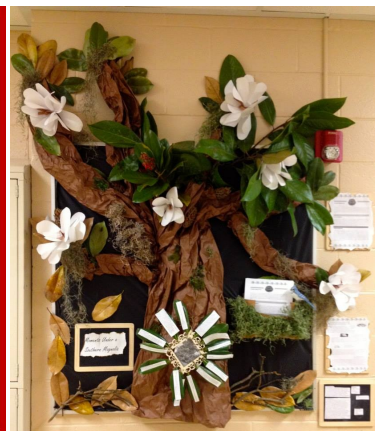
Ms. Hagins's Class
Higher Heights Learning Academy



MaryKathryn Davidson
8th Grade, Home School



David Vandelay
3rd Grade, Pontiac Elementary



French Club
Lower Richland High School

Recent Event: Organic Vegetable No-Till Field Day



Nestled on three acres of a former industrial Brownfield site in the City of Columbia, City Roots has been an agricultural innovator since its inception in 2009. This sustainable urban farm employs aquaponics, high tunnels, composting, community involvement, cover crops, and, increasingly, no-till management to produce over 100 varieties of organic produce.

Recently, City Roots, the USC-Earth Sciences and Resources Institute (USC-ESRI), and the Richland SWCD partnered to present a No-Till Organic Vegetable Production field demonstration. The workshop was a part of the Richland SWCD's Organic Richland program which provides education and support to local farmers interested in sustainable agriculture. Over fifty people attended the

demonstration to learn how City Roots' owners, father-son duo Robbie and Eric McClam, are converting their organic vegetable fields to no-till.

Growing no-till improves soil health by increasing soil organic matter, and, in turn, can improve crop yields. No-till also protects water quality by reducing erosion and runoff. Coupling no-till with a leguminous cover crop (such as cow peas, vetch, or clover) can further increase soil fertility, since these crops add nitrogen to the soil. While no-till crop management has been popular in conventional row crop farming for years, using it in a commercial organic vegetable system is a new concept.

The McClams have invested in a customized roller-crimper and no-till vegetable seeding system to terminate their cover crop and plant into its residue. Dr. Buz Kloot, a researcher at USC-ESRI, is assisting with soil monitoring and fertility management at City Roots, and the transition is being funded, in part, by a Conservation Innovation Grant from the USDA-Natural Resources Conservation Service. These grants are provided to demonstrate innovative approaches to conservation on private lands and to encourage the adoption of practices addressing resource concerns.

More photos from the event are available online at www.facebook.com/rswcd.

SC Project Learning Tree



Research demonstrates that nature-based and environmental education can improve children's physical and mental health, increase academic success, and foster a sense of environmental responsibility.

However, many teachers believe they lack the time and training to implement effective environmental studies in their own classrooms. Enter Project Learning Tree!

Project Learning Tree (PLT) is a nationally-acclaimed environmental education curriculum that makes it easy for teachers to integrate nature study into the classroom while meeting state and national academic guidelines in science, social studies, mathematics, and the arts. PLT was developed by a team of natural resource managers and

educators in 1976 and has undergone several revisions. It is designed to be shared through a network of trained facilitators who, in turn, train others to effectively and efficiently use the curriculum and materials.

In SC, PLT is sponsored by the SC Forestry Commission, SC Department of Education, and the SC Forestry Foundation. With a network of approximately 100 trained facilitators and a volunteer Steering Committee, SC PLT has trained more than 19,000 participants since 1980.

In April, Richland SWCD Educator Chanda Cooper became a certified facilitator to train teachers and informal educators in the use of the PLT curriculum. In October, the Richland SWCD partnered with USC and the Richland Countywide Stormwater Consortium to host its first PLT

Recent Event: Feral Hog & Nuisance Species Workshop



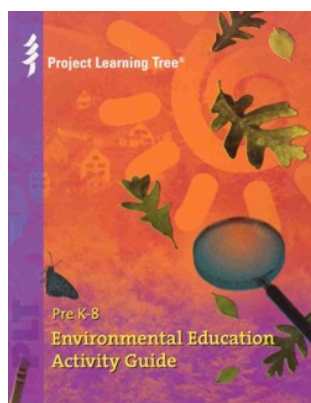
In November, the Richland, Calhoun, Orangeburg, and Bamberg SWCDs partnered to host a Feral Hog and Nuisance Species workshop in St. Matthews to educate landowners about how to deal with these and other problematic species. Approximately 95 people attended.

Feral hogs are a serious resource concern throughout SC. First introduced to the State in the 1500s, wild pigs are now present in all 46 counties and are responsible for serious erosion along river banks and streams, the destruction of agricultural crops, livestock predation, and harm to native plant and animal communities.

Coyotes, another nuisance species, first appeared in SC in 1978 and are now common in Richland County. They prey upon deer and small game. Most recently, armadillos have moved into Richland County and cause problems for homeowners and gardeners with their digging and burrowing habits.

Guest speakers included representatives from the SC Department of Natural Resources, USDA-Animal and Plant Health Inspection Service, All Things Wild, and Jager Pro Hog Control Systems. SC Farm Bureau assisted with event publicity and door prizes, and Lee's Sausage Company donated several gift baskets to the event.

workshop for local teachers and pre-service educators at the University. Seventeen people were trained in the curriculum and received the PLT curriculum book—a nearly 500-page manual containing 96 ready-to-use classroom activities.



In February, the Richland SWCD will host a second PLT workshop at Benedict College. The workshop is free to college students with a student ID and \$20 for all other attendees. For more information about the workshop, visit www.rcgov.us/rswcd or call (803) 576-2080.



Participants at the recent Project Learning Tree (PLT) workshop participate in model activities which they can adapt for use in their own classrooms.



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