

Florence Darlington Stormwater Consortium



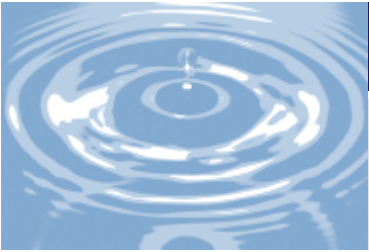
Annual Report of Activities

Year 2

September 2009 - August 2010



September 2010



Executive Summary

The Florence Darlington Stormwater Consortium (FDSC) is comprised of the City of Florence, Darlington County and Florence County, as well as several important partnering organizations. This regional education partnership began in the fall and winter of 2008 to 2009, and this watershed-based approach was officially adopted on November 18, 2009 with the signing of a joint resolution by officials from each of the three MS4s.

Using the 303(d) List of Impaired Waterbodies, feedback from stormwater professionals immersed in the region, and knowledge of local behaviors that potentially add to stormwater pollution, the group identified target pollutants and target audiences to draft the adaptive Annual Education Plan. Overall, stormwater awareness was retained as a part of the educational process, with special focus placed on infiltration, bacteria from pet waste and failing septic tanks, and sediment. Sources of bacteria were selected due to the upcoming TMDL on Black Creek expected next year and the current listing on Gully Branch in Florence. Consortium members felt that the following audiences should remain a focus in this regional education strategy:

- General Public
- Youth (including youth groups such as boy/girl scouts)
- Teachers
- Professionals (such as developers, engineers, builders and contractors)
- Planning Commissions
- Commercial Citizens (farmers)
- Homeowners/Homeowners Associations

This year also brought a local coordinator to the group, Ms. Terasa Young. Terasa is an experienced educator familiar with the watersheds, local agencies and the public. Prior to this time, Ms. Katie Giacalone, Carolina Clear Statewide Coordinator, had served as the group's coordinator.

During this second year, the FDSC grew with the addition of three new education partners and worked diligently to pool collective resources to deliver an effective stormwater message across the Pee Dee. Lessons learned from Year One's implementation of the Annual Education Plan served as important guidance. The consortium remains dedicated to enhancing water resources protection and stewardship throughout Florence and Darlington Counties and developing education and outreach strategies that will incur measureable behavior change, in as much as possible.



"The Consortium is beginning to make an impact on several target groups through our educational efforts. Young children are learning about the importance of clean water; parents are becoming involved by reading to their children and working on projects together; pet owners are becoming more responsible; teachers are spreading the word; our more mature generation is enjoying the fact that their gardening is making a difference in the environment; and our cross-over generation (those who are out of high school and in college or headed toward a career) have found a cause worthy of their involvement."

Julie Ritz

*Darlington County
Planning Commission*

Executive Summary

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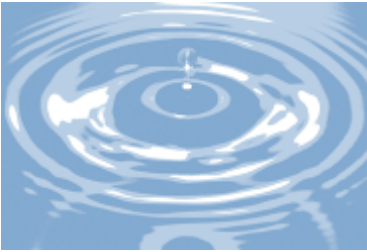
FDSC Annual Report

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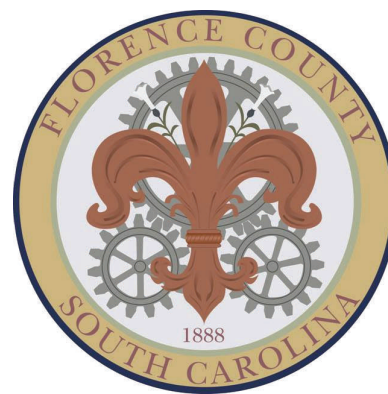


FDSC SMS4s

The FDSC is comprised of three small MS4s whose representatives provided the major guidance in determining the direction and purpose of the Consortium in its second year. Their commitment to protecting the water resources of the Pee Dee Region was strengthened with the signing of a joint resolution to adopt a regional stormwater education strategy on November 18, 2009.

Local SMS4 Consortium Representatives

SMS4	Consortium Representatives
City of Florence	Drew Griffin, Alvin Ard, Michael Hemingway, Amanda Pope, Forrest Whittington
Darlington County	Doug Reimold, Charles Brooks, Dana Hamilton, Julie Ritz
Florence County	James Griffin (formerly with the county), Brian Hicks, Chris Moats, Benjamin Smith



FDSC SMS4s

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FDSC Education Partners

The FDSC’s education partners play a vital role in developing and delivering outreach programs that align with the Consortium’s mission of enhancing water resource protection and stewardship. Collaboration with these universities, government agencies, and non-profits enables the FDSC to deliver consistent and effective outreach programs throughout the watershed. New to the Consortium are the Florence Area Humane Society and the Darlington County Humane Society.

Education Partners
Carolina Clear
Clemson University Cooperative Extension Service
Clemson University Center for Watershed Excellence
4-H Youth Development
Kalmia Gardens of Coker College
BP Barber
Environmental Discovery Center at Lynchess River County Park
Pee Dee Land Trust
SC Department of Health and Environmental Control
Florence Area Humane Society
Darlington County Humane Society



Education Partners

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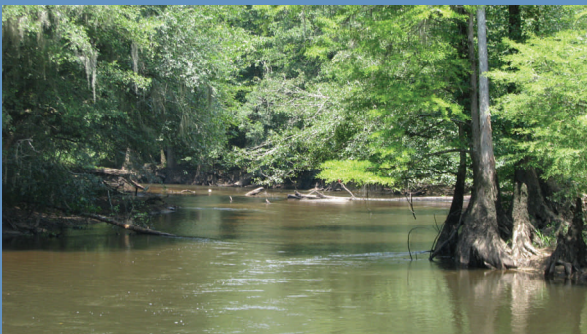
FDSC Goals and Objectives

Goal Statement

To enhance water resource protection and stewardship throughout Florence and Darlington Counties through stormwater education, public involvement and outreach, and by fostering partnerships with local governments, citizens, businesses, schools, and organizations to support healthy waterways.

Objectives

1. Maximize efficiency of stormwater education efforts in the upper Pee Dee region of South Carolina by using a regional/watershed approach.
2. Develop and implement a cohesive education strategy that addresses the range of stormwater pollutants using a prioritized approach that capitalizes on local training resources.
3. Foster and expand upon citizen involvement in stormwater management through this effort's education and participation programs.
4. Encourage behavioral change towards improved environmental protection and awareness through stormwater education.
5. Facilitate collaboration among local organizations interested in watershed-related education to best meet the educational needs of local communities and their public.
6. Through partnerships with MS4s, leverage local education resources and organized outreach programs to meet the NPDES Phase II permit requirements for public stormwater education and outreach to achieve greater water resource protection.
7. Actively participate in collaborative stormwater education that can be presented and applied in South Carolina and nationwide.



"A river is more than an amenity—it is a treasure that offers a necessity of life that must be rationed among those who have the power over it."

-Oliver Wendell Holmes

FDSC Goals and Objectives

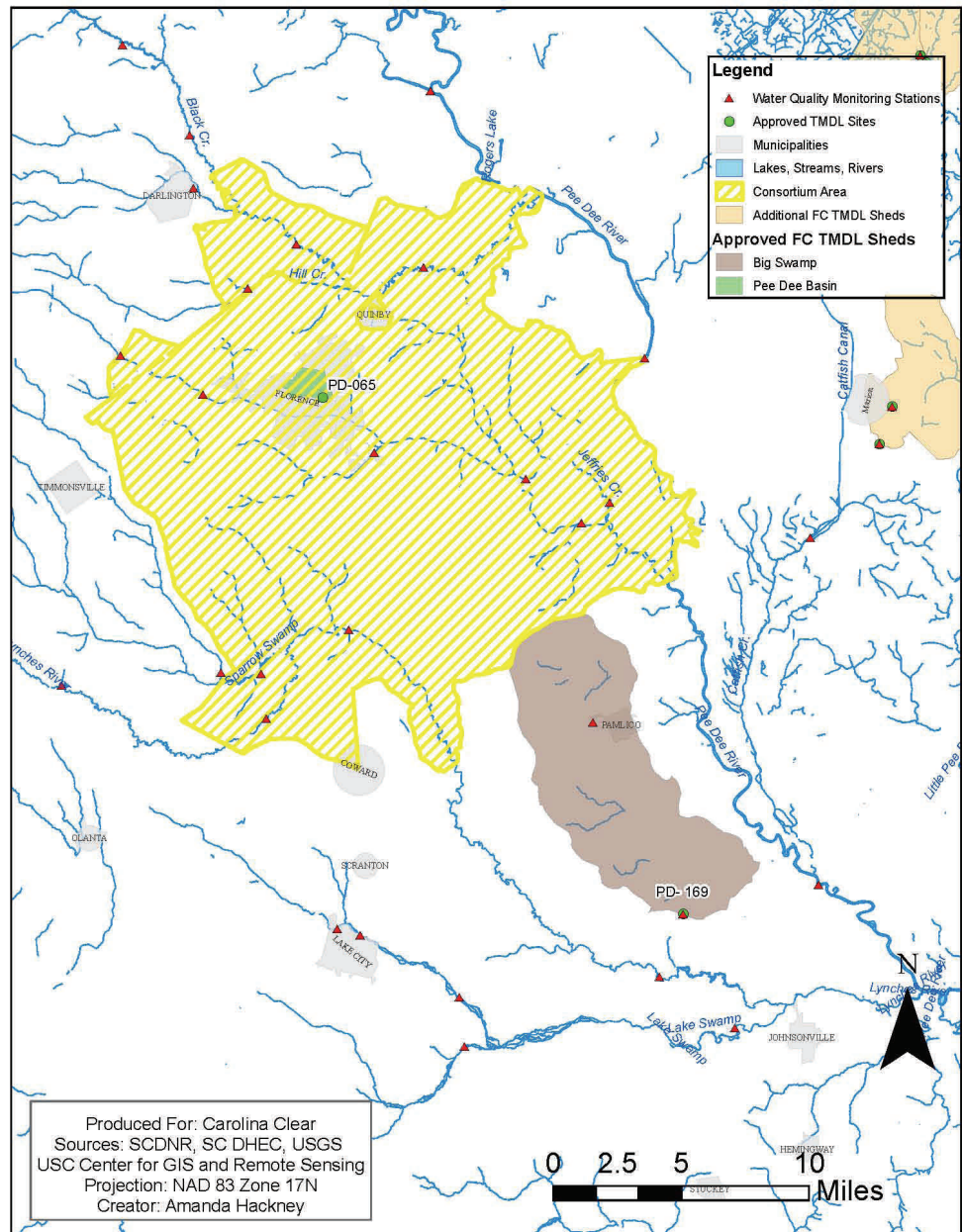
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FDSC Meetings & Discussions

In addition to regular communication through a list serve, the consortium also met three times this year to recruit and discuss partnering organizations, evaluate educational needs, and develop an education strategy for implementation. Meetings included all MS4s, education partners, local agencies and on some occasions, interested citizens; feedback, discussion and consistent communication truly made this a regional decision-making process. The 2008 list of impaired waterbodies and TMDLs approved and upcoming have been a major consideration at meetings. This information has been used to develop an education strategy that reflects known water quality impairments. Discussions have included the identification of audiences that may be involved with actions related to the known impairment and those audiences who may be involved in preventing that type of pollution.

Florence Darlington Stormwater Consortium Fecal TMDL Watersheds



FDSC Meetings & Discussions

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Public Education

The public education segment of this document is organized by outreach methods, with major headings including: Mass Media, Publications, Presentations, Joint Resolution Signing, Workshops, Conference, and Brochure/Outreach Media.

Target audiences that are tracked in the FDSC Activity Database have been abbreviated; additional target audiences not in the database are listed in full. Abbreviations are identified in the table to the right.



Audience Abbreviations	
General Public	GP
K-12 Students/ Youth	YT
Teachers	TE
Elected & Appointed Officials	EA
Directly-Involved Staff (Maintenance, Facilities, Custodians, Ground-keepers, etc.)	DIS
Supervisory Staff (Administrators, Stormwater Managers, etc.)	SS
Contractors	CO
Developers	DE
Landscapers or Landscape Architects	LA
Marina Owners and/or Boat Owners	MBO
Homeowners	HM
Engineers	EN

MASS MEDIA: *Billboard*

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Clemson Extension		Billboard Media Campaign - Florence Co. W. Palmetto St. 0.1 miles East of Five Points, north side	3/8/2010-8/31/2010	30,400 per day	GP
Clemson Extension		Billboard Media Campaign - Darlington Co. I-20 875' East of S-16-33, south facing	3/8/2010-8/31/2010	17,500 per day	GP

Public Education

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Public Education

MASS MEDIA: *Radio and TV*

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Clemson Extension	Time Warner Cable / Palmetto People	A stormwater commercial aired 10 times per week on 17 shows.	8/3/2009-12/21/2009	<184,267	GP
Clemson Extension	Time Warner Cable (FX, Fox News, TNT, USA, Spike, Weather Channel)	A stormwater commercial was aired on Time Warner cable channels (20 spots per week for four weeks).	8/12/2009-9/12/2009	<184,267	GP
Clemson Extension	City of Florence	Interviewed by Tom Kinard on “Kinard-n-Koffee” show which is aired on 1310 AM and 93.7 FM radio stations.	9/19/2009	12,000	GP

The mass media campaign which began in 2009 was carried out on television via spots purchased from Time Warner Cable. At the time of publication of the 2008-2009 Annual Report, impact numbers were still being calculated by the cable network. Impact numbers reported in this annual report fall reflect a period of time that spans the 2008-2009 and 2009-2010 reporting year.



The 30-second commercial for television has the following educational message: there is a limited amount of clean, fresh water and actions that people take on a daily basis can affect the quality of that water supply. The PSA specifically identifies pollutant sources from over-fertilizing lawns, hazardous household materials, oils washing off driveways and parking lots, and pet waste—and the need to manage these potential pollutants. The commercial encourages the viewer to remember that “*We ALL live downstream.*”



For more information and to play the commercial, please go online at www.clemson.edu/public/carolinaclear/fdsc and click on “Media.”

Public Education

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Public Education

MASS MEDIA: *Radio and TV*

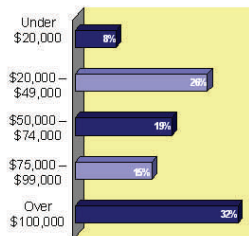
Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Clemson Extension	City of Florence	Interviewed by Tom Kinard on “Kinard-n-Koffee” show which is aired on 1310 AM and 93.7 FM radio stations.	7/21/2010	12,000	GP
Clemson Extension	SC ETV	Appeared on <i>Making It Grow!</i> to discuss rain barrels, rain gardens, and ways to mitigate stormwater on the home landscape.	8/3/2010	2850	GP



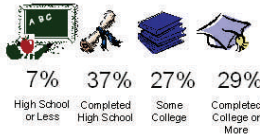
Gender



Household Income



Education



Home Ownership

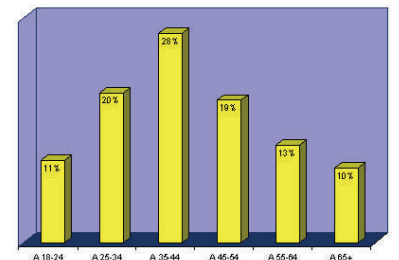


Adult Contemporary

Listener Profile



Demographic Breakout



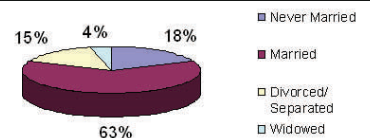
Occupation

Professional / Managerial	17%
Technical and Administrative Support	14%
Sales	8%
Service	6%
Labor	4%
Proprietor	1%

Households with Children

34%

Marital Status



Public Education

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Public Education

MASS MEDIA: *Internet*

The Carolina Clear website was redeveloped in September 2008 and serves as a statewide educational resource and hub for the FDSC website. The FDSC website has been created and is undergoing changes as this consortium evolves. The viewership of the website is monitored by Google Analytics, which developed the numbers included above.

The FDSC website features information on the consortium, its goals and objectives, links to partnering organization, municipality and county websites, information on upcoming events, a copy of the education plan and mass media information. Future website improvement projects will include total maximum daily load information, watershed maps and partnering organization project and event announcements.

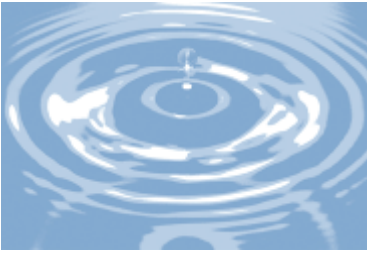
Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Clemson Extension		This is the total number of visits to the pages of the Florence Darlington Stormwater Consortium section of the Carolina Clear website.	9/1/2009-8/31/2010	775	GP
Clemson Extension		This is the total number of visits where user accessed information on the Carolina Clear web pages from Florence and Darlington Counties.	9/1/2009-8/31/2010	499	GP
Darlington County		This numbers represents visit to the Darlington County Stormwater Management webpage. The page gives the definition of stormwater, identifies potential pollutants, relates stormwater pollution to the local watershed, and lists things that the general public can do to protect water resources. Citizens are also given a pollution prevention hotline to call if they spot illicit discharges.	9/1/2009-8/31/2010	293	GP, YT, EA

"If you could tomorrow morning make water clean in the world, you would have done, in one fell swoop, the best thing you could have done for improving human health by improving environmental quality."

William C. Clark

Public Education

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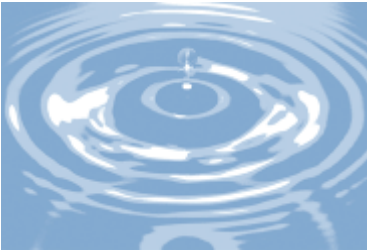
PUBLICATIONS

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Clemson Extension	Darlington News & Press	Follow up article in Darlington News & Press on rain barrel workshop.	9/2/2009	6200	GP
US Department of Agriculture	Kalmia Gardens	Regional stormwater education partnership announced in USDA's "Eat Smart...It's in the Garden" September 2009 Newsletter.	9/10/2009	200	GP, YT, TE, Farmers
Clemson Extension	Florence Morning News	Article announcing joint resolution signing by the City of Florence, Darlington County, and Florence County featured in the Florence Morning News.	11/18/2009	33000	GP
Clemson Extension	Florence Morning News	"Science educator Young joins Carolina Clear" featured in Florence Morning News.	4/18/2010	33000	GP
Clemson Extension	Florence Morning News	"Stormwater compliance workshop coming to Pee Dee" article featured in Florence Morning News.	5/20/2010	33000	CO, DE, LA, EN, SS
Clemson Extension / Kalmia Gardens	Florence Morning News	"Camp 4-H2O teaches children about watersheds, safety" featured in Florence Morning News.	6/18/2010	33000	GP, YT



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Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Clemson Extension	Florence Morning News	"Keep water clean, save money at the same time" column written by Terasa Young featured in Florence Morning News.	7/4/2010	33000	GP, HM
Clemson Extension	Darlington News & Press	"Clemson Extension agent is on a mission to keep Carolina Clear" featured in the Darlington News and Press.	7/14/2010	6200	GP, HM
Clemson Extension	Darlington News & Press	"Drinking with dinosaurs" article featured in Darlington News and Press. Article highlights the presentations by Alma Harris at the Darlington Library teaching children about the water cycle and the importance of water conservation.	7/21/2010	6200	GP, YT
Clemson Extension	Florence Morning News	"Harvesting rainwater offers benefits" column written by Terasa Young featured in Florence Morning News.	8/1/2010	33000	GP, HM

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Clemson Extension agent on a mission to keep Carolina Clear

by Samantha Lyles
Staff writer
slyles@newsandpress.com

Although her job may not involve cloak and dagger espionage, new Clemson Extension agent Terasa Young does have an important mission: to preserve the natural resources of the Pee Dee region by keeping area waters as clean as possible.

Young earned a bachelor's degree in biology and a master's in education from Coastal Carolina University, and achieved master naturalist certification through Clemson University. Hired in April as a Carolina Clear agent working with the Florence/Darlington Stormwater Consortium, Young aims to educate citizens of all ages about the interdependence of water supplies in residential, commercial, and natural settings.

"Our motto is 'We all live downstream,'" says Young. "Stormwater (in MS-4 communities like Darlington) is not treated. Everything that goes down a storm drain empties directly into a body of water."

These washed-away contaminants include everything from lawn fertilizer and animal waste to sediment runoff from construction sites. There are also a number of illicit dis-

charges, as when people recklessly dump chemicals, motor oil, paint, or other toxic substances down a convenient storm drain.

Young stresses that people need to understand these chemicals are not vanishing into some magical safe containment pond – they are deposited in our streams and rivers and lakes, and re-entering the water table untreated. The Environmental Protection Agency considers stormwater the greatest existing threat to safe water quality.

There are a number of precautions people can take to minimize their impact on stormwater pollution. Homeowners can test their soil before adding fertilizer, since there may already be enough nutrients present. Excessive fertilizer washing into live bodies of water can contribute to algae blooms and fish kills.

Here are a few more homeowner tips: Pick up pet waste, flush it or wrap it in a baggie and trash it. Wash your car on the lawn instead of the driveway, and use biodegradable soaps. Bag grass clippings and leaves, or use them as compost, since this biomass can cause nutrient issues, not to mention clogging and flooding when it washes into storm

drains.

Never throw or sweep anything into storm drains, not even yard debris or leaves. Bag your trash, and pick up wrappers, plastic bottles, or other light, loose items which may get left on the ground after the garbage truck pulls away. Get involved with a community clean-up group, and report littering whenever you witness it, especially when someone is stuffing trash or pouring something down a storm drain. Call your local authorities, or use the Palmetto Pride hotline at 1-877-7LITTER.

Recycling stormwater runoff from one's house can provide double benefits, says Young, by diverting rain from the municipal septic systems and into money-saving rain barrels. Half of a household's water use is outside the home, and installing a catchment system like a rain barrel could substantially reduce your water bill.

Heavy rainfall isn't necessary to fill these barrels; a typical 1200 square foot roof with four downspouts can fill four barrels with only 0.3 inches of rain per barrel. This could provide more than 200 gallons of non-potable irrigation water.

The Clemson Extension offers workshops where you

can learn how to build and install rain barrels. For a \$50 fee, participants get their own barrel (often a clean, repurposed plastic drum from local industry), instruction and help to prepare it, and the knowledge to install and use it properly to water gardens, lawns, and meet other outdoor water needs. Lunch is included in the workshop fee.

Young says another public education effort involves placing tags on stormwater grates, reminders that anything dumped down that drain will be deposited untreated in a local body of water. Volunteer groups are needed to place these tags, and Young encourages any youth groups, church groups, or corporate volunteers to contact her for more information on this tagging program.

For more information on rain barrels, stormwater runoff prevention, or other tips on how your volunteer group can help keep our Carolina waters clear, visit www.clemson.edu/carolina-clear or call Terasa Young at (843) 661-4800, ext. 113



Clemson Extension agent Terasa Young prepares a rain barrel at a Florence/Darlington County extension office.
PHOTO SAMANTHA LYLES

Samantha Lyles from the Darlington News and Press wrote this article about Carolina Clear and the Florence Darlington Stormwater Consortium.



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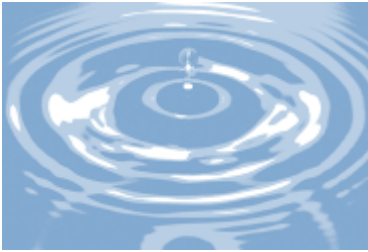
Public Education

PRESENTATIONS: *Exhibit/Poster*

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
City of Florence	Florence County, Clemson Extension	Stormwater education postcards and promotional items were given out at the Pecan Festival in downtown Florence.	11/7/2009	150	GP
Kalmia Gardens	Clemson Extension	Kalmia Gardens set up a stormwater display and rain barrel give-a-way provided by Carolina Clear at their Earth Day Festival.	4/10/2010	Approx. 100	GP, YT
Clemson Extension		Extension Agent Tony Melton set up a stormwater display and rain barrel give-a-way provided by Carolina Clear at the Rural Heritage Festival.	4/17/2010	Approx. 550	GP, YT, HM
Clemson Extension		Carolina Clear set up a stormwater display and rain barrel give-a-way at the Just A Walk in the Park Earth Day Event at Williamson Park.	4/17/2010	Approx. 70	GP, YT, HM
Kalmia Gardens		Use of rain barrels was discussed and barrels were sold during the Master Gardener Plant Sale.	4/24/2010	Approx. 100	HM
Clemson Extension		Carolina Clear set up a stormwater display and rain barrel give-a-way at the Black Creek Canoe and Kayak festival at Lawton Park.	5/1/2010	Approx. 50	GP, YT, HM
Kalmia Gardens		The Enviroscape model was used to illustrate the concept of stormwater runoff and the things that we can do to prevent stormwater pollution.	6/8/2010	35	YT

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Public Education



Image capture of the consortium's newest educational flyer describing proper yard debris disposal. The flyer is printed in English on one side and Spanish on the other.

Public Works Crews will be distributing these when they observe mismanagement of yard waste and debris.

Leaf it on the Lawn: Tips for Proper Yard Debris Disposal

Did you know that stormwater is the *leading* threat to water quality?

Yard debris can be transported to stormwater pipes and waterways, causing problems for you and your community.

- Yard debris can clog stormwater pipes, causing flooding and costly maintenance, which may be passed on to homeowners.
- As yard debris decomposes, nutrients such as nitrogen and phosphorus are released into the water. This causes algae blooms, which are unsightly and can kill fish.

Free Fertilizer, Anyone?

- Grass clippings and leaves return nutrients and water to the soil. Mulching mowers may be more efficient but several passes with any rotary mower will yield the same results with no impacts on turf.
- Use a blower or broom to keep grass clippings and leaves in the yard instead of blowing them into the street.

If you must dispose of yard waste, compost it or bag it for pick up.

Remember, South Carolina, *we all live downstream!*

You can be the solution to stormwater pollution!



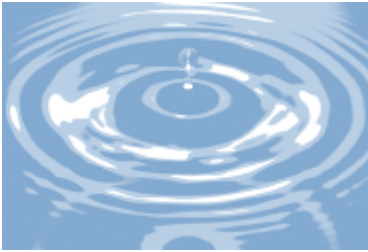
For more information:

City of Florence Public Works Sanitation Division 665-3236
Darlington County Environmental and Recycling Services 398-4800
Florence County Environmental Services 665-3053



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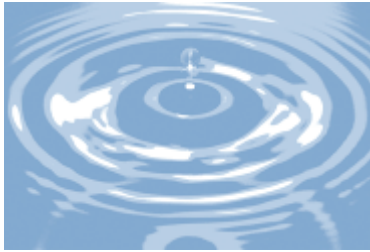
PRESENTATIONS: *Nature Oriented Tours*

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Kalmia Gardens		Dan Hill led Scott Mixon's 5th grade classes on a nature walk through Kalmia Gardens. They stopped at a storm drain pipe and talked about stormwater, runoff, water quality, and water conservation.	10/19/2009		
			10/21/2009	58	YT, TE
			10/22/2009		
Kalmia Gardens		Led a NC Garden Club on a nature Walk in Kalmia Gardens. On this walk he stopped at a stormwater culvert to talk with the group about storm water runoff. Explained the importance of keeping storm water runoff as "clean" as possible and talked about the benefits of rain gardens, collecting rain water in rain barrels, and water conservation in general.	10/20/2009	30	HM



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Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Kalmia Gardens		Dan Hill led a tour of 25 adults from First Baptist church around Kalmia Gardens stopping at the storm drain pipe to inform them about storm water runoff. Many thought stormwater went to treatment plants.	2/25/2010	25	HM
Kalmia Gardens		4th graders from Thomas Wood School toured Kalmia Gardens stopping at the storm water pipe to learn about storm water runoff. None of the kids realized where storm water went or the things it could carry. (Thomas Wood School)	3/26/2010	59	YT, TE
Kalmia Gardens		Earth Day event at Kalmia Gardens. 60+ people were led on walking tours of the garden where storm water and runoff issues were talked about. 30 people were guided on Black Creek where watershed and conservation topics were discussed.	4/10/2010	90	GP, YT, TE, HM, EA
Kalmia Gardens		Led a tour from Carolina Elementary. We talked about storm water and runoff.	4/22/2010	24	YT, TE, HM
Kalmia Gardens		Mecklenburg County NC Master Gardeners tour. On our tour we stopped at the storm water pipe and discussed issues with storm water runoff. Many thought the water would be treated and were surprised to hear otherwise. We also discussed rain barrels.	5/12/2010	30	GP, HM

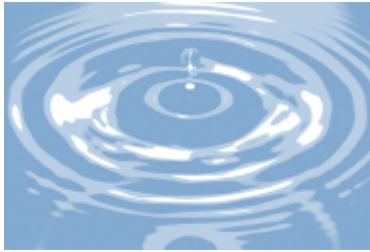


“We’re doing everything we can to make sure that our future generation understands the process of water protection, and how important it is to save our water.”

Alma Harris
Extension Agent, Darlington and Florence Counties

Public Education

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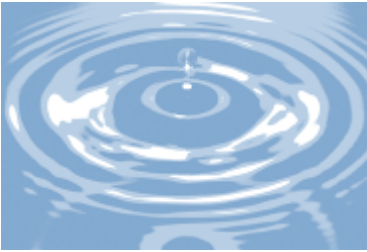


Public Education

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Kalmia Gardens		On this tour with 2nd grade students, we stopped at the storm drain pipe to discuss storm water and issues that affect the quality of the water, and the importance of protecting our water sheds.	5/13/2010	80	YT, TE
Kalmia Gardens		A group of special needs young adults toured the garden. We discussed storm water, water conservation, and wet lands at the storm drain pipe.	5/18/2010	18	GP
Kalmia Gardens		Dan Hill led the women's league on Black Creek. On this trip we discussed storm water runoff, water conservation, the importance of swamps/watersheds and best ways to protect them.	5/23/2010	4	GP, HM
Kalmia Gardens		I guided the Darlington County economic committee down black creek. We discussed water sheds, and storm water runoff.	6/3/2010	16	GP, HM, EA
Kalmia Gardens		Winners of the women's league auction canoe trip discussed storm water runoff and its impact on Black Creek, protecting watersheds and the importance of watersheds.	6/11/2010	2	GP, HM
Kalmia Gardens		Florence Christian School toured the garden and stopped at the storm water pipe to discuss storm water and its impact on local water ways, watershed protection, and the importance of clean water to us and wildlife.	6/21/2010	60	YT, TE,
Kalmia Gardens		In conjunction with the Hartsville Library's "Make a splash, Read" program, a group of children learned about the importance of water and ways to keep it clean. We looked at benthic macroinvertebrates, checked minnow traps, examined the fish we caught then released them. At the dock we discussed the ecology of Black Creek.	6/23/2010	70	YT, TE, HM

Public Education

September 2009—August 2010 Annual Report
 Florence Darlington Stormwater Consortium



Public Education

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Kalmia Gardens		A group of 25 children (4-13 yrs.) from Florence toured the garden and we discussed storm water runoff and water pollution.	8/10/2010	25	YT, TE

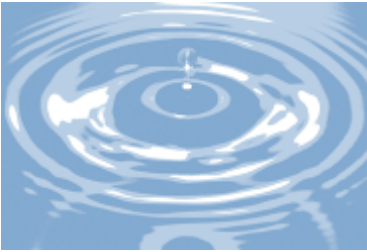
“Over the past year I have had great response when using the Enviroscape watershed model. It is one thing to talk to children, young adults, and even adults about stormwater runoff and the pollutants it can carry, but for them to actually see it is another. You can tell by the look on everyone’s faces when you make it “rain” over the model and see soil, animal waste, automotive spills, etc. wash into the waterways that it is a real an eye opener! I am very happy with how this model works and will continue to use it along with my other “tools” in teaching water conservation and stormwater runoff at Kalmia Gardens.”



Dan Hill
Assistant Director, Kalmia Gardens

Public Education

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Florence Darlington Stormwater Consortium



Public Education

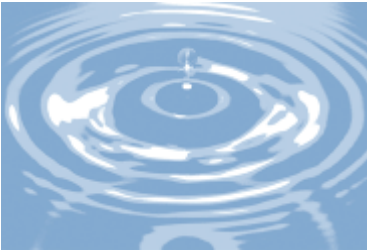
PRESENTATIONS: *Summer Programs*

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Clemson Extension	Kalmia Gardens	Clemson Extension 4-H and Kalmia Gardens of Coker Colleges sponsored a 4-H2O water quality and outdoor adventure camp. The educational camp taught youth to understand, appreciate and protect life in and around the lake. Participants learned about the aquatic environment, how a watershed works, how it affects the quality of water resources and how to protect the water. They also learned about insects and their role in the ecosystem.	6/16/2010-6/18/2010	24	YT
City of Florence	Clemson Extension	Staff from the City of Florence, Carolina Clear, and the Pee Dee REC spoke to a summer youth group about stormwater & the adverse effect certain human behaviors have on our aquatic life & their ecosystem. A model demonstrated how run off pollution traveled through underground pipes & discharged into local creeks & streams untreated. Terasa gave demonstration on water quality, water testing, and the effects on the health of aquatic life. A power point presentation was shown of our SWIM project and explained how certain processes in nature help remove pollutants.	7/09/2010	63	YT



Public Education

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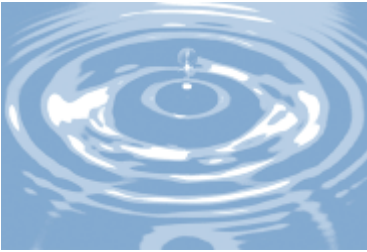
Public Education

PRESENTATIONS: *Summer Programs*

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Kalmia Gardens		Week in the Wild is a half day camp divided into 3 week sessions for rising 1st and 2nd graders/ rising 3rd and 4th graders/rising 5th and 6th graders. We discussed storm water, where it goes, and what it carries with it as well as the importance of water conservation.	7/12/2010-7/30/2010	60	YT
City of Florence	Clemson Extension	Staff from the City of Florence, Carolina Clear, and the Pee Dee REC gave a tour of the City's SWIM project to a summer youth group. Four stations around the project was set up and each station demonstrated/spoke about a specific environmental topic. Station 1 explained the water cycle and students created bracelets using different trinkets that represent each part of the water cycle. Station 2 demonstrated water sampling for DO & pH. Students were allowed to participate by gathering samples and reading results. It was explained how each test was an indicator of water quality and how the quality was important to the ecosystem. Station 3 introduced students to macro invertebrates. Students were allowed to use dip nets & identify various aquatic life, this became one of the participants favorite stations. Station 4 was a model that demonstrated how run off pollution travels through underground pipes and is discharged untreated into our local streams and creeks. Students were taught how to properly pick up & dispose of pet waste. Impact was gauged by allowing each student to individually tell one thing they learned before they left the project.	7/16/2010	49	YT
Environmental Discovery Center		Students from High School High Tech perform a chemical analysis of the Lynches River including temperature, pH, phosphate/nitrates and dissolved oxygen to determine the overall water quality.	7/30/2010	12	YT

Public Education

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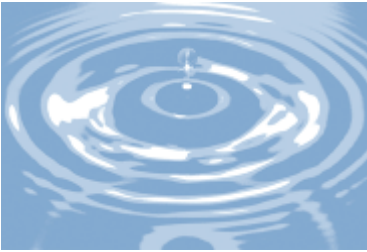
Public Education

PRESENTATIONS

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Clemson Extension		Florence County Pesticide Training: re-certification for Pesticide License. Discussed runoff management, safety, and commercial application of pesticides.	9/2/2009	5	DIS
City of Florence		Students from McLaurin Elementary School toured the City of Florence wastewater facility. The event included tours of our treatment process and a brief description of the treatment steps. Water discharge from the plant and our storm water collection system was a key speaking topic in order to promote awareness that storm water was untreated and our personal behavior had an affect on the quality of water in our community.	9/25/2009	67	YT, TE
City of Florence		Michael Hemingway spoke to West Florence High School students about the importance of stormwater and pollution prevention. Each participant received a pet waste education card, stormwater awareness card, and City of Florence Land Disturbance & Stormwater Management pamphlet. The feedbacks from the teacher and students as positive and they requested future visits.	10/20/2009	14	YT, TE
City of Florence		Michael Hemingway spoke to 26 students about stormwater and pollution prevention. Each participant received a pet waste pamphlet, stormwater awareness pamphlet, and City of Florence Land Disturbance & Stormwater Management pamphlet.	11/17/2009	26	YT, TE
Clemson Extension		Clemson Extension 4-H students and volunteers visited J& W Greenhouse to learn about the daily operations of the greenhouse and how chemicals if not disposed of properly could affect water quality in the food chain.	4/24/2010	32	GP, YT, HM

Public Education

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Public Education

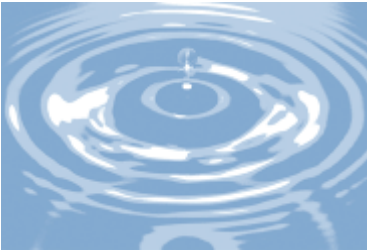
Lead Provider	Supporting	Activity	Date	Number of	Target
Clemson Extension		Worked with children from the Pee Dee Short Course 4H Camp at Francis Marion University to test the pond water from campus and talk about water quality and things they could do to protect and conserve water.	6/16/2010	81	YT
Clemson Extension	South Carolina Rural Water Association	Students at the Darlington County libraries learned the importance of the water cycle process and how to protect our water. Participants learned our to use water wisely. Limit use of household and garden chemicals, never pour chemicals or paint down the sink or storm drain, or on the ground, bring all hazardous wastes to a hazardous waste collection center. Students, were influenced to get involved with community efforts to protect and conserve water.	6/28/2010-7/2/2010	300	YT, GP, TE
Clemson Extension		Terasa Young spoke to the residents at McLeod Family Medicine. The presentation talked about watersheds, stormwater and possible pollutants, and green solutions such as rain water harvesting, buffers, pervious surfaces.	6/18/2010	8	GP, HM
City of Florence		Florence elected officials and Planning Commission were presented updated material on the City of Florence NPDES Phase II stormwater permitting cycle.	6/18/2010	20	EA

JOINT RESOLUTION SIGNING

Clemson Extension	All MS4s	A joint resolution was signed at the Florence Civic Center by officials from each of the three MS4s officially adopting a regional stormwater education strategy through the Florence Darlington Stormwater Consortium.	11/18/2009	38	EA
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Public Education

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Public Education

WORKSHOPS

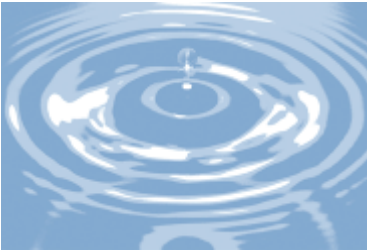
Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Clemson Extension		Clemson Extension 4-H, conducted water quality activities in the school during the school year. Student's learned how our activities on land can pollute water and how to keep our water safe.	9/01/2009-8/30/2010	400	YT, TE
City of Florence		The City of Florence Parks & Beautification Commission held their annual retreat & work session . The commission and city staff developed an annual plan to serves as a guide for policy development, beautification efforts, program implementation & capital projects for the coming year. Commission also received a status report on projects currently including posting of signage at watershed management areas.	1/30/2010	21	DIS, GP, EA
Clemson Extension	Kalmia Gardens	The Junior Master Gardener program is designed for 3rd through 5th graders and is modeled after the Mater Gardener Program offered through Clemson University Cooperative Extension Service. The horticultural and environmental science education included the watershed and water cycle activities.	3/4/2010	16	YT
Clemson Extension		35 students and adults of the Clemson Extension program learning the importance of being environmental stewards and how the zoo maintains high quality natural waters for the plants and animals that live on-site and everyone who lives downstream, through visiting the Riverbanks Zoo in Columbia.	4/16/2010	35	YT

"We have too long treated the natural world as an adversary rather than as a life-sustaining gift from the Almighty. If man has the genius to build, which he has, he must also have the ability and the responsibility to preserve."

Gerald R. Ford

Public Education

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Public Education

WORKSHOPS

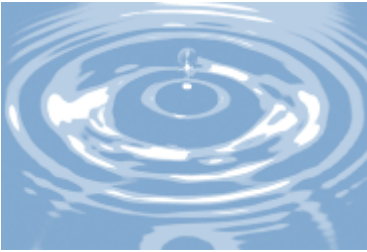
Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Clemson Extension	All MS4s	Stormwater Compliance Support Workshop held for contactors, sub-contractors, Tier-B Surveyors, and Registered Landscape Architects. Workshop focused on NPDES Permit Requirements, BMPs, LID, and question and answer session with Jill Stewart from SC DHEC.	6/3/2010	58	CO, DE, EN, LA
SC Forestry Commission	Kalmia Gardens	Project Learning Tree (SC Forestry Commission) help a workshop at Kalmia Gardens. Topics discussed included: water conservation, the importance of and protecting water sheds, storm water runoff, and clean water.	6/22/2010	60	TE, GP, HM
Clemson Extension		Through the Community Garden Project, participants learned the importance of water quality when it comes to planting and fertilizing a garden.	7/1/2010-8/31/2010	45	P, YT, TE, HM
Clemson Extension	Kalmia Gardens	A build your own rain barrel workshop was held at Kalmia Gardens. Educational presentation focused on stormwater pollution and green solutions for homeowners.	8/28/2010	16	HM

CONFERENCE

Darlington County		Charles Brooks invited Jill Stewart (SC DHEC) to the 2010 South Carolina Association for Hazard Mitigation conference to discuss the new regulations being proposed for the next permit cycle since many of our members not only regulate flood hazard ordinances for their jurisdiction but also work with stormwater management.	3/10/2010-3/12/2010	135	SS
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Public Education

September 2009—August 2010 Annual Report
Florence Darlington Stormwater Consortium



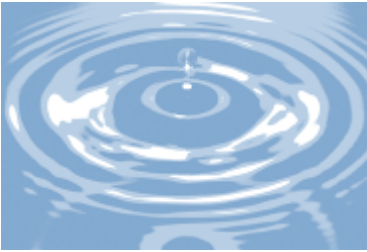
Public Education

BROCHURE / OUTREACH MATERIAL

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Kalmia Gardens	Clemson Extension	Storm water runoff brochures were handed out at the Darlington County Master Gardener booth during the Hartsville Community Market.	10/3/2009	150	GP, HM
Darlington County	EPA	Children who accompany their parents to the Darlington County Planning Commission Office are given EPA water related coloring and activity pages.	12/1/2009-8/31/2010	883	YT
Darlington County	Clemson Extension	Educational postcards on a variety of storm-water topics were given to people visiting the Darlington County Planning Commission office.	1/4/2010-8/31/2010	491	GP, HM, TE, YT, DE, LA
Darlington County		When developers for subdivisions or commercial sites come into the office to inquire about requirements there is an opportunity for education on a one-to-one basis. The other group that is an easy reach are the contractors pulling permits. Once the site is determined to be in or near a flood zone or impaired water, the brochure "Stormwater Permits for Construction Activities" is given to the individuals involved.	5/1/2010-8/31/2010	20	DE, CO
Darlington County	Clemson Extension	When children come into the office, they are offered a compressed sponge with a stormwater message and told about the importance of being a solution to pollution. Parents are encouraged to help their child and experiment with the sponge.	5/1/2010-8/31/2010	90	GP, YT, HM

Public Education

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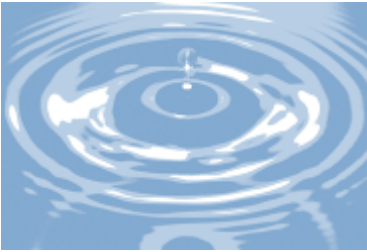
Public Involvement

COMMUNITY CLEAN-UPS

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
City of Florence		The City has established 4 used motor oil collection centers located at fire departments, which conveniently allow the community to safely dispose of used motor oil at no charge. *Oil collected is calculated based on the calendar year.	*1/1/2009-12/30/2009	1596 gallons	GP
Clemson Extension		4-H Youth in Darlington County attack litter, during the 2009-2010, reporting period. In an effort to keep Darlington County Beautiful the Darlington County 4-H adopted two miles of highway in the city of Hartsville through the Adopt-A-Highway program offered by Keep Darlington County Beautiful, an affiliate of Keep America Beautiful.	9/30/2009-8/31/2010	80	GP, HM, YT
Clemson Extension		25 Clemson Extension 4-H youth participated in the Darlington County Animal Shelter Cleanup. The youth learned the importance of cleaning up pet waste.	10/16/2009	25	YT
City of Florence		The Special Litter Campaign was enacted in an effort to help maintain the beauty of Florence's landscape and in part protect our rivers, lakes and streams from harmful litter. Target areas were prioritized weekly using factors as streets within close proximity to waterways, traffic flows, and requests from citizens.	2/11/2010-6/30/2010	2.32 tons of litter and debris	GP
City of Florence		All residents were asked to collect any scrap metal around their residence and place it curb side for pick up by City of Florence staff. It was estimated that 10% of residential customers participated. Approximately 1/2 ton of scrap metal was collected and disposed of properly.	3/22/2010-3/26/2010	.5 tons	GP, HM

Public Involvement

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Public Involvement

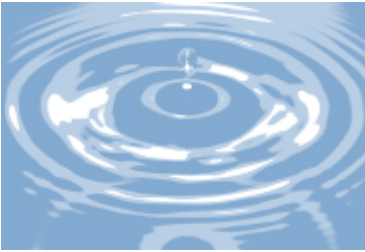
Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Great American Cleanup / Keep Florence Beautiful	City of Florence	This annual activity promotes public awareness of litter & its impact on stormwater. The public meets at Timrod Park in Florence and is a part of the "Keep Florence Beautiful" campaign. 24 tons of litter & debris, 2 tons of scrap metal, and 292 tires were collected within the city.	3/27/2010	650	GP, YT, HM
Great American Cleanup / BP Barber	City of Florence	Mike Hannah with BP Barber coordinated efforts with members of the City of Florence staff to clean litter and debris from 3 ponds located near West Florence High School. The participants collected approx. 20 bags of litter along with other items of debris. The event was recognized by Palmetto Pride who donated gloves and bags.	4/23/2010	13	CO, DE, DIS, SS
Clemson Extension		Darlington County 4-H members sponsored Liberty Lane as a cleanup project. Through this project youth learned the importance of the proper disposal of debris not only for aesthetic purposes but for protection of water quality.	5/16/2010-8/1/2010	35	YT

ADVISORY BOARD MEETINGS

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
City of Florence		This stormwater advisory board is comprised of members of the community within the city's MS4 jurisdiction who assist in local efforts to review and address stormwater policy changes that will serve and protect the citizens of the community as well as local and state waterways.	11/19/2009	15	GP

Public Involvement

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 Florence Darlington Stormwater Consortium



Public Involvement

ADVISORY BOARD MEETINGS

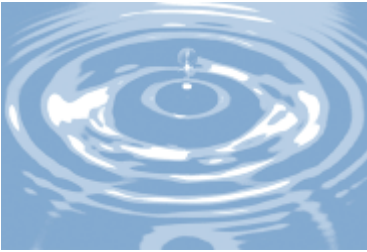
Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
City of Florence		City officials met with community members to discuss Proposed Phase II permit changes regarding renewing the NPDES stormwater permit. Geoff Smith of BP Barber gave a brief description and outline of forecasted additional requirements and changes. Jill Stewart of SCDHEC was in attendance and Terasa Young of Carolina Clear was introduced to the board.	6/3/2010	21	GP, CO, DE, EN
City of Florence	Clemson Extension	Drew Griffin presented a power point presentation titled "MS4 Program Requirements Minimum Control Measures 1 & 2" to City officials & board members present. Terasa Young gave a presentation about the role of Carolina Clear. Drew also discussed the new permit mandates & requirements. Suggested targeted pollutants & targeted audiences were presented to the board by Mr. Griffin.	7/15/2010	16	GP, CO, DE, EN
City of Florence		Drew Griffin opened the meeting with a power point presentation titled "MS4 Program Requirements Minimum Control Measure 3" after which a question & answer session was held. Enforcement issues and violations were discussed and everyone was reminded of our responsibility to our permit & community.	8/19/2010	21	GP, CO, DE, EN

“In the City’s endeavor to educate and develop codes, policies, and procedures to support the requirements of the NPDES permit coverage, a citizen board was organized to include local developers, engineers, realtors and other interested parties. The Stormwater Advisory Board was the single most powerful tool used in bringing understanding and acceptance of the new stormwater regulations to the Florence Community which in turn resulted in regulatory compliance in the stormwater arena.”

**Drew Griffin
Public Works and Utilities Director, City of Florence**

Public Involvement

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Florence Darlington Stormwater Consortium



Public Involvement

WATERSHED AWARENESS SIGNS

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
City of Florence	Boy Scouts	The City of Florence in Conjunction with the Boy Scouts of America posted informational signage within our MS4 near water bodies. The project allowed troop members to earn credit towards obtaining Eagle Scout status. There were a total of 35 signs placed in areas of high visibility. The signs identify the water body and explain watershed management. Impacts are given for those along roads only. No estimate is available for sign on walking trails.	Installed 1/1/2010-1/31/2010	146,600 *Based on SC DOT traffic counts per sign	GP



Waterbody	Street	Estimated Average Daily Traffic Count
Beaverdam Creek	David H McLeod Boulevard	26,000
Jeffries Creek	Palmetto Street	19,900
Jeffries Creek	Second Loop Road	18,200
Jeffries Creek	Edisto Drive	1800
Gully Branch	Cherokee Road	7300
Jeffries Creek	Irby Street	24,200
Jeffries Creek	Church Street	5100
Jeffries Creek	Freedom Boulevard	No Information
Middle Swamp	Pamplico Highway	18,800
Middle Swamp	Irby Street	20,400
Pye Branch	National Cemetery Road	4900

Public Involvement

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Consortium Highlight

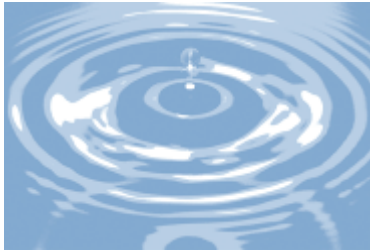
Joint Resolution Signing

On November 18, 2009, officials from each of the three MS4s gathered at the Florence Civic Center to sign a joint resolution to adopt a regional stormwater education strategy. An article appeared in the Morning News and the event was taped and shown on the City Channel 11 for two weeks twice a day.



Consortium Highlight

September 2009—August 2010 Annual Report
Florence Darlington Stormwater Consortium



Consortium Highlight



Image capture of the joint resolution signed by representatives from Darlington County Council, the City of Florence, and Florence County Council.



JOINT RESOLUTION: ADOPTING A REGIONAL STORMWATER EDUCATION STRATEGY

WHEREAS, population growth, residential and industrial development, and the resulting changes to the landscape have led to stormwater quality and quantity concerns throughout the City of Florence, Florence County and Darlington County, and

WHEREAS, these impacts cannot be entirely avoided or eliminated but can be minimized, and

WHEREAS, it is recognized that control of stormwater quantity and quality is most effectively implemented when people and organizations understand the related causes and consequences of polluted stormwater runoff and flooding, and the actions they can take to control these, and

WHEREAS, the need for a regional stormwater education strategy arises directly from the federal regulatory requirements of EPA NPDES Phase II Stormwater rules, and

WHEREAS, this need is also based on the recognition that local decision-makers, citizens and elected officials require a working knowledge of stormwater management issues in order to make effective decisions that will have a positive impact on stormwater concerns, and

WHEREAS, the development and implementation of effective, outcomes-based stormwater education and outreach programs will meet the related federal stormwater pollution control requirements and the needs of the communities they serve, and

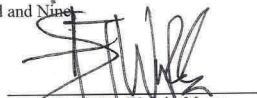
WHEREAS, this approach seeks to coordinate the use of local resources and expertise to achieve economy of scale by jointly addressing common needs of the city and counties and provide uniformity in educational messages to enhance learning,

NOW, THEREFORE, BE IT RESOLVED that the City of Florence, Florence County and Darlington County fully support the development and implementation of a regional and watershed-focused stormwater education strategy, and

BE IT FURTHER RESOLVED that these efforts will be overseen by the Florence Darlington Stormwater Consortium and their respective municipal and county representatives.

ADOPTED this 18th day of November, Two Thousand and Nine.


Wesley H. Blackwell, Chairman
Darlington County Council


Stephen J. Wukela, Mayor
City of Florence


K.G. Rusty Smith, Jr., Chairman
Florence County Council

Consortium Highlight

September 2009—August 2010 Annual Report
Florence Darlington Stormwater Consortium



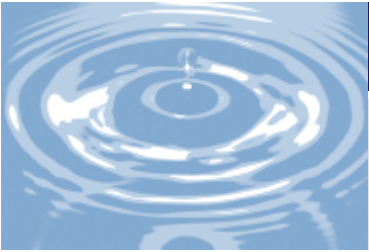
Conclusions from Year 2

As is the case with all groups, the dynamics of the FDSC have evolved over time from individuals getting to know each other and exploring what tasks need to be done to acting as a cohesive group that is making progress toward achieving long-term goals. This strengthening of the group resulted in a more comprehensive education plan reached a larger audience in its second year. The table below shows a comparison of program outputs from year 1 to year 2. Year 2 demonstrated an increase in the number of activities for every target pollutant compared to Year 1.

As we enter year 3, the FDSC remains dedicated to enhancing water resources protection and stewardship throughout Florence and Darlington Counties and developing education and outreach strategies that will improve awareness, show changes in behavior, and ultimately improve water quality.

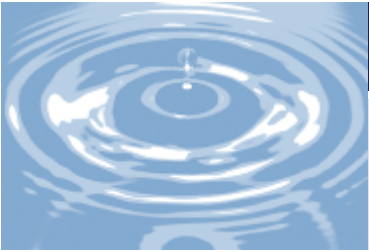
	YEAR 1	YEAR 2
Target Pollutant/ Topics Addressed	Number of Activities that Included this Target Pollutant	Number of Activities that Included this Target Pollutant
**Activities highlighted in green represent this year's education priorities.		
Stormwater in general	49	93
Bacteria – failing sewer lines and illicit connections	4	5
Bacteria-failing septic systems	5	9
Bacteria – pet waste	18	31
Bacteria – runoff from livestock pastures and feed operations	5	8
Nutrients from agricultural operations	2	9
Nutrients from residential properties	13	22
Pollutants resulting in low dissolved oxygen	2	7
Sediment from agricultural operations	3	7
Sediment from construction sites	8	16
Sediment from forestry-related activities	2	3
Sediment in general and from diffuse sources	14	15
Toxic contaminants, petroleum products, pesticides, and heavy metals	14	19
Debris	10	22
Temperature	3	5

Conclusions from Year 2



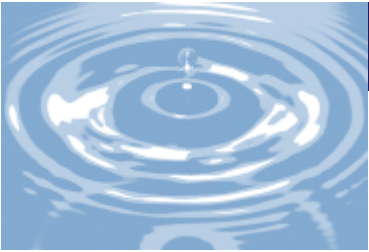
Appendix A Additional Photos





Appendix A Additional Photos





Appendix B Articles

28, 2010

Morning News

PAGE 5C

Business

DAQ **↓ -51.48** DOW **↓ -213.04** 6-MO T-BILLS **↓ -.01** 30-YR T-BONDS **↓ -.11** CRUDE OIL **↓ -1.76** EURO **↓ -.0199** GOLD **↑ +8.20**
1.47 10,991.99 23% 4.56% \$82.44 \$1,3184 \$1,161.70

Science educator Young joins Carolina Clear

From local reports

FLORENCE — A seasoned science educator with more than 10 years experience has joined Clemson University's Carolina Clear stormwater pollution education and awareness program in the Pee Dee.

Terasa Young will serve as Carolina Clear natural resources agent based at the Florence County Extension office and as coordinator of the Florence/Darlington Stormwater Consortium.

Before joining Clemson, Young was supervisor of the Environmental Discovery Center at Lynchess River County Park. She also designed and conducted educational programs for the Children's Museum of South Carolina and was a biology teacher at Carolina Forest High School in Myrtle Beach.

Young received a bachelor's degree in biology, graduating magna cum laude, and Master of Education, both from Coastal Carolina University. She also earned a master naturalist certification through Clemson.

Representatives from Florence and Darlington counties and the city of Florence

signed a resolution Nov. 18, 2009, to officially adopt a regional stormwater education strategy through the Florence/Darlington consortium.

The consortium is a partnership between communities and educators from universities, state agencies and nonprofits, and is the sixth regional collaboration involving the Carolina Clear program. It follows similar efforts in Lexington, Pickens and Richland counties; along the Grand Strand; and in the Lowcountry.

In her role with Carolina Clear, Young will work with consortium members to educate the public about ways to minimize polluted stormwater runoff in the region's streams, rivers and basins.

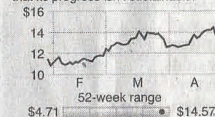
Carolina Clear is a stormwater education and awareness program of the Clemson University Restoration Institute and the Center for Watershed Excellence. The program's goal is to minimize polluted stormwater runoff by educating the public, youth, builders, developers, homeowners and government officials about how they can keep water in the state's streams, rivers and basins as clean as possible.

Star Stocks

Investors are once again worried that debt problems in Greece and Portugal could threaten the global economic recovery. Stocks plunged in the U.S. and Europe Tuesday after Standard & Poor's downgraded the debt of the two European countries. The Dow Jones industrial average fell 213 points, its worst loss in almost three months. All the major market indexes were down about 2 percent. The ratings downgrades also drove the dollar up to its highest level in about a year against the 16-nation euro. For the day, the Standard & Poor's 500 index fell 28.34, or 2.3 percent, to 1,183.71, while the Nasdaq composite index dropped 51.48, or 2 percent, to 2,471.47.

Ford Motor

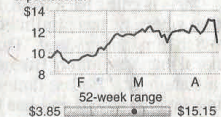
Close: **\$13.57** **↓ -0.89** or -6.2%
The automaker earned \$2.1 billion in the first quarter and forecast a solidly profitable year, but investors worry that its progress isn't sustainable.



Vol.: 291.7m (2.5x avg.) PE: 15.8
Mkt. Cap: \$44.75 b Yield: ...

Sonic Automotive

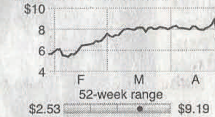
Close: **\$11.00** **↓ -2.09** or -16.0%
The auto retailer said its adjusted quarterly earnings rose 40 percent, but results fell short of Wall Street expectations.



Vol.: 4.7m (6.4x avg.) PE: 10.5
Mkt. Cap: \$441.21 m Yield: ...

Office Depot

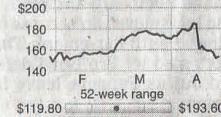
Close: **\$7.06** **↓ -1.89** or -21.1%
Restructuring helped the office products retailer return to a quarterly profit, but results missed expectations and its outlook is cautious.



Vol.: 62.8m (9.1x avg.) PE: ...
Mkt. Cap: \$1.94 b Yield: ...

Goldman Sachs

Close: **\$153.04** **↑ 1.01** or 0.7%
Shares zigzagged as the investment bank's executives defended their conduct during the financial crisis to a Senate panel.



Vol.: 34.4m (2.3x avg.) PE: 6.3
Mkt. Cap: \$80.63 b Yield: 0.9%

Western Union

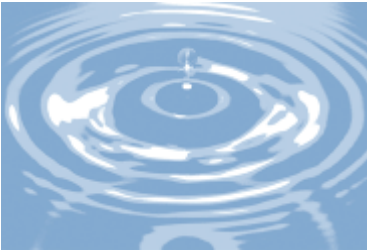
Close: **\$9.19**

UAL

Close: **\$193.60**

Appendix B - Articles

September 2009—August 2010 Annual Report
Florence Darlington Stormwater Consortium



Appendix B Articles

Florence, Darlington counties partner on stormwater initiative | SCNow

http://www2.scnw.com/scp/news/local/pee_dee/article/florence_and_da...



Friday, November 20, 2009 |

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Florence, Darlington counties partner on stormwater initiative



SAMANTHA SHEPARD/ MORNING NEWS

Chairman of the Darlington County Council, Wesley H. Blackwell, speaks to conservationists and other community leaders before signing a resolution to launch the Florence Darlington Stormwater Consortium.

By [Samantha Shepard](#)

Published: November 18, 2009

Update: November 19, 2009

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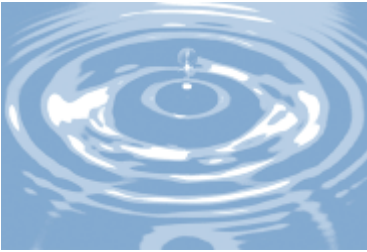
FLORENCE — Representatives from the city of Florence and Florence and Darlington counties gathered Wednesday morning to sign a resolution officially adopting a regional stormwater education strategy through the Florence Darlington Stormwater Consortium.

Darlington County Council Chairman Wesley H. Blackwell, Florence Mayor Stephen J. Wukela and Florence County Council Chairman K.G. "Rusty" Smith Jr. signed the joint resolution in front of a crowd of conservationists and local officials at Florence Civic Center.

This consortium is partnered with the Clemson University's Carolina Clear program and is a regional collaborative effort to inform the public about how their behaviors have long-term effects on water quality.

Appendix B - Articles

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Florence Darlington Stormwater Consortium



Appendix B Articles

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Pee Dee

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Camp 4-H2O teaches children about watersheds, safety

By [JOHN D. RUSSELL](#)
Published: June 18, 2010
Updated: June 18, 2010

» 0 Comments | [Post a Comment](#)

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buzz up

HARTSVILLE — More than 20 children ranging in age from 8 to 14 took part in the Kalmia Gardens three-day 4-H2O Day Camp this week.

The camp culminated Friday with children learning about canoeing safety, fishing, watersheds and effects of runoff water at the Coker College boat house.

During the week, children learned about protecting life in and around Prestwood Lake. Topics covered during the



Morning News/John D. Russell

Brothers Bryan, left, and Abraham Santana push off of the shore in a canoe on Lake Prestwood, in Hartsville, on Friday as part of 4-H2O day camp.

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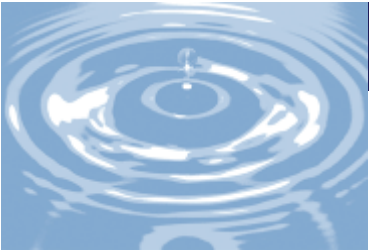
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Appendix B Articles

Harvesting rainwater offers benefits

By Terasa Young
Contributed

It is summer in South Carolina, and we are experiencing those typical afternoon thunderstorms, some of which can drop several inches of rain in a relatively short amount of time. Unfortunately, much of this rain does not have a chance to be absorbed and runs off the surface of the land. Wouldn't you like to be able to harvest this rain and use it to water your garden when needed?

You can do just that by installing a rain barrel. Rain barrels collect and store water from your roof that

would otherwise be lost to runoff. This water can then be used to water flowers or gardens or even wash your car.

Using a rain barrel during times of drought might seem counterintuitive, but a small amount of rain can fill an average 55 gallon capacity rain barrel. In a 1 inch rain storm, 0.6 gallons of water could be collected from every square foot of rooftop. That means that a 1200 square foot roof with four rain barrels could collect more than 200 gallons of water from just 0.3 inches of rain!

Rainwater harvesting offers several benefits.

1. Use of rain barrels can lower water bills when using municipal water. It is estimated that a rain barrel will save most homeowners about 1,300 gallons of water during peak summer months.

2. Use of rain barrels reduces withdrawal of groundwater when using wells.

3. Use of rain barrels provides non-chlorinated water which is ideal for gardening.

4. Use of rain barrels reduces runoff. This reduces the chances of flooding and decreases the impact of runoff to streams.

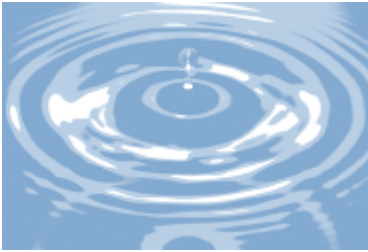
Become a solution to stormwater pollution. For

more information about rain barrels and rainwater harvesting, visit the Carolina Clear website at www.clemson.edu/carolinaclear.

— Terasa Young is a Natural Resources Agent with Clemson Extension, Carolina Clear Coordinator for the Florence/Darlington Stormwater Consortium, and a Master Naturalist. Clemson University Cooperative Extension Service offers its programs to people of all ages, regardless of race, color, gender, religion, national origin, disability, political beliefs, sexual orientation, marital or family status and is an equal opportunity employer.

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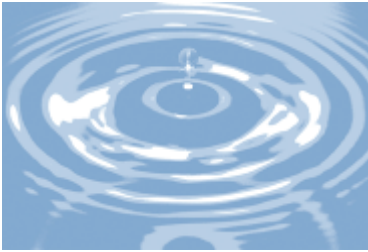
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Appendix C Year 2 Adaptive Education Plan

ADAPTIVE Stormwater Education Plan												Year 2 (Sept 2009- Aug 10) - Florence and Darlington Counties, City of Florence											
Lead Service Provider	Activity--Program (Italics include participation elements)	Target Geography/Land Use	Target Pollutant(s)														Participation by other Service Providers	Expected Month/ Quarter (if date unknown)					
			General Stormwater Awareness	Bacteria	Toxic Contaminants	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus			Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus
General Public																							
Clemson	Rural Heritage Day - consortium and stormwater poster	Pee Dee Region	X																		March		
Clemson	Southern Plant & Flower Festival	Pee Dee Region	X	X					X	X											October		
City of Florence	Pecan Festival: table and handouts	Florence County	X	X					X	X									Clemson		November		
Clemson	Sweet Potato Festival: table and handouts	Darlington County	X	X					X	X									Clemson		October		
Clemson	<i>Black Creek Kayak Festival - poster and volunteer sign up sheet (tentative)</i>	Pee Dee Region	X																				
Florence	Florence Fountain stormwater artide	City of Florence	X																Clemson		September		
Kalmia Gardens	<i>Jeffries Creek Clean Up (tentative)</i>		X																Clemson		September		
Clemson	Stormwater Billboards	Pee Dee Region	X																				
City of Florence	Great American Cleanup		X																				
Clemson	Adopt A Highway		X																Palmetto Pride?				
City of Florence	SWM Project Open House: invite municipal and county officials, homeowners, developers, businesses and general public to attend an opening day of the constructed wetland stormwater park.	Pee Dee Region	X	X					X	X		X	X	X					all involved		Apr-10		
Youth / K-12 / Teachers																							
Clemson	4H2O Pontoon Classroom at Josselyn Education Center, Kalmia Gardens	Pee Dee Region	X	X					X	X									Overall, watershed awareness.	Kalmia Gardens	summer 2010		
Clemson	Junior Master Gardener: 3rd thru 5th grade class focusing on water conservation, xeriscaping, and Children's Discovery walk		X						X	X									Overall, watershed awareness.	Kalmia Gardens			
Kalmia Gardens	Week in the Wild: mini day camp		X																Overall, watershed awareness.	Clemson	3 weeks in July		
Kalmia Gardens	Home School Science Classes: monthly, 3 hr class with outdoor, environmentally focused activities																		Overall, watershed awareness.	Clemson	year round		
City of Florence	Science South																		Science South		year round		
City of Florence	<i>Summer camp youth - presentation on watersheds/stormwater</i>	City of Florence	X	X		X			X	X									Clemson		summer 2010		
City of Florence	Storm Drain Marking and Watershed Education	City of Florence	X	X					X	X				X	X				Clemson, Boy Scouts				
City of Florence	Student trips to SWYM Constructed Wetlands and Stormwater Park	City of Florence	X	X					X	X				X	X						year round		

Florence Darlington Stormwater Consortium Education Plan - Year 2



Appendix C Year 2 Adaptive Education Plan

ADAPTIVE Stormwater Education Plan												Year 2 (Sept 2009- Aug 10) - Florence and Darlington Counties, City of Florence											
Lead Service Provider	Activity--Program (Italics include participation elements)	Target Geography/ Land Use	Target Pollutant(s)												Participation by other Service Providers	Expected Month/ Quarter (if date unknown)							
			General Stormwater Awareness	Bacteria	Toxic Contaminants	Phosphorus	Phosphorus, heavy metals	Nutrients	Pesticides	Resisting to low	Quaternary Organics	Drugs	Hydrocarbons	Other									
Planning Commission																							
Clemson	Present at Planning Commission Meeting, TBD	City of Florence													City of Florence								
Clemson	Press event	Florence and Darlington Counties	x	x			x	x					x		all involved	18-Nov-09							
City of Florence	Stormwater Advisory Board Meetings	City of Florence	X	X	X		X	X				X	X	ordinance review, enforcement review, overall stormwater management guidance		year round							
Clemson	Presentation to Stormwater Advisory Board	City of Florence													City of Florence	19-Nov-09							
Professionals: Contractors, Engineers, Developers, Builders																							
Clemson	CEPSCI						X	X		X			X										
City of Florence	Meetings with Developers		X										X	X		year round							
City of Florence	SWM Project Technical Workshop, information on design and implementation of constructed wetlands, presentation of a case study	Pee Dee Region	X	X			X	X		X	X	X	X		Clemson	Spring 2010							
Darlington County	Consultations with contractors/developers, distribute brochures		X				X									year round							
Clemson	Technical Workshop on construction to post construction and erosion controls	Pee Dee Region	X	X			X	X		X	X		X		City of Florence, Florence County, Darlington County	Feb/March 2010							
Homeowners & Homeowner Associations																							
Clemson	Stormwater feature on City Talk television show	Pee Dee Region	X	X			X	X							Florence and Darlington Counties								
Clemson	Kinard-r/Koffee episodes	Pee Dee Region	X	X			X	X							City of Florence								
Clemson	Pee Dee Flower Festival	Pee Dee Region	X	X				X								spring 2010							
Clemson	Rain Barrel "kits" to be sold at Pee Dee Plant and Flower Festival	Florence & Darlington Counties	X	X			X	X					reduced stormwater volume	Kalma Gardens	spring 2010								
Clemson	Develop a handout in English/Spanish (double-sided) that educates on illegal placement of leaves in or on a storm drain. This will be distributed by city and county crews out in the field and observing this event.	Florence & Darlington Counties	X					X		X	X				all involved								
Clemson	Pet Waste Bag Dispensers and information distributed through Human Society locations		X	X																			
Commercial Citizens: Farmers, Nurserymen																							
Clemson	East Carolina Agricultural Fair	Pee Dee Region	X	X			X	X							City of Florence, Florence County	October 20-26							
Clemson	Equine Workshops	Pee Dee Region	X	X			X	X								ongoing							
Clemson	Pee Dee Farm Field Day & Turfgrass Field Day	Pee Dee Region	X				X	X								Aug-10							

Florence Darlington Stormwater Consortium Education Plan - Year 2