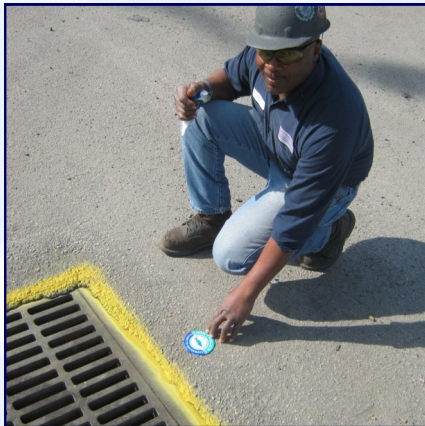




# Annual Report of Activities

## Year 3

September 2010 - August 2011



October 2011



# Executive Summary

Composed of the City of Florence, Darlington County, and Florence County, along with a variety of partners in education, the Florence Darlington Stormwater Consortium (FDSC) has worked diligently to raise awareness of the problems associated with polluted stormwater runoff since the partnership began in the fall and winter of 2008-2009. The Consortium's watershed approach to stormwater education and involvement was officially adopted on November 18, 2009 with the signing of a joint resolution by officials from each of the three SMS4s. The 2010-2011 reporting year represents the third year of the regional decision-making efforts of the FDSC.

Using the previous year's education plan, the 303(d) List of Impaired Water, and the expectations for the new NPDES Phase II SMS4 Storm Water Permit, the FDSC developed the 2010-2011 Adaptive Education Plan. Thorough review of the 303(d) List indicated that fecal coliform bacteria was the most common pollutant representing 33.3% of the impairments in Florence and Darlington Counties. In addition, current TMDLs and those in development are for fecal coliform bacteria. The second most common impairment was low dissolved oxygen, accounting for 21.6% of the impairments with mercury being the third most common at 19.6% of the impairments.

In addition to continuing to provide general stormwater education and involvement activities to a variety of audiences, it was clear that a concerted effort to reduce the amount of fecal coliform bacteria entering local waterways was needed. The Consortium initiated a Pet Waste Outreach Campaign to encourage pet owners to pick up after their pets and dispose of waste properly; thereby reducing the potential for fecal coliform bacteria to pollute stormwater runoff. This focused effort will provide a foundation from which to continue this and other targeted efforts as the FDSC moves into its 4th year of enhancing water resource protection and stewardship throughout Florence and Darlington Counties.



“The Florence Darlington Stormwater Consortium has been a tremendous benefit to the Darlington County MS4. We welcomed our new Stormwater Manager this year. He and other staff have found many opportunities for networking by expanding the arena to share the importance of stormwater management. The Consortium helps us recognize and remember that rainwater knows no boundaries and the best solution is to look at the watershed as a whole. We all live downstream and working together we can make a difference in the overall health of our watershed.”

Doug Reimold  
Planning Director, Darlington County

## Executive Summary

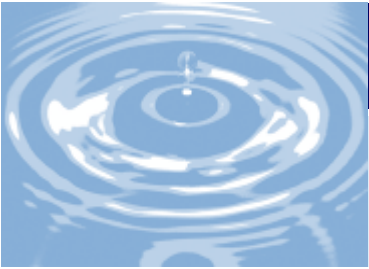


# FDSC Annual Report

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# FDSC SMS4s

The Florence Darlington Stormwater Consortium includes representatives from one city and two counties that are Regulated Small Municipal Separate Storm Sewer Systems. The Consortium acts as a group to make decisions about public education and involvement activities at the watershed level.

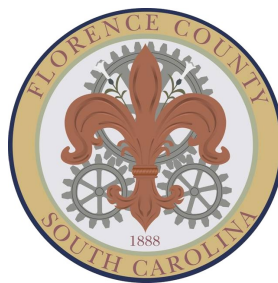
**Table 1. Summary of Local Consortium Representatives**

SMS4	Consortium Representatives
City of Florence	Drew Griffin, Alvin Ard, Michael Hemingway, Amanda Pope, Forrest Whittington
Darlington County	Doug Reimold, Dana Hamilton, Julie Ritz
Florence County	Benjamin Smith



“The Consortium has been a vital tool in the effort to provide the citizens of Darlington and Florence Counties with a better understanding of water quality in their communities.”

Benjamin Smith  
County Engineer, Florence County



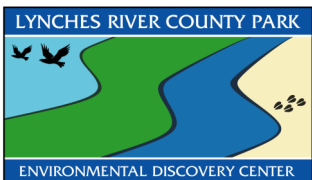
## FDSC SMS4s

# Education Partners

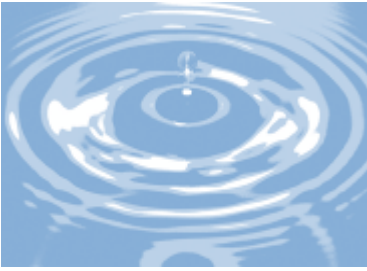
The Florence Darlington Stormwater Consortium’s education partners include a variety of organizations that share the Consortium’s mission of enhancing water resource protection and stewardship throughout Florence and Darlington Counties. These partners enable the Consortium’s programs and activities to reach a larger audience over the entire watershed with the potential to have greater impact. New to the FDSC for Year 3 is Keep Florence Beautiful, the local affiliate for Keep South Carolina Beautiful.

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

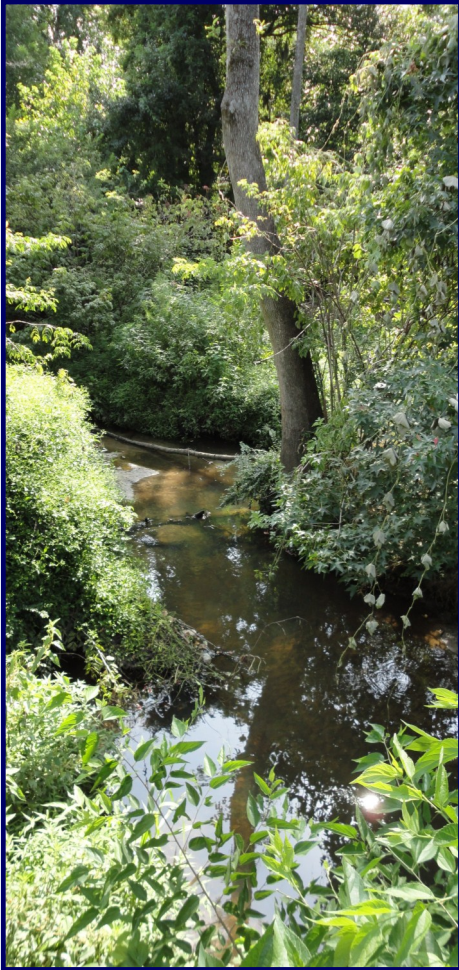
Organization
Carolina Clear
Clemson University Cooperative Extension Service
Clemson University Center for Watershed Excellence
4-H Youth Development
URS   BP Barber
Darlington County Humane Society
Environmental Discovery Center at Lynches River County Park
Florence Area Humane Society
Kalmia Gardens of Coker College
Keep Florence Beautiful
Pee Dee Land Trust
South Carolina Department of Health and Environmental Control - Bureau of Water



## Education Partners



# Goal Statement and Objectives



“We let a river shower its banks with a spirit that invades the people living there, and we protect that river, knowing that without its blessings the people have no source of soul.”

Thomas Moore

## FDSC 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.

## Goal Statement and Objectives



# Consortium Highlight Pet Waste Campaign

With fecal coliform bacteria accounting for the largest percentage of impairments to waterbodies in Florence and Darlington Counties, the FDSC made a concerted effort to encourage proper disposal of pet waste through a Pet Waste Campaign. The campaign was multi-faceted and consisted of:

- Pet waste bag dispensers were imprinted with the FDSC logo and a message reminding people to pick up after their pets. The dispensers were given to the Florence Area Humane Society and the Darlington County Humane Society to give to those adopting puppies/dogs along with the “What to do about Pet Waste?” postcard and a survey created to assess the impact of the program.
- A brochure titled “Pet Waste & Water Quality” was developed and placed in 7 veterinarian offices. A similar postcard was attached although a different color was used to differentiate between the dispenser program and the veterinarian program.
- A radio public service announcement (PSA) was recorded and aired on Miller Communications stations: WFRK, WOLH, and WSIM in Florence and WWBD and WWKT in the Sumter/Florence dual market.
- A television PSA was aired on the Time Warner Local Access Channel encouraging residents to “Scoop the Poop”.
- Dog biscuit give-a-ways were made for use at various festivals/events. The give-a-ways were assembled by students in the Florence District I International Baccalaureate program who contributed approximately 22 hours of service.



**Protect our Water  
Scoop the Poop!**

Always bring a bag with you when you walk your dog.

Use the bag as a glove to pick up the pet waste.

Properly dispose of the waste by placing it in a trash can.

Never throw waste in a storm drain!

**FD FLORENCE / DARLINGTON  
STORMWATER CONSORTIUM**

Visit us on the web at:  
[www.clemson.edu/carolinaclear/fdsc](http://www.clemson.edu/carolinaclear/fdsc)

Picking up after your pet isn't just a courtesy, it's the healthy and environmentally sound thing to do.

Left: Image of slide aired as PSA on Time Warner Local Access Channel.



Right: Image of “Pet Waste & Water Quality Brochure” displayed at veterinarian offices.



**Pet Waste & Water Quality**

**PROTECT THE WATER  
YOU AND YOUR PET BOTH LOVE...**

**PLEASE CLEAN UP AFTER YOUR PET!**

*Did you know that your dog's waste contains 2 1/2 times the amount of bacteria as yours? If you wouldn't want your own waste entering lakes and rivers, then you don't want your pet's waste to either! Picking up after your pet protects water quality, your health, and the health of your pet.* **LEARN MORE...**

## Consortium Highlights

September 2010—August 2011 Annual Report  
Florence Darlington Stormwater Consortium

# Consortium Highlight

## Pet Waste Campaign

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Clemson Extension	Pet Waste Bag Dispensers were given to those adopting dogs and puppies from the humane societies in Florence and Darlington Counties.	Throughout	400	Florence Area Humane Society and Darlington County Humane Society
Kalmia Gardens	Dog biscuit give-a-ways were handed out at the Harstville Community Market.	10/2/2010 11/5/2010	210	Clemson Extension
Clemson Extension	Educational display at Fall Frenzy festival included dog biscuit give-a-ways that encourage pet owners to properly dispose of pet waste.	10/16/2010	250 (1740 total festival attendance)	Environmental Discovery Center
Clemson Extension	Dog biscuit give-a-ways and other information handed out at Sweet Potato Festival.	10/9/2010	100	
Miller Communications	T. Young recorded a Pet Waste PSA that aired on WFRK, WOLH, WSIM, WWBD, & WWKT.	11/11/2010 - 8/31/2011	<101,800	Clemson Extension
City of Florence	Dog biscuit give-a-ways were handed out at the Pecan Festival along with the 6 stormwater related postcards.	11/6/2010	500	Clemson Extension
Clemson Extension	Pet Waste & Water Quality brochures placed in local veterinarian offices.	11/11/2010 - 8/31/2011	315	
City of Florence	Pet Waste “Scoop the Poop” PSA aired on Time Warner Channel 11.	2/1/2011 - 8/31/2011	<184,267	Clemson Extension
Kalmia Gardens	The FDSC set up an educational display at the Earth Day festival at Kalmia Gardens with dog biscuit give-a-ways available at the FDSC table and the Darlington County 4-H table.	4/9/2011	150	Clemson Extension

### Radio PSA Script

“Pets add so much to our lives, but they also add something that isn’t so great. We’re talking about pet waste. When pet waste is left around, rain flushes it into storm drains and then into our waterways. Protect our water by disposing of pet waste properly. Picking up after your pet is not just a courtesy; it’s the healthy and environmentally sound thing to do. This message is brought to you by the Florence Darlington Stormwater Consortium, Sumter Stormwater Solutions, and Clemson’s Carolina Clear.”



### Consortium Highlights





# Consortium Highlight Earth Day Coloring Contest

Children across Florence and Darlington Counties were invited to participate in an Earth Day Coloring Contest. In addition to coloring, students were also asked to complete one of five earth-friendly activities such as identifying the nearest storm drain and picking up trash along the way. Prizes were awarded for 1st, 2nd, and 3rd place for each of the three age groups thanks to a sponsorship from the Florence Soil & Water Conservation District and the Darlington Conservation District. 101 children participated in this year's contest.

Below: Scanned image of the 1st place winner from the 10-12 age group.

**FD FLORENCE / DARLINGTON**  
STORMWATER CONSORTIUM

Florence Darlington Stormwater Consortium's  
2011 Earth Day Coloring Contest

Complete this coloring sheet and one of the activities listed below. Return the coloring sheet to the Clemson Extension Office at 2685 S. Irby Street, Ste. K, Florence, SC 29505. Entries must be received by 5:00 PM on April 18, 2011 to be entered in the Earth Day 2011 Coloring Contest. Three winners from each age group will be chosen by members of the Florence Darlington Stormwater Consortium. Winners will be notified on April 22. Coloring sheets will be displayed at the Drs. Bruce and Lee Foundation Library and the Darlington Library from April 22 – April 29. This contest is sponsored by the Florence Darlington Stormwater Consortium, the Florence Conservation District and the Darlington Conservation District.


Complete one of the activities below and have a parent initial the box to enter the contest.

- Walk with a parent from your yard and find the storm drain that your water drains into. Pick up trash along the way.
- Recycle your household plastic for 1 week. Take it to a county convenience center if you don't have curbside recycling.
- Pack a waste-free lunch for one week by using reusable containers.
- Plant a tree or a flower garden in your yard.
- Use at least 2 reusable grocery bags when you go to the store with your parents this week.

Name Vicky Brown  
County Florence

Age Group  4-6  7-9  10-12

**Earth Day**  
**April 22, 2011**



## Consortium Highlights

September 2010—August 2011 Annual Report  
Florence Darlington Stormwater Consortium



# Consortium Highlight Backyard Landscape Series

Dr. Dara Park, Assistant Professor, Clemson University and Terasa Young, Natural Resource Agent, Clemson University Cooperative Extension Service, collaborated to develop the 2011 Pee Dee Backyard Landscape Series. The series was held the first Thursday of each month from March 3 - September 1 at the Doctors Bruce & Lee Foundation Library in Florence. Each presentation incorporated the principles of Environmental Landscape Management but focused on a different topic. A total of 179 people attended the Series during the reporting year. The schedule is shown below.

## March 3 - "Carolina Yards & Neighborhoods"

Learn the basic concepts to transform your yard into a Certified Carolina Yard.

Terasa Young, Natural Resources Agent

## April 7 - "Right Plant, Right Place"

Before rushing out to the Spring Plant and Flower Show, find out how to select plants that are suited to your needs and conditions.

Tony Melton, Horticulture Agent

## May 5 - "Vegetable Gardening"

Find out the basics of raised bed gardening in the Pee Dee including the square foot principle, organic gardening, and sustainable gardening practices.

Carolyn Schretzmann-Jebaily

## June 2 - "Maintaining Southern Lawns"

Learn Best Management Practices to grow healthy turfgrass and protect our natural resources.

Dr. Dara Park, Assistant Professor

## July 7 - "Drought Tolerant Plants"

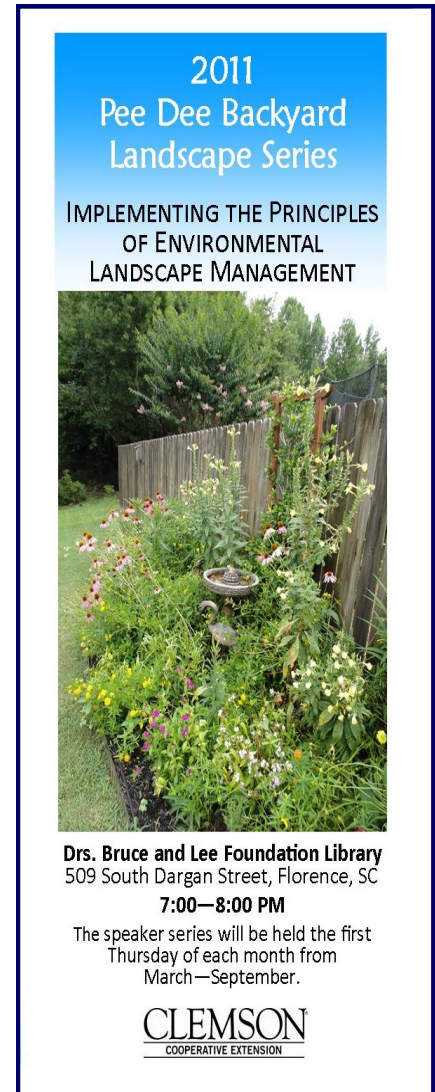
Save water and find out which plants thrive during drought conditions.

Jenny Lee, Certified Arborist

## August 4 - "Managing Yard Pests"


Learn how to recognize the "good bugs" and practice integrated pest management.

Dr. Juang Horng Chong, Assistant Professor



2011  
Pee Dee Backyard  
Landscape Series

IMPLEMENTING THE PRINCIPLES  
OF ENVIRONMENTAL  
LANDSCAPE MANAGEMENT



**Drs. Bruce and Lee Foundation Library**  
509 South Dargan Street, Florence, SC

**7:00—8:00 PM**

The speaker series will be held the first  
Thursday of each month from  
March—September.

**CLEMSON**  
COOPERATIVE EXTENSION



## Consortium Highlights

September 2010—August 2011 Annual Report  
Florence Darlington Stormwater Consortium



# Consortium Highlight Backyard Landscape Series

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Clemson Extension	T. Young spoke about the Carolina Yards and Neighborhoods program which is designed to assist homeowners in conserving water in the landscape and making positive changes to the environmental quality of their yards, neighborhoods, and surrounding waterways.	3/3/2011	45	
Clemson Extension	Tony Melton spoke on the topic of "Right Plant, Right Place". His talk included messages relating to stormwater and water quality including: the need for soil testing to determine what kind and how much fertilizer is needed which can help prevent excess nutrients from washing into waterbodies and irrigating efficiently which can reduce runoff.	4/7/2011	32	
Clemson Extension	The third presentation of the Pee Dee Backyard Landscape Series focused on vegetable gardening. Those in attendance learned about minimizing fertilizer and pesticide use to avoid water pollution and the benefits of composting for improving soil fertility, preventing water pollution, and increasing moisture retention.	5/5/2011	21	
Clemson Extension	Dr. Dara Park was the guest speaker for the 4th installment of the Pee Dee Backyard Landscape Series. Her talk focused on best management practices for growing healthy turfgrass while protecting natural resources.	6/2/2011	32	
City of Florence	Jenny Lee, certified arborist with the City of Florence, spoke about Xeriscaping and drought-tolerant plants as part of the Pee Dee Backyard Landscape Series. Lisa King from Forest Lake Greenhouses brought a selection of drought-tolerant plants as examples.	7/7/2011	35	Clemson Extension
Clemson Extension	Attendees learned about common yard and garden insect pests, how to recognize beneficial insects, and how to practice integrated pest management.	8/4/2011	14	

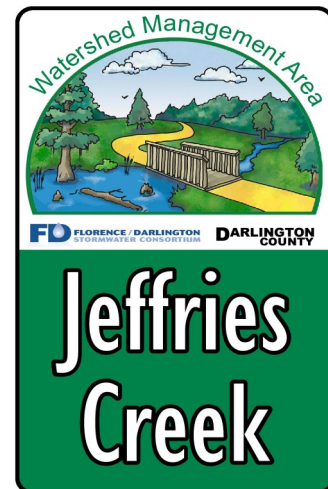
## Consortium Highlights

# Consortium Highlight Watershed Awareness Signs

During the 2009-2010 reporting year, the City of Florence in conjunction with the Boy Scouts of America, installed 35 watershed management area signs along waterbodies within the regulated MS4 area. This year, using the same design, Darlington County installed 15 signs on October 28, 2010. All signs are within the regulated MS4 with the exception of the two located at the Lamar Highway/Jeffries Creek Bridge.

**Table 3. Summary of Darlington County Watershed Awareness Signs**

Waterbody	No. of Signs	Road	Road #	DOT Station	2010 Average Annual Daily Traffic
High Hill Creek	2	Ebenezer Road	S-16-49	371	7100
Steer Fork Branch	2	Ebenezer Road	S-16-49	371	7100
Black Creek	2	South Charleston Road	S-16-35	358	1850
Black Creek	1	Muses Bridge Road	S-16-1018	No station	No data
High Hill Creek	1	East McIver Road	S-16-179	409	6900
Black Creek	2	Cashua Ferry Road	SC Hwy 34	169	5400
Jeffries Creek	2	Timmons ville Highway	SC Hwy 340	201	4900
Jeffries Creek	2	Lamar Highway	US Hwy 401	153	3000
High Hill Creek	1	South Charleston Road	S-16-35	358	1850



## Consortium Highlights



# Mass Media Downstream Campaign

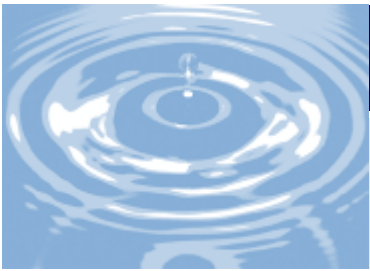
Released in 2011, the “Downstream” campaign consists of billboards and a TV/YouTube commercial. It features South Carolinians using waterways and emphasizes how citizens can protect water quality through changed behaviors. It also reminds viewers that rivers connect us and we all live downstream.

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Clemson Extension	Billboard Media Campaign - Florence Co. I-20 Spur, East of Beltline Drive.	6/20/2011 - 8/31/2011 *End date indicates end of reporting year	21,400	
Clemson Extension	Billboard Media Campaign - Darlington Co. I-20 East between MM 131 & 132.	6/20/2011 - 8/31/2011 *End date indicates end of reporting year	18,200	
Clemson Extension	Downstream commercial aired on Time Warner Cable stations for 4 weeks beginning August 1.	08/1/2011 - 8/28/2011	<184,267	Time Warner Cable
Clemson Extension	Downstream commercial on Carolina Clear YouTube Channel.	02/7/2011 - 8/31/2011 *End date indicates end of reporting year	27	

FDSC Billboard Image



## Mass Media

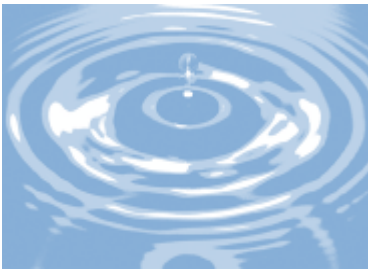


# Mass Media Radio & TV

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Clemson Extension	T. Young interviewed on “Pulse of the Carolinas” radio show which airs on WBZF Glory 98.5 FM and 540 AM and WYNN 106.3 FM.	9/17/2010	52,148	Cumulus Broadcasting
Clemson Extension	T. Young interviewed on “City Talk” television show which airs on Time Warner Channel 11 in the Florence market.	10/1/2010 - 11/8/2010	35,000	City of Florence, Time Warner Cable, Francis Marion University
Clemson Extension	K. Giacalone interviewed on "Your Day" radio program.	12/9/2010	30,000	Your Day, ETV Radio
Clemson Extension	T. Young interviewed on “Kinard-n-Koffee” which airs on 93.7 FM and 1310 AM.	2/28/2011	12,000	Miller Communications
Clemson Extension	T. Young interviewed on “Focus on the Palmetto State” which aired during the month of May on WMYA in Greenville and WMMP in Charleston.	05/1/2011 - 05/31/2011	2,000	WLOS/WMYA TV

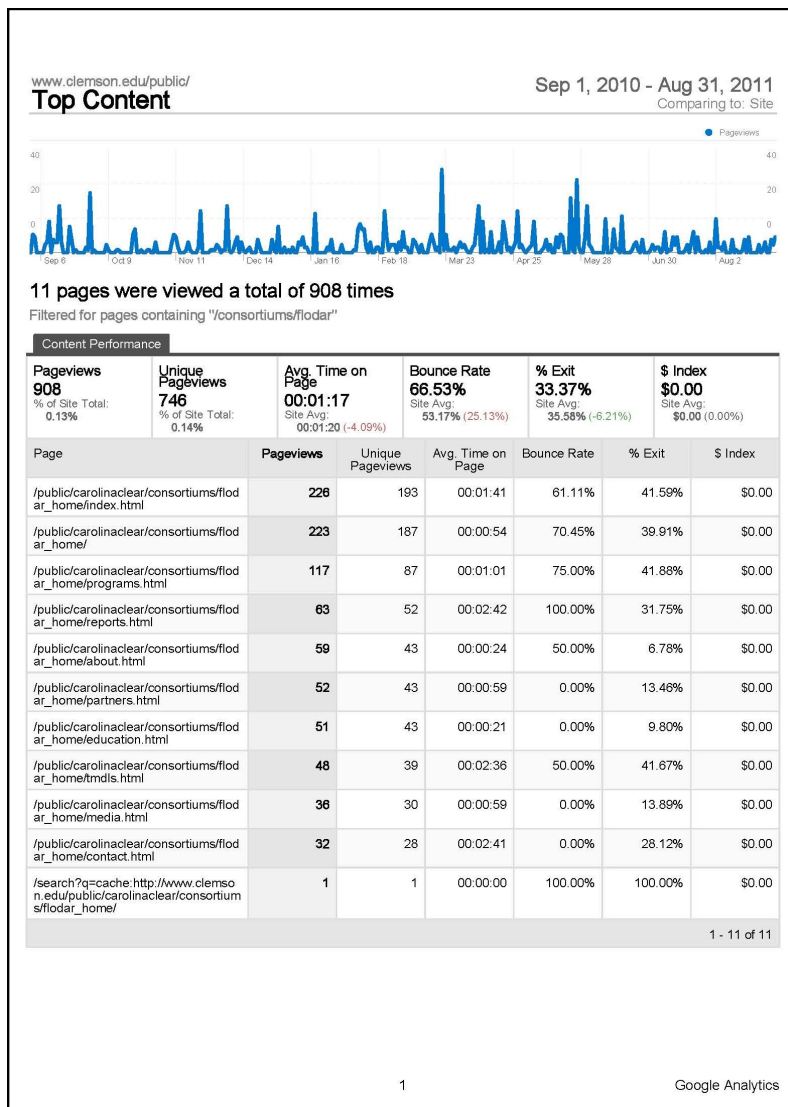


## Mass Media



# Mass Media Internet

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Clemson Extension	Florence Darlington Stormwater Consortium section of the Carolina Clear website.	Ongoing	908 page views	
Clemson Extension	Florence Darlington Stormwater Consortium Facebook Page.	Ongoing	15 “likes”	

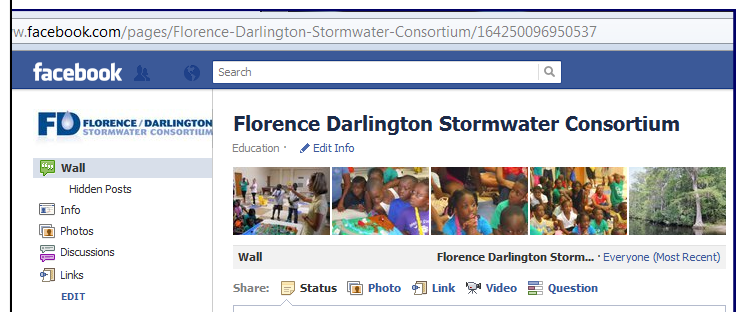


In 2010-2011, the Florence Darlington Stormwater Consortium section of the Carolina Clear website received 908 total page views, compared to 775 page views reported in Year 2.



Advancements in technology have changed the ways in which people access information. In an effort to keep up with the latest trends, the FDSC launched its own Facebook Page in December 2010. Facebook pages help organizations broadcast information to people who choose to connect with them.

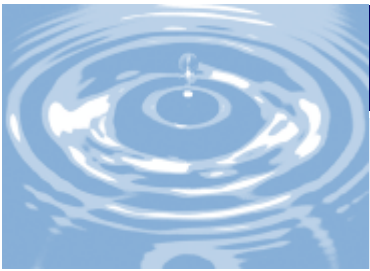
The FDSC Facebook page is used to promote programs and events, share news, and connect with environmentally minded citizens that are interested in protecting water quality. The page currently has 15 “likes”, most of which are Consortium members. Over the next year, steps will be taken to promote the page and increase the number of people interacting with it. We hope that utilizing Facebook to provide stormwater education information will enable us to reach a larger, more diverse audience and amplify our impacts.



Check us out on the web at [www.clemson.edu/carolinaclear/fdsc/](http://www.clemson.edu/carolinaclear/fdsc/)

## Mass Media

September 2010—August 2011 Annual Report  
Florence Darlington Stormwater Consortium



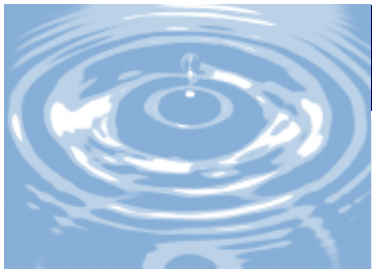
## Publications - Newspaper

Terasa Young, Natural Resource Agent with Clemson University Cooperative Extension Service and Coordinator of the Florence Darlington Stormwater Consortium writes a personal column on a monthly basis that appears in Pee Dee Living section of the Florence *Morning News*. While the column often addresses stormwater, other natural resources topics are sometimes the focus of the column. The following columns related to stormwater during the 2010-2011 reporting year.

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Clemson Extension	“Do your duty as a pet owner” addressed how pet waste can be a source of water pollution and encouraged pet owners to pick up after pets in the yard and while walking.	9/5/2010	33,000	
Clemson Extension	“Florence fortunate to have parks” highlighted the Beach Sweep/River Sweep event at Jeffries Creek Park.	10/10/2010	33,000	
Clemson Extension	“Festivals draw attention to resources” recognized that festivals are incorporating education and promoting stewardship of natural resources.	10/24/2010	33,000	
Clemson Extension	“Mulching, composting make use of fall’s leaves” pointed out the potential problems caused by improper disposal of yard debris.	11/21/2011	33,000	
Clemson Extension	“Fats, oils, and grease create environmental hazards” raised awareness about the problems associated with FOG.	12/5/2010	33,000	
Clemson Extension	“Consider recycling e-waste” mentioned the local options for recycling e-waste.	1/2/2011	33,000	
Clemson Extension	“Gardens can enhance, protect natural resources” promoted the 2011 Pee Dee Backyard Landscape Series.	2/6/2011	33,000	
Clemson Extension	“Spring cleaning applies to the great outdoors” highlighted the upcoming Great American Cleanup.	3/6/2011	33,000	
Clemson Extension	“Time to roll out the rain barrel” article explained the benefits of rainwater harvesting.	4/3/2011	33,000	
Clemson Extension	“Keep Florence Beautiful” article discussed the problems associated with litter.	8/7/2011	33,000	

### Publications





# Publications - Other

Lead Provider	Activity	Date	Impacts	Other Providers Involved
SC Wildlife Magazine	The May/June issue of <i>SC Wildlife</i> magazine featured two articles titled “Harvest the Rain” and “Saving for a Rainy Day” that focused on rain gardens, environmentally friendly landscape practices, and the writer’s attendance at a Carolina Clear Rain Barrel Workshop.	5/1/2011 - 6/30/2011	47,000	Clemson Extension
City of Florence	The Summer edition of the <i>Florence Fountain</i> newsletter featured articles informing citizens about the effects of stormwater runoff. Other articles outlined the City’s responsibilities in meeting NPDES permit requirements.	6/22/2011 - 7/8/2011	26,000	
South Carolina Nursery & Landscape Association	The July/August issue of the <i>South Carolina Nurseryman</i> magazine contained the article “Clemson University Rolls Out Rainwater Harvesting Manual for Homeowners” written by T. Young.	7/1/2011 - 8/31/2011	535	Clemson Extension



## ENHANCED STORMWATER REGULATIONS



City employee, Dennis McBride, takes a storm water sample from an area drain.

affected in the manner and method of how development plans are reviewed, approved and inspected in the field. Even the City’s day-to-day work operations and activities will have to be modified to comply with the new rules.

Unfortunately, a number of the new regulatory requirements will result in an increase in cost. While the City will meet the initial impact with existing funding and staff, increased emphasis on construction review and inspection, monitoring of our area watersheds and drainage systems, and maintenance of post construction BMPs may impact the City and its residents. Each of the six minimum control measures (MCM) has significant new performance requirements. Some of the changes in MCM requirements are noted below:

Public Education and Outreach / Public Involvement and Participation

As required in the initial NPDES permit the City is required to educate and involve the public in stormwater pollution abatement. However, the City must also document its quantifiable

## WHAT HAPPENS TO THE RAIN IN OUR AREA?

On average, more than 44 inches of rain fall on the Florence area every year. Considering that there are about 21 square miles inside the Florence city limits, over 1.6 billion gallons of water fall on the City each year in the form of rain. This is a staggering volume of water to be handled by the natural features and man-made systems serving our City. Let’s look at the life and times of the raindrops that fall on Florence.

What is the source of our water? The two



Identifiers such as these are on storm drains City-wide.

great reservoirs of water that supply our area are the Gulf of Mexico and the Atlantic Ocean. The energy in weather systems that move across the Free Dee delivers water that has been evaporated from these bodies. Because this water has been evaporated, leaving behind salts and other impurities, the rain that falls on us is fresh, clean and unpolluted. The raindrops that hit our streets, woods, rooftops, lawns and parking lots are high in quality as they begin their journey through Florence.

Once the raindrops are on the ground, what happens to this great quantity of fresh water? In

### Inside This Issue

- Enhanced Stormwater Page 1
- What Happens to the Rain Page 1
- Tennis Complex Page 3
- Stormwater Utility Page 3
- City Complex Page 4

### Florence City Council

- Stephen J. Wilkins, Mayor
- Teresa Meyer Ervin, District 1
- Edward Robinson, District 2
- Frank J. Reind, II, District 3
- Chyn F. Willis, Member-At-Large
- Octavia Williams-Blake, Member-At-Large
- Stephanie C. Powers, Member-At-Large

The Mayor and City Council serve four-year terms. City Council meets the second Monday of every month in Room 608 at the City-County Complex, 180 North Inby Street, Florence, SC.

[www.cityofflorence.com](http://www.cityofflorence.com)



Florence Fountain Newsletter Summer 2011 - 1

Left: Image of Summer edition of the *Florence Fountain*.

Right: Image of article featured in the July/August issue of the *South Carolina Nurseryman*.

## Clemson University Rolls Out Rainwater Harvesting Manual for Homeowners

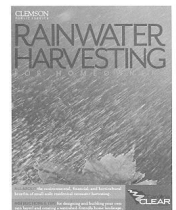
by Tarasa Young

Carolina Clear, Clemson University’s stormwater education and involvement program, recently released a comprehensive 26-page Rainwater Harvesting Manual for Homeowners. The guide seeks to inform readers of the environmental, horticultural, and financial benefits associated with rainwater harvesting and offers step by step instructions on construction, installation, and use of rain barrels in the home landscape. A free, low-resolution pdf download is available from Carolina Clear’s NPS Toolbox at [www.clemson.edu/carolinaclear](http://www.clemson.edu/carolinaclear). A high quality, printed copy of the manual is available for \$8 through the Clemson University Public Service Activities online Shopping Mall at <http://shopping.clemson.edu> and at all county extension offices (call to first check availability).

Rainwater harvesting is the process of collecting and storing rainwater for later use. The collected water would normally

become stormwater runoff and could potentially transport pollutants directly into local waterways. Plus, many plants are sensitive to chlorine, which is in treated household water and prefer rainwater for irrigation. Not only is reusing rainwater green for the environment, it puts green back in your wallet. It is estimated that half of a household’s water use is outside the home, so why not turn off the tap and utilize free captured rainwater instead?

With the announcement of incipient drought throughout the state, rainwater harvesting may seem counterintuitive. While it is true you must have rain in order to collect it, a small amount of rain produces a large quantity of rooftop runoff. In a 1-inch storm, 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 3 inches of rain!



The three designs in the manual, with equipment already in the garage, seek to save the homeowner money. All three barrels can be made for approximately \$25 depending on the source of your barrel. For the DIY’ers out there, this is big savings!

By harvesting rainwater, you can save money, and reduce the volume of stormwater runoff, which is good for your local waterways. The Rainwater Harvesting Manual for Homeowners contains all the information you need to get started in capturing rooftop runoff and using it for your outside watering needs. In the spirit of the “Beer Barrel Polka,” it’s time to roll out the barrel, the rain barrel that!



## Publications

# Brochure/Outreach Media

The FDSC utilizes a variety of outreach media to address stormwater related topics. Permanent displays are set up in the Planning Department offices for Darlington and Florence County and at the Environmental Discovery Center at Lynches River County Park. Outreach media is also utilized at festivals and when giving presentations. Examples of outreach media are listed below with the approximate number distributed in parentheses.

## Postcards (644)

- “What is a Rain Barrel”
- “What is a Rain Garden”
- “We ALL Live Downstream”
- “Trashing our Environment”
- “Septic Systems: Out of Sight should not mean Out of Mind”
- “What to do about Pet Waste”

## Flyer (175)

- “Leaf it on the Lawn”

## Coloring Pages (720)

- “Thirstin’s Wacky Water Adventure”
- “Happy Earth Day Coloring and Activity Book”

## Sponges (300)

- Fish shaped compressed sponge with message “Remember...storm drain lead directly to rivers, lakes, and wetlands. So please don’t pour—That’s our front door!”

## Rice Krispie Treats (87)

- Rice Krispie treats designed to look like pervious concrete were given out at the NEMO and Stormwater Utility Roundtable for Elected and Appointed Officials and at the Permeable Pavements Workshop.

## FOG Pamphlet (970)

In an effort to educate citizens about proper disposal of fats, oils, and grease, and to reduce the number of sanitary sewer overflows, the City of Florence distributed pamphlets to citizens and organizations that manage high density property.



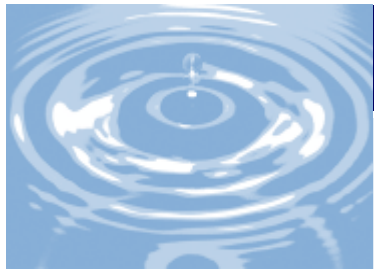
## Brochure/Outreach Media



# Council/Committee/ Advisory Board Meetings

Lead Provider	Activity	Date	Impacts	Other Providers Involved
City of Florence	The meeting was conducted to educate and obtain feedback from board members about proposed mandates associated with MCM4 & MCM5. Board members were encouraged to read over the City’s drafted Comprehensive Plan and to focus on the association between the Comprehensive Plan and the Proposed Phase II NPDES Permit. Each Member was giving a section of the Comprehensive Plan, Ideas at work Pamphlet, Definition Sheet, and model pet waste ordinance.	9/22/2010	24	
City of Florence	A discussion was held informing City Council about the new mandatory Phase II NPDES Stormwater regulations for the City of Florence as it relates to the second permit cycle as mandated by EPA and SCDHEC.  Council was able to ask about specific changes & language in the permit as well as how the permit could change the way certain City services are conducted. Council was particularly interested in conditions within the permit that will affect new and redevelopment projects. Drew Griffin also spoke about LID practices and land use practices (Cluster Developments). Drew stated certain ordinances will need to be revised or added to meet conditions of the permit and as soon as those changes are clear and made public, draft language will be written.	9/30/2010	14	
City of Florence	A Stormwater Advisory Board meeting was held on October 21 2010 at the Surface Water Treatment Facility in Florence. This was the second meeting of two scheduled sessions to discuss MCM 4 and MCM 5. There were a total of 25 members in attendance. Topics included construction site management and LID design techniques.	10/21/2010	25	
City of Florence	This meeting was held with the City of Florence Stormwater Advisory Board to review and discuss conditions of the new NPDES Phase II Permit. Drew Griffin reviewed each MCM and each element that was presented to the board for their discussion and input.	11/18/2010	28	

## Council/Committee/Advisory Board Meetings

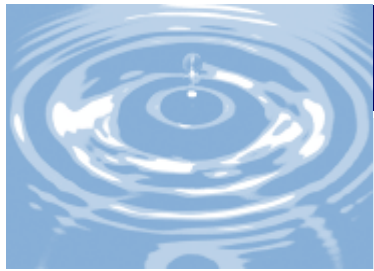


# Council/Committee/ Advisory Board Meetings

Lead Provider	Activity	Date	Impacts	Other Providers Involved
City of Florence	A meeting was held with our Storm Water Advisory Board and Planning Commission. The meeting was the first to combine these two committees into a unified board. The board will assist in drafting a Unified Development Ordinance (UDO) and SWMP elements relative to the NPDES Phase II Permit.	2/17/2011	22	
City of Florence	A meeting was held with the Unified committee to discuss watershed management, low Impact development practices, land use and bulk standards. Notebooks were furnished to each member. Presentations were presented by Drew Griffin, Public Works Director, Philip Lookadoo, Planning Director, and Geoff Smith, P.E, BP Barber.	2/24/2011	23	
City of Florence	A meeting was held with appointed members of the Unified Development Ordinance (UDO) Committee. Geoff Smith gave an update about current and pending TMDL requirements on local waterbodies. He informed the group about pending requirements to manage first inch of rain. Low Impact Development practices and watershed protection were also topics of discussion.	3/10/2011	14	
Clemson Extension	The Consortium hosted a NEMO and stormwater utility workshop for elected and appointed officials. The morning session provided a history of water quality regulations including updates for the General Permit for SMS4s. The afternoon's stormwater utility roundtable provided attendees with the opportunity to hear the experiences of three local communities with regards to the development and operation of a stormwater utility.	3/17/2011	48	City of Florence, Darlington County, Florence County, BP Barber, City of Hartsville, Sumter County



## Council/Committee/Advisory Board Meetings

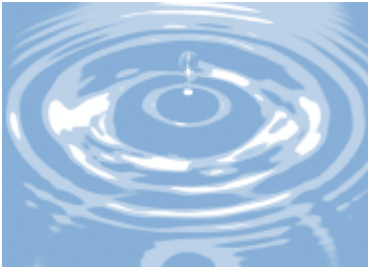


# Council/Committee/ Advisory Board Meetings

Lead Provider	Activity	Date	Impacts	Other Providers Involved
City of Florence	The City of Florence conducted a meeting with the Unified Stormwater Advisory Board. Sabine A. Somers-Kuenzel, AICP, with Kendig Keast gave a presentation on “Performance Zoning and Water Quality Standards.” Geoffrey Smith, P.E., BP Barber, presented the board with proposed changes in the NPDES permit. Bill Ervin, P.E gave a presentation on design comparison of current development standards and proposed NPDES requirements and development standards.	3/24/2011	27	
City of Florence	Drew Griffin opened the meeting with introduction into topics that will be posed to the board and asked board to study concepts within the UDO and to make sure there is a clear understanding of the conceptual approach outline within each module. Drew Griffin shared the floor with Planning Director Phillip Lookadoo and Sabine A. Somers-Kuenzel, AICP, Kendig Keast. Sabine presented a PowerPoint titled; “Joint Advisory Board Meeting”.	5/19/2011	25	
City of Florence	Drew Griffin opened the meeting with introduction into Density, Intensity, and Bulk Standards. The meeting was held at the Urban Planning and Development Office. Topics included site design, LID practices, Infill development and water quality issues. Drew Griffin shared the floor with Planning Director Phillip Lookadoo and Sabine A. Somers-Kuenzel, AICP, Kendig Keast.	6/16/2011	25	



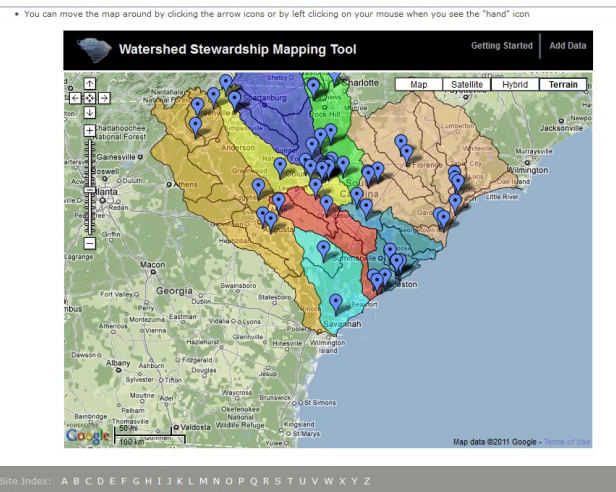
## Council/Committee/Advisory Board Meetings



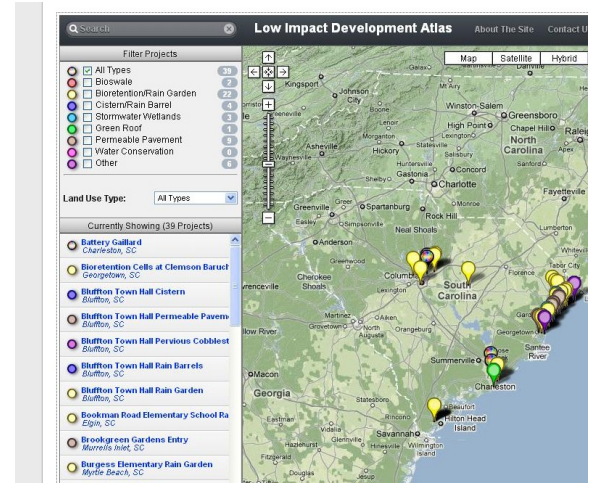
# Exhibits/Posters

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Clemson Extension	A functioning rain barrel display was set up in the exhibit hall of the Eastern Carolina Agricultural Fair along with informational postcards.	10/6/2011 - 10/16/2011	60,000 (Fair attendance)	
Clemson Extension	Presented poster at SC Water Resources Conference on Low Impact Development Atlas, current inventory of projects and how to use the Atlas. Presented poster at SC Water Resources Conference on the online Watershed Stewardship Map, developed to encourage participation and support for grassroots watershed outreach.	10/13/2010 - 10/14/2010	350	SC Sea Grant, NI-WB NERRS, ACE Basin NERRS, Clemson Center for Watershed Excellence

Below:  
Screenshot of Watershed Stewardship Mapping Tool. The mapping tool was the subject of one of the posters presented



Below:  
Screenshot of LID Atlas. The Atlas was the subject of one of the posters presented at the S.C. Water Resources Conference.



“High quality water is more than the dream of the conservationists, more than a political slogan; high quality water, in the right quantity at the right place at the right time, is essential to health, recreation, and economic growth.”

Edmund Muskie



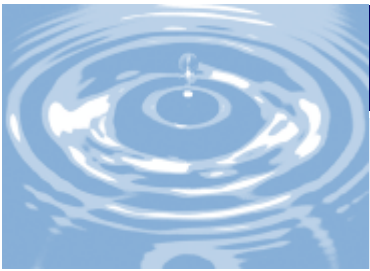
## Exhibits/Posters



# Presentations Nature Related Tours & Activities

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Kalmia Gardens	D. Hill took a group of children from Cheraw Intermediate School on a nature walk in Kalmia Gardens. While at the storm drain outfall, students talked about runoff and storm water pollution.	9/29/2010	20	
Kalmia Gardens	D. Hill took another group of children from Cheraw Intermediate School on a nature walk in Kalmia Gardens. While at the storm drain outfall, students talked about runoff and storm water pollution.	9/30/2010	20	
Kalmia Gardens	D. Hill took a garden club on a nature walk and spoke to the group about stormwater and water conservation.	10/18/2010	16	
Environmental Discovery Center	Stormwater information was included on a guided canoe excursion at Lynches River County Park.	3/5/2011	28	
Kalmia Gardens	D. Hill walked with a garden club at talked about stormwater and water conservation.	3/8/2011	6	
Kalmia Gardens	D. Hill and A. Harris led a nature walk and stopped at the storm drain outfall on Black Creek to talk about stormwater runoff and water quality.	4/21/2011	10	Clemson Extension
Clemson Extension	Darlington County 4-H Youth and Adults toured the Aquarium in Charleston, SC. Students learned the importance of being environmental stewards and how the Aquarium maintains high quality natural waters for plants and animals that live on-site and everyone who lives downstream.	4/21/2011	22	
Kalmia Gardens	D. Hill led Kershaw County Master Gardeners on a walk and discussed stormwater runoff at the Carolina Clear sign.	5/10/2011	10	
Kalmia Gardens	D. Hill led the group from the Botanical Gardens of Georgia on a walk where we stopped at the storm drain outfall and at the Carolina Clear sign to discuss stormwater runoff and water conservation.	5/20/2011	50	
Environmental Discovery Center	Stormwater information was included on a guided canoe excursion at Lynches River County Park.	6/4/2011	28	

## Presentations



# Presentations Nature Related Tours & Activities

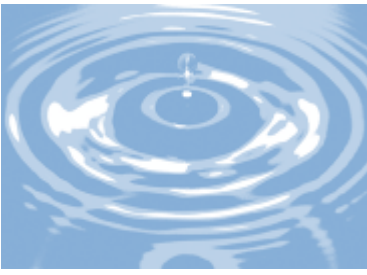
Lead Provider	Activity	Date	Impacts	Other Providers Involved
Kalmia Gardens	D. Hill led a canoe trip for the Darlington County Economic Development Committee on Black Creek behind Kalmia Gardens. He spoke about water quality, aquatic ecology, runoff, and water conservation.	6/9/2011	10	
Kalmia Gardens	D. Hill led a nature walk for Environmental Education Consulting, a science teacher's tour. On this walk we discussed watersheds, runoff, water pollution, storm drains, water conservation, and aquatic ecology.	6/21/2011	25	
Kalmia Gardens	D. Hill led a nature walk for a school group of 6th – 9th grade students. While at the storm drain outfall, we discussed storm drains and runoff pollution, water conservation, watersheds, protecting watersheds, the importance of water to us and we read the Carolina Clear sign in the garden and discussed ways to prevent runoff pollution.	8/18/2011	11	



Left: Children gather around the “What is Stormwater” sign which was installed in May 2011 at Kalmia Gardens. The sign uses a picture of an actual storm drain located in Kalmia Place , a neighborhood that drains to the outfall in the Gardens (also pictured on the sign). The sign also highlights the top 10 ways that people can be a solution to stormwater pollution.

## Presentations

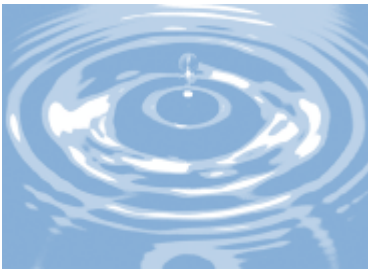




# Presentations

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Clemson Extension	Presentations made to children and adults during local 4-H Club Activities and Meetings focused on the importance of water conservation, the water cycle, stormwater, and impacts of runoff.	9/1/2010 - 8/28/2011	344	
Clemson Extension	T. Young spoke to the Florence West Rotary about stormwater and the ways to prevent stormwater pollution.	9/2/2010	19	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	9/4/2010	28	
Clemson Extension	T. Young spoke with a group of retired railroad workers about water quality, storm drains, stormwater run off, and ways to protect our watersheds.	9/9/2010	20	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	9/24/2010	13	
Clemson Extension	T. Young gave a talk about the Carolina Yards and Neighborhoods program at the Florence County Master Gardeners' booth at the Fall Plant and Flower Show.	10/2/2010	3	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	10/7/2010	23	
Clemson Extension	K. Giacalone presented on results of telephone survey of SC public's attitudes, knowledge and behaviors in regards to stormwater management at SC Water Resources Conference.	10/14/2010	40	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	10/14/2010	80	
Kalmia Gardens	D. Hill spoke with the Kalmia Garden Club on stormwater runoff and demonstrated using the Enviroscape model.	10/14/2010	10	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	10/19/2010	77	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	10/20/2010	95	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	10/21/2010	75	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	10/22/2010	75	

## Presentations



# Presentations

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	10/26/2010	85	
Clemson Extension	In conjunction with Ag in the Classroom, T. Young spoke to 1st and 3rd graders at Johnsonville Elementary about ways that they could protect water and ways that farmers take measures to protect water.	10/27/2010	229	SC Farm Bureau Federation
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	11/3/2010	20	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	11/4/2010	100	
Clemson Extension	T. Young gave a presentation at South Carolina Science Council about water conservation projects such as xeriscaping, rainwater harvesting, and rain gardens which can be used to participate in the SC Green Steps Schools Program.	11/5/2010	9	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	11/5/2010	80	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	11/9/2010	40	
Clemson Extension	T. Young worked with the Williams Middle School Garden Club to take a soil sample from the school garden. The results will help them decide what nutrients are needed and how much should be applied. The Enviroscope was used to show how stormwater can become polluted and what they can do to prevent stormwater pollution.	11/10/2010	12	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	11/10/2010	80	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	11/11/2010	80	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	11/12/2010	80	
Clemson Extension	T. Young spoke to students at the Darlington County Institute of Technology Career Fair about careers in water conservation and Carolina Clear.	11/19/2010	33	

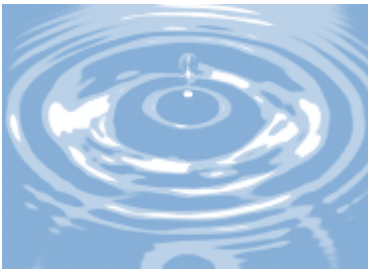
## Presentations



# Presentations

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	11/23/2010	43	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	11/30/2010	47	
SESWA	The FDSC hosted a webinar from the Southeast Stormwater Association (SESWA) on the Implementation of Bacterial TMDLs.	11/30/2010	12	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	12/8/2010	4	
EPA Watershed Academy	The FDSC hosted a webinar from the EPA Watershed Academy "Designing LID to Work: Lesson Learned from North Carolina".	12/9/2010	9	Clemson Extension
Clemson Extension	T. Young spoke to a Garden Club at the Hartsville library about the Carolina Yards & Neighborhoods Program. The program is designed to assist homeowners in landscaping to protect water resources and make positive changes in the environmental quality of their yards, neighborhoods, and surrounding waterways.	1/6/2011	11	
Clemson Extension	Presented on purpose, growth and updates of South Carolina's Carolina Yard & Neighborhood Program. Webinar sponsored by University of Florida.	1/18/2011	84	University of Florida
Kalmia Gardens	D. Hill spoke the Forest Lake Homeowners Association about protecting our waterways and conserving water.	1/25/2011	70	Clemson Extension
Clemson Extension	T. Young spoke to the Florence group of the NARFE about stormwater, local impairments, and the ways that people can prevent stormwater pollution.	2/4/2011	39	
City of Florence	Staff from the City of Florence conducted a tour of the Surface Water Treatment Plant to local organization "Leadership Florence". Topics discussed with the group included stormwater runoff and source water protection.	2/8/2011	31	Greater Florence Chamber of Commerce

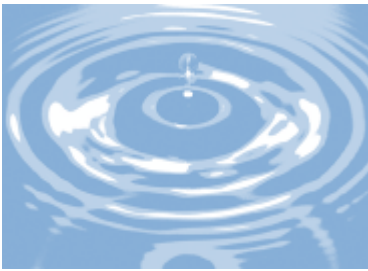
## Presentations



# Presentations

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	3/3/2011	90	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	3/9/2011	10	
Environmental Discovery Center	Third grade students learned about non-point source pollution using an Enviroscape. Students were challenged to think of ways they could become solutions to stormwater pollution.	3/10/2011	57	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	3/11/2011	50	
Clemson Extension	T. Young spoke at the 12th Annual Pee Dee Home and Garden Workshop about the Carolina Yards & Neighborhoods program. When the principles of environmental landscape management are implemented, they help to conserve and protect South Carolina's water resources.	3/12/2011	12	
Clemson Extension	T. Young gave a presentation to a Florence Kiwanis club about stormwater, water quality, and ways to prevent stormwater pollution.	3/14/2011	21	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	3/15/2011	105	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	3/17/2011	89	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	3/25/2011	60	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	3/29/2011	60	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	3/30/2011	80	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	4/1/2011	60	

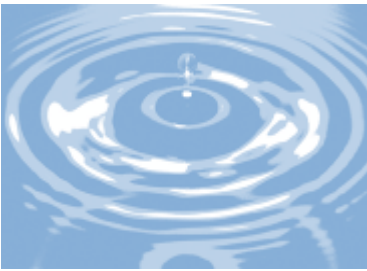
## Presentations



# Presentations

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	4/6/2011	50	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	4/7/2011	50	
Environmental Discovery Center	Third grade students learned about non-point source pollution using an Enviroscape. Students were challenged to think of ways they could become solutions to stormwater pollution.	4/8/2011	45	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	4/12/2011	110	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	4/13/2011	61	
Clemson Extension	T. Young spoke to the Shepherd Center group about the Carolina Yards & Neighborhoods. The presentation focused on environmentally friendly landscaping practices that protect water resources.	4/14/2011	24	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	4/19/2011	85	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	4/20/2011	100	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park for the Litter Trashes Everyone program.	4/21/2011	560	Columbia Marionette Theater
Kalmia Gardens	Presentations were given during the 4-H Junior Master Gardener program held in collaboration with Kalmia's Garden of Coker College. Participants participated in a watershed activity and other arts and crafts to emphasize the importance of ground water, water quality, and water safety.	4/27/2011 - 5/16/2011	16	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	5/3/2011	65	

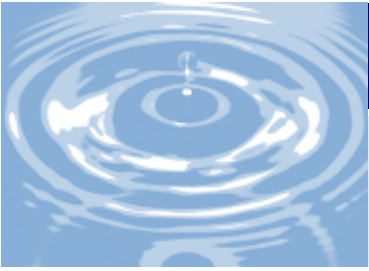
## Presentations



# Presentations

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	5/4/2011	56	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	5/5/2011	90	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	5/6/2011	80	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	5/10/2011	9	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	5/11/2011	92	
Environmental Discovery Center	Students visiting Lynches River County Park conducted a water quality assessment at the canoe landing.	5/12/2011	4	
Clemson Extension	T. Young spoke to the Darlington League of Women Voters about Carolina Yards and Neighborhoods. Attendees learned about environmentally friendly landscaping practices that help protect water resources.	5/17/2011	12	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	5/17/2011	60	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	5/18/2011	26	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	5/20/2011	20	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	5/24/2011	10	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	5/26/2011	20	

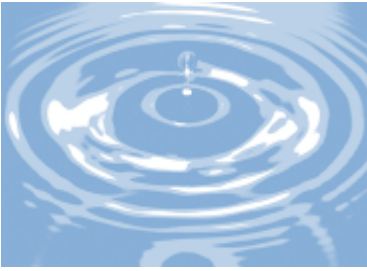
## Presentations



# Presentations

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	6/7/2011	40	
Clemson Extension	T. Young used the Enviroscape to teach children participating in the Florence YMCA's Counselors in Training program about watersheds, stormwater, and the things we can do to prevent stormwater pollution. The children made a card stock model of rainwater harvesting at the residential level.	6/27/2011	13	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	6/28/2011	15	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	6/29/2011	70	
Environmental Discovery Center	General stormwater information was provided to students visiting Lynches River County Park.	6/30/2011	70	
Clemson Extension	T. Young spoke to the Florence County Master Gardener Association about the Carolina Yards & Neighborhoods Program and the certification program allowing citizens to have their yards recognized as a Certified Carolina Yard. She also spoke to them about a Keep Florence Beautiful project demonstration that includes rainwater harvesting and permeable interlocking concrete pavers. The FDSC is a partner in this project.	8/15/2011	14	
Darlington County	Black Creek Watershed is an impaired waterbody with a pending TMDL by DHEC. A meeting was held with concerned stakeholders in order to learn about the pending TMDL and what can be done to decrease the pollution in the watershed.	8/22/2011	35	SC DHEC
Clemson Extension	T. Young spoke to the Richmond Hills Homeowners Association about stormwater and the ways in which homeowners could prevent stormwater pollution including proper disposal of pet waste and yard debris, cautious irrigation, and having soil tested before applying fertilizer. Storm drain markers were discussed and the Board said they would be interested in marking drains in the neighborhood.	8/26/2011	16	

## Presentations

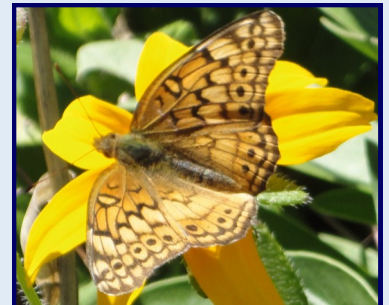


# Workshops

Lead Provider	Activity	Date	Impacts	Other Providers Involved
ScienceSouth	ScienceSouth provided SC Watershed programs for all 5th grade classrooms for Florence School District One through funding from a grant from AT&T.	9/1/2010 - 6/5/2011	1220	
Clemson Extension	Students in Darlington County schools learned about being good stewards of our natural resources. They learned about water quality and how our activities on land can pollute water.	10/1/2010 - 6/2/2011	1200	Darlington County
Clemson Extension	Workshops were held at local libraries to teach children about the importance of water quality and how to keep our water safe and clean.	10/10/2010 - 6/30/2011	355	
Clemson Extension	Build Your Own Rain Barrel Workshop was held for the 4-H Friendship Club.	1/6/2011	22	
ScienceSouth	T. Young assisted ScienceSouth in a Boy Scout Environmental Science Badge Workshop. An Enviroscape model was used to illustrate potential sources of pollution and the ways in which we can prevent or minimize that.	1/29/2011	19	
Clemson Extension	A Build A Rain Barrel workshop was held at Lynches River County Park. Participants learned about stormwater and water quality and ways to minimize polluted runoff including rainwater harvesting.	4/2/2011	12	Environmental Discovery Center
Clemson Extension	A Build A Rain Barrel workshop was held at the Barnes Street Recreation Center where attendees learned about stormwater and water quality and strategies to minimize polluted runoff such as rainwater harvesting.	5/7/2011	12	City of Florence

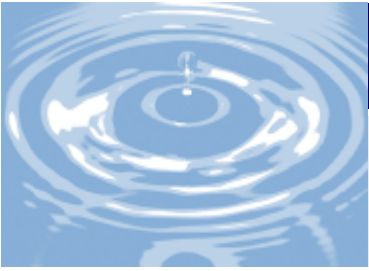
“In every glass of water we drink, some of the water has already passed through fishes, trees, bacteria, worms in the soil, and many other organisms, including people...Living systems cleanse water and make it fit, among other things, for human consumption.”

Elliot A. Norse



## Workshops



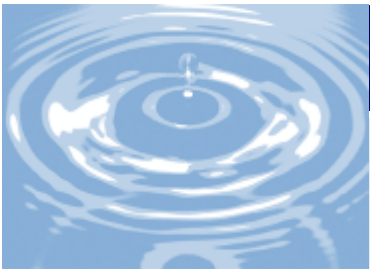


# Workshops

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Clemson Extension	The consortium hosted a Permeable Pavements Workshop where participants learned about pervious concrete, porous asphalt, and permeable interlocking concrete pavers.	5/12/2011	39	City of Florence
Clemson Extension	Florence County 4-H Youth visited the Environmental Discovery Center at Lynches River County Park where they learned about water quality. The students test the river for several parameters such as copper, hardness, and pH. They also learned about wood ducks and their nesting habits and constructed wood duck boxes which were donated to the Park and the SC Waterfowl Association.	7/12/2011	10	Environmental Discovery Center
Clemson Extension	A pond management workshop was held at the Pee Dee Research and Education Center which covered stormwater and water quality, aquatic weed identification and control, pond fertilization, pond stocking, and fish health issues.	7/14/2011	21	
Clemson Extension	A Build Your Own Rain Barrel Workshop was held by special request. Participants learned about the benefits of rainwater harvesting from a water quality standpoint in addition to cost savings and reducing the demand on municipal water sources.	8/27/2011	9	City of Florence



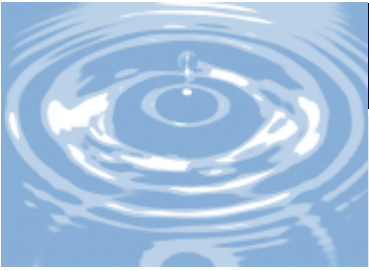
## Workshops



# Camps

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Clemson Extension	Clemson Extension 4-H and Kalmia Gardens of Coker College sponsored a 4-H2O summer water quality and outdoor adventure camp. The education camp taught participants to understand, appreciate, and protect life in and around water. Participants learned about the aquatic environment, how a watershed works, water quality, and how to protect the water. They also learned about insects and their role in the ecosystem.	6/22/2011 - 6/24/2011	20	Kalmia Gardens
Kalmia Gardens	Children from Carolina Kids attending Week in the Wild Camp learned about stormwater and water quality with the help of D. Hill and T. Young. The children participated in an interactive story called “Who Polluted the Creek”, made water cycle bracelets, played Environmental Bingo, viewed the storm drain outfall, and learned about how to protect our water.	6/27/2011 - 7/1/2011	18	Clemson Extension
Kalmia Gardens	Children participating in the 1st and 2nd grade Week in the Wild Camp learned about stormwater and water quality with the help of D. Hill and T. Young. They participated in the “Who Polluted the Creek” story, made “Litter Bugs Me” bags, visited the storm drain outfall, and talked about the importance of water.	7/11/2011 - 7/15/2011	20	Clemson Extension
Kalmia Gardens	Children in the 3rd and 4th grade Week in the Wild camp learned about stormwater, water quality, and aquatic habitat through various activities including a nature walk, Enviroscope demonstration, and a visit to the storm drain outfall.	7/18/2011 - 7/22/2011	18	Clemson Extension
Kalmia Gardens	Children in the 5th and 6th grade Week in the Wild camp learned about stormwater, water quality, and aquatic habitat. They discussed where stormwater goes while visiting the outfall in the Gardens and talked about what could happen if something “bad” was poured down a storm drain. They also learned about the importance of water and how to protect water quality.	7/25/2011 - 7/29/2011	9	Clemson Extension

## Camps



# Camps

Lead Provider	Activity	Date	Impacts	Other Providers Involved
City of Florence	T. Young and A. Ard gave an interactive presentation to 146 youth as part of the City of Florence's Summer Youth Camp whose theme was Go Green: Keep our Community Clean. The presentation focused on two behaviors that help prevent stormwater pollution: preventing litter and picking up and properly disposing of pet waste. Other pollutants discussed were oil, phosphate detergents, fertilizers, pesticides, and soil.	7/27/2011	146	Clemson Extension



## Camps



# Community Cleanups

Lead Provider	Activity	Date	Impacts	Other Providers Involved
SC DNR, SC Sea Grant Consortium	16 people participated in the Beach Sweep/River Sweep event held at Jeffries Creek Park in Florence.	9/18/2010	154 pounds of litter collected	Clemson Extension
Clemson Extension	Students participated in a community cleanup at Liberty Lane in Darlington County and Adopt-a-Hwy in Hartsville, South Carolina. Student's also participated in community service in our efforts to assist a local farmer with his sheep farm, after he experienced a fire at his farm. 4-H Youth in Darlington County, learned about how putting chemicals and yard waste into the storm drains adversely affects local waterways.	9/1/2010 - 7/30/2011	124	
City of Florence	The City of Florence maintains 3 sites that the public can safely and properly dispose of used motor oil and filters. The disposal sites are located at City operated fire stations on W. Palmetto Street, Edisto Drive, and E. Palmetto Street. The service is free to the residents.	10/1/2010 - 6/30/2011	1725 gallons of oil	
City of Florence	Staff from the City of Florence conducted a special litter campaign in an effort to enhance the beauty of main thoroughfares and to safeguard our local waterways from the harmful effects of litter.	3/1/2011 - 5/31/2011	1.26 tons collected	
Keep Florence Beautiful	The Great American Cleanup happens each year between March 1 and May 31 and is organized locally by Keep Florence Beautiful (KFB). This year, the FDSC partnered with KFB to offer a latex paint collection during the one day cleanup on March 26. The latex paint collection yielded approximately 50 gallons of usable paint. 850 volunteers participated in the Great American Cleanup and collected a total of 1,306,180 pounds of litter, debris, and bulky waste.	3/1/2011 - 5/31/2011	1.3 million pounds of litter collected 50 gallons of paint collected	City of Florence, Clemson Extension



“When we save a river, we save a major part of an ecosystem, and we save ourselves as well because of our dependence--physical, economic, spiritual, --on the water and its community of life.”

Tim Palmer

## Community Cleanups

# Community Cleanups

Lead Provider	Activity	Date	Impacts	Other Providers Involved
City of Florence	Scrap Metal Collection Residents were asked to place metal for collection on curb side for pick up by the City staff. The scrap metal was collected for recycling. The event is conducted annually to help ensure proper disposal of metals and prevent illicit dumping.	3/21/2011 - 3/25/2011	1 ton of metal collected	
City of Florence	Employees of the Florence office of BP Barber and the City of Florence as well as several members of the Pee Dee District gathered for the 3rd Annual Operation Clean Sweep. The event was originally part of an informal Earth Day celebration but has migrated to be a part of the Palmetto Pride project as well as Keep Florence Beautiful. The project consist of the cleaning of a trail system beside three ponds on the campus of West Florence High School that is a part of their Cross Country Track System as well as a part of the City of Florence's Rail Trail system. Periodically, high flows from Beaverdam Creek overflow into the ponds and leave a deposit of trash and debris that is trapped in the ponds. An annual cleaning of the ponds and the neighboring trails leaves the area in a more pristine condition for the hikers to enjoy throughout the year.	4/8/2011	13	BP Barber
Clemson Extension	Darlington 4-H students participated in a community clean-up at the local Animal Shelter. A. Harris spoke to students regarding the impacts of pet waste on our waterbodies and the importance of cleaning up pet waste. Students also learned that water is a limited resource and that we need to protect it.	4/16/2011	27	

“We’re doing everything we can to make sure future generations understand how important it is to protect our water.”

Alma Harris



## Community Cleanups

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# Internal Trainings

The following trainings were conducted for MS4 staff in order to provide up to date information on the latest practices, tools, and regulations.

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Darlington County	Training was conducted on Stormwater Management for the Darlington County Recycling Center on East McIver Road.	6/29/2011	4	
City of Florence	Annual Employee Good Housekeeping Training Forrest Whittington, P.E with the City of Florence conducted five good housekeeping training sessions with city staff. A total of 119 employees attended the training. Topics included proper vehicle washing and fueling practices, spill prevention and response, chemical management, lawn and ground maintenance.	8/2/2011 8/9/2011 8/16/2011 8/23/2011 8/30/2011	119	



“The Florence Darlington Stormwater Consortium is an important regional asset for providing public education and participation necessary to provide for healthy streams and wetland ecosystems for the community.”

Drew Griffin  
City Manager, City of Florence

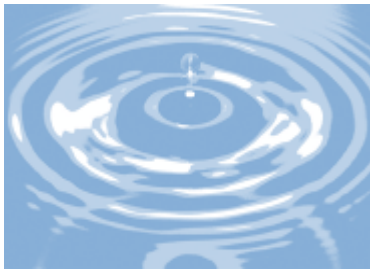
## Internal Trainings



# Installations/Demonstrations

Lead Provider	Activity	Date	Impacts	Other Providers Involved
Clemson Extension	Clemson Extension 4-H and volunteers participated in a community garden. They learned the importance of how chemicals if not disposed of properly could affect water quality in the food chain. These children, have also learned that our rural and urban communities working together have made the most of our rich agriculture resources and they continue to contribute, to the health and well-being of our people and to the strength of our economy.	10/1/2010 - 8/15/2011	150	
City of Florence	Arbor Day Tree Planting Project  City staff along with local residents planted a tree at the Heritage Nursing Home located at 515 Warley Street. It was estimated that 60 participants were involved in this event. The environmental roles trees have on air and water quality were stressed.	12/3/2010	60	
City of Florence	In Iola Jones Park located at 800 Oakland Ave, City staff with community volunteers completed a landscaping project within the park. The 1000 sq. ft area was planted with trees and shrubs to beautify and improve runoff and drainage. The project was funded in part by a grant. Citizens from the local community were invited to participate.	2/1/2011 - 3/25/2011	15	
Clemson Extension	Employees from Vulcraft placed storm drain markers at 29 locations around their facility to heighten awareness of stormwater pollution.	2/1/2011	6 employees 29 markers	Vulcraft
City of Florence	Storm Water Inlet Stenciling Program  City staff marked local storm water inlets with markers stating "DON'T POLLUTE FLOWS TO WATERWAYS". Areas marked included high priority sections of the collection system that was acceptable to receive illicit dumping into the system.	2/14/2011 - 4/11/2011	145 markers placed	

## Installations/Demonstrations



# Appendix A

## Year 3 Adaptive Education Plan

**Table 4. Adaptive Education Plan - Year 3 Initial Plan Developed August 2010**

ADAPTIVE Stormwater Education Plan		Year 3 (Sept 2010- Aug 2011) - Florence & Darlington Counties, City of Florence										Living document (began 8/2010)			
Lead Service Provider	Activity	Target Geography/ Land Use	Target Pollutant(s)										Participation by other Service Providers	Expected Month/ Quarter (if date unknown)	
			General Stormwater Awareness	Bacteria	Toxic contaminants, petroleum products, pesticides, heavy metals	Sediment	Nutrients	Volume	Debris	Temperature	Other				
<b>General Public</b>															
Clemson	Beach Sweep/River Sweep	Pee Dee Region	X									X		Kalmia Gardens	18-Sep-2010
Clemson	Sweet Potato Festival: table and handouts	Darlington County	X	X				X	X	X					9-Oct-2010
Environmental Discovery Center	Fall Frenzy - display and dog biscuit give-a-way	Florence County	X	X	X			X	X					Clemson	2-Oct-2010
City of Florence	Pecan Festival: dog biscuit give-a-way, sponge give-a-way, handouts	Florence County	X	X	X			X						Clemson	6-Nov-2010
Keep Florence Beautiful	Great American Cleanup - cleanup + latex paint collection	City of Florence	X		X							X		City of Florence, Clemson	26-Mar-2011
Clemson	Just A Walk in the Park Earth Day Event	Darlington County	X	X	X			X	X					Darlington County	16-Apr-2011
Kalmia Gardens	Earth Day Event - stormwater display with dog biscuit give-a-way	Pee Dee Region	X	X	X	X	X	X	X			X		Clemson	9-Apr-2011
Clemson	Rural Heritage Festival	Pee Dee Region	X	X				X							16-Apr-2011
Clemson	Stormwater Billboards - new downstream campaign	Pee Dee Region	X												1-Aug-2011
Clemson	Monthly Article in <i>Morning News</i>	Florence County	X												throughout

Continued...

### Appendix A - Year 3 Education Plan



# Appendix A

## Year 3 Adaptive Education Plan

Lead Service Provider	Activity	Target Geography/ Land Use	Target Pollutant(s)										Participation by other Service Providers	Expected Month/ Quarter (if date unknown)	
			General Stormwater Awareness	Bacteria	Toxic contaminants, petroleum products, pesticides, heavy metals	Sediment	Nutrients	Volume	Debris	Temperature	Other				
<b>Youth / K-12 / Teachers</b>															
Clemson	Ag in the Classroom @ Johnsonville Elem.	Johnsonville	X	X	X		X								October-10
Clemson	Adopt A Highway - Darlington County 4-H	Darlington County	X							X			Keep Darlington County Beautiful / SC DOT	throughout	
Clemson	Williams Middle School Garden Club - Enviroscap presentation and soil sampling of garden	Florence	X	X	X	X	X					Watershed awareness		November-10	
Clemson	Darlington Co. Inst. Of Tech. Career Fair - careers in water conservation	Darlington	X									careers in water conservation		November-10	
Clemson	Earth Day Coloring Contest	Pee Dee Region	X									"earth friendly" activities		April-11	
Clemson	4H2O Pontoon Classroom at Josselyn Education Center, Kalmia Gardens	Pee Dee Region	X	X			X	X		X	X	watershed awareness	Kalmia Gardens	June 22-24, 2011	
Clemson	Junior Master Gardener: 3rd thru 5th grade class focusing on water conservation, xeriscaping, and Children's Discovery walk	Darlington County	X				X	X				watershed awareness	Kalmia Gardens		
Kalmia Gardens	Week in the Wild: mini day camp	Darlington	X									watershed awareness	Clemson	3 weeks in July	
ScienceSouth	"What's Your Watershed" program to all FSD1 5th graders	Florence	X	X	X	X	X		X	X		watershed awareness	funds from AT&T grant	throughout	
Clemson	Water Day at SWIM for Earth Day	Florence	X	X	X	X	X		X				all MS4s	Apr-11	
Clemson	Storm Drain Marking and Watershed Education	all MS4s	X	X			X	X		X	X		Clemson, Boy Scouts, Girl Scouts, 4-H, IB, businesses		
<b>Planning Commission / Advisory Board / Elected and Appointed Officials</b>															
City of Florence	Stormwater Advisory Board / Unified Development Ordinance Meetings	City of Florence	X	X	X	X	X		X	X		ordinance review, enforcement review, overall stormwater management guidance		monthly throughout	
Clemson	NEMO and Stormwater Utility Workshop for Elected & Appointed Officials	Pee Dee Region	X									NPDES permit update and stormwater utility roundtable		17-Mar-11	

Continued...

### Appendix C - Year 3 Education Plan

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# Appendix A

## Year 3 Adaptive Education Plan

Lead Service Provider	Activity	Target Geography/ Land Use	Target Pollutant(s)										Participation by other Service Providers	Expected Month/ Quarter (if date unknown)
			General Stormwater Awareness	Bacteria	Toxic contaminants, petroleum products, pesticides, heavy metals	Sediment	Nutrients	Volume	Debris	Temperature	Other			
<b>Professionals: Contractors, Engineers, Developers, Builders</b>														
Clemson	SC Water Resources Conference - poster on LID Atlas	Statewide	X									LID	SC Sea Grant, NI-WB NERRS, ACE Basin NERRS, Clemson Center for Watershed Excellence	Oct-10
Clemson	SC Water Resources Conference - poster on Watershed Stewardship Map	Statewide	X									volunteering for watersheds	Center for Watershed Excellence, CCIT	Oct-10
Clemson	SC Water Resources Conference - presentation on telephone survey results	Statewide	X									public awareness		Oct-10
Clemson	CEPSCI	Statewide	X			X	X				X			throughout
Clemson	Permeable Pavements Workshop	Pee Dee Region	X	X		X	X		X	X			City of Florence, Florence County, Darlington County	May-11
<b>Homeowners &amp; Homeowner Associations</b>														
Clemson	"Pulse of the Carolinas"	Pee Dee Region	X	X			X							17-Sep-11
Clemson	Fall Plant and Flower Festival	Pee Dee Region	X	X	x		X							2-Oct-10
Clemson	City Talk television show	Pee Dee Region	X	X			X	X					Florence and Darlington Counties	October/ November 2010
Florence	Florence Fountain	City of Florence	X										Clemson	Fall & Summer
Clemson	2011 Pee Dee Backyard Landscape Series	Pee Dee Region	X		X	X	X	X					City of Florence	monthly March - September 2011
Clemson	Kinard-n-Koffee episodes	Pee Dee Region	X	X			X	X					City of Florence	In conjunction with events
EDC	Rain Barrel Workshop @ Lynches River	Florence	X	X	X	X	X	X	X	X		rainwater harvesting	Clemson	2-Apr-2011
Clemson	Southern Plant & Flower Festival	Pee Dee Region	X	X			X							April 7-10, 2011
Clemson	Carolina Yards & Neighborhoods	Pee Dee Region	X					X						throughout
City of Florence	Rain Barrel Workshop @ Barnes St.	City of Florence	X	X	X	X	X	X	X	X		rainwater harvesting	Clemson	7-May-2011
City of Florence	Rain Barrel Workshop @ Barnes St.	Pee Dee Region	X	X	X	X	X	X	X	X		rainwater harvesting		27-Aug-11
Clemson	Pet Waste Bag Dispensers and information distributed through Human Society locations and brochures in vet offices		X	X									vet offices	throughout

Continued...

### Appendix C - Year 3 Education Plan

September 2010—August 2011 Annual Report  
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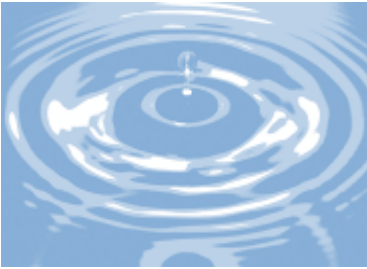
# Appendix A

## Year 3 Adaptive Education Plan

Lead Service Provider	Activity	Target Geography/ Land Use	Target Pollutant(s)										Participation by other Service Providers	Expected Month/ Quarter (if date unknown)
			General Stormwater Awareness	Bacteria	Toxic contaminants, petroleum products, pesticides, heavy metals	Sediment	Nutrients	Volume	Debris	Temperature	Other			
<b>Commercial Citizens: Farmers, Nurserymen</b>														
Clemson	East Carolina Agricultural Fair - rain barrel display and handouts	Pee Dee Region	X	X	X		X		X					October 6-16, 2010
Clemson	Confined Animal Manure Managers Program	Pee Dee Region	X	X										ongoing
Clemson	Article in South Carolina Nursery and Landscape Association	Pee Dee Region	X					X			rainwater harvesting		July-Aug 2011 issue	

### Appendix C - Year 3 Education Plan

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# Appendix B Sample Articles

## Do your duty as a pet owner

### Scoop poop to protect natural resources

**Terasa Young**

Natural Resources Agent



**M**y yard is not a bank. If your dog makes a deposit, please take it with you." I read those words on a yard sign in my neighborhood one morning and I think of it often.

It is quite understandable why my neighbor would not want someone else's pet waste in his or her yard if just for the sheer fact that it is unsightly. More importantly, pet waste that is left on lawns and sidewalks can be picked up by stormwater runoff and carried into storm drains posing a threat to water quality.

Pet waste is full of bacteria, viruses and parasites that can make people sick. These pathogens can end up in the waterbodies we use for recreation, causing ailments such as sore throats, intestinal problems, rashes, nausea, and eye and ear infections. The nutrients in pet waste also encourage algae and weed growth, turning the water green and unappealing for swimming and boating. Low oxygen levels can occur because of decomposition of the waste and excess algae making the water uninhabitable to fish and other aquatic organisms.

People are often reluctant to

pick up after their pets, especially when no one is around. You might think it is "gross" or that the amount of waste your dog leaves behind is negligible, but when you look at the density of pets in urbanized areas, the numbers make you stop and think. According to U.S. census data, there are 47,147 households in Florence County (U.S. Census Bureau 2000). On average nationally, there are 0.58 dogs per household (American Veterinary Medical Association 2004). This yields an estimated dog population in Florence County of 27,345. That is a lot of dogs and a lot of poop! A study in a Washington, D.C., suburb found that dogs produce about 0.42 pounds of fecal waste per day (Thorpe 2003). That means 11,485 pounds or 5.7 tons of fecal waste is produced every day just in Florence County. Any of that waste that is not disposed of properly can be transported to swamps, creeks, rivers, streams, and ultimately the ocean by stormwater runoff.

If you are still skeptical, con-

**"People are often reluctant to pick up after their pets, especially when no one is around."**

sider the data from the South Carolina Department of Health and Environmental Control's Water Quality Monitoring Program. Of the 37 monitoring sites in Florence County or on the County border, 13 are considered to be impaired for fecal coliform. Gully Branch at Timrod Park falls in that category, hence the reason for the sign that states "wading/playing in the water and on rocks is prohibited."

So what can you do? Clean up after your pet no matter whether you are walking in a park, along the beach or just in your own backyard. This waste can be flushed down the toilet where it will be treated by your wastewater treatment plant or septic

system. Keep in mind that you cannot flush plastic baggies which makes this option have a greater yuck factor. If you can't stomach that, simply place the bag in the trash. The trash will go to a landfill where it is removed from causing harm to local waterways. You also can purchase an in-ground waste digester that acts like a mini septic system for pet waste.

Don't take our precious natural resources for granted. Be a responsible pet owner and Scoop the Poop!

— 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.

## Fats, oils and grease create environmental hazards

**T**he holiday season is upon us and in my family, many of our holiday traditions revolve around cooking and eating. One of my favorite meals is an English recipe: roast beef with Yorkshire pudding and gravy, and no one can make gravy like my Nana (grandmother). Of course, you must save room for the sweets: an assortment of cookies, pies, candies and hand-dipped chocolates.

As delicious as these foods may be, they are made with or contain fats, oils and grease (FOG) that can cause serious problems in sanitary sewer systems. Over time, the FOG builds up much like plaque builds up in our arteries. This buildup restricts or com-

**Terasa Young**

Clemson Extension natural resources agent



pletely blocks flow through the system causing sewer backups know as sanitary sewer overflows (SSOs).

If a backup occurs, raw sewage may end up in homes, yards, streets, parks and waterways creating health risks, negative impacts to the environment and costly maintenance.

If your home has a septic system, FOG is bad news for you, too. They can clog

up the system which means you will probably have to have the system pumped out more frequently. Failed septic systems can allow untreated sewage to seep into wells, groundwater and surface water where people get their drinking water and recreate.

So, if you can't pour them down the drain, how can you safely dispose of FOG?

At this time, the best way to dispose of these items is by pouring them into a container with a tight fitting lid such as a plastic drink bottle. Once the container is full, you can put it in your trash for collection or take it to a landfill.

Perhaps in the not too distant future, residents in

the Pee Dee will have the opportunity to recycle used cooking oil. The town of Cary, N.C., implemented a Residential Waste Cooking Oil Disposal Program in July 2009. The oil collected is converted in biodiesel that is utilized by the

town's fleet diesel vehicles.

— Terasa Young is a natural resources agent for Clemson Extension, Carolina Clear Coordinator for the Florence/Darlington Stormwater Consortium and a Master Naturalist. Clemson

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### Appendix B - Sample Articles