

# Sumter Stormwater Solutions



*Don't let a good drop go bad...*



Year 1

2008-2009

# Annual Report of Activities

November 2009



# Executive Summary

*Sumter Stormwater Solutions is a partnership between Clemson Extension's Carolina Clear program, the City of Sumter, and Sumter County, with the purpose of protecting water quality through stormwater education. The need for such an organization sprang from a growing concern about water quality in the Sumter area, accelerated by a new EPA mandate to regulate stormwater pollution, which designated certain municipalities as MS4's (Municipal Separate Storm Sewer Systems), requiring they meet guidelines for controlling polluted runoff.*

*Key players in the creation of a Carolina Clear partnership in the Sumter area were Bill Rozier with the City of Sumter, Amanda McNulty with the Clemson's Sumter County Extension Service, and Karen Hyatt and Eddie Newman with Sumter County. All involved felt that by combining resources and working with a statewide organization, more could be achieved than any of the participating municipalities could achieve alone, an approach supported by both the US Environmental Protection Agency and the SC Department of Health and Environmental Control.*

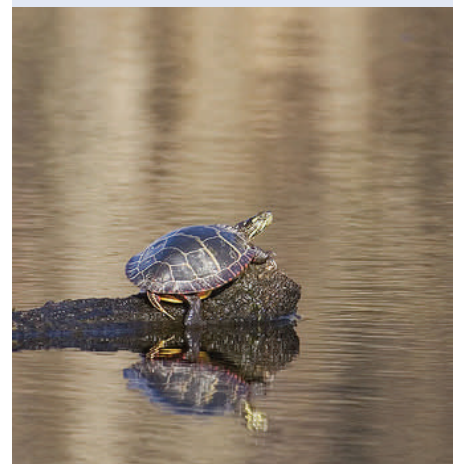
*The City and County first united for water quality as the Sumter Stormwater Consortium, and later adopted their official name of Sumter Stormwater Solutions (Solutions for short). The City of Sumter and Sumter County, entered into a formal contract and Memorandum of Understanding in November, 2008. This agreement states that that Clemson University's Carolina Clear initiative will be contracted to assist the county and city in meeting DHEC and EPA's minimum control measures one and two, which require Public Education and Outreach along with Public Involvement and Participation (Appendix A).*

*The first official meeting of Sumter Stormwater Solutions was held on November 5, 2008, at which critical needs were identified, both for education and for stormwater management. At the second meeting, in May, an Education Plan of Work (Appendix B) was drafted, and the plan finalized in August. Existing programs were incorporated, and new programs and outreach efforts were introduced to reach target audiences and address pollutants as defined by the regional consortium. Now entering into the second year of work, regular meetings are to be held every two months to evaluate ongoing activities, and develop future initiatives.*



***"To see the impact of an individual's contribution to environmental health is complex and it often goes unnoticed, but it's through individual contributions that an impact is made."***

***- Peter N. Wilson, PhD, PE  
Sumter County Engineer***







# Sumter Stormwater Solutions 2008-2009 Annual Report

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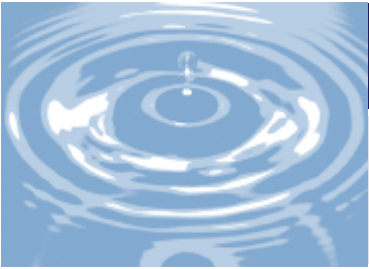
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# Sumter MS4's

During year 1 the core consortium members were extremely dedicated to the regional education concept. The representatives of the MS4's provided the major guidance in determining the direction and purpose of the consortium, taking ownership of the consortium's efforts and dedicating their time and resources to its success. Sumter County and the City of Sumter worked together to identify appropriate representatives for a successful blend of technical resources and experience in public education.

**Table 1. Summary of Local Consortium Representatives**

MS4	Consortium Representatives
City of Sumter	<p>Al Harris</p> <p>Bill Rozier</p> <p>Teige Elliot</p> <p>Charlie Holmes</p>
Sumter County	<p>Peter Wilson</p> <p>Karen Hyatt</p> <p>Gary Mixon</p> <p>Eddie Newman</p> <p>Charlie Holmes</p>



**Sumter County**  
 Sumter, South Carolina  
 29150



# Educational Partners

The most important first step for the core Solutions members was to identify and recruit educational partners from government agencies, non-profit and community organizations, and businesses who share the consortium’s mission of providing education to the public on stormwater issues throughout the Sumter area. This team-based approach allows partners to share valuable resources, while ensuring a consistent and research-driven message. With these partnerships, the Sumter Stormwater Solutions remains dedicated to developing and delivering effective, outcomes-based educational programming throughout the watershed.

**Table 2. Summary of Local Education Partners**

Name	Organization
Victoria Kramer	SC Department of Health and Environmental Control Bureau of Water
Rebecca Spratlin	SCDHEC BOW
Amanda Ley	SCDHEC BOW
Pearce Atkins	Sumter Soil & Water Conservation District
Kimberly Arrington	Sumter Soil & Water Conservation District
Geoff Smith	BP Barber and Associates
Erica Huggins	BP Barber and Associates
Amanda McNulty	Sumter County Master Gardeners
Amanda McNulty	Clemson Extension Service, Sumter County
Mark Bruce	Santee Riverkeeper
Marc Cribb	SC Department of Natural Resources





# Goal and Objectives

## Goal Statement

*To enhance water resource protection and stewardship through education, public involvement, and partnerships.*

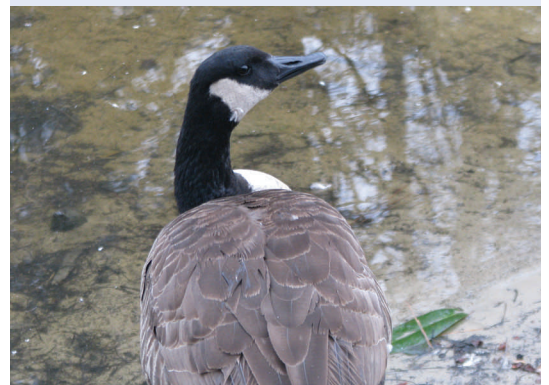
## Objectives

1. Use a watershed approach to develop and implement a comprehensive education strategy that addresses stormwater pollution using a prioritized approach capitalizing on local training resources.
2. Foster and expand upon citizen involvement in stormwater management through education and participation programs to encourage behavioral change towards improved environmental protection and awareness.
3. Facilitate collaboration among local organizations interested in watershed-related education to best meet the educational needs of local communities.
4. Through partnerships, leverage education resources and organize outreach programs to meet the NPDES Phase II permit requirements for public stormwater education and outreach to achieve greater water resource protection.
5. Participate in collaborative stormwater education that can serve as a model for others.



*"When drinking water,  
remember its source."*

*— Chinese proverb*



# Partner Focus - Solutions

Throughout the year the consortium members built a comprehensive Education Plan of Work for the Sumter area that would be inclusive of all partners and utilize their expertise and resources wisely (Appendix B). The Education Plan format organizes activities by target audience, and includes a checklist of target pollutants. This format assists the consortium in creating a plan that is truly complete in scope. The Education Plan is a living document which is updated regularly and will eventually be evolved into a five-year plan of work that documents our activities as well as our accomplishments.

In developing the Education Plan, consortium members prioritized projects according to several factors. One of these was which pollutant a particular initiative addressed. Pollutants determined to be critical to water quality and also able to be effectively impacted by education included fecal bacteria, sediment, nutrients, toxic contaminants, and debris. Another consideration was to include programs addressing a wide variety of audience types. Because stormwater pollution results from everyday actions of the average citizen, an effective education program must reach everyone in a community, not just a few segments of the population. Audiences targeted by programming in the first year included general public, youth, elected and appointed officials, professionals, homeowners, and commercial citizens.



*"Any river is really the summation of the whole valley. To think of it as nothing but water is to ignore the greater part."*

*- Hal Borland,*

*This Hill, This Valley*

**Table 3. Sample of Year 1 Education Plan - General Public**

ADAPTIVE Stormwater Education Plan		Year 1 (2008-09) - Sumter Stormwater Solutions										Living Document (last updated 11/14/09)					
Lead Service Provider	Activity	Target Geography/ Land Use	Target Pollutant(s)										Participation by other Service Providers	Location and Date Delivered	Number Impacted/ Reached	Assessment Type	
			General Stormwater Awareness	Bacteria	Toxic Contaminants, petroleum products, pesticides, heavy metals	Sediment	Nutrients	Pollutants resulting in low Dissolved Oxygen	Debris	Temperature	Other						
<b>General Public</b>																	
Sumter Extension Service	Water Quality articles written for the Sumter Item	Sumter County	x		x	x	x								Multiple throughout the year	33000	None
Soil & Water Conservation District	Conservation District Annual Report	Sumter County	x	x	x	x									Electronic distribution, Jan. 1, 2009	2000	None
City of Sumter	North Main Street Area Cleanup, as part of the Palmetto Pride Campaign	City of Sumter	x		x							x		Crosspoint Baptist and Alice Drive Baptist	North Main Street area, Sumter, April 4-16, 2009	110	None
Soil & Water Conservation District Carolina Clear	Display at Sustainable Sumter Earth day Celebration	Sumter County	x	x	x	x	x				x			City of Sumter	Swan Lake Iris Gardens, April 25, 2009	550	Feedback
	Sumter Stormwater Solutions Website	Statewide	x	x	x	x	x				x				Ongoing from May 2009	232	None
City of Sumter	Bowman Drive Area Community Clean-up	City of Sumter	x		x							x			Bowman Dr., Sumter, May 29-30, 2009	25	None
Soil & Water Conservation District	Stormwater-related newsletter articles	Sumter County	x		x	x							x	pH	Countywide, June 3 & Aug. 6, 2009	1920	None
Carolina Clear	Slides on Public Access Television	Statewide	x												Ongoing from Spring 2009	not available	None
Carolina Clear	Radio Commercials	Midlands	x												93.1 FM, Ongoing from June 2009	not available	None

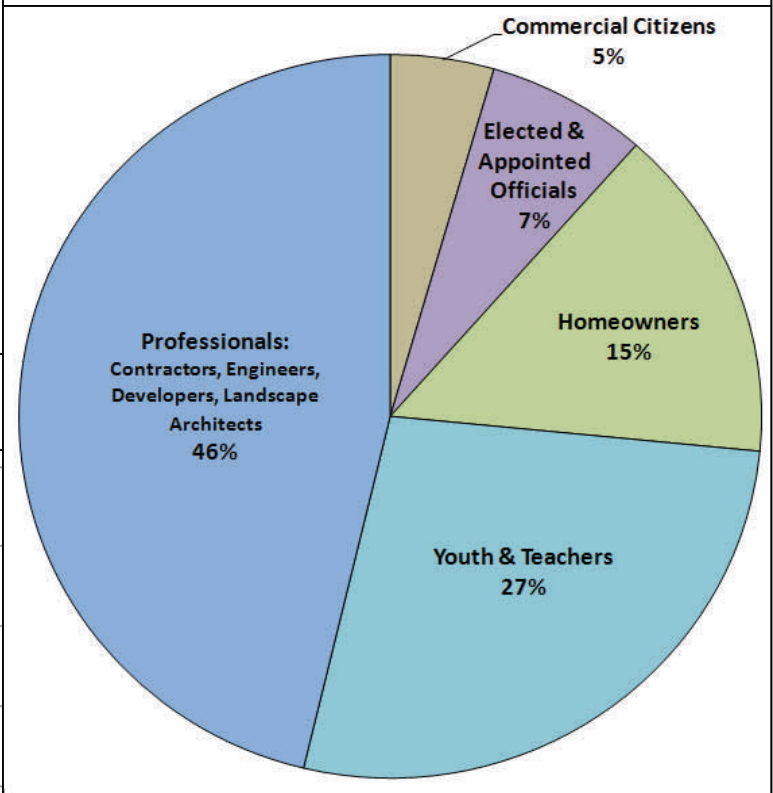


# Partner Focus - Solutions

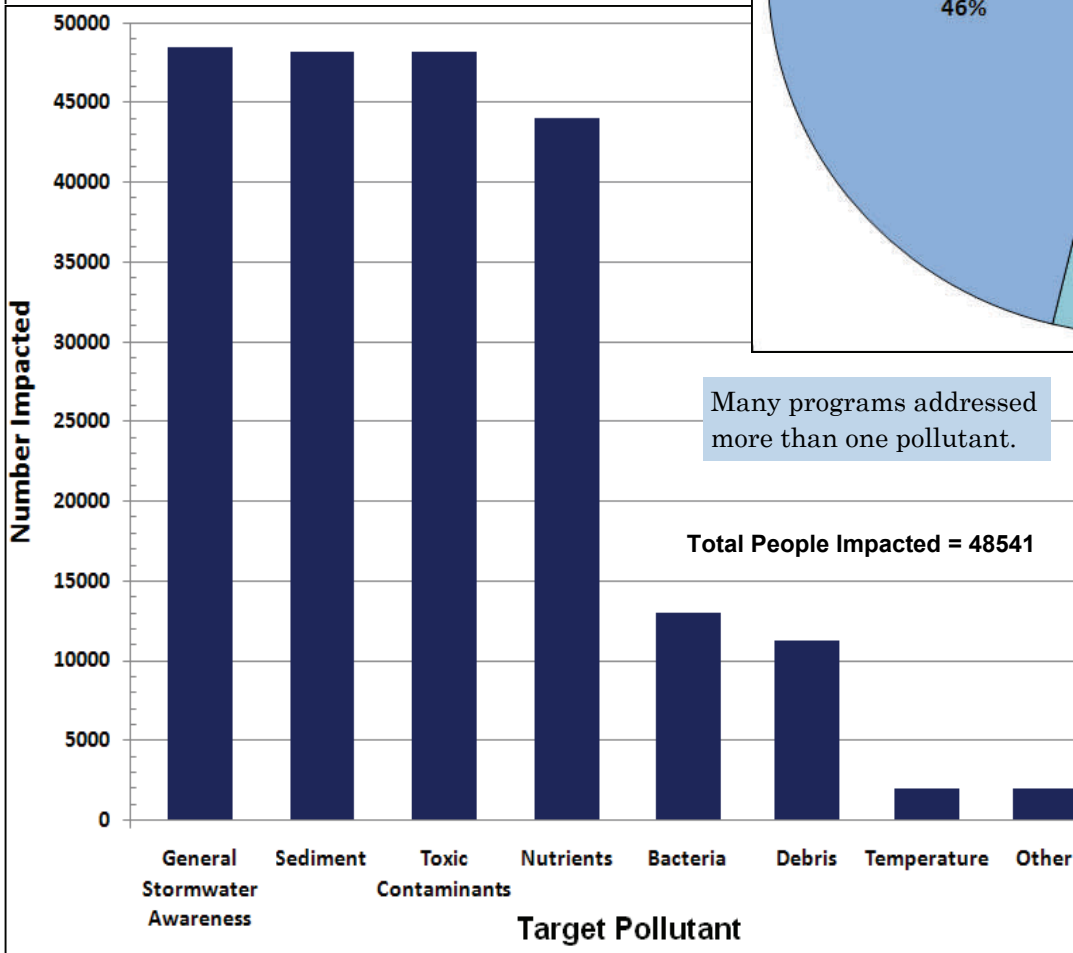
Through newspaper articles and fair displays, general audiences were reached in numbers far exceeding any of the more specialized audiences. Figure 1. shows the percentage of impact numbers for stormwater activities for each audience group targeted, omitting programs for the general public. The group with the highest percentage of impacts was professional audiences, followed by youth and homeowners.

**Total People Impacted = 599,  
excluding programs for the  
general public only**

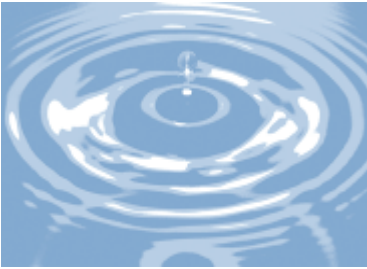
**Figure 1. Percentage of Programs for Each Target Audience**



**Figure 2. Number Impacted, by Target Pollutant**



Besides general awareness, toxic contaminants (including petroleum products, pesticides, and heavy metals), sediment, and nutrients were the most effectively targeted pollutants, due to the excellent coverage of these issues in newspaper articles and fair displays. In Year 2, Solutions will introduce additional programs targeting bacteria, and will attempt to increase the participation in clean-ups to more effectively address debris in the Sumter area.



# General Public

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Carolina Clear	Radio Advertisements on Stormwater Awareness, ETV Radio, 93.1	Midlands, Spring 2009	Not yet available	N/A
Carolina Clear	Stormwater Awareness Message on Public Access TV.	Midlands, Spring 2009	Not yet available	N/A
Carolina Clear	Stormwater Awareness Television Commercial	Time Warner Cable Aug.-Sept. 2009	Not yet available	N/A

Because Carolina Clear is a statewide program with the backing of Clemson University, Solutions was able to take advantage of mass media in a powerful way. The initiative began with still slides on the public access channel and public service announcement on ETV Radio. Later we introduced a live commercial aired on Time Warner Cable during summer and fall of 2009. The number of impacts has not yet been assessed or made available to the consortium. This information will be included in the report for Year 2. The initial messages focus on raising general awareness, as research indicates that the public is unaware that stormwater pollution is currently the major threat to South Carolina's waterways, as shown by a survey of South Carolina citizens by Clemson University, (Public Opinion on the Saluda-Reedy Watershed: Knowledge, Attitudes and Behaviors, Mobley and White, 2005). As the public becomes more aware of the issue, messages can become more specific, with the focus shifting to target particular pollutants and behaviors. The next media campaign will use billboards to deliver a water quality messages along major highways through Sumter County, utilizing a design already on display in the Lexington, Charleston, and Myrtle Beach areas.



The Carolina Clear television message features a goldfish in a bowl, a simple, eye-catching image the public can relate to easily.

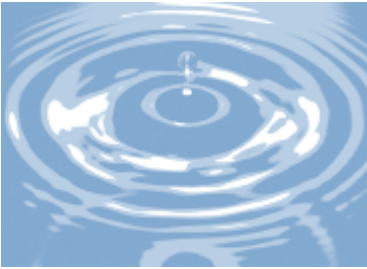
Slides on public access television feature simple messages to promote general awareness of stormwater pollution.

**WATER** that runs off roads and lawns **DOES NOT GET TREATED.** It goes straight to our streams and lakes.

**REMEMBER, ONLY RAIN DOWN THE STORM DRAIN!**

[www.clemson.edu/carolina\\_clear](http://www.clemson.edu/carolina_clear)  
**OR keyword search: Carolina Clear**

**TAKE CARE!**  
 Drains to a stream or lake near you!



# General Public

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Clemson	Develop and update Clemson University Carolina Clear web page for Richland County	Ongoing from May 2009	232	N/A

The screenshot shows the website for the Sumter Stormwater Consortium. The main heading is "Welcome to the Sumter Stormwater Consortium!". Below this, there is a paragraph describing the consortium's goal to enhance water quality through education and outreach. To the right, there is an "Upcoming Events!" box listing a "Sumter Stormwater Consortium Meeting" on October 21, 2009. Below the main text, there is an "Announcements:" section with a "Rain Garden Update" featuring a photo of a rain garden and text about its installation. At the bottom, there is a "Recent Events:" section with a photo of a booth at the Sumter County Fair.

At the start of 2009 Clemson created a new website for Sumter Stormwater Solutions within the Carolina Clear website.

Development of the Sumter Stormwater Solutions webpage was completed by the beginning of May. Since then, the following statistics are available:

- 232 total page views
- 179 unique views
- Average time spent on page was 3 minutes and 5 seconds.

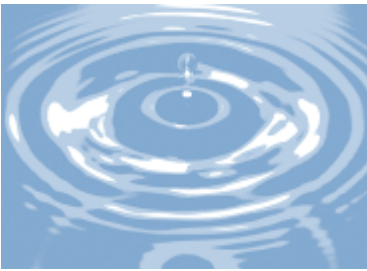
This website serves as a resource for all MS4's and partners to announce upcoming programs, recognize recent successes, and distributed stormwater information to the public.

***Check us out at [www.clemson.edu/carolinaclear/](http://www.clemson.edu/carolinaclear/)!***

In reaching out to the general public, Solutions partners attempt to make the best possible use of technology. Resources like websites and electronic newsletters provide excellent opportunities to impact larger audiences then could be reached by traditional means such as mass mailings, are more cost effective, and minimize paper waste.

In addition, a listserv system was built on the Clemson mainframe to allow email communication among the municipalities and educational partners. With this tool members could share information and ask questions of the entire group with one email address. This has also allowed Solutions to multiply marketing efforts for educational programming by utilizing mailing lists of all the partners.





# General Public

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Sumter County Extension Service	Multiple water quality related articles written for the Sumter <i>Item</i> .	Published throughout the year in Sumter County and the City of Sumter	Circulation of 33,000 for each article	N/A

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WEDDINGS ENGAGEMENTS BIRTH ANNOUNCEMENTS ANNIVERSARIES FOOD CALI

Date Published: November 2, 2008 [e-mail article](#) [print article](#) [RSS feed](#)

### Watershed mimics nature

City, county cooperate in Dillon Park project

By AMANDA McNULTY  
Special to The Item

Even with a brisk wind blowing, standing by Shot Pouch Creek in Dillon Park is a calming experience. Ivy Moore looked at the minnows swimming among the lily pads and wished aloud for a creek in her back yard.



Ivy Moore / The Item  
Charlie Holmes explains to the writer how the watershed at Dillon Park mimics nature to cleanse pollutants from water that collects in creeks.

We all have a natural affinity for oceans, lakes, streams, or even backyard fish ponds where we can watch the interactions of nature at this resource that's essential to all living creatures. Yet, all too often we whiz by the glimpses we have of this urban waterway as we race up and down Guignard Drive or peel out of the Y parking lot after a bout on the treadmill.

Other cities would die for an open piece of water; their streams are buried under pavement or run in pipes where wildlife can't drink their water or graze on the grasses that line their banks. We have an unappreciated gem in the creek that feeds our beloved Swan Lake.

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Date Published: August 16, 2009 [e-mail article](#) [print article](#) [RSS feed](#)

### Help the environment -- make your own rain barrel

By AMANDA McNULTY  
Special to The Item

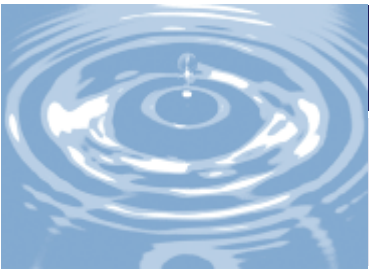
After the recent downpour we had when more than an inch of water literally poured from the sky, my favorite parking space under a spreading live oak was marred by a huge pile of debris. Half of the parking lot drains in a storm sewer near the Greater Sumter Chamber of Commerce office and it was clogged up with leaves, cigarette butts, fast food wrappers and a right nice-looking flip flop. A yucky mess.



Photo provided  
This rain barrel by Washington state artist Michael Costello shows the decorative possibilities for barrels local participants in the Carolina Clear barrel workshop will be making. RIGHT: Ruth Ann Bigger uses this rain barrel to catch rain runoff from her roof. She then uses the water for her hanging and container plants. The city and county of Sumter are sponsoring a rain barrel workshop on Friday, Aug. 21. Clemson Extension agents will be hand to assist with the barrels.

The water that flushed out the parking lot and transported that flotsam and jetsam seeped through that garbage and eventually will be in Shot Pouch Creek and our beloved Swan Lake-Iris Gardens. Storm water runoff isn't treated; it doesn't go to our first class wastewater treatment facility, it gets dumped into our streams, lakes and rivers carrying pet and bird poop, fertilizer that got scattered on a driveway and lots and lots of eroded soil.

Sumter Soil & Water Conservation District	Stormwater-related articles in the Conservation District's Quarterly Newsletter, <i>Conservation-At-A-Glance</i>	Distributed electronically in June and August, 2009	Circulation of 1,920 for each quarter	N/A
Sumter Soil & Water Conservation District	The Conservation District's 2008 Annual Report included several articles on Stormwater	Distributed electronically January 21, 2009	Circulation of 2,000	N/A



# General Public

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Sumter Conservation District	Display at Sustainable Sumter Earth Day Celebration	Swan Lake Iris Gardens, April 25, 2009	550	City of Sumter
Sumter County, Carolina Clear	Displays at the Sumter County Fair	Fair Grounds, Sept. 29 - Oct. 3	10,000	Sumter Master Gardeners, Sumter Conservation District

At festivals throughout the year, the Solutions education partners presented information on stormwater pollution. The displays included watershed models, informational brochures, giveaways with water quality messages, and other materials. At the Sumter county Fair, four different booths included water quality messages. These types of events are excellent ways to reach a large number of people at once in an informal setting where participants can ask questions and receive individual attention.

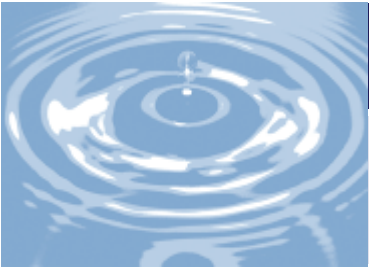


Sumter County Public Works fair display featured rain barrels and rain gardens



At the Sustainable Earth Day Celebration, families who visited the Sumter Conservation District's booth learned about different sources of water pollution with an EnviroScape watershed model.





# General Public

Lead Provider	Activity	Delivered	Number of Participants	Other Providers Involved
City of Sumter	The South Sumter Neighborhood Cleanup project 12.4 tons of debris and 310 tires collected.	South Sumter area, Sept. 12, 2009	30	New Beginnings Community Group
City of Sumter	Bowman Drive Area Community Clean-up 193 tires, 24 tons of yard debris, and 1.8 tons of metal collected.	Bowman Dr. area, Sumter, May 29-30, 2009	25	Misc. Volunteers
City of Sumter	North Main Street Area Cleanup, as part of the Palmetto Pride Campaign 230 bags of litter and 71 tires were collected.	North Main St. area, Sumter, April 4-16, 2009	110	Crosspoint Baptist and Alice Drive Baptist Churches, Palmetto Pride
Clemson Extension	Multiple Community Cleanups. Three groups volunteered to conduct 6 cleanups each. 400 bags of litter collected, at 20 pounds per bag.	18 clean-ups, throughout the year	75	Girl Scouts, FFA Students of Lakewood High, Sumter Teen Coalition



SCDHEC guidelines for improving water quality not only call for education but also for public involvement and participation. Cleanups are an opportunity for the general public to get involved in their watershed and see an immediate impact on the environment from their participation. Removing litter from roadways keeps it out of streams and rivers, and opens people's eyes to the problems facing water quality. Although people see litter along the road every day, they may not realize the true volume until they pick it up with their own hands.



## Totals

*240 volunteers*  
*25 days of work*  
*574 tires*  
*89,000 pounds of litter and debris*





# Youth & Teachers

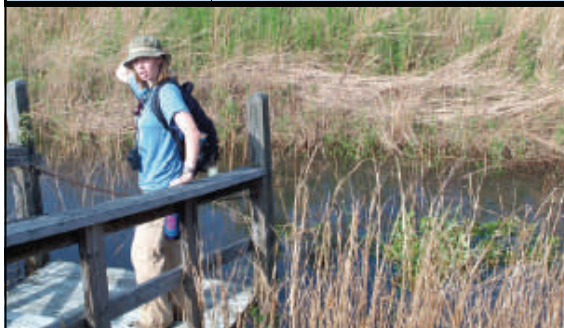
Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Sumter Conservation District	Boy Scout Environmental Science Badge Workshop	American Legion Post 15, Sumter, May 28, 2009	35	N/A

At an Environmental Science Badge Workshop, for Boy Scout Troop 339 of the American Legion Post 15, scouts participated in an EnviroScape watershed model demonstration to help explain vocabulary words such as watershed and point & non-point source pollution, which they were required to know in order to complete the land and water pollution segment of their badge.

Right: Ryan uses a squirt bottle to replicate a storm event and demonstrate how pollutants such as fertilizer, pesticides, sediment, and fecal bacteria leave a farm site through stormwater runoff.



Carolina Clear, Sumter Conservation	"Elementary Science for Early and Middle Childhood Classrooms" graduate course for teachers	Pocalla Springs Elementary, June 10, 2009	24	Sumter School Districts 2 & 17, SCDNR
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At this free two-week course, teachers from Sumter School Districts 2 and 17 learned exciting ways to bring hands-on activities into their science lessons. Water was a major theme at this year's course. Carolina Clear presented the EnviroScape, and teachers visited barrier island and Carolina Bay ecosystems. They also received certification in Project Learning Tree from the SC Forestry Commission and in Project WILD Aquatic from SCDNR staff. Both are teaching curricula focusing on integrating environmental education and hands-on learning into required standards. Teachers left the workshop with over \$300 in classroom materials and 3 hours of graduate credit.

*"This course has re-invigorated me and renewed my desire to share with our young children the beauty and complexity of our world and how to keep it that way!"*

*- Sean McCaffrey,  
4th grade teacher,  
High Hills  
Elementary  
School, Sumter,  
SC*





# Youth & Teachers

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
SC Department of Natural Resources	South Carolina Envirothon Competition	Clemson Sanhills REC, Columbia, SC, May 1 2008	100	Sumter Conservation District



The EcoKnights of Crestwood High School were one of three teams representing Sumter County.



At the Forestry Station, the AgriKnights of Crestwood High School work together to complete their challenge.

The annual Envirothon is both a state and national competition for high school students. The South Carolina Envirothon is hosted by the SC Department of Natural Resources (SCDNR), and the teams are sponsored by the South Carolina Soil & Water Conservation Districts. The winning team from the state competition competes on the national level. On May 1, 2009, the Sumter Conservation District sponsored two teams from Crestwood High School and one team from Lakewood High School. The teams competed in six different subject area stations: aquatics, forestry, soils, wildlife, current events, and oral presentations. The winning teams go on to represent South Carolina in the National Envirothon.



Students head down to the Aquatics Station.





# Youth & Teachers

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Sumter Conservation District	Coastal Carolina Adventure	Moncks Corner, SC, Oct. 24-26, 2008	3	Berkley Soil and Water Conservation District
Sumter Conservation District	South Carolina Institute for Natural Resource Conservation	Greenwood, SC, June 8-12, 2009	1	Lander University, SCDNR



Local partnerships can open doors to participation in state-wide initiatives. In Fall 2008, the Sumter Soil and Water Conservation District sponsored three students to attend the Coastal Carolina Adventure Program, hosted by the Berkley Conservation District. At this weekend camp, seventy 9th and 10th grade students learn what keeps our water supplies clean, our

rivers healthy, and our marine resources thriving, as they canoed on Lake Moultrie, explored salt marshes and cypress swamps, toured a water/sewer treatment plant, and trawled for marine life aboard the Education Vessel Discovery.

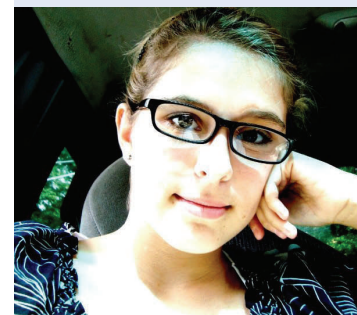


The Conservation District also sponsored a student to represent Sumter County at the South Carolina Institute for Natural Resource Conservation, a weeklong summer experience for 11th and 12th grade students at Lander University and supported by the SC Department of Natural Resources. Seventy-five students from across the state participated in activities including kayak and canoe trips, mining expeditions, and a white water float trip on a local river. Students took an exam to receive 1 hour of college credit, and scholarships were awarded to those students scoring highest on the exam. Since SCINRC began in 1967, over \$80,000 in college scholarships have been awarded through the "Institute."

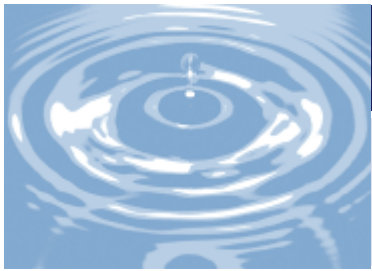


*"Planning to major in marine biology, I attended SCINRC to learn as much as possible before college. One important thing that I took away from this experience is that ONE person can make a difference in affecting our water supplies, negatively or positively."*

*- Kandler Boney, Graduating Senior in May of 2010, Sumter High School.*







# Elected & Appointed Officials

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Sumter County, BP Barber	Presentation to Sumter County Council on stormwater issues	Sept. 8, 2009, Council Chambers	12	N/A
City of Sumter, BP Barber	Presentation to City Council on MS4 program and stormwater utility	Sept. 15, 2009, Council Chambers	30	N/A

Municipal leaders are the first link in the chain for establishing stormwater policy. One objective of Solutions is to reach out to local decision makers and provide them with the information that they need to set sound policy on stormwater management, community planning, regulation of development, and other issues affecting water quality. The initial driver for the Carolina Clear program was the designation of municipalities and counties throughout the state as MS4's (Municipal Separate Storm Sewer Systems) responsible for regulating the quality of water entering South Carolina waterways from storm sewers and drainage ditches.





# Professionals: Contractors & Engineers

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Clemson University	Consulting from Clemson Professors on Stormwater Best Management Practices for Patriot Park	Patriot Park, Sumter, April 2009	5	Sumter County
Sumter County	Municipal Storm Water Pollution Prevention for Detention Center Employees	Sumter-Lee County Regional Detention Center, Feb. 4, 2009	34	N/A
Sumter County	Extended Dry/Wet Pond Design Workshop for Consulting Firms	Sumter County Administration Bldg, March 3, 2009	12	N/A

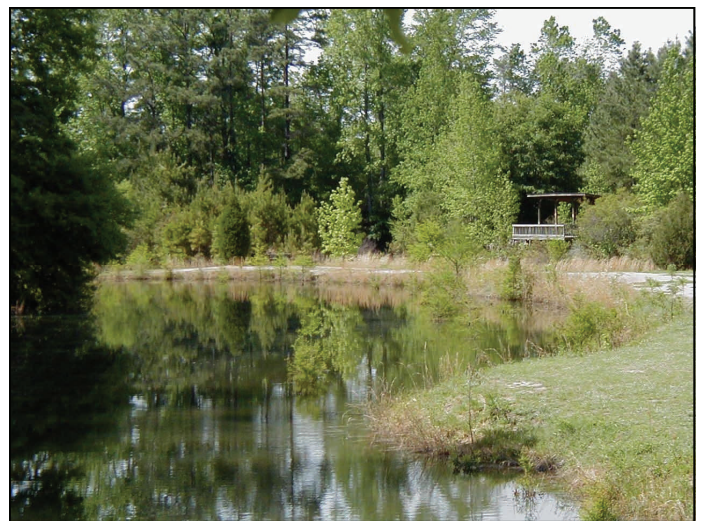


Erosion from parking lot run-off at Patriot Park

During the Spring of 2009, two professors from Clemson University visited Patriot Park in Sumter to offer their expertise in managing stormwater issues. Run-off from a large parking lot and many athletic fields is resulting in erosion and standing water in several places at the new park. Dr. Sarah White and Dr. Anand Jayakaran provided Sumter County staff a with number of best management practices (BMP's) that they recommended for controlling this stormwater runoff. These BMP's included a constructed wetlands, floating vegetated islands, gully control measures, and bioswales with under-drains. Currently, the constructed wetland is being implemented, and plans for implementing the other recommended control measures are being considered.

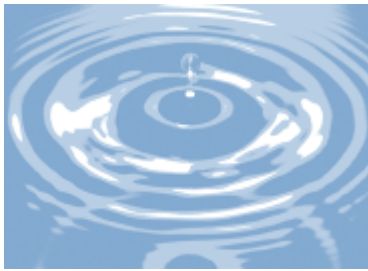
Sumter County staff conducted an employee training for the Sumter-Lee County Regional Detention Center on municipal stormwater pollution prevention in February. Participants learned about best management practices for good housekeeping, outdoor material storage, spill response, vehicle and equipment fueling and repair, outdoor manufacturing and maintenance and waste management.

Sumter County also held a workshop on extended dry/wet pond design in the format of a round table meeting attended by *all* of the consulting firms within Sumter County who had submitted Storm Water Pollution Prevention and Erosion Control Plans for approval by the City or County. The discussion covered design standards for extended dry/wet ponds to meet water quality requirements.



Pond at Cypress Park, Sumter County





# Professionals: Contractors & Engineers

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Clemson	Conduct Certified Erosion and Prevention & Sediment Control and Inspector Program (CEPSCI) and give examinations for certification	Columbia, SC, 3 courses conducted during the year.	176	DHEC and DOT
Carolina Clear	Development and distribution of "Stormwater Permit for Construction Activities" brochure, through Sumter Planning Office	Summer and Fall 2009	50 brochures	Sumter County/City Planning

## Protecting South Carolina's streams and lakes

By Tom Lollis

Construction contractors are learning to protect the state's valuable water resources through Clemson Extension training programs. These programs teach best management practices to prevent erosion on construction sites and to keep sediment out of streams and lakes.

"If sediment is not contained, it can reduce water clarity, smother aquatic habitat and carry pollutants into surface water," said John Hayes, Clemson professor of agricultural and biological engineering.

One program, S.C. Clear Water Contractor, teaches construction industry and state agency personnel the practices needed to comply with federal and state regulations on construction site runoff.

A second program began last fall at the request of the S.C. Department of Health and Environmental Control (DHEC). This program certifies inspectors to ensure that erosion prevention and sediment control practices are in effect on construction sites greater than one acre, as required by federal regulations. Clemson University is the only organization in the state providing the training needed for certification.

The inspectors' program teaches the most effective erosion and sediment control practices for various types of terrain. Instructors use digital video to teach inspectors how to review grading plans and use actual grading plans to teach best management practice details and how to conduct effective field inspections.

"We don't have the capacity to educate every



Cal Sawyer inspects a construction site for compliance with erosion prevention practices to water quality in the state's streams and lakes.

single person in construction in the state," said Cal Sawyer, Clemson Extension water quality coordinator. "That could be tens of thousands of people. By educating the inspectors, however, Clemson connects to every regulated construction site in the state."

Dwayne Creel, DHEC's manager of the Stormwater, Agricultural and Dams and Reservoir Safety Permitting Section, agrees. "This is a perfect example of state agencies working together. Clemson organized the coursework and written certification exam with the help of DHEC, the office of Ocean and Coastal Resource Management and the S.C. Department of Transportation."

More than 1,000 inspectors and 800 construction professionals have been trained in these programs since 2003. Jason Gillespie, stormwater management director for Greenville County, has seen a striking difference in erosion control measures as a result of these programs. "Ignorance of the law is no excuse, but until these programs, it was a reality on a lot of sites," he said.

For more information: [www.ces.clemson.edu/t3s/cepisci/](http://www.ces.clemson.edu/t3s/cepisci/)

## Stormwater Permits for Construction Activities



Photo by Cal Sawyer



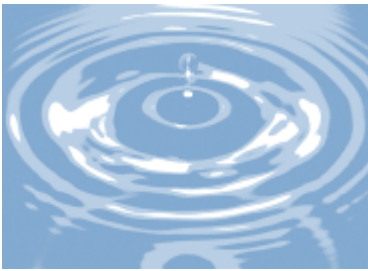
The information presented in this brochure is general guidance as to what necessitates a stormwater permit for construction sites in South Carolina. Local regulations may be more specific and should always be consulted.

CEPSCI COURSES HELD		
Date	Location	Number Attended
October 23, 2008	Columbia	59
March 4, 2009	Columbia	49
June 23, 2009	Columbia	68
<b>Total:</b>		<b>176</b>



A complete profile of the CEPSCI program and where to go for further information is included in Appendix C.





# Homeowners

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Sumter Extension Service	Master Gardener Training	January, 2009	33	Sumter Master Gardeners
Sumter Master Gardeners	Rain Garden Installation, Demonstration, and Advanced Master Gardener Training	Sumter County Public Works April 20, 2009	36	Sumter County

Rain Gardens have become a popular topic for homeowners since they can be seen as a beautification project and at the same time reduce pollutant runoff coming from non-pervious surfaces. The new installation at Sumter County Public Works collects runoff from a county vehicle fueling station, giving pollutants a chance to infiltrate and break down, and preventing erosion.



Clemson University Public Service Activities  
Carolina Clear  
November 2008

## RAIN GARDENS

A RAIN GARDEN MANUAL FOR SOUTH CAROLINA

### GREEN SOLUTIONS TO STORMWATER POLLUTION

As development increases, so does the area of impervious surface. Impervious surfaces include roadways, rooftops, parking lots and sidewalks. Without planning and appropriate management, water that runs over these surfaces picks up pollutants along the way and carries them directly to our lakes, rivers and estuaries. These pollutants include bacteria, nutrients, litter, sediment, oils and metals. Water that heats up on parking lots and roadways also can lead to warmer than normal water entering nearby waterways. This runoff, called "stormwater," is generated by precipitation, snow melt and irrigation water that runs off the land. Stormwater is the greatest threat to our nation's surface waters.

As well as creating hard surfaces where pollutants can be washed into waterways, impervious surfaces also prevent the natural infiltration process that occurs in forests, fields and open areas. Instead of adding to the groundwater supply, stormwater flushes the landscape, often leading to increased flooding, erosion, sedimentation and damage to wetlands, ecosystems and waterways.

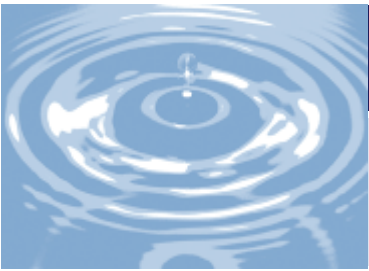
Rain gardens have become a popular and attractive method for property owners to decrease the impact of their impervious surfaces. Rain gardens are landscaped depressions that receive stormwater runoff and allow the runoff to slowly infiltrate to the groundwater table. As well as intercepting stormwater runoff that could have added to flooding problems, the rain garden allows nature to play a role, removing some of the pollutants that would have otherwise affected water quality. During infiltration, plants use excess nutrients for growth, sediment is trapped in the garden and biological processes remove pathogens. Dissolved metals and nutrients bind or adsorb to soil particles, and are removed temporarily out of the system. Rain gardens, like any garden, also become habitat for bees, birds and butterflies.

Many other stormwater management techniques address only a portion of the problems caused by stormwater runoff. Rain gardens, however, have the potential to solve all of the problems of stormwater runoff before they occur.

Kevin Beutell, Stormwater, October 2008

The Clemson Master Gardener program begins as an in-depth training course on plants, pests, landscaping, and gardening, with an emphasis on using research-based principles to minimize environmental impact and work with nature, not against it. The course includes information on managing stormwater and responsible fertilizer and pesticide use. After training, master gardeners serve as volunteers in their communities and at Extension offices to share their specialized knowledge with others.

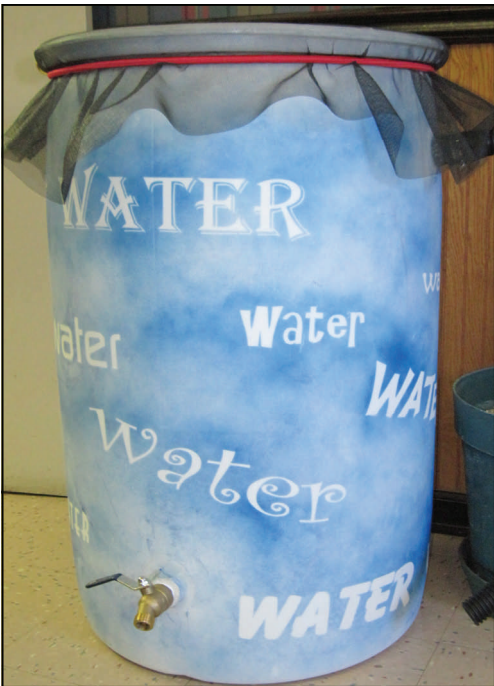




# Homeowners

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Carolina Clear	Build a Rain Barrel Workshop	Sumter County Public Works, August 21, 2009	21	Sumter County, Sumter County Extension Service

At this summer workshop, 21 homeowners built their own rain barrels for use at their own homes. Participants learned about stormwater issues, and how rain water harvesting not only saves money, but also prevents pollution by holding back some of the volume of water that would otherwise wash across their lawns and streets carrying pollution and causing erosion. Participants were encouraged to decorate their barrels and make them a visible feature in their yards. In a follow-up email survey, participants told us how they were using the water from their barrels. Uses include watering plants both indoors and outdoors, mopping floors, and more.



Sherry Posey with Sumter County Public Works built and decorated this barrel, which was used as a focal point of the Public Works display at the Sumter County Fair, then raffled off during the fair.



Linda Mungia uses her colorful barrel to water plants in her greenhouse.



## Homeowners

# Commercial Citizens

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Sumter County Extension	Private Pesticide Applicator Training Program	Sumter County Library, February 18, 2009	27	N/A

The Private Pesticide Applicator Training Program is an eight-hour course required for certification as a Private Applicator in South Carolina. This certification is necessary to purchase Restricted Use Pesticides for controlling pests for agricultural purposes, including farms, nurseries, greenhouses, and golf courses. The average homeowner generally does not need restricted use pesticides, as they are the strongest formulations and have the most potential to cause harm to the environment.



Billbug on corn: a common agricultural pest in South Carolina. Photo credit: Clemson University



Private businesses are a target audience that will receive more focus in the upcoming year. Future programs for this group may include presentations for the Chamber of Commerce and a business recognition program. This program will recognize businesses and non-profits which take steps to improve water quality, either through implementing best management practices at their locations or through activism in their communities. This includes businesses that directly impact stormwater, such as lawn-care and pest control companies, as well as all other businesses which, like homeowners, indirectly affect water quality through run-off from their roofs and parking lots, use of chemicals like cleaners and paint, and other impacts.





# Conclusions for Year 1 (08-09)

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Carolina Clear	Sumter Stormwater Solutions Planning Meetings	4 business meetings, North Hope Center	varied members per meeting	All MS4's and Educational Partners



*"Coming together is a beginning.  
 Keeping together is progress.  
 Working together is success."*

*- Henry Ford*



The focus of year 1 was to develop a unique and meaningful identity with which Sumter County and City residents could connect. Sumter is rural at its heart, and so its population feels a strong connection to the earth and water, as evidenced by their beloved Swan Lake Iris Garden and flowing fountains throughout the downtown. In distinguishing itself from the other Carolina Clear regional consortiums, the Sumter team elected to call itself Sumter Stormwater Solutions to communicate their mission to be a resource for the community to learn to solve the Sumter area's water quality issues. The organization's logo, currently in development, will reflect a rural feel, and visually emphasize the link between stormwater and drinking water.

In developing the first year education plan, Solutions members took a combined approach. First, they identified education programs in the area that were already established and successful, such as the Conservation District's environmental programs for schools and teachers and the Sumter County Extension Service's programs for homeowners, centered around the Master Gardeners program. Once that was achieved, the group focused on presenting a few key activities to raise public awareness of stormwater issues. They chose a rain garden installation at Sumter County Public Works and a Rain Barrel workshop for homeowners. The intention was to draw in homeowners and build a sense of community, stewardship, and beautification throughout the city and county.

In the upcoming year, Solutions will continue to identify partners with an interest in water quality and stormwater education, in order to broaden the scope of our programs and expand our audience. Data from Year 1 will be used to evaluate the effectiveness of our efforts, and to ensure that Solutions education measures are comprehensive in terms of target audiences and target pollutants.

## Conclusion



# Conclusions for Year 1 (08-09)

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Carolina Clear	Drafted Year 1 Education Plan of Work	August 2009	13	All Solutions members
Carolina Clear	Defined Solutions Mission and Goals	October 2009	9	All Solutions members
Carolina Clear	Designed Solutions logo	In progress		All Solutions members

As we move forward into the new year Solutions anticipates an expanded media campaign to include widespread radio messages, billboards on major highways, and increased traffic on our Carolina Clear regional website. Because Solutions' parent organization Carolina Clear is statewide and a program of one of South Carolina's primary research universities, Solutions enjoys increased leverage for advertising purposes and media coverage, and resources for producing messages far beyond those of individual counties and municipalities. Solutions also possesses the advantage of being able to model its programs after those of more established Carolina Clear stormwater education consortiums, such as the Costal Waccamaw Stormwater Education Consortium, Ashley Cooper Stormwater Education Consortium, and Lexington Countywide Stormwater Consortiums. Building on their successes and learning from their trials, Solutions will in turn give guidance to newer consortiums such as the Florence Darlington Stormwater Consortium.

Sumter Stormwater Solutions remains committed to public education and outreach through helping citizens understand stormwater issues while involving them directly in efforts to reduce stormwater pollution within our watershed. Together the citizens, businesses, organizations, and governments in the Sumter area can achieve far more than could be accomplished individually, working towards the common goal of protecting water quality for the people and the environment.

*Sumter Stormwater Solutions*

*Don't let a good drop go bad...*

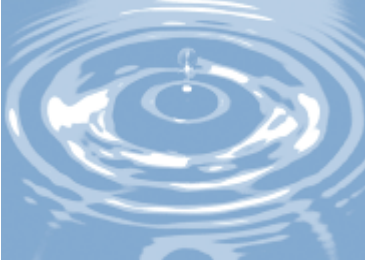


Planting a bright future for water quality.

## Conclusion

2008-2009 Annual Report  
Sumter Stormwater Solutions





# Appendix A - Memorandum of Understanding

## **Memorandum of Understanding**

**between**

**CLEMSON UNIVERSITY**

**and**

**SUMTER COUNTY**

WHEREAS, Clemson University (hereinafter, CLEMSON) possesses in its Extension faculty and staff various levels of expertise concerning stormwater compliance requirements as promulgated by SC DHEC and USEPA, and

WHEREAS, Sumter County (Sumter), a body politic and corporate and a political subdivision of the State of South Carolina, (hereinafter SUMTER) is desirous of obtaining access to education and public awareness of stormwater; and

WHEREAS, Clemson University has developed an environmental program (Carolina Clear), portions of which apply to the impact of stormwater on natural resources;

THEREFORE, be it resolved that since one of the goals of the Carolina Clear program is to educate people about the impacts of stormwater and since this program provides educational opportunities to address a broad range of water quality issues including the impact of stormwater on natural resources, Clemson and Sumter will collaborate to address stormwater education. Carolina Clear is a comprehensive approach developed by Clemson University Cooperative Extension Service to inform and educate communities about, among other issues, water quality, water quantity and the cumulative effects of stormwater. Carolina Clear addresses the special significance of South Carolina's water resources and the role these resources play in the state's economy, environmental health, and overall quality of life.

In order to help Sumter satisfy the Public Education and Outreach Minimum Control Measure as required by the EPA Phase II Storm Water Program, the Clemson University Cooperative Extension Service (CUCES) proposes to utilize selected components of the Carolina Clear program in order to

- Implement a public education program to distribute education materials to Sumter, or conduct equivalent outreach activities about the impacts of stormwater and the steps that can be taken to reduce storm water pollution; and



# Appendix A - Memorandum of Understanding

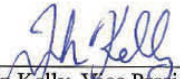
- Determine the appropriate public awareness campaign with Sumter. Some program implementation approaches, BMPs (i.e., the program actions/activities), and measurable goals are contained in the individual agreement and seek to
  - Form partnerships,
  - Use education materials and strategies, and
  - Reach diverse audiences.

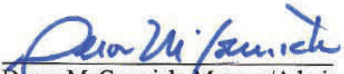
In order to satisfy the Public Participation/Involvement Minimum Control Measure, the Clemson Cooperative Extension Service proposes to

- When asked and as appropriate, assist local entities with complying with applicable local public notice requirements,
- Provide program accountability measures which provide feedback and reporting data to include number of people contacted, publications produced and distributed, and other specifics as appropriate, and
- Other programs and measures as specified in the Contractual Agreement.

Because each agreement is unique to the requirements of the circumstances, Clemson and Sumter agree that the specific metrics of each contract shall be individually negotiated and delineated in the Contractual Agreement. Neither party has any responsibility for any performance obligations except as indicated in a subsequently negotiated Contractual Agreement.

This Memorandum of Understanding will commence upon the date of the signature of the last party to this contract and will run thereafter for a period of five (5) years from the date of the last signature. The parties may agree in writing to extend this agreement for an additional 5-year period, provided such agreement is executed no later than 30 days prior to the expiration of this contract. No amendments, changes or modifications will be effective until and unless reduced to writing and signed by the parties. Either party may cancel this agreement upon the giving of 30 days written notice.

  
 \_\_\_\_\_  
 John Kelly, Vice President  
 Clemson University PSA  
 11/7/08  
 \_\_\_\_\_  
 Date

  
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 Deron McCormick, Manage/Admin.  
 City of Sumter  
 8/4/08  
 \_\_\_\_\_  
 Date

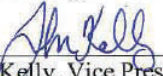
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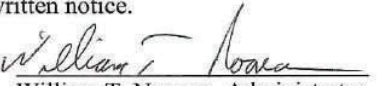
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 John Kelly, Vice President  
 Clemson University PSA  
 11/7/08  
 \_\_\_\_\_  
 Date

  
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 William T. Noonan, Administrator  
 Sumter County  
 10-6-08  
 \_\_\_\_\_  
 Date



# Appendix B - Education Plan of Work

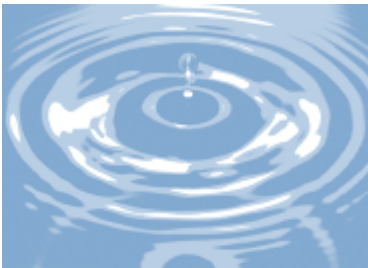
Drafted at the consortium meeting in May 2009, and finalized at the second meeting in August, the Education Plan is a valuable tool for visualizing a year's worth of education efforts. As a living document, it is constantly updated as programs are completed and new opportunities and ideas develop. Appendix B1 shows the Year 1 Education Plan updated to the end of the permit year, with delivery dates, participation data, and assessment information. Activities not completed in the Year 1 period (shown with delivery dates and impact numbers blank) have been carried over into the second year of work. Appendix B2 shows the new education plan developed for the 2009-2010 reporting year. The latest version of the Education plan is made available to the public for download at [http://www.clemson.edu/public/carolinaclear/consortiums/sumter\\_home/about.html](http://www.clemson.edu/public/carolinaclear/consortiums/sumter_home/about.html).

**Table 4. Year 1 Education Plan of Work, Page 1**

ADAPTIVE Stormwater Education Plan		Year 1 (2008-09) - Sumter Stormwater Solutions										Living Document (last updated 11/14/09)					
Lead Service Provider	Activity	Target Geography/ Land Use	Target Pollutant(s)										Participation by other Service Providers	Location and Date Delivered	Number Impacted/ Reached	Assessment Type	
			General Stormwater Awareness	Bacteria	Toxic Contaminants, petroleum products, pesticides, heavy metals	Sediment	Nutrients	Pollutants resulting in low Dissolve Oxygen	Debris	Temperature	Other						
<b>General Public</b>																	
Sumter Extension Service	Water Quality articles written for the Sumter <i>Item</i>	Sumter County	x		x	x	x								Multiple throughout the year	33000	None
Soil & Water Conservation District	Conservation District Annual Report	Sumter County	x	x	x	x									Electronic distribution, Jan. 1, 2009	2000	None
City of Sumter	North Main Street Area Cleanup, as part of the Palmetto Pride Campaign	City of Sumter	x		x						x			Crosspoint Baptist and Alice Drive Baptist	North Main Street area, Sumter, April 4-16, 2009	110	None
Soil & Water Conservation District	Display at Sustainable Sumter Earth day Celebration	Sumter County	x	x	x	x	x				x			City of Sumter	Swan Lake Iris Gardens, April 25, 2009	550	Feedback
Carolina Clear	Sumter Stormwater Solutions Website	Statewide	x	x	x	x	x				x				Ongoing from May 2009	232	None
City of Sumter	Bowman Drive Area Community Clean-up	City of Sumter	x		x						x				Bowman Dr., Sumter, May 29-30, 2009	25	None
Soil & Water Conservation District	Stormwater-related newsletter articles	Sumter County	x		x	x						x	pH		Countywide, June 3 & Aug. 6, 2009	1920	None
Carolina Clear	Slides on Public Access Television	Statewide	x												Ongoing from Spring 2009	not available	None
Carolina Clear	Radio Commercials	Midlands	x												93.1 FM, Ongoing from June 2009	not available	None
Carolina Clear	Television Commercial on Time Warner Cable	Statewide	x	x	x		x								Ongoing from August 2009	not available	None

Continued.....





# Appendix B - Education Plan of Work

Table 4. Year 1 Education Plan of Work, Page 2

ADAPTIVE Stormwater Education Plan		Year 1 (2008-09) - Sumter Stormwater Solutions											Living Document (last updated 11/14/09)					
Lead Service Provider	Activity	Target Geography/ Land Use	Target Pollutant(s)											Participation by other Service Providers	Location and Date Delivered	Number Impacted/ Reached	Assessment Type	
			General Stormwater Awareness	Bacteria	Toxic Contaminants, petroleum products, pesticides, heavy metals	Sediment	Nutrients	Pollutants resulting in low DO	Dissolve Oxygen	Temperature	Other							
<b>General Public</b>																		
City of Sumter	South Sumter Neighborhood Clean-up	City of Sumter	x		x										New Beginnings Community Group	South Sumter area, Sept. 12, 2009	30	None
Sumter Extension Service	Multiple Community Cleanups	Sumter County	x													18 clean-ups, throughout the year	75	None
Sumter County Public Works, Carolina Clear	Sumter County Fair	Sumter County	x	x	x	x	x								Conservation District, Master Gardeners	Fair Grounds, Sept. 29 - Oct 3, 2009	10000	None
Carolina Clear	Tax bill inserts	Sumter County	x															
Sumter Master Gardeners	Iris Festival	Sumter County	x															
<b>Youth / K-12 / Teachers</b>																		
Soil & Water Conservation District	Coastal Carolina Adventure	Statewide	x	x	x	x	x									Pinopolis, SC Oct. 24-26, 2008	3	Exam
SCDNR	South Carolina Envirothon	Statewide	x	x	x	x	x								Soil & Water Conservation District	Columbia, SC May 1, 2009	100	Exam
Soil & Water Conservation District	Boy Scout Environmental Science Badge Workshop	Sumter County	x	x	x	x	x									American Legion Post 15, Sumter, May 28, 2009	35	Feedback
Soil & Water Conservation District	South Carolina Institute for Natural Resource Conservation	Statewide	x	x	x	x	x								Lander University	Greenwood SC, June 8-12, 2009	1	Written Post-survey
Soil & Water Conservation District	"Elementary Science for Early and Middle Childhood Classrooms" graduate course for teachers	Sumter County	x	x	x	x	x								Carolina Clear	Pocalla Springs ES, June 10, 2009	24	None
Carolina Clear	4H2O Pontoon Classroom	Sumter County	x	x	x	x	x	x	x	x								
Soil & Water Conservation District	Mini-Envirothon for Sumter County, including student training with schools														Carolina Clear			

Continued.....



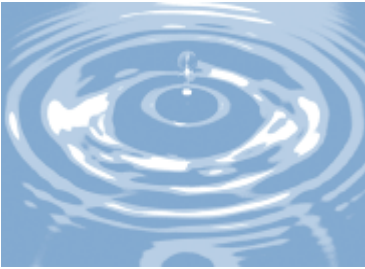
# Appendix B - Education Plan of Work

Table 4. Year 1 Education Plan of Work, Page 3

ADAPTIVE Stormwater Education Plan		Year 1 (2008-09) - Sumter Stormwater Solutions										Living Document (last updated 11/14/09)					
Lead Service Provider	Activity	Target Geography/ Land Use	Target Pollutant(s)										Participation by other Service Providers	Location and Date Delivered	Number Impacted/ Reached	Assessment Type	
			General Stormwater Awareness	Bacteria	Toxic Contaminants, pesticides, heavy metals	Sediment	Nutrients	Pollutants resulting in low Dissolve Oxygen	Debris	Temperature	Other						
<b>Elected and Appointed Officials and High-Level Staff</b>																	
Sumter County	Presentation to County Council on stormwater issues	Sumter County	x												Sept. 8, 2009, Council Chambers	12	None
BP Barber, City of Sumter	Presentation to City Council on MS4 program and stormwater utility	City of Sumter	x												Sept. 15, 2009, Council Chambers	30	None
Carolina Clear	Nemo (Non-point Education for Municipal Officials) presentations	Sumter County	x										SC Sea Grant, KMB				
<b>Professionals: Contractors, Engineers, Developers, Landscape Architects</b>																	
Clemson	Certified Erosion Prevention and Sediment Control Inspector training	Sumter County	x			x									Columbia, SC, 3 dates throughout the year	176	Exam
Sumter County	Municipal Storm Water Pollution Prevention for Sumter-Lee County Regional Detention Center Employees	Sumter County	x		x						x				Sumter-Lee County Regional Detention Center, Feb. 4, 2009	34	Written Post-survey
Sumter County	Extended Dry/Wet Pond Design Workshop for Consulting Firms	Sumter County	x			x									Sumter Co. Administration Bldg, March 3, 2009	12	None
Clemson	Consulting on Stormwater Management for Patriot Park	Sumter County	x		x	x							Sumter County	Patriot Park, Sumter, April 2009	5	None	
Carolina Clear	"Stormwater Permit for Construction Activities" brochure	Sumter County	x	x	x	x									Distributed through Sumter Planning Office, Summer and Fall 2009	50	None
Carolina Clear	Breakfast series with vendor presentations	Sumter County															
	Technical Luncheon for local engineers																

Continued.....





# Appendix B - Education Plan of Work

Table 4. Year 1 Education Plan of Work, Page 4

ADAPTIVE Stormwater Education Plan		Year 1 (2008-09) - Sumter Stormwater Solutions										Living Document (last updated 11/14/09)					
Lead Service Provider	Activity	Target Geography/ Land Use	Target Pollutant(s)										Participation by other Service Providers	Location and Date Delivered	Number Impacted/ Reached	Assessment Type	
			General Stormwater Awareness	Bacteria	Toxic Contaminants, petroleum products, pesticides, heavy metals	Sediment	Nutrients	Pollutants resulting in low Dissolve Oxygen	Debris	Temperature	Other						
<b>Homeowners &amp; Homeowner Associations</b>																	
Sumter Extension Service	Master Gardener Training	Sumter County	x		x	x	x							Sumter Master Gardeners	January 2009	33	Exam
Sumter Master Gardeners	Rain Garden Installation	Sumter County	x	x		x	x	x	x		infiltration				Sumter Public Works, April 20, 2009	36	Written Post-survey
Carolina Clear	Rain Barrel Workshop	Sumter County	x			x									Sumter County Public Works, Aug. 21, 2009	21	Written Post-survey
	Presentations to Home Owners Associations																
	Presentation to Lake Marion Boaters Association																
<b>Commercial Citizens (Landscapers and Agriculture Sector)</b>																	
Sumter Extension Service	Private pesticide applicator training				x										Sumter County Library, Feb. 18 2009	27	Pre- and Post-Exams
	Presentation for Chamber of Commerce																



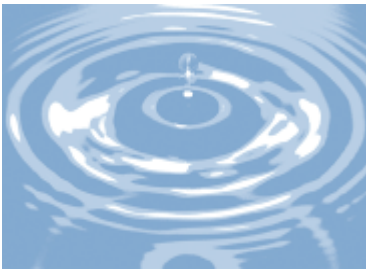
# Appendix B - Education Plan of Work

Table 5. Year 2 Education Plan of Work, Page 1

ADAPTIVE Stormwater Education Plan		Year 2 (2009-2010) - Sumter Stormwater Solutions										Living Document (last updated 11/14/09)	
Lead Service Provider	Activity	Target Geography/ Land Use	Target Pollutant(s)										Participation by other Service Providers
			General Stormwater Awareness	Bacteria	Toxic Contaminants, pesticides, heavy metals	Sediment	Nutrients	Pollutants resulting in low Dissolve Oxygen	Debris	Temperature	Other		
<b>General Public</b>													
Sumter Extension Service	Water Quality articles written for the Sumter <i>Item</i>	Sumter County	x		x	x	x						
Soil & Water Conservation District	Conservation District Annual Report	Sumter County	x	x	x	x							
Soil & Water Conservation District	Display at Sustainable Sumter Earth day Celebration	Sumter County	x	x	x	x	x		x				City of Sumter
Carolina Clear	Sumter Stormwater Solutions Website	Statewide	x	x	x	x	x		x				
Soil & Water Conservation District	Stormwater-related newsletter articles	Sumter County	x		x	x				x		pH	
Carolina Clear	Slides on Public Access Television	Statewide	x										
Carolina Clear	Radio Commercials	Midlands	x										
Carolina Clear	Television Commercial on Time Warner Cable	Statewide	x	x	x		x						
City of Sumter, Sumter Extension Service	Sumter Neighborhood Clean-ups	City of Sumter	x		x				x				
Carolina Clear	Tax bill inserts	Sumter County	x										
Sumter Master Gardeners	Iris Festival	Sumter County	x										
Sumter County Public Works	Sumter County Fair	Sumter County	x	x	x	x	x		x				
<b>Youth / K-12 / Teachers</b>													
Soil & Water Conservation District	Coastal Carolina Adventure	Statewide	x	x	x	x	x		x				
Soil & Water Conservation District	Mini-Envirothon for Sumter County, including student training with schools	Sumter County											Carolina Clear, DNR
SCDNR	South Carolina Envirothon	Statewide	x	x	x	x	x		x				Soil & Water Conservation District
Soil & Water Conservation District	South Carolina Institute for Natural Resource Conservation	Statewide	x	x	x	x	x		x				Lander University
Soil & Water Conservation District	"Elementary Science for Early & Middle Childhood Classrooms" graduate course for teachers	Sumter County	x	x	x	x	x		x	x			Carolina Clear
Carolina Clear	4H2O Pontoon Classroom	Sumter County	x	x	x	x	x	x	x	x			

Continued.....





# Appendix B - Education Plan of Work

Table 5. Year 2 Education Plan of Work, Page 2

ADAPTIVE Stormwater Education Plan		Year 2 (2009-2010) - Sumter Stormwater Solutions										Living Document (last updated 11/14/09)	
Lead Service Provider	Activity	Target Geography/ Land Use	Target Pollutant(s)										Participation by other Service Providers
			General Stormwater Awareness	Bacteria	Toxic Contaminants, pesticides, heavy metals	Sediment	Nutrients	Pollutants resulting in low Dissolve Oxygen	Debris	Temperature	Other		
<b>Elected and Appointed Officials and High-Level Staff</b>													
Carolina Clear	Nemo (Non-point Education for Municipal Officials) presentations	Sumter County	x									SC Sea Grant, KMB	
<b>Professionals: Contractors, Engineers, Developers, Landscape Architects</b>													
Clemson	Certified Erosion Prevention and Sediment Control Inspector training	Sumter County	x			x							
Clemson	Stormwater BMP Workshops at Patriot Park	Sumter County	x		x	x						Sumter County	
Carolina Clear	Breakfast series with vendor presentations	Sumter County											
Sumter Conservation District, Sumter County	Stormwater Basics Workshop	Sumter County	x			x							
	Technical Luncheon for local engineers	Sumter County											
<b>Homeowners &amp; Homeowner Associations</b>													
Sumter Extension Service	Master Gardener Training	Sumter County	x		x	x	x					Sumter Master Gardeners	
Carolina Clear	Rain Barrel Workshop	Sumter County	x			x							
	Presentations to Home Owners Associations	Sumter County											
	Presentation to Lake Marion Boaters Association	Sumter County											
<b>Commercial Citizens (Landscapers and Agriculture Sector)</b>													
	Presentation for Chamber of Commerce	Sumter County											



## Appendix C - CEPSCI Information



Formed only a couple of years ago, the Certified Erosion Prevention and Sediment Control Inspector (CEPSCI) Team has created and implemented a unique program where affected individuals are impacting nearly every construction site greater than one (1) acre throughout South Carolina. Given that developed land area in South Carolina has increased 750,000 acres over a 10-year period and shows an accelerating trend, it is imperative that knowledgeable personnel are assessing the environmental

condition of land disturbance on a consistent basis. CEPSCI-certified individuals have the responsibility to ensure the protection of the State's valuable water resources by taking information, techniques and practices obtained during the course and applying them in field situations.

CEPSCI also serves as a model for fostering new clientele yet following the long-standing traditions of Extension. Research on erosion prevention and sediment control conducted at Clemson University is routinely transferred to the design and construction industry by the most appropriate methods to convey technical information. Recognizing and addressing needs of the construction industry and the enormous economic impact of development in South Carolina was a significant driver of Team activities. The CEPSCI Team included contributing individuals who cut across the academic and public service sectors of the University.

The CEPSCI program has three primary objectives: 1) educate candidates on the proper installation, maintenance, and inspection of erosion prevention and sediment control measures at construction sites; 2) create an interactive forum where participants are informed of new regulatory requirements and their responsibilities related to full compliance; and 3) provide DHEC-approved training and programmatic infrastructure necessary for a robust environmental certification program.

In order to maintain their inspector certification, each individual must complete continuing education courses which will provide additional opportunities for training. This recertification process ensures a continuing relationship between research institutions and the growing construction industry.







## Appendix C - CEPSCI Information

Affected clientele were deeply involved in the development of all aspects of CEPSCI planning. Information on proposed curricula and course delivery was drawn from multiple public and private sector partners including the SC Department of Health and Environmental Control (DHEC), the SC Department of Transportation, the US Environmental Protection Agency, the SC Association of General Contractors, and the SCANA Corporation.

Significant regional and national interest has also been generated through program implementation. Summary presentations have been requested and given in ten (10) states throughout the Country. The CEPSCI course has also opened opportunities for instructors to be interviewed on statewide public radio and television as experts for a forum related to the proposed I-73 corridor construction project. Team members also routinely field inquiries from local and statewide press on a variety of stormwater issues.

Each CEPSCI event is evaluated by participants, and results provide Team members with valuable information used to refine the program. Over 96% of inspector candidates indicate information presented during the course was useful and that they learned something new from the material provided. Further, and perhaps most important, 72% of participants indicate they will begin using the techniques and practices presented to them within one (1) month, and 80% within three (3) months. While some open-ended written comments about the course and the instructors were humorous (“Offer beer and pizza”), others provided insight as to when the program information would be used (“In a New York minute”). Additional responses demonstrated how the program was received (“CEPSCI program is a great venue for governmental, developing, contracting and supply entities to come together and gain common knowledge for the successful completion of today’s construction projects”).

In closing, CEPSCI creates a distinctive opportunity for educated and trained personnel to have their footprint on virtually all significant construction sites in the state for the foreseeable future.

*“Following several planning meetings as early as July 2004, it became apparent that the CEPSCI Team would be able to address our educational needs, due not only to their expertise in erosion mechanics and sediment transport, but also to the logistical infrastructure they brought to the table. Today over 900 SCDOT employees and contractors have participated in the CEPSCI program.”*

*Ray Vaughn*

*Storm Water Manager*

*SC Dept of Transportation*

# Appendix C - CEPSCI Information



## Home Builders Association of South Carolina

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www.hbaofsc.com

*One Vision...One Voice*



October 12, 2006

Dr. Fran Wolak, CCO  
Clemson Cooperative Extension Service  
103 Barre Hall  
Clemson University  
Clemson, SC 29634

Dear Dr. Wolak,

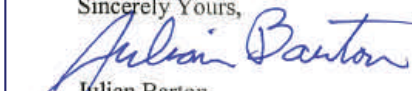
It has come to my attention that the Certified Erosion Prevention and Sediment Control Inspector (CEPSCI) program has been nominated for this year's CU Extension Team Award. I can think of no group more deserving of this honor!

I had the pleasure of working with the CEPSCI team during the recent implementation of the new DHEC Storm Water regulations. During the negotiations with DHEC, we pushed hard to have the CEPSCI certification program included in the regulations to give our builder members other options. This turned out to be one of the best things we ever did. When DHEC finally got the green light to proceed with implementation, there was a mad scramble in the regulated community to get the CEPSCI certification. It was imperative that we get as many home builders certified as quickly as possible.

This is when the CEPSCI team really stepped up to the plate. Working closely with Cal Sawyer we were able to schedule a number of seminars across the state in short order. We worked with CEPSCI to advertise the seminars and the response was tremendous. Every time CEPSCI opened another seminar it was quickly sold out. The CEPSCI team even offered to hold seminars on the weekend! I attended one of the seminars and was impressed with the quality and hands-on-nature of the course. It was clear to me that you really had to know what you were doing to get CEPSCI certification.

Occasionally in our professional lives, we have an opportunity to really step up to the plate and knock a homerun. In the summer of 2006 the CEPSCI team did just that. Their commitment, professionalism and teamwork provided an invaluable service to the home building industry, state government and the citizens of South Carolina. On behalf of the home builders of SC, I whole heartedly support the nomination of the CEPSCI team for the prestigious CU Extension Team Award. They truly are a team!

Sincerely Yours,

  
Julian Barton  
Director of Governmental Affairs  
Home Builders Association of SC