

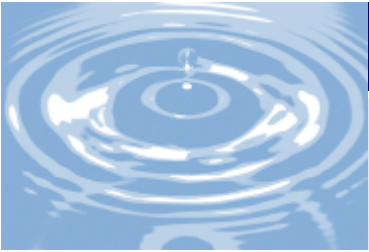
Florence Darlington Stormwater Consortium



Annual Report of Activities September 2008 - August 2009



December 2009



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. The onset of this regional education strategy did not officially begin until the final contract was signed with Clemson University Public Service and Agriculture's Carolina Clear program in the fall of 2008. This first year of the FDSC outreach program can be seen as foundation building, information gathering and outreach strategy development.

This first year has been a very necessary growth period to sustain long-term partnerships, open communication, information sharing and partner development, all in the name of stormwater education and public involvement. This first year's education strategy was launched in the spring of 2009 and outlined a strategy based on target audiences and target pollutants, with primarily short-term (first year) goals. This first year has also been a period of data gathering, as information has been collected on audiences contributing to stormwater pollution, types of pollution to be addressed, and messages that will work together to encourage behavioral change.

The goals and objectives of this first year have been met. A regional stormwater education strategy was developed and implemented, open and regular partnership communication has been established, and audience and watershed data continues to be collected. The FDSC is fortunate to have a dedicated group of community and education partners working together to achieve the common goal of improving water quality in South Carolina through public education and involvement. In this first year, valuable lessons were learned, and the consortium looks forward to partnering with additional agencies, universities and colleges, business and non-profits in future years to continue to grow this regional stormwater education and public involvement effort.



The consortium has worked together over the past year to establish strong relationships that will yield educational messages and activities that will not only increase awareness in our region of the state, but lead to a change in the way people develop properties as well as perceive their own impacts on water quality and quantity.

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

Executive Summary

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FDSC Annual Report

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FDSC Community Partners

The FDSC is comprised of three small MS4s. These communities are represented by a dedicated group of public servants who offer their support in this regional education strategy through their attendance at meetings, sharing of ideas and data, recommendations for implementation strategies and support of outreach and public involvement efforts..

Local SMS4 Consortium Representatives

SMS4	Consortium Representatives
City of Florence	Drew Griffin, Amanda Pope, Alvin Ard, Forrest Whittington, Michael Hemingway
Darlington County	Doug Reimold, Charles Brooks, Julie Ritz
Florence County	William Hoge (formerly with the county), Benjamin Smith, Chris Moats, Veronica Moore



SMS4 Community Partners

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FDSC Education Partners

Partner collaboration is key in developing and delivering a successful watershed-scale outreach program that reaches a range of diverse audiences. The FDSC is fortunate to have a variety of organizations in the Pee Dee Region. Education partners include universities, government agencies, and non-profits, and each brings unique expertise, resources, ideas and programs to the FDSC. The FDSC is fostering communication among organizations, and programs are being created or enhanced through this cooperative effort. As regional stormwater education efforts continue to grow, more working partnerships are expected.

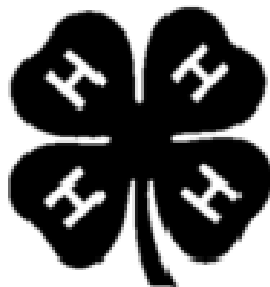
Education Partners

- ◆ Clemson University Cooperative Extension Service,
- ◆ Clemson University Center for Watershed Excellence,
- ◆ Kalmia Gardens of Coker College,
- ◆ BP Barber,
- ◆ Lynches River County Park Environmental Discovery Center,
- ◆ Pee Dee Land Trust,
- ◆ Black Creek Land Trust and
- ◆ SC Department of Health and Environmental Control.



Pee Dee
Land Trust

*Protecting the Past,
Ensuring the Future*



BP Barber
Engineering • Experience • Excellence

CENTER FOR
WATERSHED
EXCELLENCE



CLEMSON UNIVERSITY
RESTORATION INSTITUTE

Educational 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.



*In the end, we will conserve
only what we love, we love
only what we understand,
and we will understand
only what we are taught.*

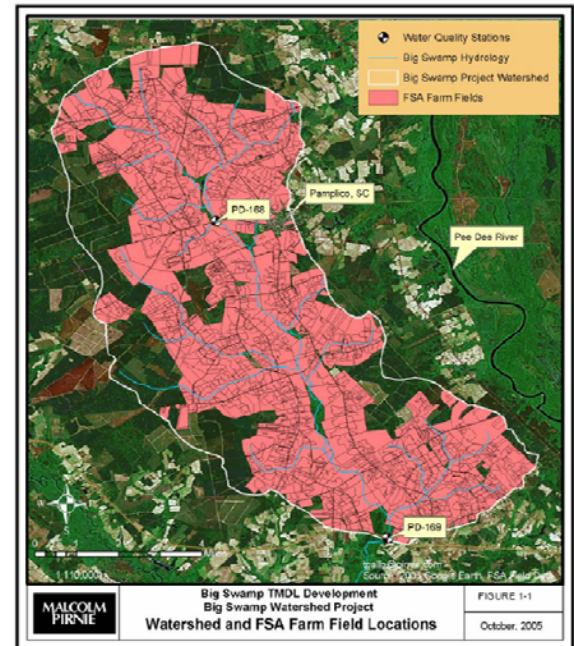
-Baba Diou



FDSC Meetings & Discussions

The FDSC communicates predominantly through use of a list serve provided by Clemson University and managed by Carolina Clear. The list serve includes all those who have attended a previous meeting as well as additional contacts and agencies who have expressed interest in this consortium’s activities.

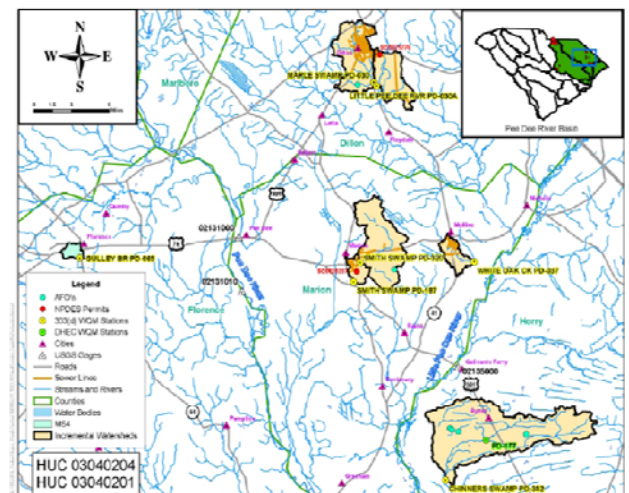
The consortium also met four times in this first year to recruit and discuss partnering organizations, evaluate educational needs and develop an education strategy for implementation. Meetings included all MS4s, education partners, local agencies and on some occasions, interested citizens; feedback, discussion and consistent communication truly made this a regional decision-making process. Topics included identity (name, logo, goal statement, objectives, etc.), educational opportunities (fairs, festivals, clean-ups, and events), and target audience/target pollutant. The 2008 list of impaired waterbodies and Total Maximum Daily Loads 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.



The Education Plan for Year 1 is available in Appendix D. As evidenced in this report, the activities listed were goals; there have been additional outreach efforts undertaken by the consortium as opportunities became available and as the plan needed to be adapted to meet local stormwater education needs.

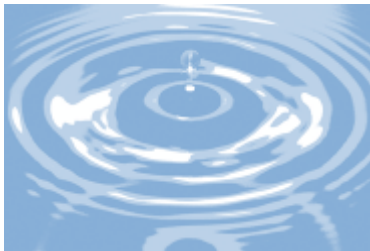
Meetings held by the consortium have rotated to new locations across the two counties, and the dates and attendance are indicated below. Meeting agendas and minutes are available upon request and will soon be available on the FDSC website.

MEETINGS HELD BY THE FDSC		
Date	# Attended	Location
11/5/2008	14	Surface Water Treatment Plant, Florence
4/1/2009	20	Florence Library, Florence
7/2/2009	14	Kalmia Gardens, Hartsville
8/19/2009	13	Pee Dee COG, Florence



FDSC Mission and Goals

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FDSC Annual Report of Activities Format and Database

This first annual report is utilizing the same general format as the other regional stormwater consortia in South Carolina. The goal of the report is to provide a detailed outline of the activities that took place in the region over the last year. Although this report is entitled “year one,” reporting for the first cycle represents less than a year’s worth of planning and implementation; however, the activity year has been set to align as best possible with the stormwater permit guiding this process. Future annual reports will represent the full 12-month cycle. The report is organized by outreach methods (i.e. media, workshops, public events, etc.). Each activity is briefly described, along with lead provider, supporting partners, date, number of impacts, and target audiences.

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



However far the stream flows, it never forgets its source.

-Proverb of the Yoruba People



FDSC Report Format

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FDSC Annual Report of Activities Format and Database

A screen capture of part of the online reporting form is shown below:

The screenshot shows a Mozilla Firefox browser window displaying the reporting form for the Florence-Darlington Stormwater Consortium. The browser's address bar shows the URL <http://spreadsheets.google.com>. The form is titled "Florence-Darlington Stormwater Consortium" and includes several sections:

- * Required**
- Consortium / Community ***: A dropdown menu with "Florence-Darlington Stormwater Consortium" selected.
- Lead service Provider(s) ***: A text box with instructions: "This field refers to the principal coordinator(s) of the activity being reported. Only those providers that were involved in the development and organization of the activity are considered to be Lead Service Providers. Other contributors should be entered into the field 'Additional Participating Provider(s)' that is defined below." Below this are checkboxes for:
 - Clemson Extension
 - City of Florence
 - Darlington County
 - Florence County
 - Kalmia Gardens
 - Other:
- Additional Participating Provider(s)**: A text box with instructions: "This field refers to the additional contributor(s) of the activity." Below this are checkboxes for:
 - Clemson Extension
 - City of Florence
 - Darlington County
 - Florence County
 - Kalmia Gardens
 - Other:
- Activity Type ***: Radio buttons for:
 - Exhibit / poster
 - Webpage
 - Television / Video
 - Radio / Audio
 - Billboard / bulletin / poster
 - Publication / Article
 - Newsletter
 - Brochure / Outreach Material



Public Education

A particular focus the first year was providing overall awareness of the new regional partnership to educate the public about stormwater runoff pollution, as well as to highlight and expand existing and new programs. Although member organizations have a well-established identity in the region, the collaborative efforts of the consortium are new, and the public has not been familiarized with this stormwater consortium. One of the first strategies to provide public awareness of stormwater runoff pollution and the regional partnership was to create a logo for the consortium. The new logo was unveiled in August 2009 and is being utilized in a variety of mediums and events to provide a unified identity to the public.

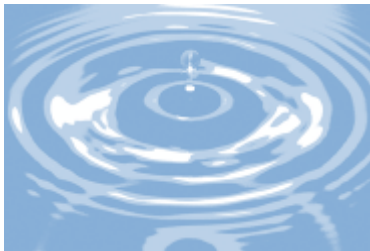


The public education segment of this document is organized by outreach methods, with major headings including: Mass Media (internet, TV, Radio), Publications (articles, newsletters), Presentations (including nature walks, summer camps), Workshops, Meetings, and Training/Certification programs.

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

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

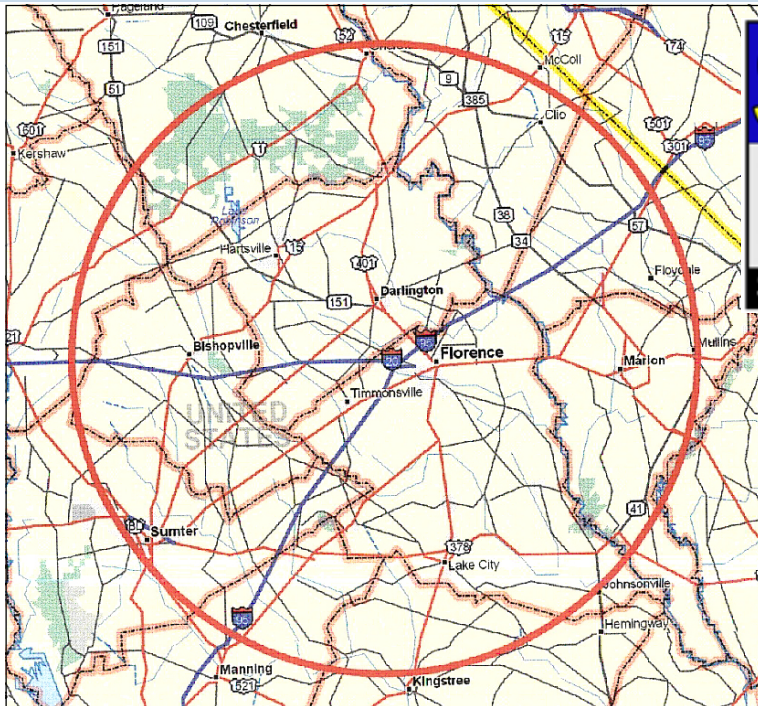
Public Education



Public Education

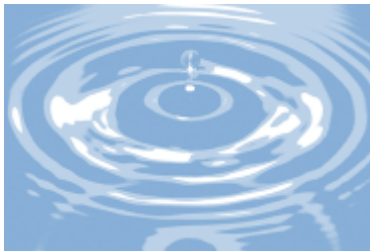
MASS MEDIA: *Radio and TV*

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" radio show which is aired on 1310 AM and 93.7 FM radio stations. Discussed stormwater permit, education, and actions all homeowners can take to prevent pollution.	7/15/2009	12,000	GP
Clemson Extension	City of Florence	Interviewed by Tom Kinard on "Kinard-n-Koffee" radio show which is aired on 1310 AM and 93.7 FM radio stations. Announced rain barrel workshop and discussed water smart landscaping.	8/19/2009	12,000	GP
Clemson Extension	Francis Marion University, Time WarnerChannel 11	Guest appearance on City Talk to discuss stormwater education initiatives and pollution prevention with host, Rennie Lunn-McAllister. 15-minute interview.	7/20/2009	Approx. 35,000	GP, HM



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	A stormwater commercial was aired on Time Warner cable channels (20 spots per week for four weeks).	8/12/09-9/12/09	Numbers are still being estimated by cable net-	GP

The mass media campaign of 2008-2009 was carried out on television via spots purchased from Time Warner Cable. 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.*”

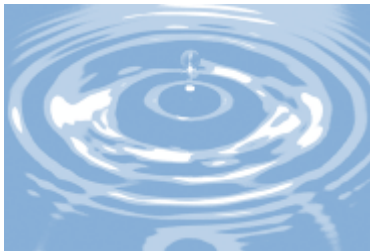
For more information and to play the commercial, please go online at www.clemson.edu/public/carolinaclear/fdsc and click on “Media.”

The screenshot shows the Clemson University website interface. At the top, there is a navigation bar with links for 'Text', 'A-Z Index', 'Calendar', 'Map', and 'Phonebook'. Below this is the 'CLEMSON PUBLIC SERVICE ACTIVITIES' header. The main content area is titled 'Media Campaigns & Coverage' and includes a sub-section for 'Mass Media Outreach in Florence Darlington Region'. A video player is embedded, showing a logo for the 'FLORENCE DARLINGTON STORMWATER CONSORTIUM' and the slogan 'We ALL live DOWNSTREAM'. The video player controls show a duration of 0:00 / 0:00. On the right side of the page, there is a search bar and a list of navigation links including 'About', 'Partners', 'Programs', 'Education Plan', and 'Media'.



Public Education

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Public Education

MASS MEDIA: *Internet*

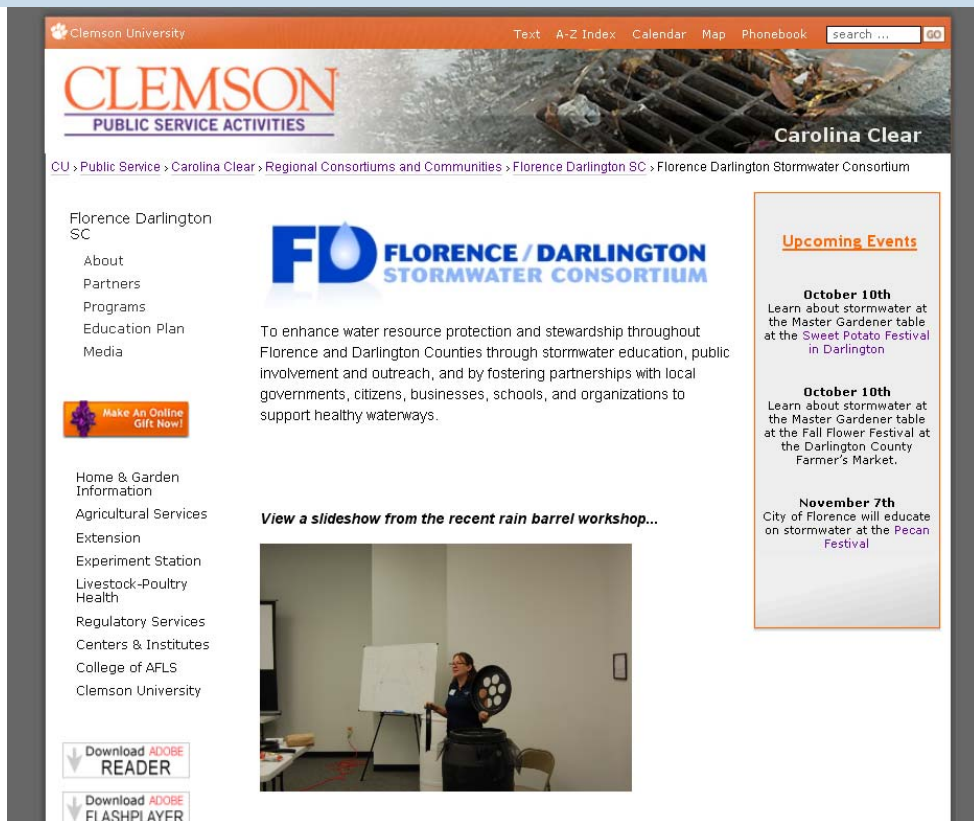
The Carolina Clear website was redeveloped in September 2008 and serves as a statewide educational resource and hub for the FDSC website. The FDSC website has been created and is undergoing changes as this consortium evolves. The viewership of the website is monitored by Google Analytics, which developed 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 Con-	9/10/08-8/31/09	201	GP
Clemson Extension		This is the total number of visits where user accessed information on the Carolina Clear webpages from Florence and Darlington Counties.	9/10/08-8/31/09	101	GP

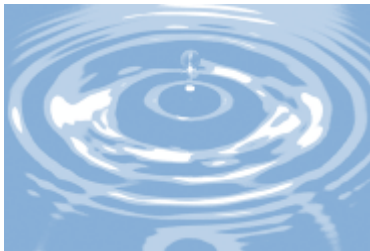
Visit the website at
www.clemson.edu/public/carolinaclear/fdsc

Tools, links, videos and other information related to stormwater, best management practices and education can be found on the website.



Public Education

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Public Education

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Darlington County		The new www.darcosc.com/planning and stormwater link has information on what a person can do to minimize that 1st inch of water and kid links to the EPA site as well. There are photos and links to Carolina Clear and other sites to assist with stormwater educa-	7/2/2009 - 8/31/09	111	GP, YT, EA

Home	Find It Here	Citizen Services	County Government
----------------------	------------------------------	----------------------------------	-----------------------------------

Darlington County, South Carolina
www.darcosc.com

[Darlington County Codes Enforcement](#)

[Darlington County IDDE Ordinance](#)

[SCDHEC](#)

[Clean Water Act](#)

[Carolina Clear](#)

[Army Corps of Engineers](#)

[Environmental Protection Agency](#)

[How Pet Waste Pollutes](#)

[Environmental Kids Club](#)

[Planning Home](#)

Stormwater Management

What is Stormwater ?

Stormwater is the runoff from rain storms that falls onto buildings and collects in puddles, ditches, and runs off into storm drain systems, ponds, streams, etc.

What is a watershed?

A watershed is the entire water source that feeds an area. For instance, you may live on or near Swift Creek, which in turn feeds Black Creek. Black Creek flows to the Big Pee Dee River, which flows into the Atlantic Ocean through the Intracoastal Waterway. If the watershed becomes polluted, then swimming, fishing, and even drinking water will be contaminated.

If you swim in it, you could get sick or a rash. If you eat fish out of it, you might get very sick. Ever tried drinking water that had animal waste in it? Yuck!! The United States Environmental Protection Agency (EPA) advocated Congress to pass a set of laws regarding Stormwater management, known as the Clean Water Act. These laws tell state and local governments to protect the waterways and watersheds from further pollution, and to fight the pollution that is currently there.

The South Carolina Department of Health and Environmental Control (DHEC) has come up with guidelines for accomplishing this goal. Darlington County is responsible for managing Stormwater in some of the watershed(s) which run through or touch Darlington County. Darlington County Council has adopted a Stormwater Ordinance that provides laws surrounding Stormwater pollution and management in a designated district. These laws are designed to protect our natural resources, often using natural means to filter Stormwater.

So what's the big deal? Why is stormwater important to me?

When it rains, it pours — literally. As rainwater collects and drains, it pulls pollutants into our storm drain systems and waterways, leading to watershed and wetlands contamination, as well. Fishing, swimming, and drinking water are all compromised with pollutants such as oil, pesticides, and animal waste.

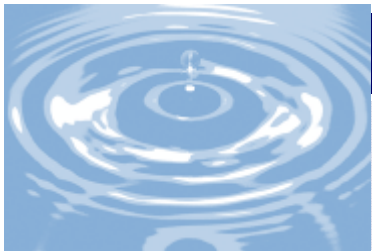
What can I do?

There are little things we can do each day to make a difference and give us clean water for drinking and playing. Managing the first inch makes a big difference. There are eco-friendly projects that are easy, fun, and will help you make a difference. See the list below and follow the web links on this page's left column navigation to get more ideas!

Little things you can do:

- Host a Rain Garden or Rain Barrel presentation through [Carolina Clear](#). Refer to these articles for more information on rain gardens:
 - "Rain Gardens Look Good & Do Good Things"
 - "Carolina Clear Launches Rain Garden Manual for SC"
- Plant trees, shrubs, and flowers.
- If you are doing any landscaping, then use riparian buffers or silt fencing to keep the dirt and sediment from running into the ditches.
- Pick up Pet Waste! — Keep reclosable plastic bags within reach.
- Teach your friends and neighbors about water pollution and watershed protection.
- Learn what watershed you live in.
- Recycle! Reduce! Reuse! — Close the loop.





Public Education

PRESENTATIONS: *Council/ Committee Meetings*

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Darlington County		The Watershed Protection Committee met to discuss ways to positively affect Stormwater Education and address Stormwater issues in Darlington County. There was some Stormwater Management 101 Education involved, and DHEC conducted a presentation.	12/9/2008	21	GP, SS, HM, EN, and Environmental Groups
City of Florence		Seven pre-construction meetings held, 28 Land Disturbance and Stormwater Management brochures distributed.	12/17/08-5/14/09	28	DIS, CO, DE, EN

PRESENTATIONS: *Exhibit/ Poster*

Clemson Extension	Kalmia Gardens	Alma Harris and Dan Hill talked to the Junior Master Gardener group about life without water, how water is a limited resource we need to protect, watershed principles, runoff, pollution and how much water makes up the human body.	4/16/2009	20	YT, TE
Clemson Extension	Pee Dee REC	Poster placed in kiosk at Rural Heritage Festival at Pee Dee REC. (Poster on following page.)	4/25/2009	Approx. 750	GP, YT



Public Education



Public Education

Image capture of one of the posters used to educate about water quality at Rural Heritage Festival.



Nobody wants polluted water.
Become part of the solution.
Visit www.clemson.edu/carolinaclear

We all live downstream.

Stormwater is the runoff from rain or irrigation systems and everything it picks up along the way. As stormwater travels across the landscape, it picks up oil, sediment, metals, debris, nutrients, and bacteria and deposits them in our lakes, streams, and rivers. **Stormwater pollution is the greatest threat to our water resources** – our drinking water supplies, fishing holes, swimming beaches, and the waterbodies that we use and enjoy.



Here are things you can do as a homeowner to reduce stormwater pollution:

- CAREFUL NOT TO OVER-FERTILIZE OR FERTILIZE RIGHT BEFORE IT RAINS.** You may be throwing money down the drain by over-fertilizing. Your soil can be tested by your local Clemson Cooperative Extension office. The results of the test will tell you if your soil has enough nutrients already stored away to maintain a healthy lawn. If you need to amend your lawn with nutrients, read the directions. You may be applying more fertilizer than needed, and the excess nutrients end up in our lakes and rivers and lead to algae blooms and often to fish kills.
- PICK UP AFTER YOUR PET.** Waste contains harmful bacteria that affects our drinking water supplies. Plus, nutrients in the waste also add to potential algae blooms in our lakes. As for managing waste in your yard, there are several solutions – picking it up and putting it in the trash, flushing it down the toilet or purchasing/making a doggie loo or pet waste septic system.
- WASH YOUR CAR ON THE LAWN OR GRAVEL DRIVEWAY.** In this way, the runoff that includes soap and dirt infiltrates and is treated naturally by the environment. You will also minimize the runoff that goes to the storm drain and flushes directly to our lakes, rivers, and estuaries. There are also low-phosphorus, biodegradable soaps that can be used that will do less harm to the environment.
- GRASS CLIPPINGS AND LEAVES DO NOT BELONG ON THE STREET.** Grass and leaves take time to decompose and can cause clogs in drains and outlets causing backups and flooding. The nitrogen and nutrients in these materials can also harm the natural balance in waterways. There are several alternative solutions for what to do with leaves and clippings such as bagging them for recycling, using a mulching mower to spread them on your lawn as natural fertilizer, or placing them in a compost pile to speed the microbial process.

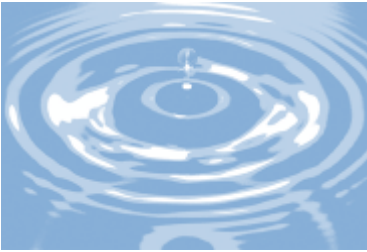
To learn more, visit
www.clemson.edu/carolinaclear.



Clemson University affirms programs people of all ages, regardless of race, color, sex, religion, national origin, disability, political beliefs, sexual orientation, marital or family status and is an equal opportunity institution.

Public Education

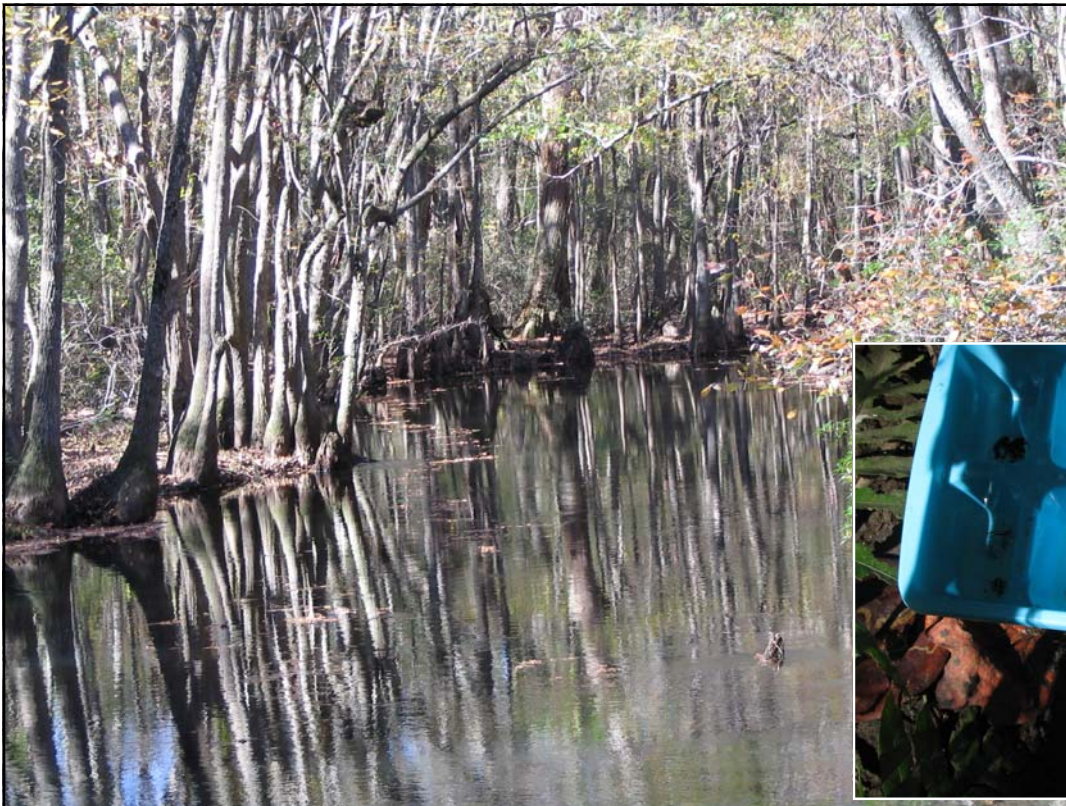
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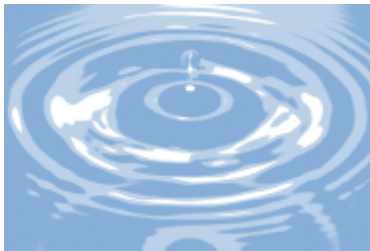
Public Education

PRESENTATIONS: *Nature Walks*

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Kalmia Gardens		Kalmia Gardens Earth Day Fest: while leading children and adults on a nature walk, we stopped at a of stormwater culvert within Kalmia Gardens. The group discussed the effects of stormwater on water quality, macroinvertebrates, and ecology of Black Creek.	4/4/2009	85	GP
Kalmia Gardens		Led the Yorkshire 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 gen-	4/11/2009	20	GP



Public Education



Public Education

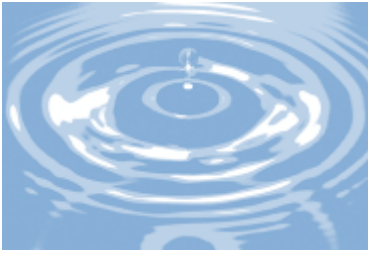
Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Kalmia Gardens		Fourth and fifth grade students explored Kalmia Gardens and discussed stormwater pollution and how various pollutants can affect stream health. Also on this tour, students helped sample for benthic macro invertebrates. The insects were sorted to Orders and statistics were done using number of Orders	4/27/09-4/28/09	40	YT, TE
Kalmia Gardens		South Side Elementary School students visited the garden and learned about stormwater runoff and how putting “chemicals” and yard waste into storm drains adversely affects local waterways. Talked about water conservation and the need to protect our waterways.	4/30/2009	45	YT, TE
Kalmia Gardens		Dan Hill led a nature walk for 5th and 6th grade classes. Stormwater runoff, pollution, effects on water quality and ecology were reviewed.	5/5/09-5/6/09	70	YT, TE
Kalmia Gardens		First grade class learned about what stormwater is. Discussed different pollutants and their impact on water quality and the natural environment.	5/7/09-5/8/09	30	YT, TE
Kalmia Gardens		Bethune Garden Club visited Kalmia Gardens. On this walk, stopped at a storm water culvert to talk with the group about storm water runoff. He 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	5/19/2009	10	GP

“Discussion of stormwater management and impacts at the large culvert within the garden property, benthic macroinvertebrate sampling and experiencing life along the floodplain of Black Creek have become popular parts of the tour of Kalmia Gardens. So much that we are booking classes for the following year during their visits to the garden.”

Dan Hill, Assistant Director of Kalmia Gardens

Public Education

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 Florence Darlington Stormwater Consortium

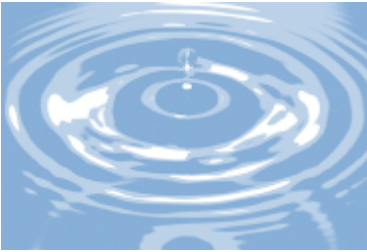


Public Education

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Kalmia Gardens		Students toured Kalmia Gardens where they also learned about how putting “chemicals” and yard waste into the storm drains adversely affects local waterways. Talked about water conservation and the need to protect our waterways. Also talked about the importance of aquatic insects and protecting aquatic	5/26/2009	17	YT, TE
Kalmia Gardens		Week In The Wild is a nature-based day camp running for three weeks at Kalmia Gardens in July. The first week is for rising first and second graders, second week rising third and fourth graders, and the third week is for fifth and sixth graders. Every day some aspect of water quality was mentioned or discussed. Major topics included benthic macro invertebrate sampling, stormwater pollution and eco-	7/13/2009	60	YT



Public Education



Public Education

PRESENTATIONS

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Clemson Extension		Rain garden and rain water harvesting presentation at the Pee Dee Home & Garden Day. Rain garden manuals handed out (40) in exchange for feedback on manual and home landscaping practices.	3/14/2009	19	GP



Clemson's Carolina Clear program developed a rain garden manual to meet the growing public demand and outreach needs of the state. Rain gardens have been identified as one of the most effective homeowner practices to manage stormwater quantity and quality on site. This manual provides specific instruction on installation, including providing an extensive plant list for each zone in SC. The FDSC is promoting the technique through rain garden articles and workshops, where the new manual was distributed. The manual was also made available for free download on the Carolina Clear website.



Clemson Extension		Presented on stormwater, rain gardens, rain water harvesting, and native plants to the Pee Dee Plant Professionals meeting.	3/19/2009	15	GP, LA, Farmers
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Clemson Extension	Kalmia Gardens	Spoke with the Junior Master Gardener program about the importance of water for growing food crops. Discussed ways to capture rain water for use in the garden and for planting beds and using soaker hoses versus aerial	4/2/2009	20	YT
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The local youth are the next generation of decision-makers and advocates for the protection of water quality. The youth that I have worked with enjoy learning about the natural environment, and they will influence others with the knowledge they gain from environmental education activities.

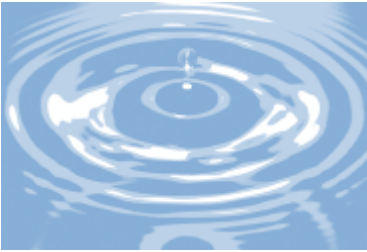


*Alma Harris
Extension Agent, Darlington and Florence Counties*



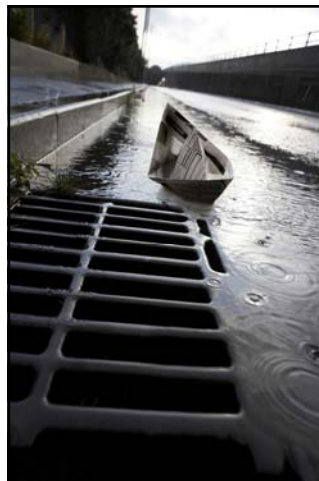
Public Education

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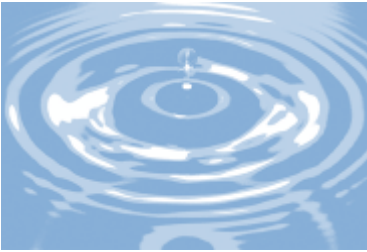


Public Education

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
City of Florence		Meeting held to inform regulated community engineers, builders, developers and inspectors working within the city about the importance of their role and maintaining compliance with the City SWPPP and keeping the envi-	4/3/2009	35	EA, SS, CO, DE, EN
Clemson Extension	Kalmia Gardens	Alma Harris and Dan Hill talked to the Junior Master Gardener group about water conservation and ways to conserve water around the home.	4/9/2009	20	YT
Clemson Extension		Presented on rain gardens and rain barrels at Pee Dee Plant and Flower Festival.	4/17/2009	25	GP, HM
Clemson Extension	QVC Corporate Complex	Lunchtime presentations to employees on water smart landscaping, rain gardens and water conservation. Distributed 100 Carolina Yard and Neighborhood manuals.	April 2009	100	HM
City of Florence		Annual spill prevention training for employees.	5/19/2009	33	DIS

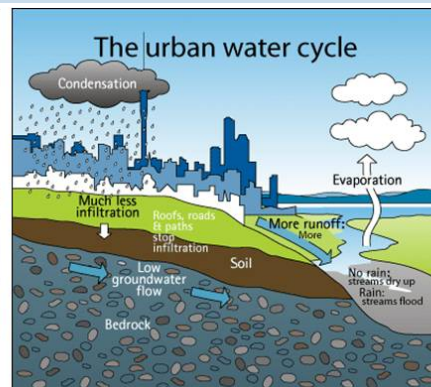
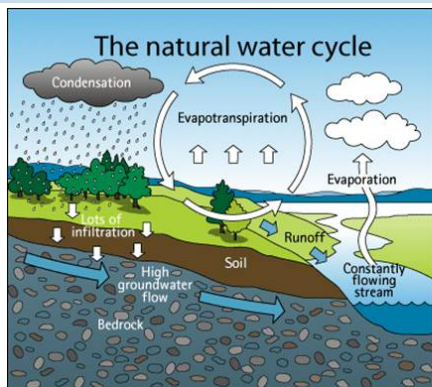


Public Education



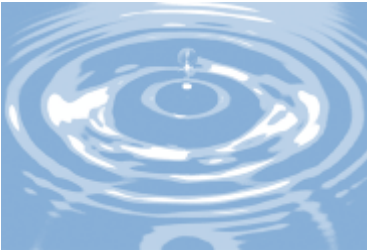
Public Education

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Kalmia Gardens		Coker College Ecology Lab and Dr. Jennifer Borgo came to Kalmia Gardens; together with Dan Hill, the class collected water samples from Black Creek, the garden pond, and the water that stands at the terminus of the storm water culvert. The class checked for pH, dissolved oxygen, nitrates, phosphates, turbidity, temperature, and fecal Coliform bacteria. Water quality was discussed as well as sources for the pollutants that were screened for. Once the data was collected all sample sites were compared and the results were discussed.	5/24/2009	8	Higher Education Students
Kalmia Gardens		Darlington County Library housed a talk by Dan Hill of Kalmia Gardens on June 30, 2009. Among other topics, Dan Hill spoke on the importance of water conservation, the water cycle, protecting watersheds, stormwater, and	5/30/2009	31	GP, YT
Darlington County		Presentation made to children and adult supervisors regarding stormwater and the impacts of pet waste on our waterbodies.	7/1/2009	30	GP, YT
Kalmia Gardens		Darlington County Library housed a talk by Dan Hill of Kalmia Gardens on June 30, 2009. Among other topics, Dan Hill spoke on the importance of water conservation, the water cycle, protecting watersheds, stormwater, and	5/30/2009	31	GP, YT



Public Education

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Public Education

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Clemson Extension	City of Florence	Taught summer camp students about watershed, macroinvertebrates, river ecosystems, stormwater and pollution prevent alongside Gully Branch at the DHEC water quality monitoring site.	7/14/2009	57	YT

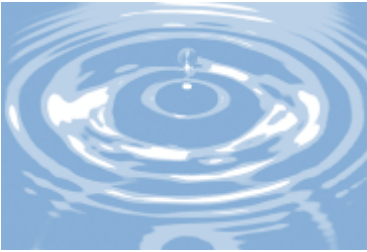


Clemson Extension		Florence County Pesticide Training: re-certification for Pesticide License. Discussed runoff management, safety, and commercial application.	8/4/2009	19	DIS, LA
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Darlington County	Kalmia Gardens	Spoke to the Kiwanis club about educational projects of Kalmia Gardens. He spent time explaining Carolina Clear , the newly formed consortium, and the importance of protecting watersheds, conserving water, utilizing rain	8/20/2009	40	GP
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Public Education

September 2008—August 2009 Annual Report
 Florence Darlington Stormwater Consortium



Public Education

PRESENTATIONS: *Public Meetings*

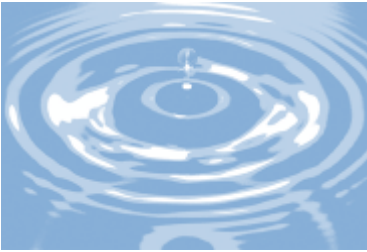
Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Darlington County		Public meetings were held in 3 different locations in Darlington County during the month of January for the purpose of explaining and receiving feedback for the Land Use Element. During this time period, we used the opportunity to briefly discuss stormwater issues in	1/8/09-1/27/09	85	GP, HM

PRESENTATIONS: *Consultations*

Darlington County		One-on-one consultations with individuals and private and public developers and contractors have occurred weekly over the last year. These consultations include stormwater in general and specifics to construction, sedi-	9/1/08-8/31/09	75	CO, DE, LA, HM, EN
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Public Education



Public Education

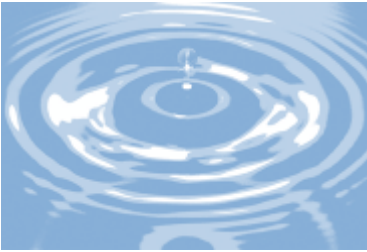
PRESENTATIONS: *Summer Camps*

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Clemson Extension	Kalmia Gardens	Over a period of 3 days, explained to children participating in the 4H20 program what water quality is all about. Sampled Black Creek for pH, dissolved oxygen, turbidity, temperature, nitrates, and fecal coliform bacteria. We sampled the garden pond for benthic macro invertebrates, sorted what we found and did an assessment of water quality based on the insects found. Talked about water conservation and aquatic ecosystems. Looked at the major water sheds in SC and talked about the water cycle. On the last day we took the children out in canoes on Lake Prestwood and again pointed out important parts of the aquatic ecosystem and the importance of protecting it.	6/10/09-6/12/09	20	YT



City of Florence	Science South	Science South educational facility has a spring environmental camp every year. During the spring of 2009, a camp was held that taught 14 youth (ages 10-12) about stormwater and litter through nature walks and presen-	Spring 2009	14	YT
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Public Education



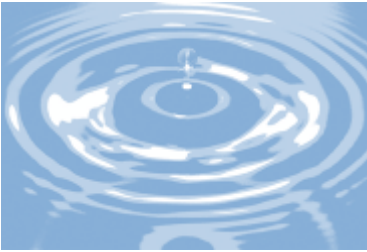
Public Education

PRESENTATIONS: *Workshops*

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Clemson Extension	Darlington County	Conducted youth activities on three different occasions at the libraries in Darlington County. Lamar and Darlington County Library. Students learned the importance of keeping their water safe and that water is one of the most valuable resources that we have. They identified ways to conserve water and how to keep our water clean. Participants participated in a watershed activity and other arts and crafts to emphasize the importance of ground water, water quality and water safety.	6/14/09-7/27/09	107	YT
Darlington County		Roads and Bridges personnel were exposed to housekeeping measures and stormwater education in general. Planning ahead for spill prevention at home and at work was the focus of this workshop.	8/27/2009	17	DIS



Public Education



Public Education

PUBLICATIONS: *Newsletter*

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
City of Florence		The Florence Fountain featured an article on sewer overflows as well as scrap metal collection.	March 2009	26,000	GP, HM

NEW PUBLIC NOTIFICATION METHODS FOR SEWER OVERFLOWS REQUIRED BY SCDHEC

The City operates the wastewater collection and treatment system serving Florence and much of the surrounding metropolitan area. For a number of years, wastewater system operators, including the City, have been required to notify the South Carolina Department of Health and Environmental Control (SCDHEC) whenever an overflow or spill of wastewater occurs that:

- Reaches the surface waters of the state
- Poses a threat to human health or the environment
- Exceeds 500 gallons

This requirement is still in effect, and City staff complies with the reporting policy whenever a spill does occur. However in July 2008, SCDHEC expanded the policy, believing that citizens have the right to be informed about wastewater discharges which may affect water quality in community streams and waters.

Therefore, in addition to the SCDHEC notification, wastewater system operators, including the City, are now required to issue a press release to local area print and broadcast media for any overflow of untreated wastewater equal to 5,000 gallons or more of wastewater

that has the potential to affect public health. For the City, these notifications are released through the City Manager's office and are usually made available to the media on the first business day following the City's response to the spill.

The City's sewer system serves approximately 19,500 taps over a 200-square-mile area. The system is comprised of more than 400 miles of sewer lines and 93 sewage pumping stations. Given a system of this size and mechanical complexity, it is inevitable that overflows will occur from time to time. However, the Utility Department staff uses preventive maintenance and rapid response to minimize the number and size of spills that could possibly occur. Since the public notification policy has been in effect, the City has experienced a total of 10 overflows which required public notification. *The Morning News* normally runs these announcements on the day following notification.

If you have any questions or would like further information about sewer overflow notification, please call 665-3236.

Florence Fountain—Spring 2009

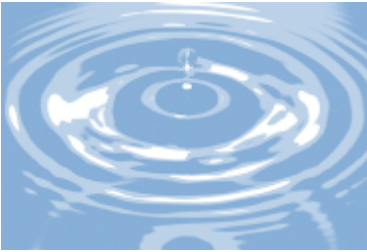
PUBLICATIONS: *Publications/ Articles*

Darlington County	Morning News, SC Now	Morning New and SC Now featured article on MS4 development in the Pee Dee. The article reviewed stormwater, water quality and the permit process.	8/16/2008	34,000	GP
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Copies of articles available in Appendix C.

Public Education

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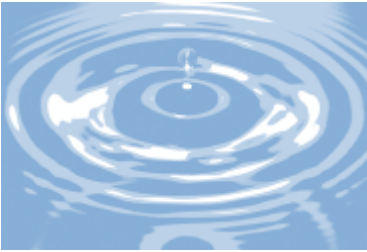
Public Education

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
Darlington County	Darlington County	Stormwater information in Land Use Element of the Comprehensive Plan adopted June 1, 2009.	8/19/08-6/1/09	19	EA, SS
Clemson Extension	Darlington News and Press, Darlington County	Darlington News & Press featured a Florence Darlington Stormwater Consortium meeting where education planning and pollutants of concern were discussed. May of these points in our discussion were included in the news	4/8/2009	6,200	GP
Clemson Extension	Kalmia Gardens, News and Press	4H2O summer camp and outdoor adventure camps discussed in News and Press.	6/3/2009	6,200	GP, YT, TE
Darlington County	Morning News, SC Now	Morning News and SC Now reported on DHEC's presentation on TMDLs and water quality issues in the Pee Dee Region, specifically educating the reader on bacteria issues.	7/27/2009	35,000	GP
Clemson Extension		Build Your Own Rain Barrel Workshop announced in SC Now and Morning News on 8/12/09.	7/30/2009	32,000	GP, LA, HM




Public Education

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 Florence Darlington Stormwater Consortium



Public Involvement

COMMUNITY CLEAN-UPS

Lead Provider	Supporting Partner (s)	Activity	Date	Number of Impacts	Target Audience (s)
City of Florence		City of Florence sponsors "Fix a Block" where several city blocks and city staff are selected work with volunteers in the community to fix or repair items within that block. Items addressed under this program include cleaning out of catch basins, cleaning swales and ditches, repairing streets, removing litter and	Spring 2009	175	GP, DIS
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. Approximately 1310 gallons of used waste oil has been collected up to this point in time.	 Ongoing	100	GP

CITY/ COMMITTEE MEETINGS

City of Florence		This stormwater advisory board is comprised of members of the community who assist in efforts to review and address stormwater policy changes that will serve and protect the citizens of the community and local and state	5/28/2009	20	GP
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WORKSHOPS

Clemson Extension	All partners	Build Your Own Rain Barrel Workshop held at Barnes Street Recreation Facility, Florence, SC. Participants learned about the impacts of stormwater, best management practices, and water smart landscaping. After classroom session, each participant built their own rain barrel to bring home. (See Project Highlight.)	8/28/2009	14	HM
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TELEPHONE SURVEYS

Clemson Extension	Clemson University Department of Sociology	Telephone surveys to gain an understanding of public perception, knowledge of stormwater and understanding of behaviors that may impact water quality.	August—September 2009	400	GP
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Year 1 Activity Highlight



Build Your Own Rain Barrel Workshop

Carolina Clear sponsored a Build Your Own Rain Barrel Workshop on August 28, 2009 with help from all partnering groups and communities. The City of Florence hosted the workshop at their new Barnes Street facility.

The purpose of the workshop was to teach homeowners about stormwater management and water smart landscaping and to involve them in stormwater management by providing them all the tools necessary to build a quality rain barrel. The consortium sees this involvement as a first step towards more actions at home that relate to stormwater management and water quality protection.

The workshop had 14 attendees who participated in building their barrels. All plumbing fixtures, instructions and tools were available to the participants, and at the end of the day, each person took home a completed, high quality barrel with instructions on how to install it. Furthermore, after going through the exercise of building one, the homeowners left with the instructions and know-how to build additional barrels for themselves or others.

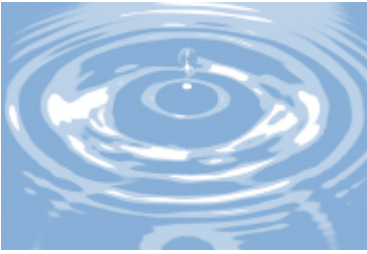
Evaluations reported that all participants found the workshop “very useful” and would like to see more of this type of education opportunity. Evaluations will be sent out following up from this workshop to see if everyone installed the barrel and what their learning experience has been.



A video taken at this workshop can be viewed at www.clemson.edu/carolinaclear. Just click on “Toolbox” and look under “Videos.”

Activity Highlight

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Florence Darlington Stormwater Consortium



MS4 Highlight

Pye Branch Stormwater Demonstration Park



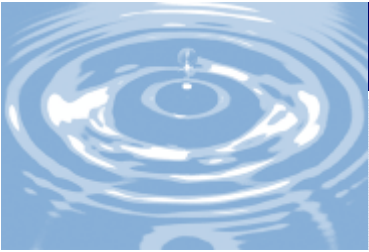
Pye Branch, a tributary of Jeffries Creek, drains a small watershed of approximately 4.1 square miles. Prior to 1973, abuses to the stream and its floodplain including filling in the floodplain and illegal dumping of both solid and liquid waste have led to decreased hydraulic capacity, degradation to water quality and appearance and negative impacts to the biological complex of native plants and animals that comprise the Pye Branch ecosystem.

In 2005, the City of Florence purchased approximately 36.5 acres of land located along both sides of Pye Branch. A portion of this land has now been dedicated as a nature-based park which emphasizes nature's capability to treat and manage stormwater.

Since 2007, this site has undergone a complete renovation. Formerly kudzu-covered piles of debris and privet stands dominated this site. Debris removal, replaced stormwater infrastructure, implementation of a curved constructed wetland, trail and park amenities have now been installed at this nature-based park. Pye Branch serves as a common thread for this section of trails, and therefore, this park fits naturally into the "Freedom Florence Connections" section of trails serving East Florence. Renovation of this park continues and will soon include educational kiosks explaining the site's history, ecosystem restoration, stormwater management, illicit discharges, reforestation and forest management, invasive plant management and the importance of wetlands.

Over the next few years, the consortium sees this unique stormwater park as an education and public involvement opportunity that may include technical workshops, general public forums, public planting opportunities and other outreach efforts.

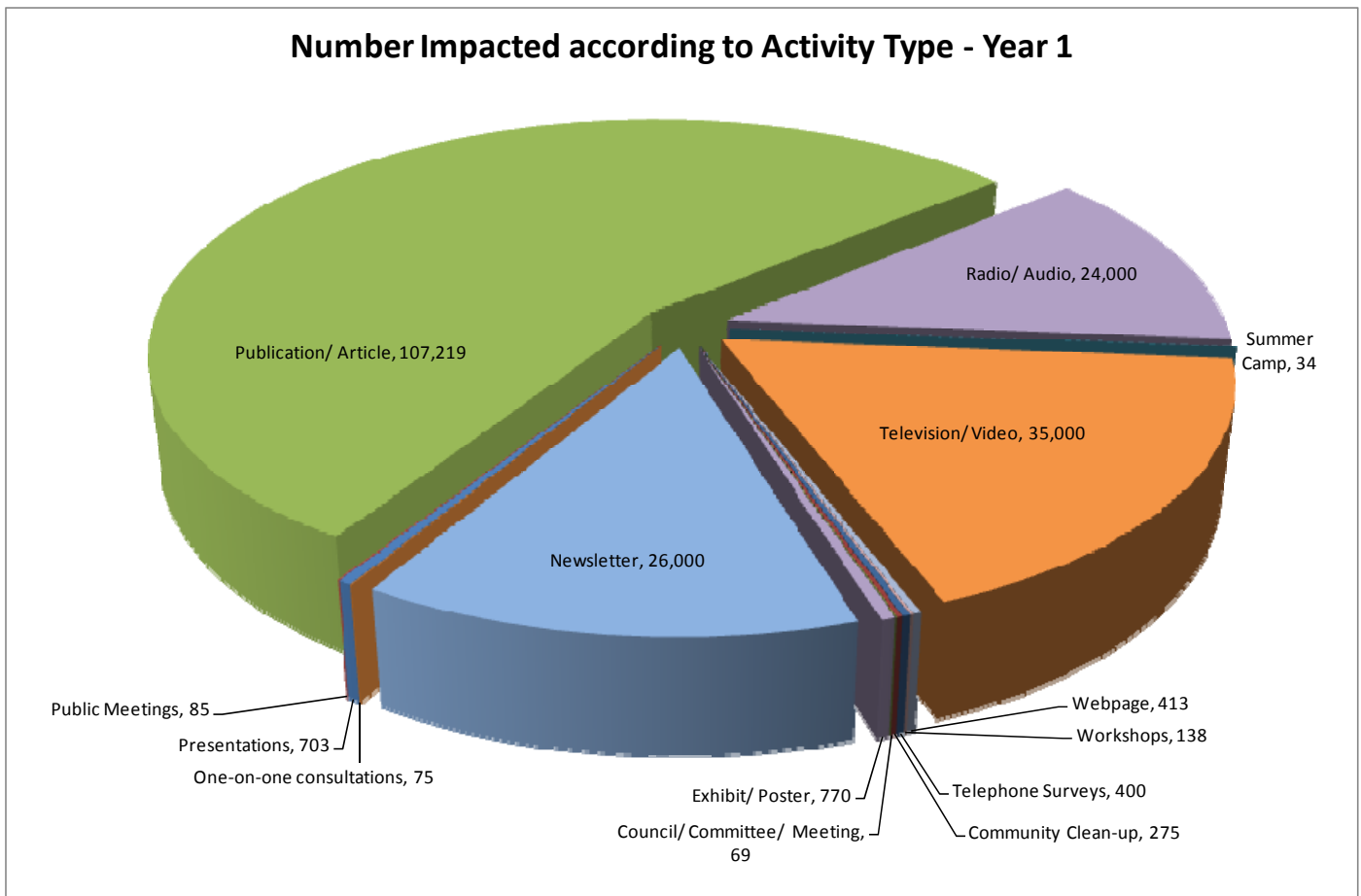
MS4 Highlight



Conclusions from Year 1

This first year of consortium development represents growth, data gathering, and defining strategies for years of successful education and public involvement. This report illustrates the success of a regionally applied education program fostered through collaboration with a dedicated group of partners. The list of partners joining the consortium will grow, and with those new partnerships, new opportunities to reach a wider and more diverse audience.

Number Impacted according to Activity Type - Year 1



The outreach efforts of the FDSC recorded more than 200,000 impacts to residents and visitors within the region. A number of audiences were defined and targeted, including the general public, youth/K-12/teachers, planning commissions, professionals (including contractors, engineers, developers, and landscape architects), homeowners, and commercial citizens (including farmers and

Conclusions from Year 1

September 2008—August 2009 Annual Report
Pickens Countywide Stormwater Consortium



Conclusions from Year 1

nurserymen). The FDSC education plan outlined a long-term education strategy, which links audiences with specific pollutants, and provides a platform for a targeted outreach campaign. The current reporting year’s education strategy is included in an appendix.

To better understand the region and to use as baseline data for future assessments, a telephone survey will provide information on public perceptions, watershed knowledge, and behaviors that may be a target for education. These data will be analyzed geographically to define regional characteristics and audiences for future guidance. The survey questions asked in the summer of 2009 are also included in Appendix B of this report.

Target Pollutant/ Topics Addressed	Number of Activities that Included this Target Pollutant
Bacteria – failing septic systems	5
Bacteria – failing sewer lines and illicit connections	4
Bacteria – pet waste	18
Bacteria – runoff from livestock pastures and feed operations	5
Nutrients from agricultural operations	2
Nutrients from residential properties	13
Pollutants resulting in low dissolved oxygen	2
Sediment from agricultural operations	3
Sediment from construction sites	8
Sediment from forestry-related activities	2
Sediment in general and from diffuse sources	14
Toxic contaminants, petroleum products, pesticides, and heavy metals	14
Debris	10
Stormwater in general	49
Temperature	3
Additional Topics Addressed:	
Best management practices	1
Water conservation	1
Water quality	1
Water smart landscaping	4

This year’s regional education priorities are highlighted in the above table.

Conclusions from Year 1

Appendix A

Initial Survey of MS4s and Local Agencies

Florence County, Florence, Darlington County & Carolina Clear

Katie Giacalone & Cal Sawyer
Carolina Clear
Clemson University
November 5, 2008



Needs Assessment Results

- 19 Survey Responses – EXCELLENT!
- Priority audiences listed in order of importance:
 1. Contractors & Developers
 2. Engineers and LAs as well as
 3. K-12 Students
 4. Teachers
 5. Landscapers, Tourism Industry and Retail Industry

3. Please indicate (MS4 / MS4s) the respondent who the most important audience priority for stormwater education in your community.

	Not important	Slightly important	Important	Very important	Rating Average	Response Count
Businesses	0/0 (0%)	0/0 (0%)	2/2 (100%)	0/0 (0%)	2.00	2
Engineers and Architects	0/0 (0%)	0/0 (0%)	1/1 (100%)	0/0 (0%)	1.00	1
Contractors	0/0 (0%)	0/0 (0%)	1/1 (100%)	0/0 (0%)	1.00	1
Landscapers	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/1 (100%)	4.00	1
Developers	0/0 (0%)	0/0 (0%)	1/1 (100%)	0/0 (0%)	1.00	1
General Public	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/1 (100%)	4.00	1
K-12 Students	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/1 (100%)	4.00	1
Teachers	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/1 (100%)	4.00	1
Landscapers, Tourism Industry and Retail Industry	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/1 (100%)	4.00	1
Other	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0.00	0
Total	0/0 (0%)	0/0 (0%)	2/2 (100%)	2/2 (100%)	2.00	2



Appendix A

Initial Survey of MS4s and Local Agencies

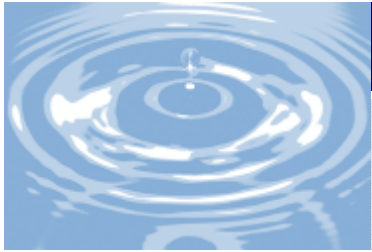
Needs Assessment Results (cont'd)

- Target Pollutants ranked:
 1. Sediment from construction sites
 2. Bacteria from failing sewer systems
 3. Bacteria from failing septics
 4. Contaminants- heavy metals and pesticides
 5. Dissolved Oxygen
 6. Nutrients from residential properties
 7. Bacteria from pet waste and livestock



Needs Assessment Results (cont'd)

- Media and Education Outlets:
 - Community websites highly ranked as an available outlet for educational information.
 - 72% of respondents have staff available for outreach efforts.
 - Access to newspapers, billing statements and public access TV available through 33% of respondents.



Appendix A Initial Survey of MS4s and Local Agencies

Needs Assessment Results (cont'd)

- Outlets mentioned *include*:
 - SC Conservation Briefing Book
 - Information through the Darlington County Planning Office & materials that could be made available for site inspections
 - City of Florence billing inserts, newsletter, advisory boards and commissions (more detail?)
 - Florence Fountain Newsletter

Needs Assessment Results (cont'd)

- Collaborative Partnerships include:
 - HBA
 - Pee Dee Land Trust
 - Florence/Darlington Technical College
 - Stormwater Advisory Board
 - Responsible Economic Development
- **Let's get these and other groups mentioned on board for the Education Plan.**



Appendix B Telephone Survey

Carolina Clear Public Perceptions Survey | 2009

After some explanation of purpose and general questions about people's age and willingness to do the survey, the survey began as follows.

Thank you. I am going to begin the survey now with some questions related to your understanding of water resources and homeowner impact on water quality.

1. Do you live next to a creek, stream, river, lake, or pond – that is, does your property adjoin some body of water?

Yes
No
Do not know
Refusal

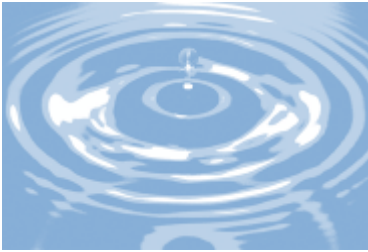
2. I'd like to know how concerned are you with pollution and environmental quality in your local streams and waterways: Would you say you are very concerned, somewhat concerned, not very concerned, or not at all concerned?

Very concerned
Somewhat concerned
Not very concerned
Not at all concerned
Do not know
Refused



3. In general, how much does what people do on the land affect the quality of their local streams and waterways?

A great deal
Somewhat
Not too much
Not at all
Do not know
Refusal



Appendix B Telephone Survey

Carolina Clear Public Perceptions Survey | 2009

4. To what extent do you agree or disagree with the following statements? Your choices are as follows:

- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Don't know
- Refusal

Inspection and pump out of septic tanks protects water quality.

5. Pet waste is a source of bacteria pollution in lakes, rivers, and streams.

- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Don't know
- Refusal

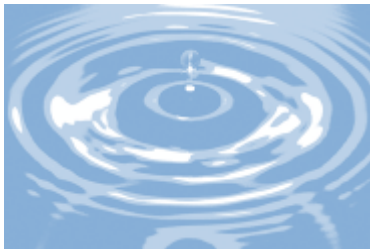
6. Stormwater is runoff from yards and roads during storm events or from irrigation; it drains to ditches and storm sewers along roadways. Do you believe that this stormwater is treated before reaching our lakes, streams, and beaches?

- Yes, it is treated.
- No, it is not treated.
- Do not know
- Refusal

7. For this question, I am going to mention some specific, possible sources of water pollution. Please tell me if each has a great impact, some impact, very little impact or no impact on streams of lakes in your area.

Fertilizers and lawn chemicals that people use on their lawns and gardens?

- 8. Fuel and oil leaks from trucks, buses or automobiles?
- 9. Pet Waste?
- 10. Runoff from people washing their cars?
- 11. Industrial sites?
- 12. Farms operations?
- 13. Sediment or dirt from construction sites?
- 14. Parking lot runoff?



Appendix B Telephone Survey

Carolina Clear Public Perceptions Survey | 2009

15. River banks and lake fronts are obvious places to think about water quality issues. In your opinion, how effective are the following measures in maintaining land along a river or lake in an environmentally-friendly way?

Allowing natural vegetation to grow wild?

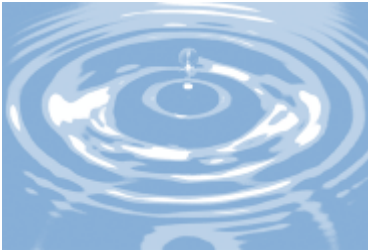
- Very effective
- Somewhat effective
- Not at all effective
- Do not know
- Refusal

17. Keeping grass or other vegetation mowed to the edge of the water?
18. Planting bushes and shrubs?
19. Installing a retaining wall or bulkhead?
20. In your opinion, are there any other effective measures that could be used to maintain land along a river or lake in an environmentally friendly way? If yes, please specify.

- Yes: (Specify _____)
No
Do not know
Refusal

21. I am going to read you some potential definitions of a "watershed." Can you tell me which best fits your definition of what a watershed is? Is it an area that retains water like a swamp or a marsh, all of the land area that drains into a specific river or lake, a reservoir that serves as a municipal water source, a small building where water is stored, or none of the things I've mentioned?

- Low area that retains water
- Area that drains into specific river or lake
- Reservoir that serves as a municipal water source
- Small building where water is stored
- None of the options mentioned (Please specify other definition: _____)
- Do not know
- Refusal



Appendix B Telephone Survey

Carolina Clear Public Perceptions Survey | 2009

22. Now, I'd like to know about your participation in several recreational activities. Please tell me how often you do each of the following activities:

Kayaking or canoeing?

- Often (weekly or bi-weekly, during the appropriate season)
- Sometimes (monthly)
- Rarely (a few times each year)
- Never
- Do not know
- Refusal

23. Fishing?

24. Swimming in rivers and lakes?

25. Motorboating?

26. Visiting the beach?

27. Hiking/walking in parks or other protected public lands?

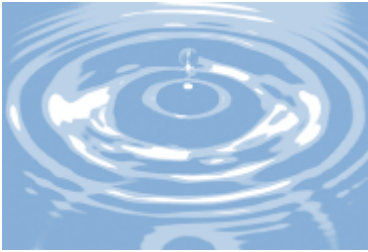
28. Hunting or trapping?

29. How do you determine how much fertilizer or pesticide to use and when to use it? You are not limited to one answer.

- a. Friends, neighbors and relatives tell you how much to use and when to use it.
- b. Lawn care company takes care of it
- c. Lawn care company recommendation
- d. You read the product information and instructions on the bag or container.
- e. You have your soil tested by the local Cooperative Extension office and receive directions based on those results
- f. Home & Garden Store advice
- g. Other: _____
- h. Not applicable. I do not use fertilizers or pesticides.

30. In the past 2 years, have you made an effort to reduce water usage out of concern for drought conditions?

- Yes
- No
- Do not know
- Refused



Appendix B Telephone Survey

Carolina Clear Public Perceptions Survey | 2009

31. In the past 2 years, have you made an effort to reduce water usage out of concern for the quality of water in your local streams and lakes?

- Yes
- No
- Do not know
- Refused

32. In the past two years, have you participated in a lake, river, or roadside clean-up event?

- Yes
- No
- Do not know
- Refused

33. In the past two years, have you joined or volunteered for a conservation or environmental organization? If yes, which one?

- Yes (Specify: _____)
- No
- Do not know
- Refused

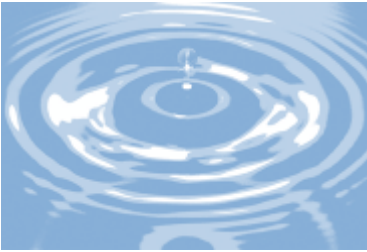
34. Are you, or someone in your household, responsible for the following activities?

Mowing your lawn?

- Yes, either I or someone in my household is responsible for mowing my lawn.
- No, someone from outside my household mows my lawn.
- Not applicable. I do not mow my lawn or have a lawn to mow.
- Do not know
- Refusal

35. Fertilizing your lawn?

- Yes, either I or someone in my household is responsible for mowing my lawn.
- No, someone from outside my household fertilizes my lawn.
- Not applicable. I do not fertilize my lawn or have a lawn to fertilize.
- Do not know
- Refusal



Appendix B Telephone Survey

Carolina Clear Public Perceptions Survey | 2009

36. Now, I am going to read a list of activities. I'd like to know how often, in the past two years, you have done the following.... Please also let me know if the question does not apply to you. In the past two years, how often have you....

Considered the likelihood of a rain storm before treating your lawn with fertilizer or pesticide?

I always considered the likelihood of rain every time I treat my lawn.

I nearly always considered the likelihood of rain before I treat my lawn.

I hardly ever considered the likelihood of rain before I treat my lawn.

I never considered the likelihood of rain before I treat my lawn.

Does not apply, either I do not have a lawn or I did not use fertilizers or pesticides.

Do not know

Refusal

37. Picked up after your pet while taking your pet for a walk?

I always picked up after my pet whenever I took my pet for a walk.

I nearly always picked up after my pet whenever I took my pet for a walk.

I hardly ever picked up after my pet whenever I took my pet for a walk.

I never picked up after my pet whenever I took my pet for a walk.

Does not apply, I do not own a pet or I did not take my pet for a walk.

Do not know

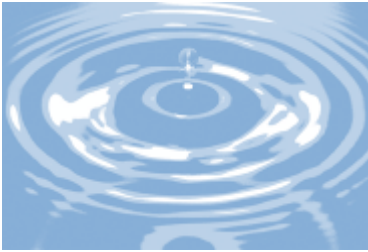
Refusal

38. Operated a vehicle with a motor oil leak?

I always operated a vehicle with a motor leak.

I nearly always operated a vehicle with a motor leak.

I hardly ever operated a vehicle with a motor leak.



Appendix B Telephone Survey

Carolina Clear Public Perceptions Survey | 2009

I never operated a vehicle with a motor leak.

Does not apply, I do not own a car.

Do not know

Refusal

39. Disposed of oil, paint or other chemical down storm drains?

I always disposed of oil, paint or other chemical down storm drains.

I nearly always disposed of oil, paint or other chemical down storm drains.

I hardly ever disposed of oil, paint or other chemical down storm drains.

I never disposed of oil, paint or other chemical down storm drains.

Does not apply, I did not use oil, paint or other chemical.

Do not know

Refusal



40. Washed your car on the lawn or gravel instead of pavement?

I always washed my car on the lawn or gravel instead of pavement.

I nearly always washed my car on the lawn or gravel instead of pavement.

I hardly ever washed my car on the lawn or gravel instead of pavement.

I never washed my car on the lawn or gravel instead of pavement.

Does not apply, I either do not own a car or did not wash my car.

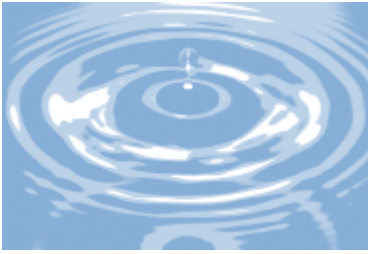
Do not know

Refusal

41. Dumped grass clippings or leaves down storm drains or backyard creeks?

I always dumped grass clippings or leaves down storm drains or backyard creeks

I nearly always dumped grass clippings or leaves down storm drains or backyard creeks.



Appendix B Telephone Survey

Carolina Clear Public Perceptions Survey | 2009

I hardly ever dumped grass clippings or leaves down storm drains or backyard creeks.

I never washed dumped grass clippings or leaves down storm drains or backyard creeks.

Does not apply, I did not have grass clippings or leaves from my lawn.

Do not know

Refusal

42. Stored fertilizers and pesticides in leaking containers?

I always stored fertilizers and pesticides in leaking containers.

I nearly always stored fertilizers and pesticides in leaking containers.

I hardly ever stored fertilizers and pesticides in leaking containers.

I never stored fertilizers and pesticides in leaking containers.

Does not apply, I did not use fertilizers or pesticides.

Do not know

Refusal



43. How many times have you had your septic system inspected and/or pumped in the past two years? Specify number of times: _____

Do not know

Not applicable. Do not have a septic tank.

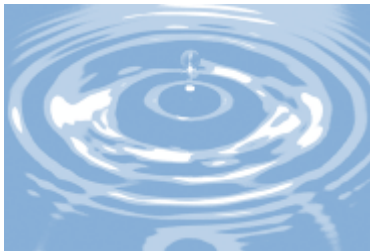
Refusal

44. Now I would like to ask you some questions about how likely it is you would become involved with water resource issues in the following situations. Please respond as Very Likely, Somewhat Likely, Somewhat Unlikely, Not Likely, or Do not know.

Would you become more involved if you had more information about water quality issues in your area? Would you say it would be...?

45. Would you become more involved if you knew your local government could save money in the long run by taking action to improve water quality? Would you say it would be...?

46. Would you become more involved if local newspapers or television stations ran stories on local water pollution problems? Would you say it would be...?



Appendix B Telephone Survey

Carolina Clear Public Perceptions Survey | 2009

47. Would you become more involved if local newspapers or television stations ran stories on positive actions taken by local residents to improve water quality? Would you say it would be...?
48. Would you become more involved if you were being directly affected in some way by water pollution? Would you say it would be...?
49. Are you aware that Clemson University has a program called Carolina Clear, which aims to collaborate with communities and grassroots groups to conduct water resource education?

Yes, I am aware of Carolina Clear and am familiar with its programs.

Yes, I have heard of Carolina Clear, but am not familiar with its programs.

No, I have never heard of Carolina Clear.

If yes, how did you hear about Carolina Clear?_(open-ended response)

Following these standard questions, we asked zip code specific questions such as the following:

1. To the best of your understanding, when rain falls where you live which body of water most directly absorbs the runoff? Can you tell me the specific waterbody (e.g. creek, stream, or river) that directly absorbs the runoff from rain that falls where live?

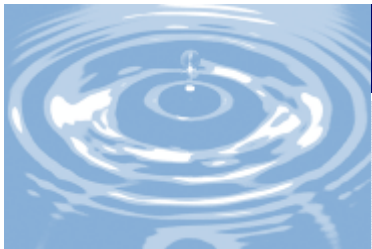
Yes, I can. Water runs off into the following body of water _____
(interviewer types in a response to the open-ended portion of the survey question).

Yes, I can, although I am not absolutely sure. I think water runs off into the following body of water _____(interviewer types in a response to the open-ended portion of the survey question).

No, I do not know what waterbody receives the runoff from rain that falls where I live.

Refusal

2. Of the following listed, please let me know the three ways you receive local/regional information and news:
 - a. TV-Evening News
 - b. TV-Morning News
 - c. Radio-public (NPR)
 - d. Radio-general



Appendix B Telephone Survey

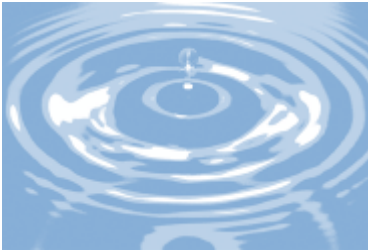
Carolina Clear Public Perceptions Survey | 2009

- e. Newspaper-regional
- f. Newspaper-local
- g. Billboards/posters
- h. Events/workshops

3. Do you use the Internet to get your local/regional information and news:

- Yes
- No
- Do not know
- Refusal





Appendix B Telephone Survey

Carolina Clear Public Perceptions Survey | 2009

Questions asked specifically to the Pee Dee Region:

1. How important do you feel water resources are to the livelihood and quality of life in the Pee Dee region?

Very important
Somewhat Important
Not at all important
No opinioin
Do not know
Refusal.

2. Please let me know the three ways you receive local/regional information and news:

a) TV-Evening News
b) TV-Morning News
c) Radio-public (NPR)
d) Radio-general
e) Newspaper-regional
f) Newspaper-local
g) Billboards/posters
h) Events/workshops

3. Do you use the Internet to get your local/regional information and news:

Yes
No
Do not know
Refusal

4. To the best of your understanding, when rain falls where you live which body of water most directly absorbs the runoff? Can you tell me the specific waterbody (e.g. creek, stream, or river) that directly absorbs the runoff from rain that falls where live?

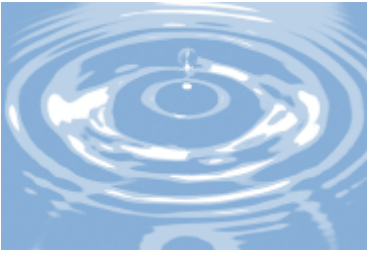
Yes, I can. Water runs off into the following body of water _____ (interviewer types in a response to the open-ended portion of the survey question).

Yes, I can, although I am not absolutely sure. I think water runs off into the following body of water _____ (interviewer types in a response to the open-ended portion of the survey question).

No, I do not know what waterbody receives the runoff from rain that falls where I live.

Refusal

Thank you for your time. Have a nice evening.



Appendix C Articles

MF- 32,000
Sat 32,500
Sun 39,000

CIRCULATION

SUNDAY, JULY 27, 2008 SEC. 2

Morning News

INSIDE

Classifieds, 5B
Government in Action, 3B
Obituaries, 2B

Region

GOLD IN THE GRAVE
Businesses find money
in reclaimed wood
PAGE 4B

In Brief

Man sentenced in health care fraud scheme

A Florence man was sentenced Friday in Charleston for health care fraud, U.S. Attorney W. Walter Wilkins said in a press release.

U.S. District Judge P. Michael Duffy of Charleston sentenced 45-year-old Nathaniel Wilson to 30 months in prison and ordered him to pay \$637,669 in restitution.

Wilson was the owner of Wilson Transport Services, a company in Kingstree that took patients to and from kidney dialysis centers. An investigation showed that from 2004

Keeping Black Creek unspoiled

Group aims to prevent pollution from getting foothold in Darlington

By Candace Jarrett
Morning News
cjarrett@florencenews.com

The Darlington County Planning Department is trying to prevent a pollution problem at Black Creek before it begins.

The public is invited to a special meeting the Darlington County Planning Commission will be hosting with the S.C. Department of Health and Environmental Control from 10 a.m. to noon Wednesday to discuss Black Creek and its total maximum daily (pollutant) load standards.

The Clean Water Act established the principle of the total maximum daily load (TMDL) as a means of reducing water pollution in impaired waters.

A TMDL is a calculation of the maximum amount of a pollutant a body of water can receive and still meet water quality standards.

Darlington County Planning Director Doug Reimold said the plan is to see what work could be done with DHEC to possibly avoid the establishment of a TMDL at the creek.

"We contacted DHEC, and they offered to come to Darlington County to share with us where they are in this process and what we can do to help meet the load standards," he said.

"They have just started to develop a TMDL for fecal coliform for Black Creek."

DHEC is testing the water at Black Creek. Reimold said fecal coliform is one of many pollutants that could be

See **PLANNING, 2B**

IF YOU'RE GOING

WHAT: Darlington County Planning Commission, S.C. Department of Health and Environmental Control public meeting on Black Creek pollution

WHEN: 10 a.m. to noon Wednesday

WHERE: Darlington County Courthouse Annex/EMS Building, 115 Harry Byrd Highway, Darlington

INFO: Call the Darlington County Planning Department at (843) 398-4610

Pg. 2B Sund. July 27, 2008

PLANNING

Continued From 1B

in the creek. He added that if DHEC sets a load restriction for the creek, it will be mandated that the county fix the situation.

"It's essentially a water quality assessment and will have certain regulations," he said. "Hopefully, we can recognize some of the impairments and find a means for keeping them at bay."

"If we exceed the TMDL they (DHEC) set, we will be in a mandate to bring the number down and get it remediated by trying to identify the sources of the pollutant."

The TMDL sums up the allowable loads of a single pollutant from all contributing point and nonpoint sources and ensures the body of water can be used for the purposes that have been designated, for example, drinking water, swimming or fishing in a lake or creek.

On tap to participate in the meeting so far are members of the planning commission, representatives from the cities of Hartsville and Darlington, Sonoco Products Co. and members of Pee Dee and Black Creek land trusts.

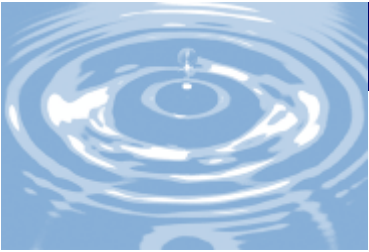
"Black Creek is a very valuable and beloved natural resource for Darlington County and Florence County," John Jay James II, president of Black Creek Land Trust, said. "Many people use it and have used it for years for fishing and swimming and many other things."

"It's also one of the most studied streams because of the pollution it has experienced in the past that has been availed over the year..." he said. "(The trust) welcomes any help to keep our beloved creek healthy."

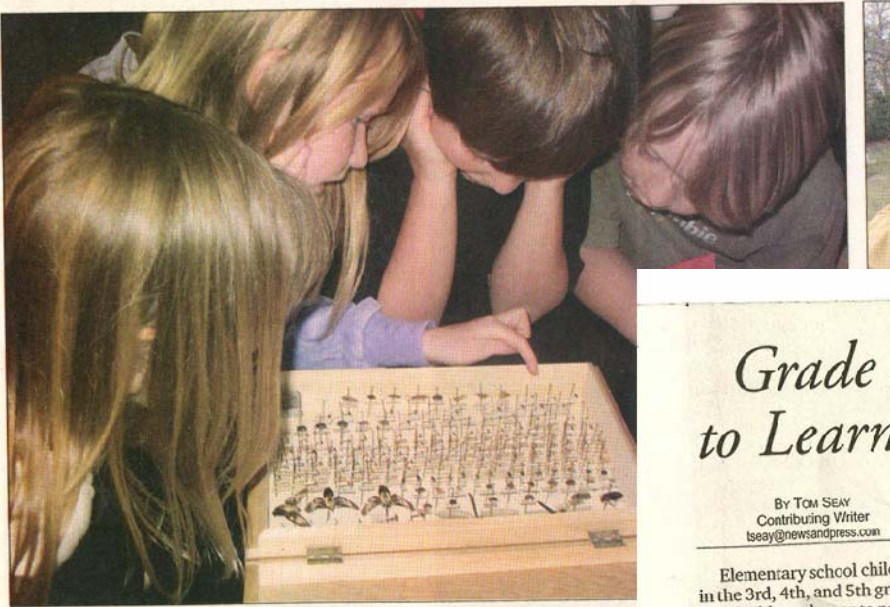
The meeting will be at Darlington County Courthouse Annex/EMS Building, 1625 Harry Byrd Highway, Darlington.

For details, call the planning office at (843) 398-4610.

Appendix C - Articles



Appendix C Articles



Children in grades 3, 4 and 5 participate in the 4-H Junior Master Gardener Program at Kalmia Gardens. Plant life, insects and the environment. SUBMITTED PHOTOS

News and Press

March 11, 2009

Grade School Children Able to Learn Gardening, Life Skills

By TOM SEAY
Contributing Writer
tseay@newsandpress.com

Elementary school children in the 3rd, 4th, and 5th grades are eligible each year to participate in the 4-H Jr. Master Gardener Program, which is sponsored by the Darlington County Clemson University Extension Service. The Jr. Master Gardener Program (JMGP) has been operating for a number of years, and for its second consecutive year will be held at the Kalmia Gardens of Coker College in Hartsville, with classes being held at the Joslin Education Center.

This year the JMGP classes will be held every Thursday afternoon from 4 to 6 p.m. beginning this Thursday and continuing through May 7. So what exactly is the JMGP? Coordinator Alma Harris says it is a program whose mission is "to grow kids by uniting a passion for learning, success, and service through a unique gardening education."

Harris adds that the program is a horticultural and environmental science education, as well as one of leadership and life skills development. Classes are focused nationally on students in the 3rd, 4th, and 5th grades because it is felt that children in this age range are more receptive to a program such as this

4-H Jr. Master Gardener Program

If you would like more information on the Kalmia Gardens of Coker College or on the JMGP, log on to www.coker.edu/kalmia/ or call 843-383-8145.

dening lessons and information including facts about the different soils used in farming, vegetable and fruit gardens, composting, the differences and distinctions between both bad insects and beneficial insects, information on fertilizers, facts about the water cycle, plant diseases, how to identify different types of trees, as well as other skills they feel are essential for leadership qualities in today's society.

one, Harris says.

"If we can get every child in the county involved with this," she says, "then we can better prepare them with life-long learning skills, doing this at a level they can understand." The program also provides these young people with a chance to help out by doing community service, which is one of the requirements of completing the JMGP.

Another benefit of the JMGP that these youngsters will experience is outdoor activity by working in an actual garden. Harris says that today's young people are staying inside more than they used to by playing video games, spending time on the Internet and doing other things.

Harris adds that according to national studies, the healthiest children are the ones who participate in outdoor activities every day. The JMGP will teach these children a variety of gar-

The Kalmia Gardens of Coker College are located on a former 19th century plantation with 35 acres of private botanical gardens. The historical home of Thomas E. Hart, built in 1820, is also located on the plantation. The gardens are on the National Registry of Historical Places. They were planted by founder Mrs. David Robert Coker, and have been opened to the public since 1935.

Harris and Dan Hill, assistant director of Kalmia Gardens, are jointly hosting the JMGP, and Harris says that registration has been going very well. Information on the JMGP has been distributed to students at area elementary schools, with families responsible for payment of the JMGP, as well as transportation both to and from the gardens. The cost is \$45 per child, and participation is strictly voluntary.



Appendix C - Articles

September 2008—August 2009 Annual Report
Florence Darlington Stormwater Consortium



Appendix C Articles

PAGE 2A | WEDNESDAY APRIL 8, 2009

Florence-Darlington Stormwater Consortium discusses runoff hazards

By Tom Saw
Covering Water
tomsaw@newsobserver.com

Above: Attendees at the Stormwater Consortium's spring meeting. Below: Katie Giacalone, statewide coordinator of Clemson Carolina Clear, discussed some of the challenges of stormwater runoff at the event. PHOTOS BY TOM SAW

The Florence-Darlington Stormwater Consortium held its spring meeting at the Florence library on Wednesday, April 1, to discuss plans for educating area communities on the dangers that stormwater runoff can have on lakes, ponds, rivers and streams.

The Pee Dee River, Lynch River, Black River and other bodies of water and tributaries are all affected by stormwater runoff, and educating people of these dangers is vital in preventing such contamination from affecting the supply of area water, said statewide coordinator for Clemson Carolina Clear, Katie Giacalone.

The spring meeting was also dedicated to providing information about natural control measures, watersheds, and the "little things people can do each day that make a difference," said Giacalone. She says that many people are unaware of the connection they have with their water resources, and that this lack of awareness is one of the reasons this is such a danger.

"When it rains," she said, "it washes pollutants such as herbicides and other harmful ingredients from the ground down to these bodies of water." Add to that the fact that these harmful irritants travel to and enter ponds, rivers, lakes and streams, completely unfiltered, and you have a real danger here, she added.

Giacalone said that danger exists in water that comes from roofs, gutters, and seeps as well, and that the biggest obstacle we face is making people aware that they are part of a bigger system. This is the water all of us drink, cook, and wash with, she added. Another precaution she mentioned involved an underground hazard.

"Things like a failing septic tank can also harm our public water supply," Giacalone said, recommending that they be regularly maintained. She urged people to be "environmentally friendly" with the property they live on, as well as the way they use it.

One suggestion she made involved the use of fertilizers. She recommended that people who use fertilizers make sure that they're not using them too late in the season. Giacalone said that fertilizer runoff is one of the many problems causing contaminated water.

Picking up after pets is another step she recommended for avoiding water contamination, saying, "Animal waste and the pathogens that go with it can really harm a body of water as well." She also urged proper yard maintenance including the removal of debris such as trash and other flammable material that can find its way to a water body.

Stormwater runoff is the number-one threat to our water supply, according to the Environmental Protection Agency, Giacalone said, adding that 67 percent of the water bodies in South Carolina currently do not meet this criteria.

She said that this certainly has a negative impact on our water supplies, and added that it also increases the effort and material needed in order to safely treat and filter the water we use. The Consortium will be involved with several upcoming events in the near future.

Those events include the Pee Dee Plant and Flower Show at the Pee Dee Farmers Market April 16-20, the Rural Heritage Festival at Clemson University located at 2200 Pocket Rd in Florence county on April 25, and the Black Creek Kayak Festival in Hartsville, May 1-2. For more information on events and storm water education, log on to www.clemson.edu.



"I thought it would be good to go somewhere different and see if I really want to do medical, if it's something I could stay interested in ... so I can know if that's exactly what I want to do, so I don't have to start all over again."

Tracy Newman

Youth Leader

continued from 1A

"I thought it would be good to go somewhere different and see if I really want to do medical, if it's something I could stay interested in," she says. "I'm just hoping that the Forum gives me more insight ... so I can know if that's exactly what I want to do, so I don't have to start all over again."

Students must be at least 16 years of age and/or in the 9th, 10th, 11th or 12th grade during the 2008/2009 academic year to be eligible for this year's Forum. There is also a GPA requirement: attendees must have a B+ average or above, and have an interest in the field of medicine. No student failing to meet the GPA requirement may attend.

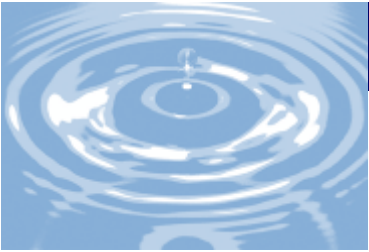
The NYU-Boston Medical Forum boasts close ties with many reputable and cutting-edge advanced hospitals, research facilities and medical schools, including Children's Hospital, Harvard Medical School, Massachusetts General Hospital, and the Massachusetts Institute of Technology.

The Forum exposes students to a broad range of career-related information, including educational requirements, profession options, clinical practice, global epidemics, causes for life-threatening diseases, and the ethical and legal issues involved with a medical career.

Students also learn about

Appendix C - Articles

September 2008—August 2009 Annual Report
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Appendix C Articles

News and Press

June 3, 2009



Children learn water safety as they get ready to disembark onto the lake at the 4-H2O Water Quality Outdoor Day Camp. SUBMITTED PHOTOS

Cultural, agricultural camps coming in June

By Tom Seay
Contributing Writer
tseay@newspress.com

Coming up June 10-12 is the 4-H2O Water Quality Outdoor Day Camp at Kalmia Gardens of Coker College in Hartsville. The camp is both a fun and educational program designed to teach youth how to understand, appreciate and protect like both in and around the lake.

Participants will learn about the aquatic environment, boat safety, canoeing, and how a watershed works, as well as how it affects the quality of water in the lake.

The purpose of the program is to teach youth about water resources, and how to protect the water environment. These skills will enable youth to make decisions that will affect the environment in which they live.

Alma Harris is the Darlington County Clemson Extension water coordinator. She says that the camp is a pro-



Above: Children are taught about many aspects of the environment focusing on how watersheds work. Below: Clemson Extension agents use hands-on experiments to get children interested in science and math through the environment and outdoor activities.

gram that Clemson Extension has been doing for 10 years in an effort to "Keep Darlington County Beautiful."

Harris adds that this is the first year that the day camp will be held at Kalmia Gardens. It's open to youth ages 8 to 14, will be open all three days from 10 a.m. to 3 p.m., and registration is \$65.

With help from the South Carolina Forestry Commission as well as the Department of Natural Resources, attendees will "learn how to identify their local watersheds, what its instruments are, and how a watershed affects water involvement," Harris said.

She added that these types of programs are conducted throughout South Carolina and the nation. Ages 8 to 14 are targeted because these kids are old enough to understand what instructors are trying to teach them in terms of caring for as important a natural resource as



water, but at the same time they are not consumed with everyday teenage concerns such as work, driving, dating and the like, Harris said.

"Over the past 10 years we have had at least 500 youth

will involve the appreciation of different cultures. English speaking people will be given lessons on speaking Spanish, while Spanish speaking people will receive lessons in speaking English. The date, time and location of the Spanish camp will be announced later.

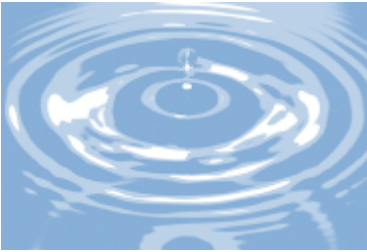
The first two days of the adventure camp will consist of instructional lessons at Kalmia Gardens including boat safety, forestry, water quality, and keeping water clean.

On the third day there will be canoeing and a cookout at the Lawton Park Lake in Hartsville with hot dogs provided by Louie Irick and The Darlington Packaging Company.

For more information on the adventure camp or the Spanish camp, call Alma Harris at 843-393-0484, ext. 115.

Appendix C - Articles

September 2008—August 2009 Annual Report
Florence Darlington Stormwater Consortium



Appendix C Articles

Black Creek to observe daily pollutant load standards | SCNOW

Page 1 of 4



Friday, August 22, 2008 |

Lumberton, NC 81° Feels Like: 84° Light Rain View Warnings/Advisories

Black Creek to observe daily pollutant load standards

Text size: [small](#) | [medium](#) | [large](#)

By **CANDACE JARRETT**
Morning News Reporter
Published: July 30, 2008

Black Creek will have total maximum daily (pollutant) load (TMDL) standards applied to it as early as 2009.

Mihir Mehta, manger of the bureau of water for the S.C. Department of Health and Environmental Control, said it's better for the regulation to come down now, while the communities have input, than wait until it's court-mandated.

"There are more than 950 sites that (DHEC) has monitored for the past 20 years," he said Wednesday during a special meeting about the issue. "It's best to tabulate a number now. If we wait until the pollution gets to a point where it was court-ordered to mandate a TMDL, it wouldn't be as thorough of a reflection because we only have six people to monitor 950 sites spread throughout South Carolina."

The Clean Water Act established the principle of the total maximum daily load as a means of reducing water pollution in impaired waters. A TMDL is a calculation of the maximum amount of a pollutant that a body of water can receive and still meet water quality standards.

The mandate would not only affect the creek in Darlington County, but also in Chesterfield, Florence and Lee counties. Each county would be responsible for the TMDL number set for its portion of the creek.

Darlington County Planning Director Doug Reimold said the plan is to see what work could be done with DHEC to possibly avoid the establishment of a TMDL at the creek.

"Right now, it's really important for us to not only work with people interested in clearing up the problem before it becomes a problem we are told by law we have to clean up," he said. "This is something that we are working with Florence County on and, hopefully, can get other counties that this affects involved as well before the regulation is imposed and fines and things come into the picture."

At Wednesday's meeting, it was unclear if those in attendance — including representatives for

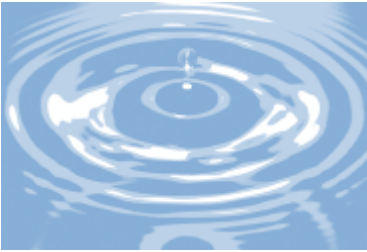
<http://www.scnow.com/scp/news/local/pee-dee/article/black-creek-to-observe-daily-poll...> 8/22/2008

News 13 aired news piece on this subject July 30 & 31st at 5, 6, 11 am and 7 am (31st) time slots
www.scnow.com
Retrieved 8-22-08

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Black Creek to observe daily pollutant load standards | SCNow

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Darlington, Hartsville, Sonoco Products Co., Wellman Inc. and the Darlington County Water & Sewer Authority, along with members of the Pee Dee and Black Creek land trusts — wanted to work together to clear up the problem before DHEC comes in to impose the standard, or if they feel following the mandate is best.

Banu Varlik, TMDL project manager at DHEC, said it's important to remember that a mandate isn't always a bad thing.

"TMDL is good or bad, depending on whom you talk to," she said. "A lot of people don't like the government coming in and enforcing something, but (it) is really important, when you're talking about a recreational TMDL, to remember it's about human health. There are people that swim in that creek and they don't want to get sick from having too much of a pollutant in the water."

The TMDL number that would be imposed is based on recreational use at the creek. The pollutant of concern right now is a fecal coliform bacterium.

Mehta said the difficult part with establishing the TMDL for the creek is that with that type of bacteria, it's hard to decipher a point source, or direct location of contamination. Some nonpoint sources from which fecal coliform derives are pet and wild animal waste, along with failing septic tanks and farming practices.

From 2002 to 2006, seven sites on Black Creek spread throughout the four counties exceeded the standards set for pollutants at the lake more than 10 times in the five-year period.

The standard for the creek is 400cu/100mL. At the Ashby Branch point of Black Creek in Quinby, levels reached 1,348 during random testing this year. In 2006, and again this year, levels at the Boggy Swamp point in Hartsville were 1,376.

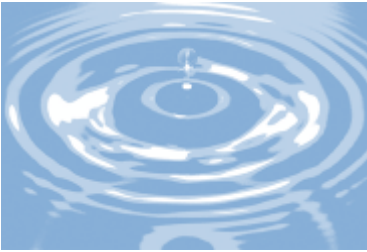
According to the Natural Resources Defense Council, some waterborne pathogenic diseases include ear infections, dysentery, typhoid fever, viral and bacterial gastroenteritis and hepatitis A.

<http://www.scnw.com/scp/news/local/pee-dee/article/black-creek-to-observe-daily-poll...> 8/22/2008

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Appendix C Articles

Darlington, Hartsville might become part of MS4 District | SC NOW

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Friday, August 22, 2008 |

Columbia, SC 79° Feels Like: 82° Overcast [View Warnings/Advisories](#)

Darlington, Hartsville might become part of MS4 District

Text size: [small](#) | [medium](#) | [large](#)

By CANDACE JARRETT
Morning News Reporter
Published: August 16, 2008

Pending results of the 2010 Census count, Darlington and Hartsville might be mandated to become part of the Municipal Separate Storm Sewer System (MS4) District, which encompasses Florence and Darlington counties.

The MS4s are part of the U.S. Environmental Protection Agency's National Pollutant Discharge Elimination System (NPDES), which is geared toward preserving water quality and managing stormwater runoff.

Last year, Darlington County had to create and instate an ordinance regarding the MS4 standards, essentially because of its proximity to Florence.

In 2003, Florence County was the first in the Pee Dee to be mandated with MS4 classification during Phase II of the NPDES Stormwater Program Phase System.

In Phase I, the EPA required NPDES permit coverage for stormwater discharges from medium and large municipal separate storm sewer systems (MS4s) located in incorporated places or counties with populations of 100,000 or more. Phase II requires NPDES permit coverage for stormwater discharges from certain regulated small MS4 areas and construction activity disturbing between one and five acres.

Darlington County Planning Director Doug Reimold said it really depends on how much growth each city has had in the past decade since the last census.

"It's all contingent on the census because, essentially, when you have new data — presuming they don't change the parameters for urbanized areas — areas that have grown can be added into those urbanized areas," he said. "The urbanized area (that Darlington County is a member of) falls short of the city of Darlington."

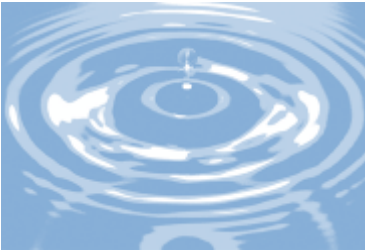
Reimold said Darlington encompasses the north portion of Pocket Road, but the county adopted the watershed and the south side of Pocket Road.

http://www.scnow.com/scp/news/local/pee_dee/article/darlington_hartsville_might_becom... 8/22/2008

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Darlington, Hartsville might become part of MS4 district | SCNOW

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"I'm not sure, but, essentially, with the city of Darlington, what could happen is (the S.C. Department of Health and Environmental Control) can say that Darlington touches a portion of a MS4, and if the city's population increases, decide to add it to the MS4 because of that closeness to the boundary," he said. "The federal government doesn't want the EPA or DHEC taking care of everyone's problems. They want jurisdictions taking care of the problems they've created."

Freddie Kinsaul, Darlington's water and wastewater superintendent, said the city is taking steps toward creating a stormwater plan by budgeting and planning a stormwater study.

Kinsaul said the city hasn't had any official contact with DHEC yet regarding MS4 standards.

He also said a meeting two weeks ago regarding the pollution of Black Creek and total maximum daily pollution load standards for the creek made him aware of the need.

"MS4 will have anything to do with land planning and stormwater," Kinsaul said. "When you have a permit and a specific place to look, it's easy, but when you start chasing water in ditches and sources in the woods, it gets kind of difficult."

Mike A. Welch, Hartsville's public works director, said he's been expecting the call regarding making the city part of the MS4 district for some time and expects to have to do so by 2011.

"We have realized that it might come a lot quicker, but we have been working toward a stormwater utility plan for the past four years and we hope to have that program by this time next year," he said. "We were already concerned about the flooding and our drainage systems, but a secondary part of the plan, which is becoming very, very important each day, is the water quality element."

Welch said there's no question the MS4 would be difficult to enforce because it requires additional personnel, equipment and management.

"The MS4 is a very unique and individual program on its own because every source of runoff from parking lots to houses and construction sites have to be monitored," he said. "Drafting and enforcing MS4 standards would be very difficult to do successfully, and certainly the EPA and DHEC understand that, but the requirements are still there."

The NPDES and MS4 standards are unfunded mandates. Kinsaul and Welch said they have concerns regarding funding.

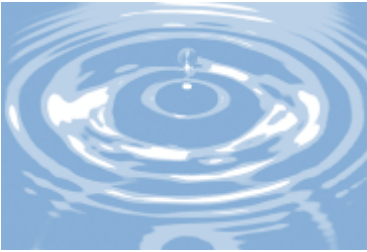
"When you're planning MS4 areas, it's very specific and takes a lot of hours, especially in old cities and old towns," Kinsaul said. "Municipalities rely a lot on grants, so when the federal government clamps down on funding and the state tightens their budgets, it can be hard on cities like Darlington when the unfunded mandates come down."

http://www.scnow.com/scp/news/local/pee_dec/article/darlington_hartsville_might_becom... 8/22/2008

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Wednesday, August 26, 2009 |

Rain harvesting workshop to be offered in Florence

Text size: [small](#) | [medium](#) | [large](#)

FROM LOCAL REPORTS

Published: August 12, 2009

FLORENCE — Residents will have the opportunity to build a rain barrel and learn about “rain harvesting” at a workshop hosted by the the city of Florence and Carolina Clear.

The workshop will be from 10 a.m. to 2 p.m. Aug. 28 at the Barnes Street Activity Center, 513 Barnes St., Florence.

Rain barrels utilize an age-old concept of reusing rainwater to irrigate gardens and lawns, water plants and wash cars, among many other uses.

A 1,000-square-foot roof catches more than 600 gallons of water from just an inch of rainfall. Rain barrels also are good for the environment because they reduce stormwater flow, which causes erosion and can carry pollutants from yards and streets into streams.

The workshop is sponsored by the Florence Darlington Stormwater Consortium and Carolina Clear, a stormwater education and awareness program of the Clemson University Restoration Institute and the Center for Watershed Excellence..

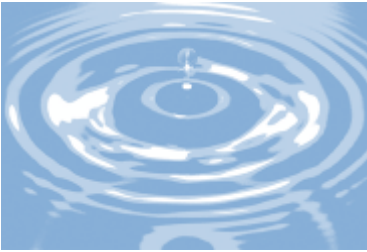
The morning session from 10 to 11:30 a.m. includes presentations on stormwater and rain harvesting. Lunch is from 11:30 until noon and the rain-barrel construction is from noon until 2 p.m.

The class costs \$50 per person and includes lunch and all rain-barrel materials. The class is limited to 25 participants. Rain barrels typically cost about \$100.

Registration is first-come, first-served. Make checks payable to Clemson University and mail or deliver to the Florence County Extension office, 2685 S. Irby St., Suite K, Sumter, SC 29505. Mark it to the attention of Pamela Barnhill. Contact (843) 661-4800, ext. 114, or e-mail pbnhill@clemson.edu for more information.

On the Web:

City of Florence, <http://www.cityofflorence.com/index.html>



Appendix C Articles

PAGE 8A Wednesday, Sept 2, 2009
NEWS AND PRESS | DARTINGTON, S.C.

Doug Brimble, Sue Farnley, and Charles Brooks proudly stand with a newly completed rain barrel.

Building barrels for fun ... and for collecting rainwater

By The Staff and Writers
www.dartington.com

People gathered at the Barnes St. Activity Center in Florence on Aug. 28 had "Barrels of Fun" where they collected materials they took home for personal use-collecting rainwater.

Sponsored by the Clemson University's Carolina Clear and the Florence-Darlington Storm Water Control Authority, participants paid \$20 for barrel material, construction assistance, lunch and informative speeches on the benefits of using rainwater for the maintenance of yards.

Carolina Clear Executive Coordinator Eric C. Carothers says, "Half of every year's household water use, technically, is done outside the house, and the whole purpose of the rain barrels is so people can reuse that water."

Carothers adds that after the household water evaporates and falls back to earth at night, "the water no longer contains chlorine, and people can also save some money by using that water to plant back."

He adds that people have been using this sort of thing since the beginning of time.

According to the Carolina Clear Web site, rainwater collection systems not only offer many benefits to individuals who utilize them, they also benefit the environment.

One obvious advantage is that there is no withdrawal of groundwater or use of municipal water supplies. A less obvious advantage is that it helps reduce storm water runoff which, in turn, reduces the amount of water that can lead to downstream flooding and stream bank erosion.

Over time, rain barrels are placed near a roof's downspout. The rain barrel is connected to the downspout by inserting a gutter or run-off pipe to divert rain from the roof and into the barrel.

Rain barrels and rain catchment systems can range from simple to sophisticated. The simplest of barrels only use gravity to deliver water, but more sophisticated downspouts may channel to one pump and flow controls to better meet these water needs.

An important thing to remember is that unless a proper filtration system is installed, water from rain barrels is often unsuitable for humans or pets.

Rain barrels come with a spigot near the bottom of the barrel so that a garden hose can be connected, and the water saved can be used for irrigation. "One inch of water on a typical household roof can add up to nearly 600 gallons," Carothers says. She adds that a lot of water can be gathered even during the smallest of rainstorms.

The cost of what these people paid for their rain barrels at the Florence event is small compared to what they would have paid for one elsewhere. Carothers says the price of a rain barrel purchased at a hardware, garden or home supply store usually starts at around \$30 to \$35, and even up to \$150.

Shaped like a pebble barrel, these containers are made of durable plastic and last for a long time. Carothers advises people to have insurance on them, and says that using an alternative material such as metal can be a good idea, mainly because of the earthquake issue.

People are encouraged to visit the Carolina Clear Web site for more information on rain barrels, as well as other Carolina Clear events. The web address is www.clemson.edu/clear/infocenter.



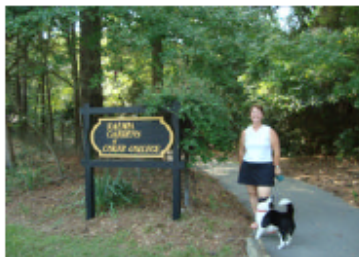
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September 2009
Volume 1, Issue 3

South Carolina Department of Agriculture



Kalmia Gardens Discovery Garden. By Mary Ridgway, Director



Mary Ridgway, Director of Kalmia Gardens, & her dog.

"It is our hope the Discovery Garden will be a fun place to learn about what is needed to feed humans and creatures in nature as well."

I am thrilled to tell you all about our newest addition to Kalmia Gardens...the Discovery Garden!

The fence has been erected and all the planter boxes have been built and filled with soil. This was certainly a group effort and many thanks are in order: We had lots of help from eagle scouts and their scout troops, individual donors, garden clubs, master gardeners and dedicated volunteers of the Gardens to make this dream come true.

The Discovery Garden will be used to teach children who participate in Kalmias education classes such as Junior Master Garden Class, the Week in The Wild campers, and many more about their world through the growing of vegeta-

bles, herbs, and flowers to feed themselves as well as our creatures in nature such as the butterflies and birds.

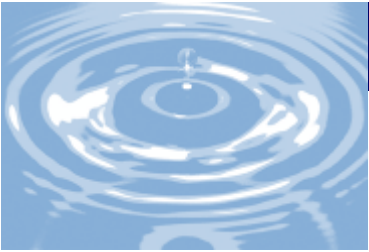
Through our teaching, children and their families will realize that food just does not grow in the grocery store. It is grown somewhere else first and then transported to the store.

So if you learn how to grow a garden for yourself, you will know how that food was grown, what fertilizers were used, how long it takes for food to mature and when the correct time of year is for planting and harvesting.

We also intend to offer a child-friendly cooking class to teach how to make dishes with the vegetables that have been grown. A big hope is to produce so many vegetables that

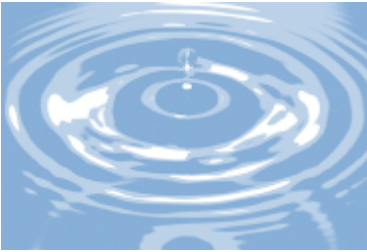
we can share them with the local soup kitchen here in town also. Water is so important to any type of growing so in the Discovery Garden rain barrel systems will be used for much of our irrigation. Kalmia Gardens and Clemson Extension have a partnership with a project called Carolina Clear. This group teaches people the importance of collecting and conserving water and also how to keep our watersheds pure.

It is our hope the Discovery Garden will be a fun place to learn about what is needed to feed humans and creatures in nature as well. Please come to Hartsville SC and give us a visit! For more information about Kalmia Gardens and the Discovery Garden, please visit: <http://www.coker.edu/kalmia/>



Appendix D Year 1 Activity Plan

ADAPTIVE Stormwater Education Plan			Year 1 (Sept 2008- Aug 09) - Florence and Darlington Counties, City of Florence											
Lead Service Provider	Activity-Program (<i>Italics include participation elements</i>)	Target Geography/ Land Use	General Stormwater Awareness	Target Pollutant(s)										Participation by other Service Providers
				Bacteria	Toxic Contaminants	perchlorate products, pesticides, heavy metals	Sediment	Nutrients	Pollutants resulting in low Dissolve Oxygen	Debris	Temperature	Other		
General Public														
Clemson	Rural Heritage Day - consortium and stormwater poster	Pee Dee Region	X											
Clemson	Southern Plant & Flower Festival: Rain Garden talk; poster on stormwater; survey; handouts	Pee Dee Region	X	X			X	X						
Florence	Florence Fountain stormwater article	City of Florence	X											Clemson
Clemson	Tony Melton: stormwater awareness messages at QVC luncheon		X											
Youth / K-12 / Teachers														
Clemson	4H2O Pontoon Classroom at Josselyn Education Center, Kalmia Gardens	Pee Dee Region	X	X			X	X			X	X	Overall, watershed awareness.	Kalmia Gardens
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
Kalmia Gardens	Home School Science Classes: montly, 3 hr class with outdoor, environmentally focused activities												Overall, watershed awareness.	Clemson
Clemson	City of Florence Community Center Summer Camp stormwater lessons at Gully Branch	City of Florence	X	X			X	X			X		Overall, watershed awareness.	City of Florence
Planning Commission														
Clemson	Present at Planning Commission Meeting: Tools for Planners	City of Florence												City of Florence



Appendix D

Year 1 Activity Plan

ADAPTIVE Stormwater Education Plan		Year 1 (Sept 2008- Aug 09) - Florence and Darlington Counties, City of Florence												
Lead Service Provider	Activity--Program (<i>Italics include participation elements</i>)	Target Geography/ Land Use	General Stormwater Awareness	Target Pollutant(s)										Participation by other Service Providers
				Bacteria	Toxic Contaminants, petroleum products, pesticides, heavy metals	Sediment	Nutrients	Pollutants resulting in low Dissolve Oxygen	Debris	Temperature	Other			
Professionals: Contractors, Engineers, Developers, Landscape Architects														
Clemson	CEPSCI		X				X	X	X		X			
City of Florence	Meeting with Developers		X				X	X	X	X	X			
Homeowners & Homeowner Associations														
Clemson	Stormwater feature on <i>City Talk</i> television show	Pee Dee Region	X	X			X	X					Florence and Darlington Counties	
Clemson	Kinard-n-Koffee episodes (2)	Pee Dee Region	X	X			X	X					Florence County	
Clemson	Pee Dee Flower Festival	Pee Dee Region	X	X				X						
Clemson	Build Your Own Rain Barrel Workshop	Florence & Darlington Counties	X	X			X	X				reduced stormwater volume		
Commercial Citizens: Farmers, Nurserymen														
Clemson	Rain Garden talk at Pee Dee Plant Professionals Meeting	Pee Dee Region	X	X			X	X			X			
Clemson	Equine Workshops	Pee Dee Region	X	X			X	X						
Clemson	Pee Dee Farm Field Day & Turfgrass Field Day	Pee Dee Region	X				X	X						