

# Richland Countywide Stormwater Consortium



Year 1

FY 2008-2009

# Annual Report of Activities

September 2009





# Executive Summary

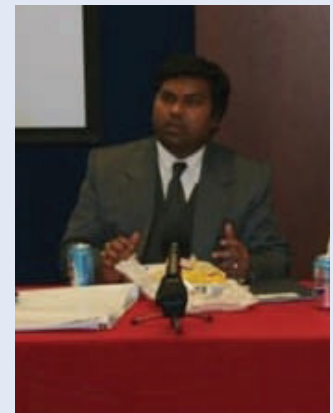
Discussions of a Richland County Stormwater Consortium began in October of 2004. The need for such an organization sprang from a growing concern about water quality in Richland County, accelerated by new EPA mandate to regulate stormwater pollution, which designated certain municipalities as MS4's (Municipal Separate Storm Sewer Systems), requiring they meet guidelines for controlling polluted runoff. Two key components of the new MS4 permits were stormwater education and outreach, and public involvement and participation. The original concept was a Midlands stormwater education consortium, to include Lexington and Richland Counties, the City of Columbia, and smaller municipalities within the urbanized. 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 Richland Countywide Stormwater Consortium (RCSC) eventually formed as a separate organization due to differing timetables of the permits being issued.

Clemson University and Richland County, along with the Town of Arcadia Lakes and the City of Forest Acres, entered into a formal contract and Memorandum of Understanding in June 2008. This agreement states that that Clemson University's Public Services Activities (PSA) Carolina Clear initiative will be contracted to assist the county and MS4s 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 B).

The first official meeting of the Richland Countywide Stormwater Consortium was held on December 10, 2008, at which an initial Education Plan of Work was drafted (Appendix C). A second meeting was held in March in order to begin work on the consortium mission and strategic goals, as well as to develop a logo for use in social marketing. Now entering into the second year of the permit, regular monthly meetings are to be held to evaluate ongoing activities, and develop future initiatives.

*This NPDES permit reporting year, Richland County Stormwater Consortium (RCSC), at full swing, is one of the best things that happened to Richland County's Stormwater MS4 permit. The consortium efforts helped all of the stakeholders in pooling their resources. The effort exhibits "team work" at its best. I have enormous confidence that the Carolina Clear program will have a huge positive impact in the region for its bright, environmentally-friendly, and sustainable future.*

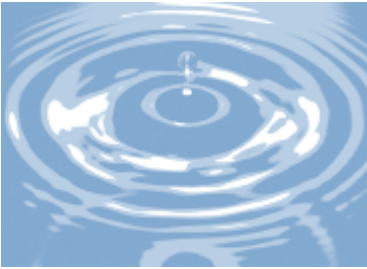
*- Srinivas Valavala,  
Richland County  
Stormwater Manager*



## Executive Summary

FY 08-09 Annual Report

Richland Countywide Stormwater Consortium



# RCSC - FY 2008-2009 Annual Report

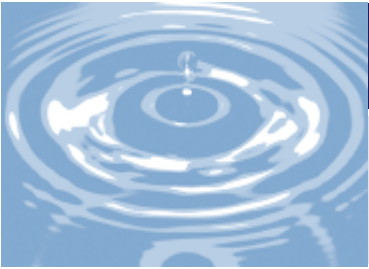
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Richland Countywide Stormwater Consortium



# Richland 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. While Richland County is the strongest participant, Forest Acres and Arcadia Lakes have also contributed their unique perspectives for a highly inclusive approach.

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

Co-permittees	Consortium Representatives
Richland County	Srinivas Valavala, Stormwater Keith Anthony, Stormwater Joe Kocy, Planning Stephanie Snowden, Public Information Kelvin Washington, County Council
City of Forest Acres	Mark Williams, Administrator Shaun Greenwood, Asst. Administrator
Town of Arcadia Lakes	Richard Thomas, Mayor Christine Murphy, Town Clerk







# Educational Partners

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

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

Name	Organization
Victoria Kramer	DHEC BOW
Rebecca Spratlin	DHEC BOW
Amanda Ley	DHEC BOW
Mary Jane Henderson	Richland Soil & Water Conservation District
Hugh Caldwell	Richland Soil & Water Conservation District
Jim Wilson	Richland County Conservation Commission
Pamela Greenlaw	Gills Creek Watershed Association
Jessica Artz	Gills Creek Watershed Association
Heidi Johnson	Keep America Beautiful of the Midlands
Larry Cooke	Arcadia Lakes Navy
Tom Falvey	South Carolina State Museum

# Educational Partners

**Table 2. Summary of Local Education Service Partners,  
Continued**

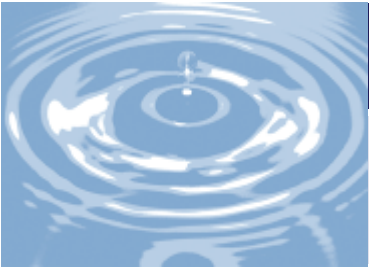
Name	Organization
Geoff Smith	BP Barber and Associates
Erica Huggins	BP Barber and Associates
Betsy Kaemmerlen	Fuss & O'Neil
Jason Craig	USC Green Quad
Ryan Nevius	Richland County Master Gardeners Association
Alan Merhzad	Congaree Riverkeeper
Ed Diebold	Riverbanks Zoo & Botanical Garden
Keith Benson	Riverbanks Zoo & Botanical Garden



## Education Partners

FY 08-09 Annual Report

Richland Countywide Stormwater Consortium



# Mission & Goals

## RCSC Mission Statement

*Support the restoration and protection of healthy waterways in Richland County through outreach, stormwater education, public involvement, and partnerships with local governments, citizens, businesses, schools, and organizations.*

### Goals:

1. Maximize stormwater education efforts by using a regional/watershed approach. Develop and implement education strategies addressing the range of stormwater pollutants using a prioritized approach that capitalizes on local training resources.
2. Involve citizens in stormwater management and change behaviors to improve environmental protection and awareness.
3. Facilitate collaboration among local organizations interested in watershed-related education to best meet the needs of local communities.
4. Through partnerships with MS4s, leverage local education resources and organized outreach programs to meet NPDES permit requirements for public stormwater education and outreach to achieve greater water resource protection.
5. Participate in collaborative stormwater education that can be universally presented and applied.



*It is vital that we communicate the connection between clean water and people's everyday choices. Everyone has a role in maintaining good water quality, they just may not be aware of it yet!*

*- Jessica Artz,*

*Gills Creek  
Watershed Association*

# Partners Focus - The Consortium

At the initial consortium meeting in December, 2008, the consortium members built a comprehensive Strategic Educational plan for Richland County that would be inclusive of all partners utilizing their expertise and resources wisely (Appendix C). 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 comprehensive. Implementation of the Education Plan began immediately, yet the 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. Richland County has completed an analysis of pollutants of concern, and found the pollutants of greatest threat to water quality to be fecal bacteria, dissolved oxygen demand, suspended solids, oil and grease, nitrogen, phosphorus, chlorine and copper, in that order (BP Barber, 2009). Another consideration was to include programs addressing a wide variety of audience types. It is the goal of RCSC to provide an education program that is comprehensive and complete in scope.

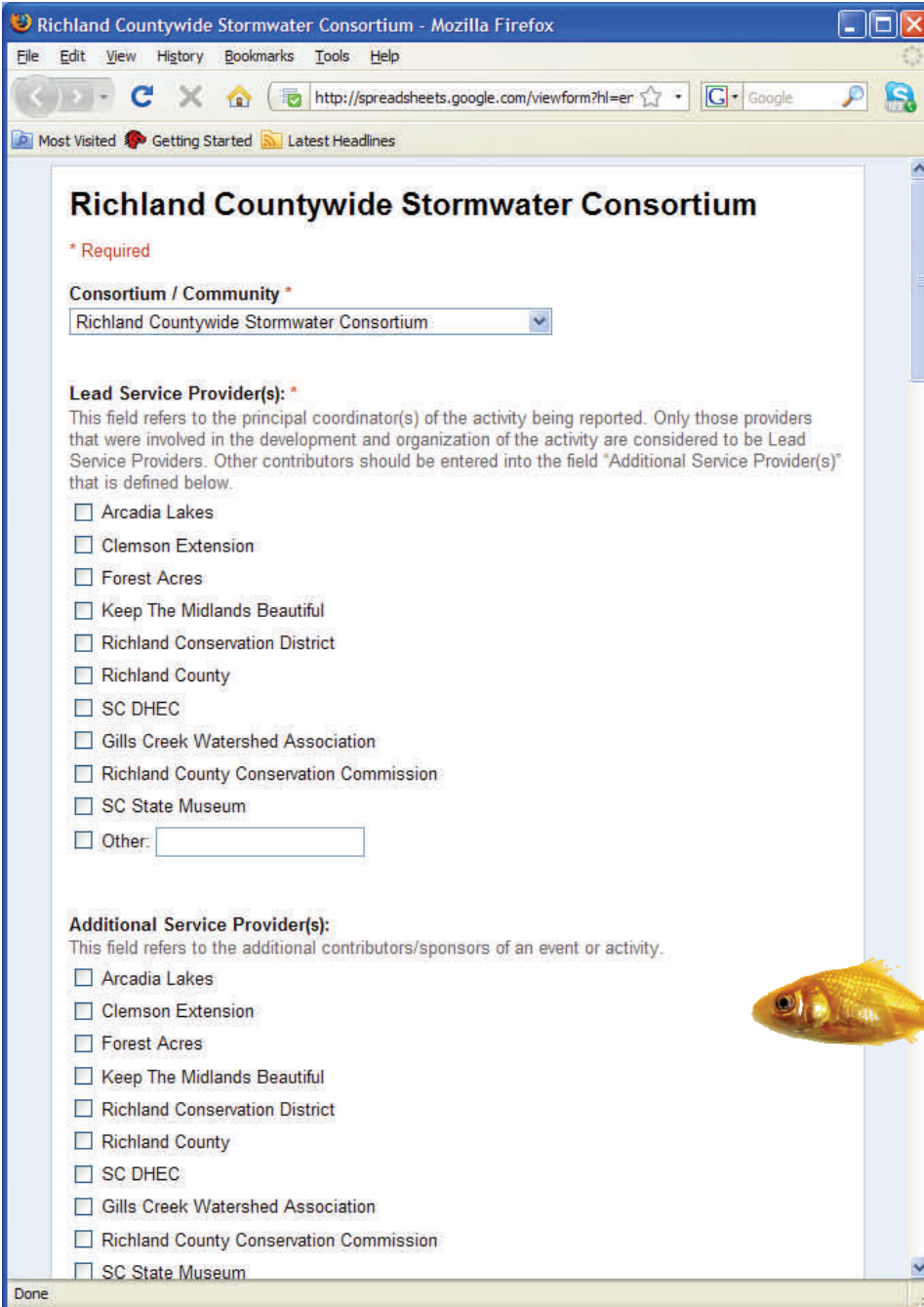
**Table 3. Sample of Year 1 Education Plan - General Public**

ADAPTIVE Stormwater Education Plan		Year 1 (2008-09) - Richland County, Arcadia Lakes and Forest Acres										Living Document (last revised: 3/17/09)							
Lead Service Provider	Activity or Program	Target Geography/Land Use	General Stormwater Awareness	Target Pollutant(s)										Participation by other Service Providers	Location and Date Delivered	Number Impacted/Reached	Assessment Type		
				Bacteria	Toxic Contaminants	pathogens	nitrogen	pesticides, heavy metals	Sediment	Nutrients	Pollutants resulting in low Dissolved Oxygen	Temperature	Other						
<b>General Public</b>																			
Clemson Carolina Clear	Rain Garden presentation at American Dream, Richland's Home buying and Green Living Conference, March 2009	Midlands	x													infiltration	Richland Northeast Highschool, 3/21/09	25	
Richland County	Presentation on stormwater management activities in Richland County at American Dream	Midlands	x														Richland Northeast Highschool, 3/21/09	1000	
Richland County	Raise awareness to the Stormwater hotline - why, when, and who should be called for what reason.	Richland County	x	x	x	x	x					x					Clemson Carolina Clear, DHEC	In progress	
Clemson Carolina Clear	Radio Advertisements	Midlands	x														Richland County	Midlands, Spring 2009	
Richland County	Earth Day Project (Lawnmower Exchange)	Richland County			x												KMB, many others...	Colonial Life Arena, 4/18/09	90
Richland County	National County Government Week	Richland County																	
Clemson Carolina Clear	Water Quality Publications	Richland County	x														Richland County		
Richland County	State Fair 2009	Richland County	x														Clemson Carolina Clear		
Richland County	Green Conference	Richland County	x														Public Relations		
Richland County & Clemson Carolina Clear	Public Access TV Commercial and Advertisement	Richland County	x															Midlands, Spring 2009	
Richland County	Recycle Day	Richland County			x												Solid Waste	County-wide, 11/15/08	2500
Richland County	Sparkleberry Country Fair	Richland County	x															Clemson Sandhills REC, 4/25/09	500





# Partners Focus - The Consortium



Richland Countywide Stormwater Consortium - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://spreadsheets.google.com/viewform?hl=en

Most Visited Getting Started Latest Headlines

## Richland Countywide Stormwater Consortium

**\* Required**

**Consortium / Community \***

Richland Countywide Stormwater Consortium

**Lead Service Provider(s): \***

This field refers to the principal coordinator(s) of the activity being reported. Only those providers that were involved in the development and organization of the activity are considered to be Lead Service Providers. Other contributors should be entered into the field "Additional Service Provider(s)" that is defined below.

- Arcadia Lakes
- Clemson Extension
- Forest Acres
- Keep The Midlands Beautiful
- Richland Conservation District
- Richland County
- SC DHEC
- Gills Creek Watershed Association
- Richland County Conservation Commission
- SC State Museum
- Other:

**Additional Service Provider(s):**

This field refers to the additional contributors/sponsors of an event or activity.

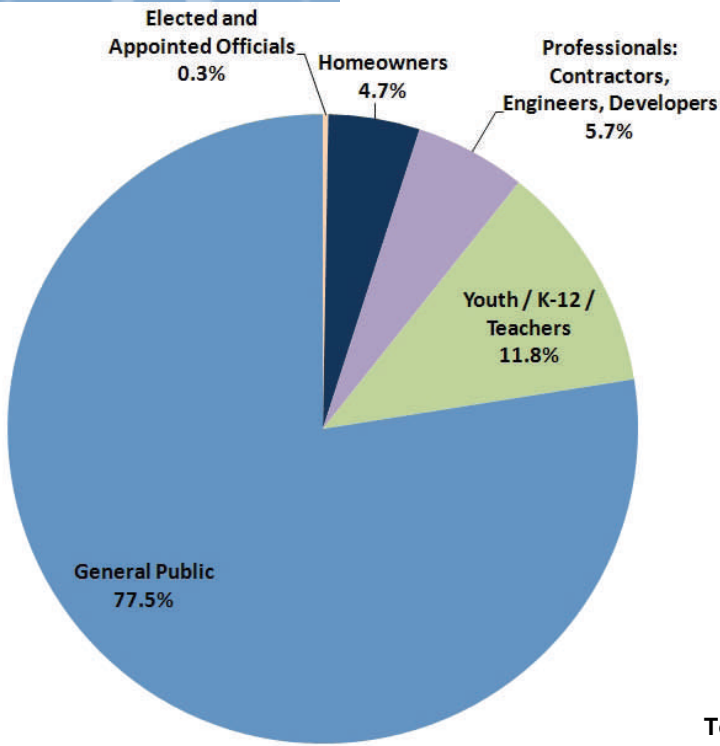
- Arcadia Lakes
- Clemson Extension
- Forest Acres
- Keep The Midlands Beautiful
- Richland Conservation District
- Richland County
- SC DHEC
- Gills Creek Watershed Association
- Richland County Conservation Commission
- SC State Museum

Done

In order to more efficiently record our education efforts, a web-based reporting form was developed, utilizing Google Forms. Consortium members can access the database from the RCSC website. The reporting form prompts participants for all the relevant information about their activities, such as date, location, target pollutants, audience, numbers impacted, and evaluation methods used. The database can be exported to an Excel file, where the activities can be sorted by service provider, pollutant, or any other factor. This allows us to study our program efforts, analyze data, produce graphs, and discover our strengths and weaknesses. The data fields included were reviewed by entities within the Department of Health and Environmental Control, including those involved with permitting and compliance.



# Partners Focus - The Consortium



The general public was the broadest category of the audiences that were targeted for stormwater education. Youth were also well represented among program participants. In the next year, RCSC will strive to reach more professional audiences and elected and appointed officials. These two groups make up only a small fraction of Richland County's population, but have a crucial role in preventing stormwater pollution.

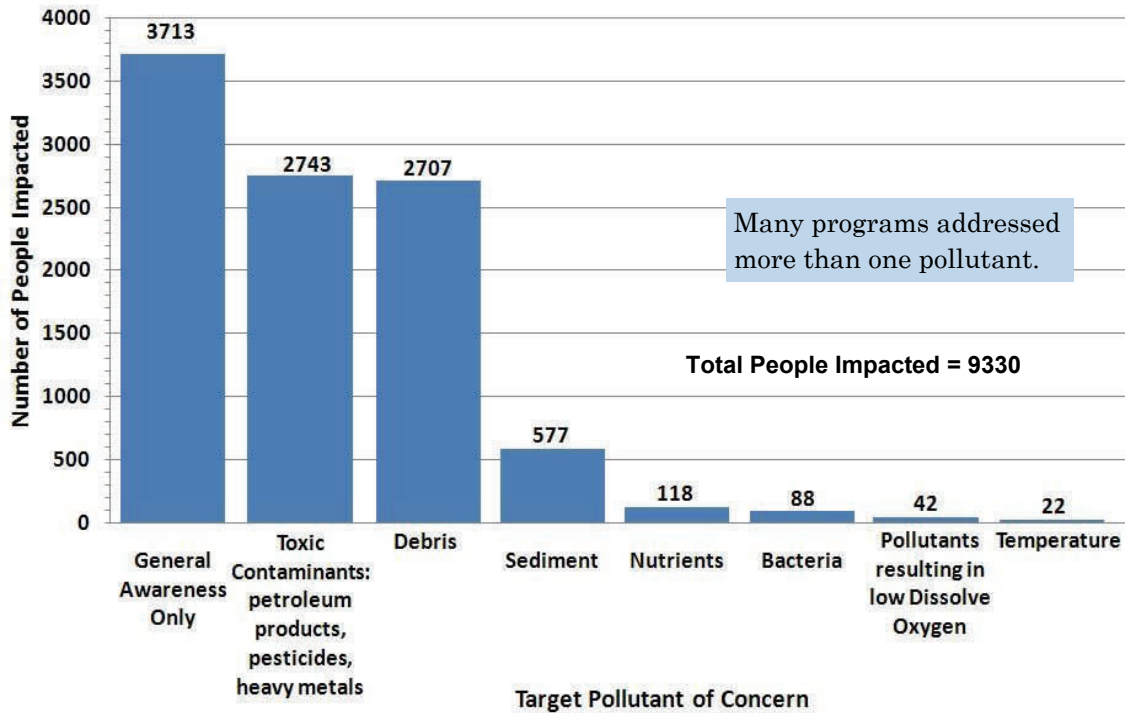
In both figures, numbers from mass media campaigns and storm drain marking have been omitted. Both of these efforts reach huge numbers of people, but with less direct impact than a more formal program, and therefore are not comparable. If these numbers were included, the values for "General Public" and "General Awareness" in Figures 1 and 2 respectively, would be much greater.

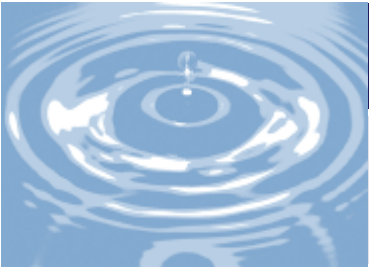
Figure 1. Numbers Impacted, by Target Audience

Total People Impacted = 9497

Debris and toxic contaminants were the most effectively targeted pollutants, due to the amazing efforts of Keep the Midlands Beautiful, which organized numerous cleanups throughout the year, and also Richland County, who drew a huge turn-out for Recycle Day. In Year 2 RCSC will introduce additional programs targeting bacteria and nutrients. Both are very high on the list of pollutants of concern in Richland County waterways.

Figure 2. Number Impacted, by Target Pollutant





# 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	Development of Stormwater Awareness Television Commercial	Ongoing	Not yet available	N/A

Because Carolina Clear is a statewide program with the backing of Clemson University, RCSC was able to take advantage of mass media in a powerful way. Public service announcements have been submitted to a local television channels and radio stations as well as a public service channel. 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, as this is when the conclusion of the current campaign occurs. Messages were developed and advertisements produced for radio and television, including both still slides and a live action commercial. 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 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.

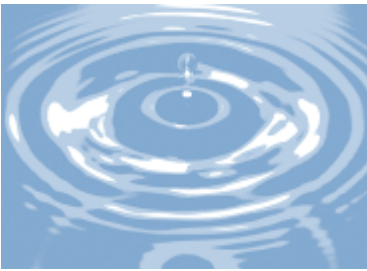
**WATER** that runs off roads and lawns **DOES NOT GET TREATED.** It goes straight to our streams and lakes.

**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	February — May 2009	265	N/A

The screenshot shows the website for the Richland Countywide Stormwater Consortium. The main content area features an 'Announcements' section with a heading 'Richland Countywide Stormwater Consortium Meeting' and a sub-heading 'Gills Creek Clean-up!'. The sidebar contains a list of 'Upcoming Events' including 'Richland 101 Kids Day', 'Gills Creek Clean-up', 'Stormwater Institute Conference', and 'Greenways Conservation Conference'. There are also download links for Adobe Reader and FlashPlayer.

At the start of 2009 Clemson created a new website for the Richland Countywide Stormwater Consortium within the Carolina Clear website.

The Richland Countywide Stormwater Consortium webpage was launched on February 2, 2009, and was completely developed by May. Since February, the following statistics are available:

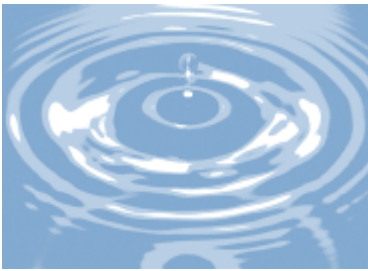
- 265 total page views
- 195 unique views
- Average time spent on page was 1 minute and 22 seconds.

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

In reaching out to the general public, RCSC attempts to make the best possible use of technology. Resources like websites, email distribution lists, and social networking pages provide excellent opportunities to impact larger audiences then could be reached by traditional means such as mass mailings, and are often much more cost effective.

Gills Creek Watershed Association	E-mail newsletters featuring stormwater articles	Internet, ongoing	215	N/A
Gills Creek Watershed Association	Gills Creek Watershed Association Facebook Page	Internet, Launched April 7, 2009	31	N/A





# General Public

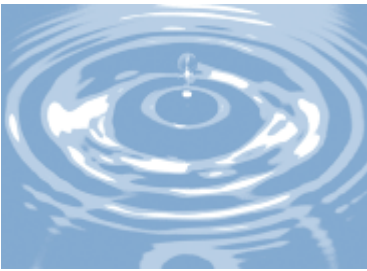
Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Gills Creek Watershed Association	Stormwater education display at Rooftop Rhythms Festival	Forest Acres Mall, April 16, 2009	50	Forest Acres
Gills Creek Watershed Association	Stormwater education display at Nature Fest	Congaree National Park, April 18, 2009	100	Congaree National Park
Richland County	Stormwater education tent at the Sparkleberry Country Fair	Clemson Sandhills REC, April 25, 2009	2000	Sparkleberry Country Fair
Gills Creek Watershed Association	Stormwater education display at the Forest Acres Festival	AC Flora HS, May 16, 2009	100	Forest Acres, Richland County, Forest Acres Rotary Club



At numerous festivals throughout the year, the RCSC education partners presented information on stormwater pollution. The displays included watershed models, informational brochures, giveaways with water quality messages, and other materials. April and May were especially busy months, with the celebration of Earth Day bringing environmental issues to the attention of the media and general public. 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.

In the future, RCSC intends to increase its attendance at festivals and public events, with goals including potentially establishing a permanent exhibit at the South Carolina State Fair. We also intend to produce a wider variety of handouts and brochures, some providing detailed information on stormwater do's and don'ts, and others targeting specific issues, such as proper disposal of pet waste or bagging leaves and yard waste.





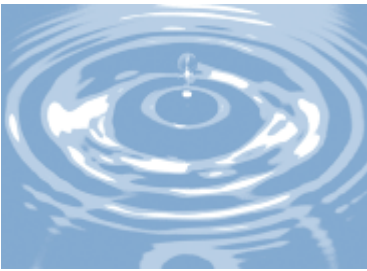
# General Public

Lead Provider	Activity	Delivered	Number of Participants	Other Providers Involved
Keep the Midlands Beautiful	Adopt-A-Highway --55,538 pounds of trash removed from Richland County roadways	Ongoing	2,229 volunteers contributed more than 4,996 hours of service	N/A
Keep the Midlands Beautiful	Adopt-A-Waterway --6,525 pounds of trash removed from Richland County waterways  --86 bags of the 349 bags of material removed from waterways were RECYCLED	Launched October 4, 2008, ongoing	333 volunteers contributed 1074 hours of service	N/A
Keep the Midlands Beautiful	River Sweep --4,080 pounds of trash removed --131 bags of litter and 73 bags of recyclables	September 20, 2008 Saluda River at Riverbanks Zoo	118 volunteers	N/A
Gills Creek Watershed Association	USC students from POLI 121 "Green Politics" class clean-up of a tributary of Gills Creek. 40 bags of trash removed, 20 of which were RECYCLED.	April 13-20, 2009	5 volunteers	University of South Carolina

Keep the Midlands Beautiful, an affiliate of Keep America Beautiful, coordinates litter pickups, beautification projects, and recycling programs for thousands of Richland and Lexington county residents each year. Left: volunteers with Adopt-A-Highway remove litter from a roadside. Center: USC students remove trash from a tributary of Gills Creek. Right: Signs recognizing Adopt-A-Highway volunteer groups raise awareness of the importance of not littering.



—Photos courtesy of Keep the Midlands Beautiful and Gills Creek Watershed Association



# General Public

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Richland County	Richland County Beautification Day	Midlands Tech Northeast Campus, Sept. 9, 2008	300	Keep the Midlands Beautiful

During the second annual Beautification Day, community leaders were engaged in discussions to promote the beautification of Richland County and provided with information on how to create projects and obtain grants to fund beautification initiatives. The event also educated the participants about environmental issues including stormwater management.

Richland County	Richland County Recycle Day	Countywide, November 15, 2008	2500	Solid Waste Division
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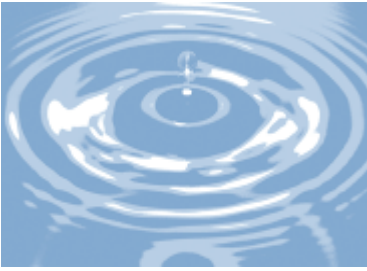


America Recycles Day is a nationally recognized day dedicated to encouraging Americans to recycle and to buy recycled products. This year's Richland County event was filled with food, fun, and games for the whole family. The annual event drew thousands of citizens of Richland County who took part in recycling electronics, mattresses, books, car tires, and many other house hold goods.

SC DHEC and Keep the Midlands Beautiful	Central Midlands Lawn Mower Exchange	Colonial Life Arena, April 18, 2009	90	Richland County, Lexington County, City of Columbia, USC
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For Earth Day, Richland and Lexington County residents were invited to trade in their gasoline-powered lawn mowers in exchange for a deep discount on the purchase of environmentally-friendly electric mowers to promote cleaner air in the Midlands. Eighty-two lawn mowers were exchanged for lower emission models, resulting in decreased hydrocarbons, carbon monoxide, nitrogen oxides, and particulate matter entering the atmosphere. Pollutants in the air will eventually settle back to earth and may enter local waterways.





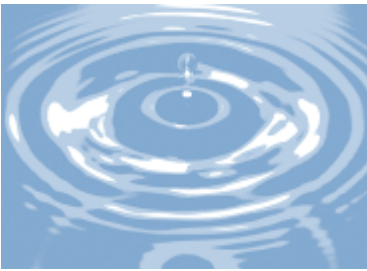
# General Public

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Gills Creek Watershed Association	Public presentation on the Gills Creek Watershed	USC Green Quad Learning Center, April 7, 2009	9	Richland County
Gills Creek Watershed Association	Public Meeting on Gills Creek Watershed Management Plan	April 20, 2009	50	Richland County



Richland County	Presentation on stormwater management at American Dream, Richland County's financial empowerment, home buying, and green living conference.	Richland Northeast High School, March 20, 2009	1000	N/A
Clemson	Presentation on rain gardens, rain water harvesting, and stormwater pollution prevention at American Dream.	Richland Northeast High School, March 20, 2009	25	Richland County





# Youth / K-12 / Teachers

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Gill Creek Watershed Association	Bus tour of the Gills Creek Watershed for college students in USC's POLI 121 "Green Politics" class	March 23, 2009	20	University of South Carolina



During the Spring 2009 semester, Gill Creek Watershed Association partnered with USC to take students in the POLI 121 "Green Politics" class on a bus tour of the Gills Creek Watershed. The bus went to five different locations within the watershed. The tour covered a variety of topics including watershed basics, impervious surfaces, non-point source pollution, stormwater, major problems within the Gills Creek Watershed and possible solutions.

Richland County	Stormwater education tent at Richland County National Public Works Week Kids Day	Richland County Public Works, May 15, 2009	100	Department of Public Works Stormwater Divisions
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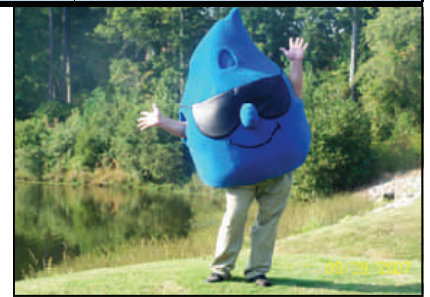
Richland County's celebration of National Public Works week included a kids day event where Richland County elementary schools were invited to an event-filled day with food, games, and information booths from all the divisions at Public Works. At the stormwater tent kids learned how much of the earth's surface is covered with water and how much of that water is actually consumed by humans, plants, and animals.



Richland County	Stormwater booth at Richland 101 for Kids	Dutch Square Mall, July 24, 2008	1000	Department of Public Works Stormwater Divisions
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Richland 101 for Kids is an event introducing kids to the various resources provided by County Government, with fun events including a mock election, a fire truck, and a "Go Green" fashion show, just to name of a few. The Stormwater Division featured a quiz game to teach kids and parents about stormwater issues.



## Youth / K-12 / Teachers

FY 08-09 Annual Report

Richland Countywide Stormwater Consortium



# Elected & Appointed Officials

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Richland County Planning Department	Comprehensive Plan to be used by County Council in creating land use ordinances developed to include water quality policies and encourage the use of buffers	February 26, 2008	11	N/A
Gills Creek Watershed Association	Presentation on Gills Creek Watershed for Richland County Conservation Commission	Richland Co. Administration Building, April 18, 2009	15	N/A
Clemson University	Academic panel on minimum stream flows in South Carolina's rivers and streams. The panel produced a letter report to South Carolina's legislators.	December, 2008	22 panel participants	Center for Humans and Nature



In 2009, the Comprehensive Plan for land use in Richland County included water quality language for the first time. The plan also promotes the use of buffers along county waterways. The Comprehensive Plan is a policy document created for use by the Richland County Council in creating future land use ordinances in Richland County.

*The Richland Soil and Water Conservation District is charged by South Carolina Code of Laws with the responsibility of providing leadership in developing and implementing plans to meet conservation needs of the District and finding the resources to plan and implement the programs to address these needs. The lack of adequate conservation BMP's on disturbed land allows erosion which creates sedimentation in our ditches, streams, ponds, and rivers thereby causing serious degradation of the quality of all our water resources.*

*- Hugh Caldwell,  
Richland Soil & Water  
Conservation District*



# Professionals: Contractors & Engineers

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Richland County	Industrial Operators Conference	Midlands Tech Northeast Campus, April 7, 2009	75	N/A
Clemson Extension	Pond Management Workshop	Clemson Sandhills REC, Oct. 2, 2008	75	N/A
Richland County	Best Management Practices (BMP) training for Richland County Employees	Richland County Adult Activity Center, Sept. 17, 2008	45	N/A
Richland County	Internal Stormwater Management Trainings for Richland County Employees	Seven training sessions throughout the year	144	N/A



Richland County's Industrial Operators Conference was a half day conference put on by RC Stormwater Management for industrial facility managers, operators, and environmental health managers. The conference provided information on Richland County's industrial and high risk runoff program, best management practices and why they are important, state requirements for an Industrial General Permits. Richland County also held a number of internal training sessions for its employees (Appendix D).

Pervious concrete allows stormwater to penetrate the concrete and filter through the soil naturally where it is cleaned before entering subsoil water systems. This is opposite from non-pervious surfaces where water will run off into culverts, ditches and streams and therefore put pollutants into our watershed systems. Going forward, the consortium plans to utilize installations such as the one pictured here, pervious pavement at a shopping center on Killian Road, as learning workshops for contractors and engineers.





# 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	Richland County, 4 courses conducted during the year.	276	DHEC and DOT



## 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



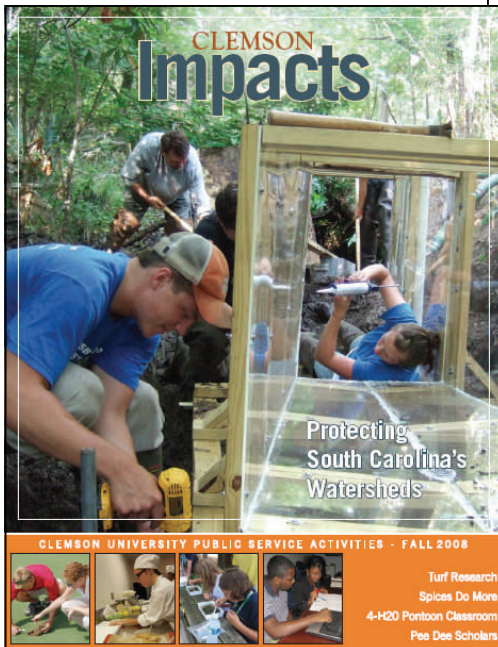
Cal Sawyer inspects a construction site for compliance with erosion prevention practices to water quality in the state's streams and lakes.

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.

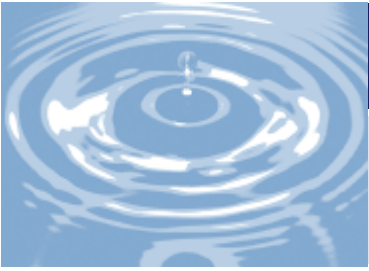
For more information: [www.ces.clemson.edu/t3s/cepsci/](http://www.ces.clemson.edu/t3s/cepsci/)



Date	Location	Number Attended
August 6, 2008	Columbia	100
October 23, 2008	Columbia	59
March 4, 2009	Columbia	49
June 23, 2009	Columbia	68
	Total:	276

In December 2006, the CEPSCI program received the highest Team Award given at Clemson University. A complete profile of the program and where to go for further information is included in Appendix A.





# Homeowners

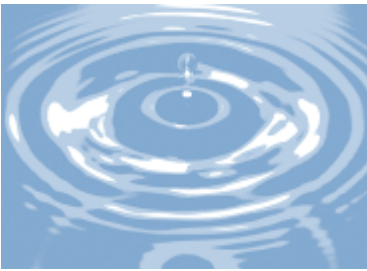
Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Richland County, Arcadia Lakes Navy	Storm drain marking, accompanied by stormwater awareness door hanger.	Richland County, Arcadia Lakes Summer 2008	91300	N/A
Richland County	Presentation on storm drain marking for Woodlands subdivision Homeowners Association	Woodlands subdivision, April 14, 2009	22	N/A

Richland County Public Works Stormwater Division began a project in the summer of 2008 with the goal of marking storm drains in every neighborhood in the county. The work was done by county interns from the Youth Works program. The county succeeded in marking 25% of the storm drains in 2008. They hope to have finished 75% by the end of summer 2009. In addition, 11 volunteers from the Arcadia Lakes Navy, a concerned citizens organization, marked the majority of the storm drains within the Town of Arcadia Lakes.



## Homeowners





# Homeowners

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Clemson	Master Gardener Training Course	Richland County, 17 Weeks of training, Jan-May 2009	50	Past Certified Master Gardeners
SC State Museum	Rain garden presentation at Earth Day Festival	SC State Museum, March 28, 2009	6	N/A
RC Master Gardeners	Rain Garden installation and demonstration	May 9, 2009 Clemson Extension at Sandhills REC	12	Clemson

The Master Gardener program, coordinated regionally through the efforts of Clemson University's Environmental Horticulturalist Vicky Bertagnoli, is an award-winning program which focuses on holistic and environmentally-sustainable practices. Currently there is a Richland Master Gardeners Association, headed by Ryan Nevius, as well as a Midlands Master Gardener Association.



Rain Gardens have become one of the hot button topics 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 the Children's Garden at Clemson Sandhills REC will be an ongoing project with additions planned for Fall '09 and Spring '10.

Clemson University Public Service Activities  
Caroline 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.

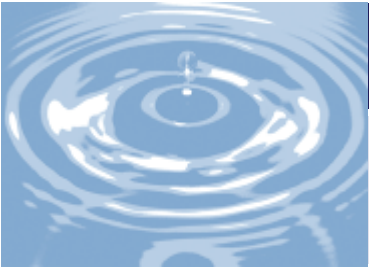
Many other stormwater management techniques address only a portion of the problems caused by stormwater runoff. Rain gardens, however, have the potential to solve all of the problems of stormwater runoff before they occur.

Kevin Brucitt,  
Stormwater, October 2008

## Homeowners

FY 08-09 Annual Report

Richland Countywide Stormwater Consortium



# Homeowners

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Richland Soil & Water Conservation District	Rain Barrels sale, and accompanying newsletter articles	Midlands, ongoing	100	N/A
SC State Museum	Build a Rain Barrel Workshop at Earth Day Festival	SC State Museum, March 28, 2009	6	N/A



Participants constructed their own rain barrels from used food-grade plastic drums at a workshop at the State Museum.

“I did all the work myself, which was just simple assembly. . . . The rain water will be used for some grape vines and a vegetable garden through a soaker hose.”

— Richland County citizen, who purchased a rain barrel from the Conservation District.



## Homeowners





# Conclusions for Year 1 (08-09)

Lead Provider	Activity	Location and Date Delivered	Number of Participants	Other Providers Involved
Carolina Clear RCSC	The Richland Countywide Stormwater Consortium	3 business meetings	varied RCSC members per meeting	All MS4's and Educational Partners



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

*— Chinese proverb*



The emphasis of the consortium in year 1 was to build a unified organization and to give ownership while empowering its members. This organization was to be inclusive of MS4's as well as appointed representatives along with agencies and other educational entities.

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 RCSC to multiply marketing efforts for educational programming by utilizing distribution list within the different members mail systems.

In the upcoming year, RCSC 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. Programs will be developed, and data from Year 1 will be used to evaluate the effectiveness of our efforts, and to ensure that RCSC's 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	January 2009	17	All RCSC members
Carolina Clear	Defined RCSC Mission and Goals	Spring 2009	15	All RCSC members
Carolina Clear	Designed RCSC logo	Spring 2009	15	All RCSC members

As we move forward into the new year RCSC anticipates an expanded media campaign to include commercials on local and cable television, widespread radio messages, and increased traffic on our Carolina Clear consortium website. Because RCSC’s parent organization Carolina Clear is statewide and a program of one of South Carolina’s primary research universities, RCSC enjoy increased leverage for advertising purposes and media coverage and resources for producing messages far beyond those of individual counties and municipalities.

The consortium 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, Ashley-Cooper, and Lexington Countywide Stormwater Consortiums. Building on their successes and learning from their trials, RCSC will in turn give guidance to newer consortiums such as the Florence-Darlington and Sumter Areawide consortiums.

RCSC 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 within Richland County can achieve far more than could be accomplished individually, working towards the common goal of protecting water quality for the people and the environment.



## Conclusion



# Appendix A - 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 A - 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 A - CEPSCI Information



## Home Builders Association of South Carolina

1419 Pendleton Street, Columbia, SC 29201  
Telephone (803) 771-7408 • Facsimile (803) 254-5762  
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,

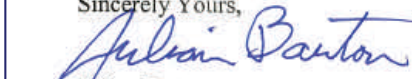
It has come to my attention that the Certified Erosion Prevention and Sediment Control Inspector (CEPSCI) program has been nominated for this year's CU Extension Team Award. I can think of no group more deserving of this honor!

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.

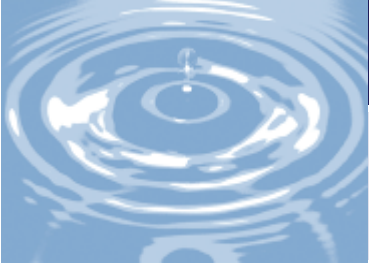
This is when the CEPSCI team really stepped up to the plate. Working closely with Cal Sawyer we were able to schedule a number of seminars across the state in short order. We worked with CEPSCI to advertise the seminars and the response was tremendous. Every time CEPSCI opened another seminar it was 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





# Appendix B - Memorandum of Understanding

## Memorandum of Understanding

between

**CLEMSON UNIVERSITY**

and

Richland 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, Richland County 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 Richland County 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 Richland County 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 within Richland County, or conduct equivalent outreach activities about the impacts of stormwater and the steps that can be taken to reduce storm water pollution; and
- Determine the appropriate public awareness campaign with Richland County. 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.

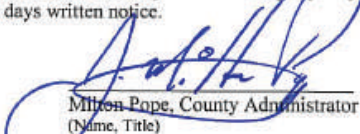
Because each agreement is unique to the requirements of the circumstances, Clemson and Richland County agree that the specific metrics of each contract shall be individually negotiated and delineated in the Contractual Agreement. Neither party has any responsibility for any performance obligations except 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  
(Name, Title)

Clemson University PSA

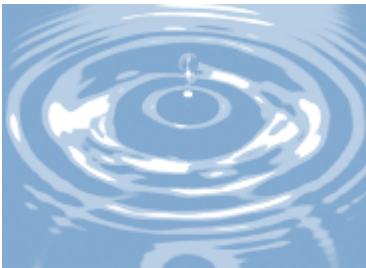
6/24/08  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Milton Pope, County Administrator  
(Name, Title)

Richland County

6-16-08  
\_\_\_\_\_  
Date



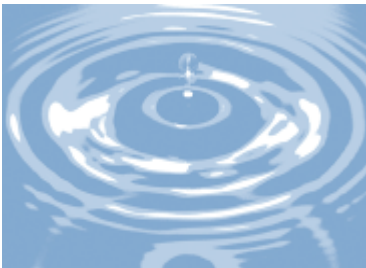


# Appendix C - Education Plan of Work

Drafted at the kick-off consortium meeting in January 2008 and finalized at the second meeting in March, the Education Plan is a valuable tool for visualizing a year's worth of education efforts. As a living document, it is constantly updated. Displayed is the version created at the March meeting, with updated delivery dates, participation data, and assessment information. Goals that were not met in the first year will be carried over into the Year 2 Education Plan. The latest version is available for download at [http://www.clemson.edu/public/carolinaclear/consortiums/richland\\_home/about.html](http://www.clemson.edu/public/carolinaclear/consortiums/richland_home/about.html). Appendix C1 shows the initial draft created at the first RCSC meeting in December, 2008. Appendix C2 shows the final version this draft evolved into, with complete data from the first year's education activities. Appendix C3 shows the new education plan developed for the 2009-2010 reporting year.

**Table 4. Education Plan of Work - Initial Plan Developed December 2008, Page 1**

<b>DRAFT Stormwater Education Plan</b>				
<b>Year 1 (2008-09) - Richland County, Arcadia Lakes and Forest Acres</b>				Draft developed at Kick Off Mtg (12/10/08)
<b>General Public</b>				
Lead Service Provider	Activity--Program <i>(Italics include participation elements)</i>	Target Geography/ Land Use	Target Pollutant	Participation by other Service Providers
Clemson Carolina Clear	Rain Garden presentation at American Dream, Richland's Homebuying and Green Living Conference, March 2009	Midlands	nutrients	
Richland County	Raise awareness to the stormwater hotline - why, when, and who should be called for what reason.	Richland County	nutrients, bacteria, sediment, debris, oil, hazardous chemicals	Clemson Carolina Clear, DHEC
<b>Youth / K-12 / Teachers</b>				
Conservation District	Conservation Station - develop a module on stormwater runoff and pollution prevention and deliver it at upcoming Conservation Station events.	Richland County	sediment, bacteria, nutrients	Clemson Carolina Clear
<b>Elected and Appointed Officials and High-Level Staff</b>				
Clemson Carolina Clear	General Stormwater Awareness presentations to Rotary Club	Richland County	all	
Clemson Carolina Clear	NEMO Watershed Awareness presentation	Richland County	all	SC Sea Grant, KMB



# Appendix C - Education Plan of Work

**Table 4. Education Plan of Work - Initial Plan Developed December 2008, Page 2**

<b>DRAFT Stormwater Education Plan</b> <b>Year 1 (2008-09) - Richland County, Arcadia Lakes and Forest Acres</b>					Draft developed at Kick Off Mtg (12/10/08)
General Public					
Lead Service Provider	Activity--Program ( <i>Italics include participation elements</i> )	Target Geography/ Land Use	Target Pollutant	Participation by other Service Providers	
Professionals: Contractors, Engineers, Developers					
Clemson University	<i>Clear Water Contractors</i>	Richland County	sediment, nutrients		
Clemson University	<i>CEPSCI (Certified Erosion Prevention and Sediment Control Inspector)</i>	Richland County	sediment, nutrients		
Homeowners & Homeowner Associations					
Richland County	Richland County Neighborhood Council - include articles in electronic newsletter to HOAs across the county	Richland County	sediment, nutrients, bacteria, debris	Clemson Carolina Clear	
Arcadia Lakes	Stormwater Awareness billstuffer will be mailed out with tax bill.	Arcadia Lakes	sediment, nutrients, bacteria, debris, hazardous chemicals	Clemson Carolina Clear	
Keep the Midlands Beautiful	<i>Storm drain marking, accompanied by stormwater awareness door hanger.</i>	Richland County	sediment, nutrients, bacteria, debris	Clemson Carolina Clear	
Richland County	Promote storm drain marking already completed by the county through newspapers, newsletters and local channels.	Richland County	sediment, nutrients, bacteria, debris	Clemson Carolina Clear	
Commercial Citizens					
Clemson Carolina Clear	<i>Partnering for Water Quality presentation to the Chamber of Commerce - how businesses can get involved in water quality protection.</i>	Richland County	sediment, nutrients, bacteria, debris, household hazardous waste, oil and grease	Clemson Cooperative Extension Service, Richland County	



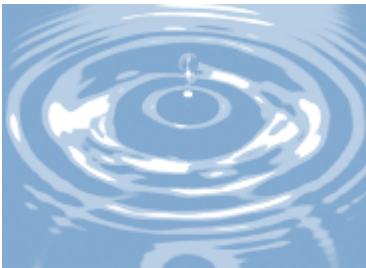
# Appendix C - Education Plan of Work

Table 5. Education Plan of Work With Year 1 Data, Page 1

Stormwater Education Plan		Year 1 (2008-09) - Richland County, Arcadia Lakes, and Forest Acres										Living Document (last revised: 7/24/09)						
Lead Service Provider	Activity/Program	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 O <sub>2</sub>	Debris	Temperature	Other	infiltration						
<b>General Public</b>																		
Clemson Carolina Clear	Rain Garden presentation at American Dream, Richland's Home buying and Green Living Conference, March 2009	Midlands	x			x	x									Richland Northeast High School, 3/21/09	25	
Richland County	Presentation on stormwater management activities in Richland County at American Dream	Midlands	x													Richland Northeast High School, 3/21/09	1000	
Clemson Carolina Clear	Radio Advertisements	Midlands	x											Richland County	Midlands, Spring 2009	Not assessed		
Richland County	Earth Day Project (Lawnmower Exchange)	Richland County			x									KMB, many others...	Spring 2009	90		
Keep the Midlands Beautiful	Adopt-A-Highway Program	Richland County											x		Throughout year	2229		
Keep the Midlands Beautiful	Adopt-A-Waterway Program	Richland County											x		Throughout year	333		
Keep the Midlands Beautiful	Riversweep	Richland County											x		Saluda River at Riverbanks	118		
Richland Conservation District	District newsletter featuring rain barrels.	Richland County	x												Richland County, June 2009	100	Pre- and Post-Surveys	
Clemson Carolina Clear	Public Access TV Commercial and Advertisement	Richland County	x												Midlands, Spring 2009	Not assessed		
Richland County	Recycle Day	Richland County			x									Solid Waste	Countywide, 11/6/08	2500		
Gills Creek Watershed Association	Rooftop Rhythms Festival	Forest Acres	x											Forest Acres	Forest Acres Mall, 4/16/09	50		
Gills Creek Watershed Association	Nature Fest	Richland County	x											Congaree National Park	Congaree National Park,	100		

Page 1

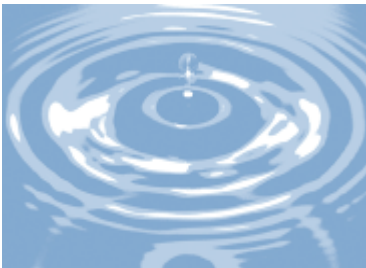




# Appendix C - Education Plan of Work

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

Stormwater Education Plan			Year 1 (2008-09) - Richland County, Arcadia Lakes, and Forest Acres										Living Document (last revised: 7/24/09)					
Lead Service Provider	Activity/Program	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	Petroleum products, Sediment	Nutrients	Pollutants resulting in low Dissolve Oxygen	Debris	Temperature	Other							
<b>General Public</b>																		
Gills Creek Watershed Association	Forest Acres Festival	Forest Acres	x												Forest Acres, Richland County, Forest Acres Rotary Club	AC Flora HS, 5/16/09	100	
Richland County	Sparkleberry Country Fair	Richland County	x													Clemson Sandhills REC, April 25, 2009	500	
Gills Creek Watershed Association	Public presentation on the Gills Creek Watershed	Richland County	x	x	x	x										USC Green Quad Learning Center,	9	Feedback
Gills Creek Watershed Association	Community Watershed Clean-up	Richland County									x					Two Notch Rd. Area, April 13-30,	5	
Gills Creek Watershed Association	Public Meeting on Gills Creek Watershed Management Plan	Richland County	x													4/20/09	50	
Gills Creek Watershed Association	E-mail newsletters featuring stormwater articles	Richland County	x													Email, ongoing	215	
Clemson Carolina Clear	Richland Countywide Stormwater Consortium Website	Richland County	x													Internet, 2/2/09, ongoing	265	
Gills Creek Watershed Association	Gills Creek Watershed Association Facebook Page	Richland County	x													Internet, 4/7/09, ongoing	31	
<b>Youth / K-12 / Teachers</b>																		
Richland County	Richland 101 (Kids Day) Activities and information delivered to inform kids and their parents about Stormwater related issues.	Richland County	x													7/24/08	1000	Feedback
Gill Creek Watershed Association	Bus tour of the Gills Creek Watershed for college students in POLI 121 "Green Politics" class	Richland County	x	x	x	x	x	x							University of South Carolina	3/23/09	20	
Richland County	Public Works Week	Richland County	x												Department of Public Works Divisions	Richland County Public Works	100	

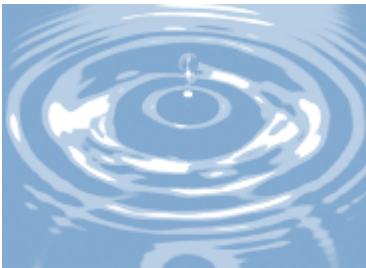


# Appendix C - Education Plan of Work

Table 5. Education Plan of Work With Year 1 Data, Page 3

Stormwater Education Plan											Year 1 (2008-09) - Richland County, Arcadia Lakes, and Forest Acres			Living Document (last revised: 7/24/09)				
Lead Service Provider	Activity/Program	Target Geography/ Land Use	General Stormwater Awareness	Target Pollutant(s)										Participation by other Service Providers	Location and Date Delivered	Number Impacted/ Reached	Assessment Type	
				Bacteria	Toxic Contaminants, petroleum products, pesticides, heavy metals	Sediment	Nutrients	Pollutants resulting in low Dissolve Oxygen	Debris	Temperature	Other							
<b>Elected and Appointed Officials and High-Level Staff</b>																		
Gills Creek Watershed Association	Presentation on Gills Creek Watershed for Richland County Conservation Commission	Richland County		x											Richland Co. Administration Building,	15		
Richland County Planning	Comprehensive Plan to be used by County Council in creating land use ordinances	Richland County	x												2/26/09	11	Feedback	
<b>Professionals: Contractors, Engineers, Developers</b>																		
Richland County	Industrial Operators Conference	Richland County	x												Midlands Tech Northeast	75	Feedback	
Clemson University	CEPSCI (Certified Erosion Prevention and Sediment	Richland County													4 courses conducted	276		
Clemson University	Pond Management Workshop	Richland County	x												Clemson Sandhills	75		
Richland County	Richland County Internal Best Management Practices (BMP's) Training	Richland County	x												Richland County Adult Activity	45		
Richland County	Internal Stormwater Management Trainings	Richland County	x												Seven Trainings	144		
<b>Homeowners &amp; Homeowner Associations</b>																		
Richland County,	Storm drain marking, accompanied by Stormwater	Richland County	x	x											Clemson Carolina Clear	Summer 2008,	91300	Feedback
Richland County	Presentation on storm drain marking for Woodlands subdivision Homeowners	Richland County		x											Woodlands subdivision, 4/14/09	22		
Richland County Master	Rain garden installation and demonstration workshop	Richland County	x												All	Clemson Sandhills REC, 5/9/09	12	
Richland County	Beautification Day	Richland County	x												Keep the Midlands Beautiful, RC	Midlands Tech Northeast	300	
SC State Museum	Build a Rain Barrel Workshop at Earthday Festival	Richland County	x		x											SC State Museum,	6	
SC State Museum	Rain Garden presentation at Earthday Festival	Richland County	x		x											SC State Museum,	6	
Soil & Water Conservation District	Rain Barrel Sales with accompanying newsletter articles	Richland County	x													Ongoing	100	



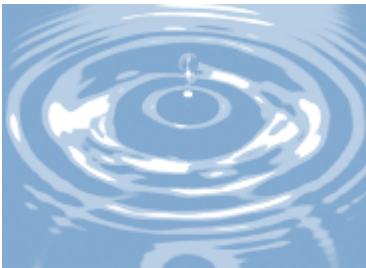


# Appendix C - Education Plan of Work

**Table 6. Education Plan of Work, Year 2, Page 1**

<b>ADAPTIVE Stormwater Education Plan</b>		<b>Year 2 (2009-10) - Richland County, Arcadia Lakes and Forest Acres</b>		<b>Living Document (last revised: 8/24/09)</b>										
Lead Service Provider	Activity--Program ( <i>Italics include participation elements</i> )	Target Geography/ Land Use	General Stormwater Awareness	Target Pollutant(s)										Participation by other Service Providers
				Bacteria	Toxic Contaminants, petroleum products, pesticides, heavy metals	Sediment	Nutrients	Pollutants resulting in low Dissolve Oxygen	Debris	Temperature	Other			
<b>General Public</b>														
Richland County	Raise awareness to the Stormwater hotline - why, when, and who should be called for what reason.	Richland County	x	x	x	x	x					x		Clemson Carolina Clear, DHEC
Clemson Carolina Clear	Radio Advertisements	Midlands	x											Richland County
Richland County	Earth Day Project (Lawnmower Exchange)	Richland County			x									KMB, many others...
Keep the Midlands Beautiful	Adopt-A-Highway Program	Richland County										x		
Keep the Midlands Beautiful	Adopt-A-Waterway Program	Richland County										x		
Keep the Midlands Beautiful	Riversweep	Richland County										x		
Richland Conservation District	District newsletter featuring rain barrels.	Richland County	x											
Richland County & Carolina Clear	Public Access TV Commercial and Advertisement	Richland County	x											
Richland County	Recycle Day	Richland County			x									Solid Waste
Forest Acres, Gills Creek Watershed Association	Rooftop Rhythms Festival	Forest Acres	x											Forest Acres
Congaree National Park, Gills Creek Watershed Association	Nature Fest	Richland County	x											Congaree National Park
Forest Acres Rotary Club, Gills Creek Watershed Association	Forest Acres Festival	Forest Acres	x											Forest Acres, Richland County, Forest Acres Rotary Club
Richland County	Sparkleberry Country Fair	Richland County	x											

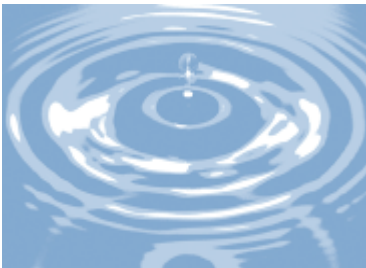




# Appendix C - Education Plan of Work

Table 6. Education Plan of Work, Year 2, Page 2

ADAPTIVE Stormwater Education Plan		Year 2 (2009-10) - Richland County, Arcadia Lakes and Forest Acres					Living Document (last revised: 8/24/09)						
Lead Service Provider	Activity--Program ( <i>Italics include participation elements</i> )	Target Geography/ Land Use	Target Pollutant(s)										Participation by other Service Providers
			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>													
Gills Creek Watershed Association	Public presentation on the Gills Creek Watershed	Richland County	x	x	x	x							
Gills Creek Watershed Association	Community Watershed Clean-up	Richland County								x			
Richland County	National County Government Week	Richland County											
Clemson Carolina Clear	Water Quality Publications	Richland County	x										Richland County
Richland County	State Fair	Richland County	x										Clemson Carolina Clear
Gills Creek Watershed Association	Presentation for Gills Creek Annual Meeting	Richland County											Clemson Carolina Clear
Richland County	Stormwater public workshops on leaf bagging and buffer ordinances	Richland County	x										Clemson Carolina Clear
Richland County	Water Environment Federation Conference												
Clemson Carolina Clear	Articles in the <i>Free Times</i> Newspaper	Richland County	x										
<b>Youth / K-12 / Teachers</b>													
Richland County	Richland 101 (Kids Day) Activities and information delivered to inform kids and their parents about Stormwater related issues.	Richland County	x										
Richland County	Public Works Week	Richland County	x										Department of Public Works Divisions
Conservation District	Conservation Station - develop a module on Stormwater runoff and pollution prevention and deliver it at upcoming Conservation Station events.	Richland County		x			x	x					Clemson Carolina Clear

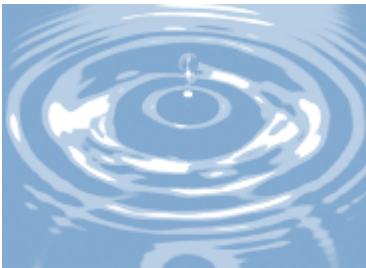


# Appendix C - Education Plan of Work

Table 6. Education Plan of Work, Year 2, Page 3

ADAPTIVE Stormwater Education Plan		Year 2 (2009-10) - Richland County, Arcadia Lakes and Forest Acres										Living Document (last revised: 8/24/09)		
Lead Service Provider	Activity--Program ( <i>Italics include participation elements</i> )	Target Geography/ Land Use	General Stormwater Awareness	Target Pollutant(s)										Participation by other Service Providers
				Bacteria	Toxic Contaminants, petroleum products, pesticides, heavy metals	Sediment	Nutrients	Pollutants resulting in low Dissolve Oxygen	Debris	Temperature	Other			
<b>Youth / K-12 / Teachers</b>														
Richland County	Utilization of existing learning stations featuring stormwater equipment	Richland County	x											
Gill Creek Watershed Association	Watershed Curriculum at Dent Middle School	Richland County												Arcadia Lakes, Dent Middle School
Clemson Carolina Clear	Green Steps Projects with local schools	Richland County												Green Steps, Keep the Midlands Beautiful
Clemson Carolina Clear	4H2O Pontoon Classroom day camps	Richland County	x	x	x	x	x	x	x	x	x	x	4H	
<b>Elected and Appointed Officials and High-Level Staff</b>														
Richland County & Clemson Carolina Clear	Richland County's County Council awareness presentation of the importance of Stormwater regulations and general Stormwater projects and programs. (NEMO presentation)	Richland County	x											SC Sea Grant, KMB
Clemson Carolina Clear	Presence at public discussions of stormwater regulations	Richland County												Richland County
Clemson Carolina Clear	Presentations for the Chamber of Commerce	Richland County												Richland County
Clemson Carolina Clear	Joint presentations for Lexington and Richland County Councils	Midlands												Richland County, Lexington County



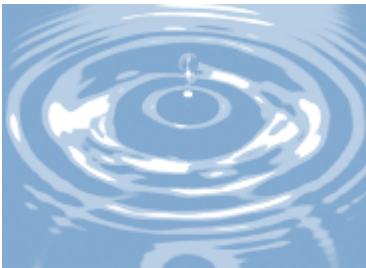


# Appendix C - Education Plan of Work

Table 6. Education Plan of Work, Year 2, Page 4

ADAPTIVE Stormwater Education Plan		Year 2 (2009-10) - Richland County, Arcadia Lakes and Forest Acres				Living Document (last revised: 8/24/09)						
Lead Service Provider	Activity--Program ( <i>Italics include participation elements</i> )	Target Geography/ Land Use	General Stormwater Awareness	Target Pollutant(s)								Participation by other Service Providers
				Bacteria	Toxic Contaminants, petroleum products, pesticides, heavy metals	Sediment	Nutrients	Pollutants resulting in low Dissolve Oxygen	Debris	Temperature	Other	
<b>Professionals: Contractors, Engineers, Developers</b>												
Richland County	Industrial Operators Conference	Richland County	x				x					
Clemson University	Clear Water Contractors	Richland County					x	x				
Clemson University	CEPSCI (Certified Erosion Prevention and Sediment Control Inspector)	Richland County					x	x				
Richland County	Developers Conference	Richland County										Engineering
Richland County	Construction Conference	Richland County										
Richland County	Best Management Practices (BMP's) Training	Richland County										
Richland County	2009 Stormwater Institute Annual Conference	Richland County										
Carolina Ready Mix Concrete Association	Presentation for development firms on how to include pervious pavers when designing stormwater systems	Richland County										Richland County,
Clemson Carolina Clear	Presentation for the Development Roundtable	Richland County										Richland County,
<b>Homeowners &amp; Homeowner Associations</b>												
Richland County, Arcadia Lakes	Storm drain marking, accompanied by Stormwater awareness door hanger.	Richland County	x	x			x	x		x		Clemson Carolina Clear
Richland County	Promote storm drain marking already completed by the county through newspapers, newsletters and local channels.	Richland County	x	x			x	x		x		Clemson Carolina Clear
Richland County Master Gardeners Association	Rain garden installations and demonstration workshops	Richland County	x									All

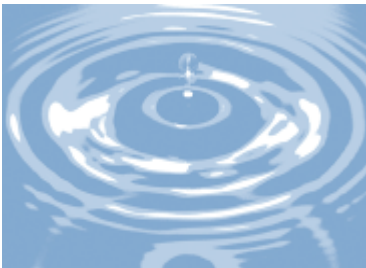




# Appendix C - Education Plan of Work

Table 6. Education Plan of Work, Year 2, Page 5

ADAPTIVE Stormwater Education Plan		Year 2 (2009-10) - Richland County, Arcadia Lakes and Forest Acres						Living Document (last revised: 8/24/09)				
Lead Service Provider	Activity--Program ( <i>Italics include participation elements</i> )	Target Geography/Land Use	General Stormwater Awareness	Target Pollutant(s)								Participation by other Service Providers
				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>												
Richland County	Beautification Day	Richland County	x									Keep the Midlands Beautiful, RC Special Services
Carolina Clear	Build a Rain Barrel Workshops	Richland County	x		x	x						
Soil & Water Conservation District	Rain Barrel Sales with accompanying newsletter articles	Richland County										
Richland County	Richland County Neighborhood Council - include articles in electronic newsletter to HOAs across the county	Richland County		x		x	x		x			Clemson Carolina Clear
Arcadia Lakes	Stormwater Awareness bill stuffer will be mailed out with tax bill.	Arcadia Lakes	x	x	x	x	x		x			Clemson Carolina Clear
Richland County	Yard Clippings Bagging Outreach	Richland County										
Richland County	Organic Gardening Yard of the Month Project	Richland County			x		x					
Richland County	Neighborhood Planning Conference	Richland County										
Carolina Clear	Carolina Yards & Neighborhoods Program	Richland County	x				x	x		x		
Master Gardener Association	Water Wise Garden recognition category in Yard of the Month program, through Master Gardener Association	Richland County	x									Clemson Master Gardener Program
Gills Creek Watershed Association, others	Pet Waste Campaign targeting specific neighborhoods and businesses (vets, pet supply stores, grocery stores)	Richland County	x	x								



# Appendix C - Education Plan of Work

Table 6. Education Plan of Work, Year 2, Page 6

ADAPTIVE Stormwater Education Plan		Year 2 (2009-10) - Richland County, Arcadia Lakes and Forest Acres										Living Document (last revised: 8/24/09)	
Lead Service Provider	Activity--Program ( <i>Italics include participation elements</i> )	Target Geography/ Land Use	Target Pollutant(s)										Participation by other Service Providers
			General Stormwater Awareness	Bacteria	Toxic Contaminants, petroleum products, pesticides, heavy metals	Sediment	Nutrients	Pollutants resulting in low Dissolve Oxygen	Debris	Temperature	Other		
<b>Commercial Citizens</b>													
Clemson Carolina Clear	Partnering for Water Quality presentation to the Chamber of Commerce - how businesses can get involved in water quality protection.	Richland County			x		x	x			x		Clemson Cooperative Extension Service, Richland County
Clemson Carolina Clear	Business Recognition Program	Richland County	x	x	x		x	x	x	x	x		Richland County
Clemson Carolina Clear	General Stormwater Awareness presentations to Rotary Club	Richland County	x										
Richland County	Pesticides, Herbicides, and Fertilizer (PHF) Inspections to bring awareness about proper use of these products and regulate storage of these products.	Richland County			x			x					
Clemson Carolina Clear	Brochure in Spanish for landscaping businesses and employees.	Richland County	x					x					
Richland County	Distribute brochures at the Business License Bureau	Richland County	x										Carolina Clear



# Appendix D - Richland County Internal Trainings

Employee Training		
Date: 9/17/2008	Workshop Title: BMP Training	
	Type of Training: Best Management Practices	
	Hosted By: Stormwater Division	
Address: Richland County Adult Activity Center 7494 Parklane Road Columbia, SC 29223		
Description: Instructor: Mr. Raymond Pittman from Thomas and Hutton Engineering Co. (912) 234-5300 Held from 9:30 am to 4 pm		
On-site Training: Hood Construction Blood Diagnostic Construction site Contact: Mr. Vince Hood		
Target Division or Department: Roads and Drainage, Engineering, & Stormwater Management		
Materials Used During Training: BMP Manuals		
Staff In Attendance		
Name	Department	Hours
BMP Training Class	Public Works	4

Employee Training		
Date: 9/17/2008	Workshop Title: Public Works Project Management Boot camp	
	Type of Training: Conference	
	Hosted By: PW	
Address:  ATLANTA, GA		
Description: File Found: Z:\travel\Travel and Training		
Description of Training: Gain a better understanding of tested project management methods and practical experience in proven techniques.		
Justification/Benefit: To gain better insight in various areas such as effective ways of dealing with elected officials, how to select engineering and architectural firms, learn the best ways to schedule and budget projects, negotiate favorable contracts, tools in getting projects closed out and accepted, manage design firms and construction contractors, manage quality and risks, and learns the methods used by the best private-sector firms in managing projects.		
Staff In Attendance		
Name	Department	Hours

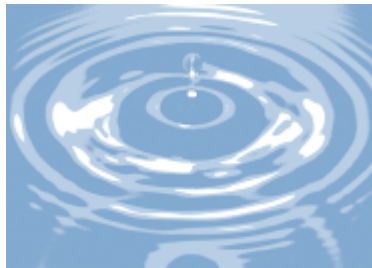




# Appendix D - Richland County Internal Trainings

Employee Training		
Date: 10/1/2008	Workshop Title: 2009 SESWA Annual Conference	
	Type of Training: Conference	
	Hosted By: SESWA	
Address:  Charleston, SC		
Description: File found: Z:\travel\Travel and Training\SEWSA Conference in Charlestown		
Description of Training: "Lessons learned and experience gained in the southeast" is this years topic.		
Justification/Benefit: To gain better insight and and learn the newest and most innovating best management practices and TMDL's, also learn how to effectively establish a Stormwater utility and networking.		
Staff In Attendance		
Name	Department	Hours

Employee Training		
Date: 10/6/2008	Workshop Title: Wetland Delineation Classroom and Field Training	
	Type of Training: Not Applicable	
	Hosted By: Wetland Delineation Classroom and Field Training	
Address:  Pineville, NC		
Description: File found: Z:\travel\Travel and Training\Wetland Delineation training		
Description of Training: To study wetland delineation procedures used and approved by the U.S. Army Corps of Engineers and other regulatory agencies through a combination of inside lecture/class discussion and an equal amount of field demonstrations and repetitons.		
Justification/Benefits: To gain a better understanding of a wide range of wetland delineation topics including soil hydro geochemistry, soil colors, soil taxonomy and a lot more topics attacked to this form.		
Staff In Attendance		
Name	Department	Hours



# Appendix D - Richland County Internal Trainings

Employee Training		
Date: 10/13/2008	Workshop Title: Southeast Stormwater Institute	
	Type of Training: Conference	
	Hosted By: Southeast Stormwater Institute	
Address:  Savannah, GA		
Description: File found:Z:\travel\Travel and Training\Southeast stormwater Institute conf		
Description of Training: Intensive, interactive three-day learning experience specifically designed to help public and private sector stormwater professionals. Develop or improve municipal stormwater programs, Strengthen stormwater design, construction, and maintenance skills; and intergrate volume reduction and green infrastructure credits.		
Justification/Benefit: Richland County is going to be home to the Stormwater Institute in 2009, and we are attending to gain more insite as to how to plan for this event and host it with out any delays and or problems to make sure that as sponsors, our event is a success in collabration with the Center for Watershed Protection.		
Staff In Attendance		
Name	Department	Hours

Employee Training		
Date: 12/1/2008	Workshop Title: SWPPP's Training	
	Type of Training: Training	
	Hosted By: Stormwater Management Division	
Address:  Columbia, SC		
Description: Date is not complete (December 2008)		
Staff In Attendance		
Name	Department	Hours



# Appendix D - Richland County Internal Trainings

Employee Training		
Date: 12/5/2008	Workshop Title: Water rights and other leagal aspects facing surveyors.	
	Type of Training: Training	
	Hosted By: Water rights and other leagal aspects facing surveyors.	
Address:  Charlotte, NC		
Description: File found: Z:\travel\Travel and Training\Water rights and other legal aspects		
Attendant: Jim Polson		
Description of Training: Siminar will cover Water boundary issues, Death transfes, Recordings, Freehold estates, and liens.		
Justification/Benefit: As a refistered land surveyor responsible for establishing or retracting boundary lines that follow water lines, knnowledge of water rights and legal deturmubations are essential. This knowledge will carry over to county issues as water right and boundaries are becoming a bigger issue in Public Works.		
Staff In Attendance		
Name	Department	Hours

Employee Training		
Date: 4/8/2009	Workshop Title: Industrial High Risk Conference	
	Type of Training: Conference	
	Hosted By: Richland County Stormwater Management Division	
Address: 400 Powell Rd Columbia, SC 29203		
Description: Designed to educate industries on current stormwater regulations and the processes Richland County follow.		
Staff In Attendance		
Name	Department	Hours