

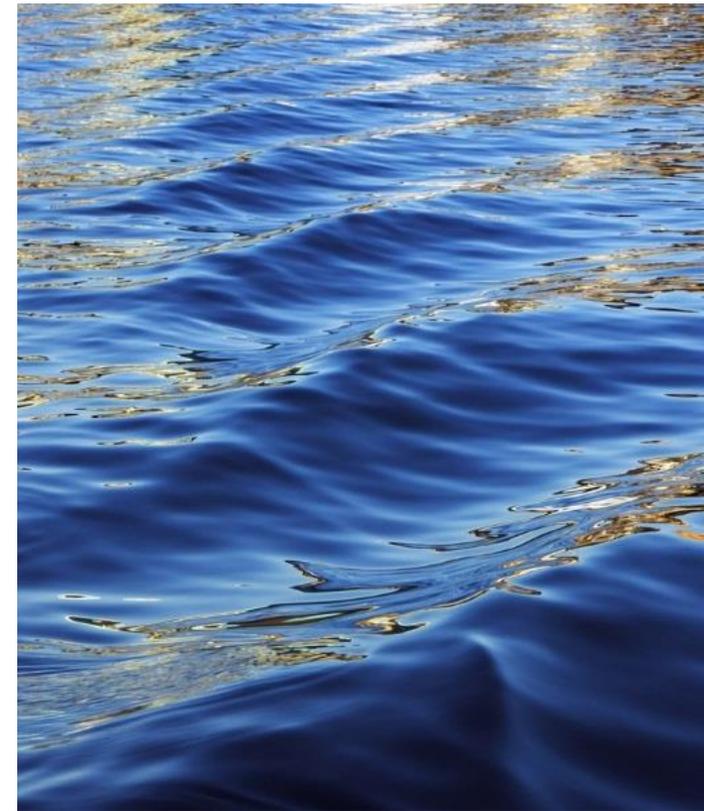


CWSEC

Stormwater Public Education & Involvement

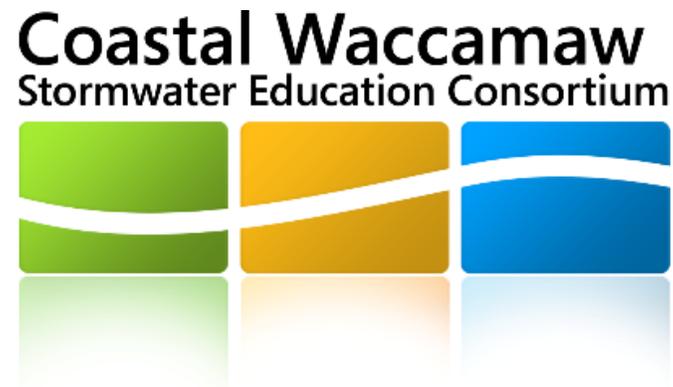
Lisa Swanger,
Coastal Waccamaw Watershed Education
Programs Coordinator

Coastal Waccamaw
Stormwater Education Consortium



CWSEC Goal

To develop and implement effective, outcomes-based stormwater education and outreach programs to meet federal requirements and satisfy local environmental and economic needs.



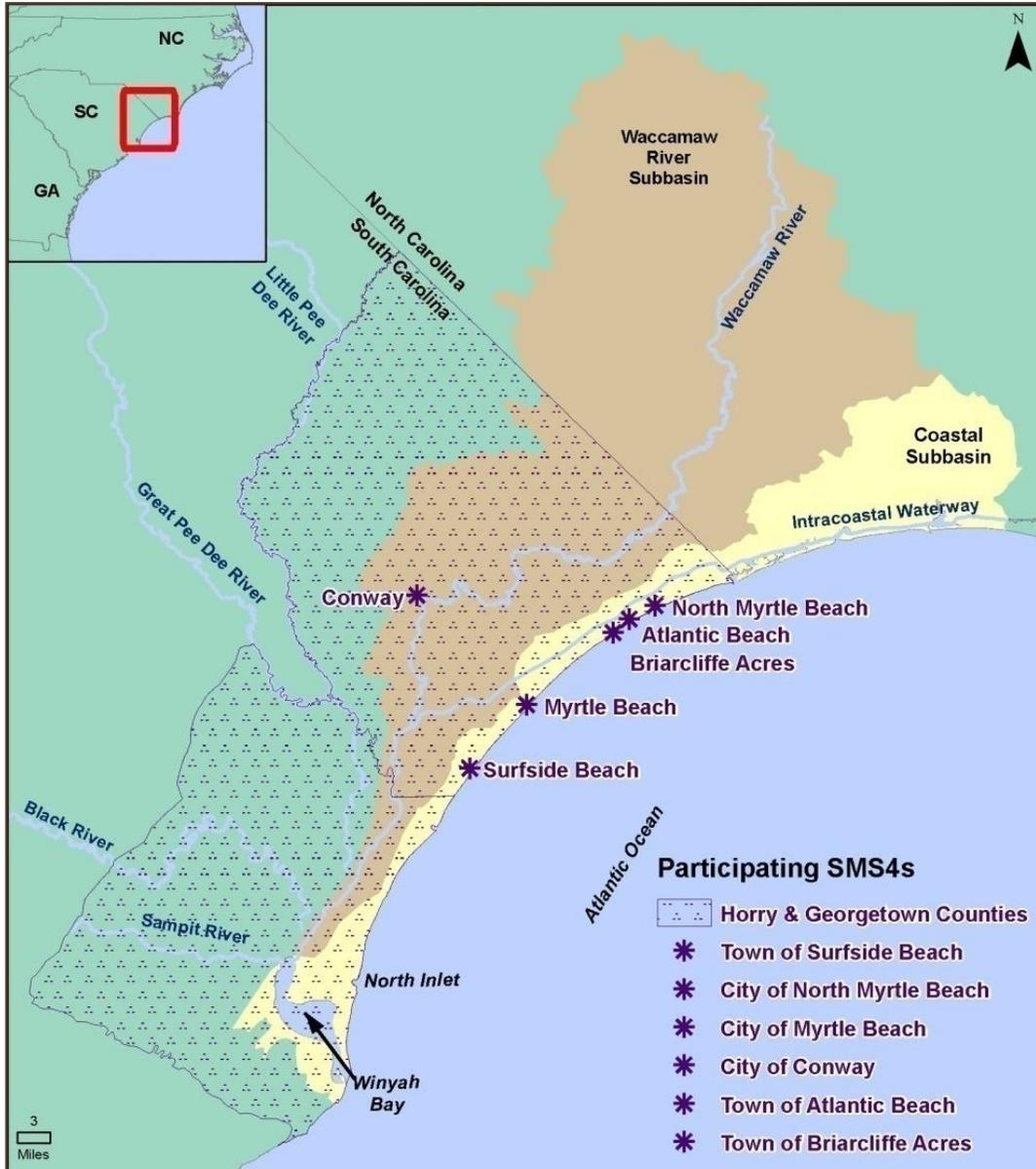
National Pollution Discharge Elimination System (NPDES) Permit Program

- Regulates point sources discharging pollutants into US waters
 - Variety of municipal and industrial operations (e.g., treated wastewater, stormwater runoff from drainage systems)
- Phase I (1990)
 - Medium & large MS4s, construction, industry
- Phase II (1999)
 - Small MS4 located in Urbanized Areas
 - SC has 70+ regulated SMS4s

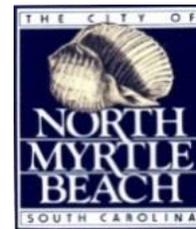


Municipal Stormwater Permit

- SCDHEC administers permit within South Carolina
- Current permit became effective January 1, 2014
- MS4 Stormwater Management Plan (SWMP)
- Minimum Control Measures
 1. Public education and outreach on stormwater impacts
 2. Public involvement/participation
 3. Illicit discharge detection and elimination
 4. Construction site stormwater runoff control
 5. Post-construction stormwater management
 6. Pollution prevention/good housekeeping



Participating Communities



Core Education Providers



Coastal Carolina University,
Waccamaw Watershed
Academy



Waccamaw Riverkeeper



SC Sea Grant
Extension Program



North Inlet-Winyah Bay
National Estuarine Research
Reserve Coastal Training &
Public Education Program



Clemson University,
Carolina Clear Program



Murrells Inlet 2020

MCM 1 - Public Education and Outreach

Example Activities



Workshops & Seminars:

Getting to Know Your Stormwater System
HOA Workshop,
November 2015



Conferences:

Annual Waccamaw
Conference, March 2016



Outreach Programs:

Grand Strand Canines for Clean Water, December 2015



Best Management Practices:

Master Pond Manager
Course, October 2015

MCM 1 - Public Education and Outreach

Example Activities Continued



Public Events:
Hurricane Awareness Tour
May 2015



Educational Giveaways:
Blessing of the Fleet
April 2015



Television & Billboards:
Carolina Clear 2015 Media Campaign
www.clemson.edu/carolinaclear

MCM 2 - Public Participation & Involvement

Example Activities



River & Beach
Clean-ups



Volunteer Water
Quality Monitoring
www.coastal.edu/wwa/



Storm Drain Marking
Program

Activity Highlight: Rain Garden Installations

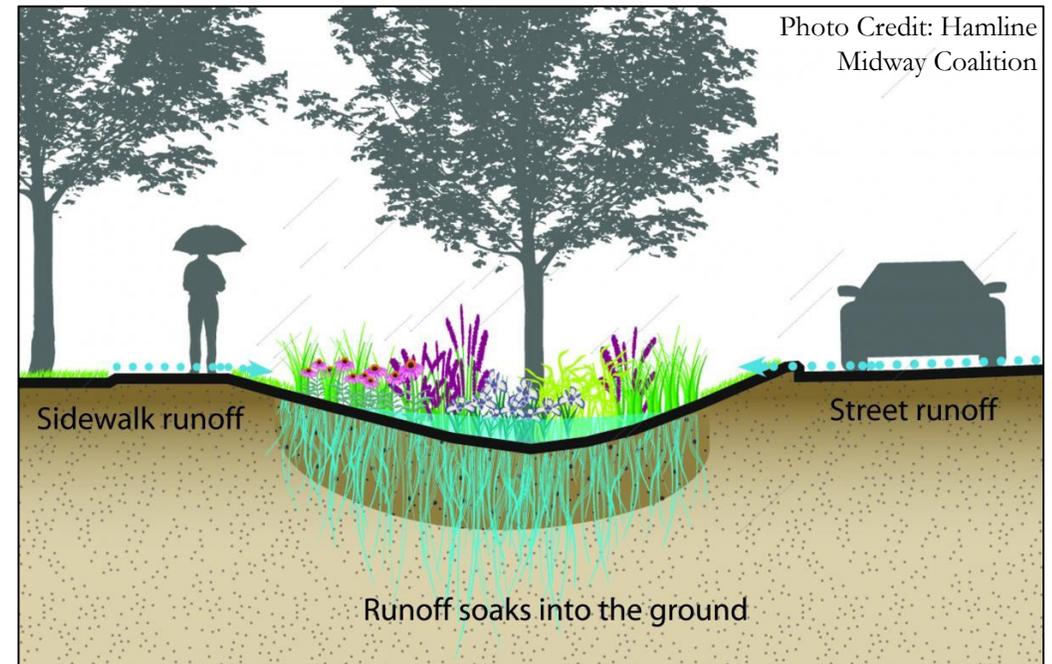


What Is a Rain Garden?

A bowl-shaped, landscaped feature designed to capture stormwater runoff and allow the water to slowly infiltrate to the ground.

Benefits:

1. Help protect water resources by trapping sediment and filtering pollutants carried by stormwater (e.g., pathogens, metals, oil, excess nutrients, chemicals)
2. Reduce localized flooding events
3. Provide a habitat for native species (e.g., birds, bees, butterflies)
4. Attractive feature for properties
5. Education



Installation Process General Overview

- **Site Selection:** Area where rain water typically flows (often installed down slope of the downspout and at least 10 feet away from the home / building).
- **Garden Sizing:** Dependent on the area that runs off into the garden, volume of water it temporarily stored, and soil type. The Center for Watershed Protection recommends the garden area to be 20-30% of drainage area directed to the garden.
- **Site Preparation:** Sandy loam / loamy sand is the recommended mix for a permeability rate of 1-6 inches per hour.
- **Plant:** The fun part! Full - partial sun areas will provide more plant options.
- **Maintenance:** Drainage, sediment erosion, debris accumulation, weeds, plant care.

Recommended Rain Garden Resources

- Carolina Clear, Clemson University Extension
www.clemson.edu/carolinaclear
- The Carolina Rain Garden Initiative
<http://www.clemson.edu/extension/raingarden/index.html>
- South Carolina Native Plant Society
www.scnps.org
- USDA PLANTS Database
<http://plants.usda.gov>

The screenshot shows the 'Carolina Rain Garden Initiative' page. At the top is the 'CLEMSON COOPERATIVE EXTENSION' logo. Below it is a navigation menu with links: 'Carolina Rain Garden Initiative', 'Rain Garden Tracker', 'Virtual Rain Garden', 'Demonstration Rain Gardens', 'Workshops', 'Professional Rain Garden Design and Installer', 'Rain Garden of the Month', 'Rain Garden Manual', and 'Additional Tools'. The main content area features a photograph of a residential rain garden in front of a house. Below the photo is the heading 'WHAT IS A RAIN GARDEN?' followed by a paragraph explaining that a rain garden is a landscaped depression that allows rainwater runoff from impervious areas like rooftops and driveways to infiltrate and be absorbed, reducing stormwater runoff and pollution. Logos for 'Carolina CLEAR' and 'CENTER for WATERSHED EXCELLENCE' are visible at the bottom right of the page.

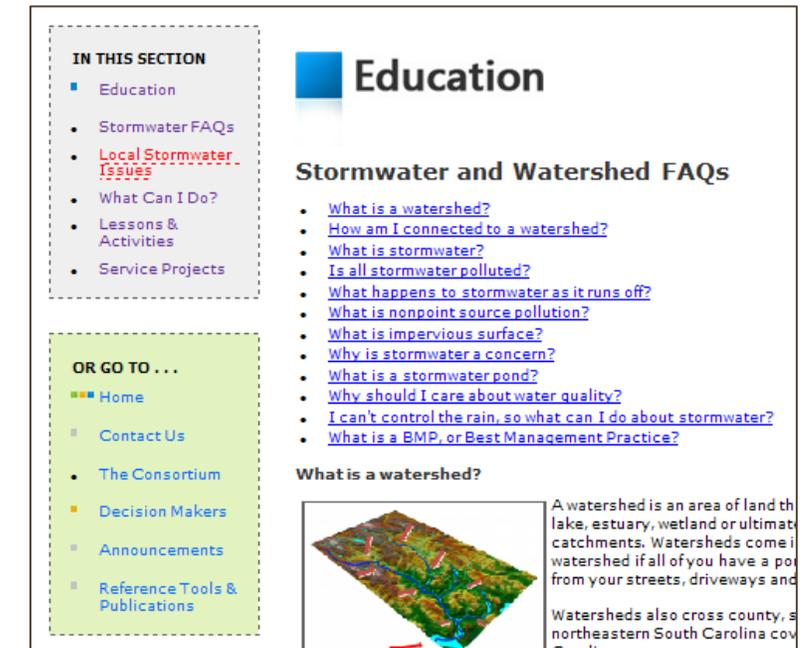
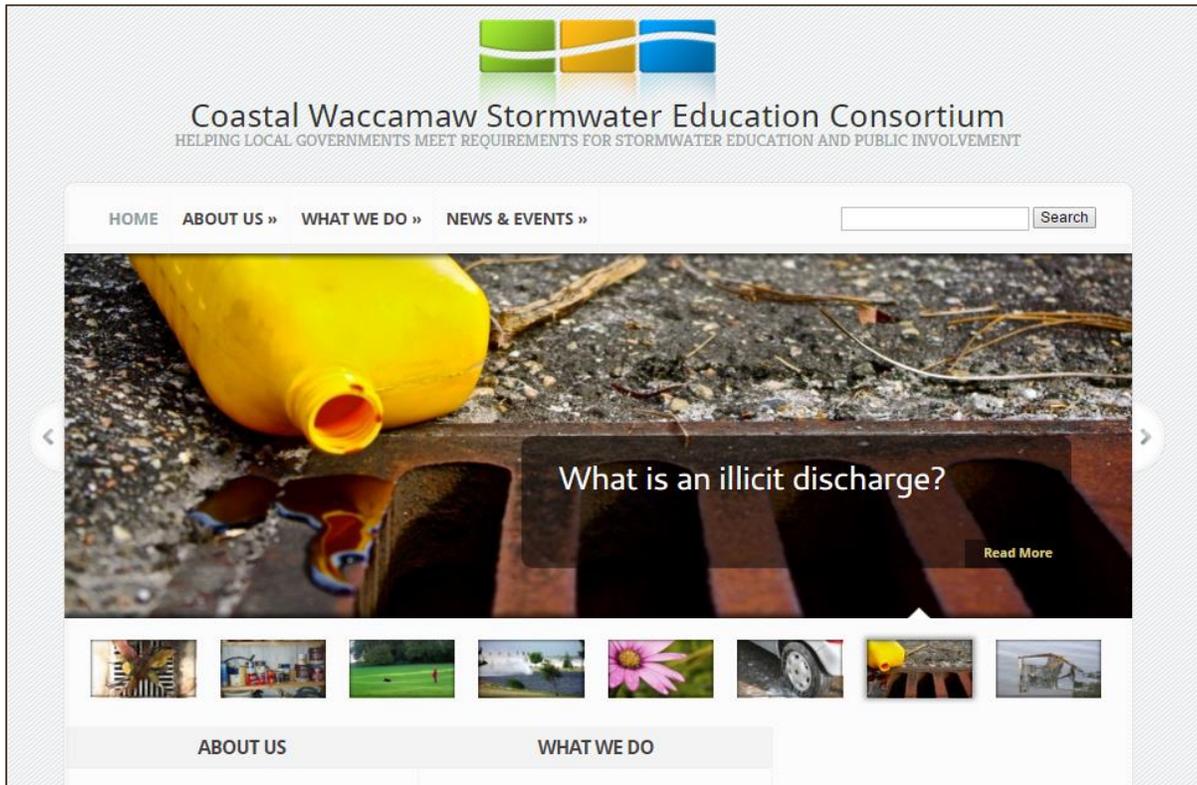
The image shows the cover of a manual titled 'RAIN GARDENS' from Clemson University's Carolina Clear program. The cover features a green background with a white outline of a rain garden. The text includes 'CLEMSON PUBLIC SERVICE Carolina Clear' at the top left, 'RAIN GARDENS' in large green letters, and 'A RAIN GARDEN MANUAL FOR SOUTH CAROLINA' below it. The subtitle is 'GREEN SOLUTIONS TO STORMWATER POLLUTION'. The cover contains several columns of text explaining the benefits of rain gardens, such as reducing stormwater runoff, filtering pollutants, and providing habitat for wildlife. A small photograph of a rain garden is also included. At the bottom right, there is a quote from Kevin Beutell, dated October 2008, stating that rain gardens have the potential to solve all of the problems of stormwater runoff before they occur.

Rain Gardens for Professionals Workshop coming soon to the area!

To Learn More About CWSEC

Visit us online!

cwsec-sc.org



Join our e-newsletter listserv!

Coastal Waccamaw
Stormwater Education Consortium



Thank You

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