

# Conservation Digest



GREENVILLE CO. SOIL & WATER CONSERVATION DISTRICT  
SPRING/SUMMER 2009

## District Conservationist Wins Conservation Partnership Award



*NRCS District Conservationist, Lynne Newton, accepts her award at the South Carolina Conservation District Conference. Pictured (from left) Danny Howard, Greenville Co. Soil & Water Commissioner; Niles Glasgow, NRCS State Conservationist; Lynne Newton, NRCS*

At the 2009 South Carolina Natural Resources Conservation Service Conference, District Conservationist, Lynne Newton, received the Partnership Award. This award is granted to highlight superior collaboration between NRCS and its partners.

For 2009, the South Carolina NRCS selected Lynne Newton because of her extensive role in the partnership between the NRCS regional field office in Greenville and the Greenville County Soil & Water Conservation District.

With the NRCS Greenville Office since May 2005, Ms. Newton has a major positive impact on the conservation effort in Greenville County. Lynne works constantly with County staff to achieve NRCS and SWCD goals. She secured matching funds from the County to implement Emergency Watershed Protection work and provides oversight of EWP efforts in the District Manager's absence. Ms. Newton also assists in environmental education efforts and aided a local middle school teacher with creating an outdoor learning center.

Lynne has a positive attitude and an outstanding knowledge of all conservation programs offered by USDA. She works with NRCS, SWCD, County staff and community members to fund and complete projects and makes the effort a pleasant experience for everyone involved.

On behalf of the Greenville County Soil & Water Conservation District and its members, we congratulate Lynne Newton for recognition of her outstanding work and superior commitment to conservation!

# Rain Gardens

**"Filthy water cannot be washed." - West African Proverb**

We can choose to be part of the solution or part of the problem. Up to 70% of the pollution in surface waters is carried there by stormwater runoff, according to the Environmental Protection Agency. 35% of the total surface water pollution originates in homes and neighborhoods in the form of pesticides, yard waste, motor oil and household chemicals.

Each time it rains or snows, stormwater flows across rooftops, parking lots, sidewalks, and lawns into storm drains. However, the rainwater or melted snow is not the only thing that ends up in local watersheds. The runoff picks up pollutants along its path, such as pet waste, oil, pesticides, fertilizer and soil. The untreated stormwater then drains directly into nearby streams, creeks and rivers where it can harm plants and wildlife.

A rain garden is a natural way for you to help solve stormwater pollution problems, decrease landscape flooding and protect our water resources!

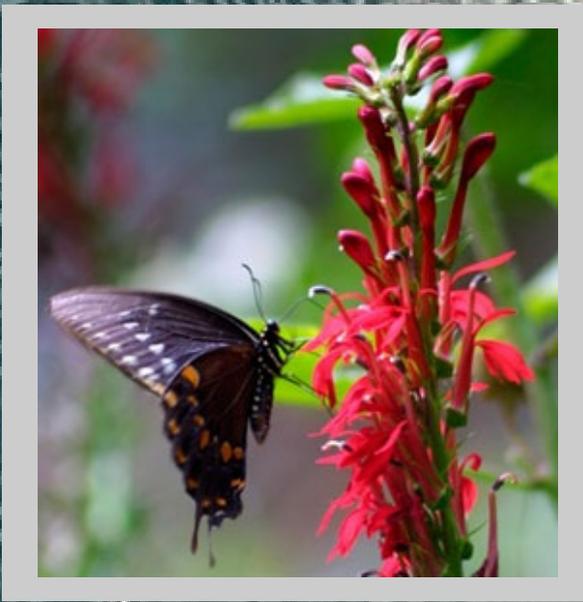
Rain gardens in your yard or neighborhood will help improve water quality in local streams, rivers and lakes. Besides helping environmental conservation efforts, your rain garden can become an attractive landscape feature that is a low maintenance habitat for native wildlife.

Rain gardens are simply native plant gardens surrounding a low point in the landscape. These low points, or depressions, can be naturally-occurring or man-made. Since the water naturally flows toward the lowest point in the landscape, stormwater runoff will pass through the rain garden, water the plants there and be slowly absorbed into the groundwater.

Plants use excess nutrients in runoff for growth, sediment is trapped in the garden and biological processes remove pathogens. The result is a lovely native garden and improved water quality.



*Rain garden on a naturally-occurring slope.*



## Creating your Rain Garden

1. **Choose wisely.** Find a spot in your yard at the base of an existing slope or select a place for the depression. Rain gardens can be built down slope of the downspout, but should be at least 10 feet away from the home.
2. **Measure the area.** For rain gardens watered by downspouts at each end of the sloped roof, simply divide the size of the roof in half. 20 and 30 percent of that roof area will be the ideal size for your rain garden.
3. **Get dirty.** Dig up the area selected to about 2-feet deep. Mix organic matter, like compost, into the soil removed to prepare it for planting. Put this new, fertile soil mix back into the dug-up area, tapering to a 6-inch deep depression in the center of the garden. (Runoff will collect in this depression and will soak gradually into the surrounding soil.)
4. **Go with the flow.** Include an overflow area outside of the planted rain garden so that excess water can be diverted away from structures.
5. **Call for reinforcements.** Overflow in the rain garden could erode soils near the outside of the planted area. To prevent this, reinforce the perimeter with stones or turf.
6. **Place the plants.** Choose native species that can withstand brief periods of standing water, yet thrive between rain events under dry conditions. Many native plants will attract wildlife, such as butterflies. Don't forget to mulch with 3-4 inches of hardwood mulch. Light mulch, like pine bark could float away with the next storm.
7. **Check your work.** Enjoy your new rain garden, but remember to inspect plants after major rainfalls. Make sure that the plants, soil and mulch are stable.

## Helpful Hints:

Cherry trees, under flooded conditions, will release a poison that will kill the tree. These are not a good rain garden choice.



Keep the planting design simple, then if a species you selected does not work well, it can be easily replaced.



The natural absorption of water occurs in a circle around the depression, so a round or curved garden will be watered more evenly than a square one.



Rain gardens typically drain in less than 24 hours, reducing standing water near downspouts or in low areas of the yard.



Mosquitoes require 7 to 12 days in standing water to lay and hatch eggs, so your rain garden will drain before they have a chance to invade. Rain gardens also attract dragonflies, which eat mosquitoes.



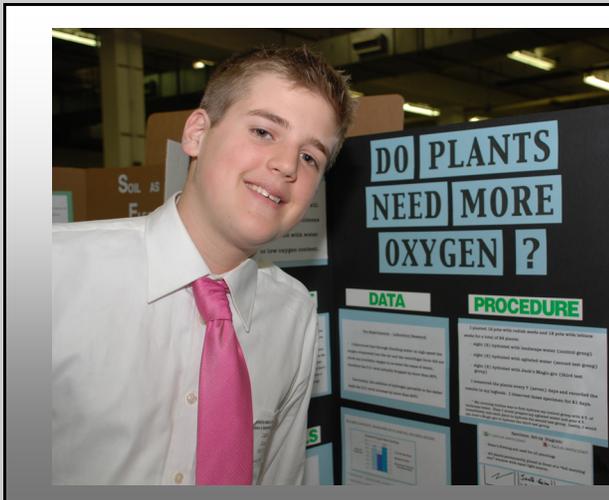
In times of significant drought, your rain garden may need to be irrigated.



# Greenville County Soil & Water Conservation District recognizes

## Outstanding Science Fair Projects

Each year, Roper Mountain Science Center and the South Carolina Academy of Science showcase middle and high school projects in the Regional Science and Engineering Fair. In March 2009, the Carolina First Center housed the independent research of more than 200 local teen scientists. Of those entries, four outstanding middle school projects were selected as the SWCD's special award winners. Our congratulations go out to each participant as well as our award winners!



**Jack Gray**  
“Do Plants Need More Oxygen?”

Jack's project demonstrated the effects of readily available oxygen in water on plant growth. He compared the growth rate of plants watered with landscape water from his family's garden, agitated water and diluted peroxide. Jack found that the peroxide, which acts as an oxygen supplement for plants, promoted plant growth and that plants grow better where oxygen is more readily available in their soil.

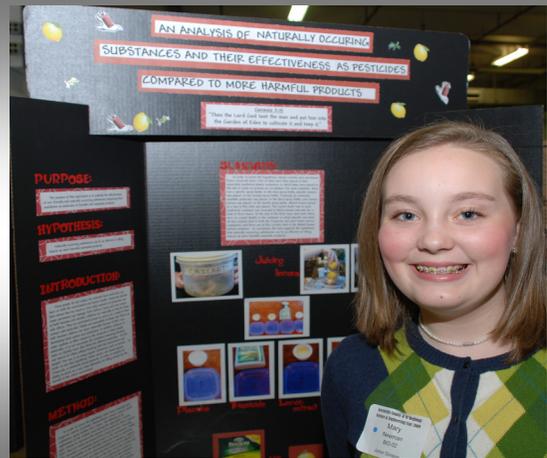


## Tyler Kelly "Green Works"

Tyler believes that almost anything can be recycled. For this project, she made recycled paper from a variety of sources, using a wide range of combinations. One of Tyler's experimental papers included strips of plastic milk jugs, although she says that it was not the most user-friendly material. As a result of her project, Tyler realizes why some items are more difficult or expensive to recycle and her family purchased a recycling bin of their own to continue her quest to reduce, reuse and recycle.

## Mary Newman "An Analysis of Naturally Occurring Substances & Their Effectiveness as Pesticides Compared to More Harmful Products"

Mary sought a way to reduce pollution in soil and water through the use of naturally-derived pesticides. She believed that acidic lemon juice would be as effective on crop pest control as commercially-available chemical pesticides. She was right! Even diluted, the lemon juice performed as well as the chemical pesticides and is less harmful to the



## Emily Whitehead "Got Runoff?"

Emily is concerned about the flooding and pollution that can be caused by soil erosion. She tested various types of substrate to determine the best surfaces to prevent runoff. Her conclusion was that an impermeable surface, such as plastic or asphalt created the most water runoff. Clay and sand absorbed much of the added water over time and performed best at the outset of the experiment. Topsoil yielded the most soil pollution in the runoff for the first 3 days, but later, performed as well as clay.



# Conservation District Assists Legendary Park



**Before**



**After**



*Erosion control work gets underway*

Shoeless Joe Jackson is a legend of baseball. The Greenville County Soil & Water Conservation District is helping the park that bears his name live up to that legendary status. Shoeless Joe Jackson Memorial Park once housed the baseball fields played on during Mr. Jackson's days on a local mill's baseball team, long before his days in the big league. In 1993, a private landowner donated this 8-acre property to the City of Greenville's Recreation District. The City transformed the empty, but historically significant space into a fantastic family recreation center by adding a playground, a picnic shelter, and of course, lighted baseball fields and dugouts. The park also features natural play areas and a small stream. The soil erosion surrounding the small stream and its banks were creating a hazard and an eyesore.



*Prior to efforts by the Conservation District, soil erosion was a major concern*

Utilizing the talents of Soil & Water Conservation District Engineer, Gene Dobbins, and District Conservationist, Lynne Newton, a design was made and Emergency Watershed Protection funds were utilized to repair the site. Hollis Berry, soil technician, kept a steady eye on the construction as the project's inspector. Greenville County provided the much needed debris removal and replenishment of topsoil. Carefully placing rock, filter fabric and soil and smoothing out areas and planting grass and trees, the Shoeless Joe Jackson site was addressed and will provide safe enjoyment for families and baseball lovers alike in the years to come.

*The total cost of the Shoeless Joe Jackson Memorial Park EWP project was about \$24,000, federal funds petitioned for and received by the local USDA NRCS and the Greenville Co. SWCD.*

# Hello Friends

This March, I joined the team at the Greenville County Soil & Water Conservation District as the new Education Program Manager. This position was vacated by Becky Wooten after nearly 20 years of award-winning service. I have a huge task ahead of me filling her shoes, but I look forward to the challenges ahead.

I have been working in environmental education for the past 11 years, primarily in zoos and museums. I went to college at Colorado State University and earned a degree in Animal Science. From there, I joined a Round River Conservation Studies team in Namibia, Africa to perform field research with the Cheetah Conservation Fund. My time there was fantastic, although the lack of hot water and electricity were difficult at times! I returned to the United States and began working for the Education Department at the Denver Zoo, training the animals for the wildlife show, supervising overnights, and leading guided tours. Several years later, I moved to the San Francisco Bay Area to work with an environmental education museum, Coyote Point. Our focus at the museum was holistic environmental education for all ages, while promoting environmental stewardship. My most recent position was in the Education Department at the Riverbanks Zoo in Columbia, leading school services and the Zoo Teen volunteer program. I remain active in the Zoo's Education Department through continuing involvement with the Zoo Snooze overnights and the Zoo Teen volunteer program.



I am thrilled to be working on hands-on environmental stewardship initiatives with the Greenville County Soil & Water Conservation District. I still cannot believe that I work close enough to walk to Falls Park for picnic lunches every day! I so look forward to meeting each of you and to working with the amazing staff of Greenville County and with the members of my new community.

Sincerely,  
*JC Ward*

JC Ward, Education Program Manager, Greenville Co. Soil & Water

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ADDRESS SERVICE REQUESTED

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*Commissioners*

**Dr. Robert Hanley, Chairman • Claire Bradbery, Vice-Chairman • Danny Howard, Secretary-Treasurer • Darrell Harrison • David Gible • Ben H. Dillard, Commissioner Emeritus**

*Commissioners meet on the second Tuesday of every month at 9:00 AM at County Square in a meeting that is open to the public. Call 864.467.2756 for details on location of the conference room. Commissioners are un-*

**Affiliate Member Donations Underwrite the Conservation Education Effort for the District**

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