



Backyard Landscaping Mini-Series

Gardening for the Natural Environment

May 8, 2012

Growing a Carolina Yard

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CLEMSON[®]
COOPERATIVE EXTENSION



THE CAROLINA YARD

9 Principles: Presentation for Homeowners

Clemson's Carolina Clear Program

- A partnership between the Richland County, Forest Acres, Arcadia Lakes and Clemson's Carolina Clear
- Provide Public Education and Outreach
- Encourage Public Involvement and Participation
- Prevent STORMWATER POLLUTION in Richland County



What is Stormwater?

- Stormwater is water from rain, snow and irrigation that runs off lawns, streets and other surfaces.
- ***According to EPA, America's greatest threat to water quality!***
- People pollution!



What is left on the ground What is Stormwater Pollution? is picked up & taken by rain...



to the nearest storm drain...



then out to our creeks,
streams, wetlands and
rivers.

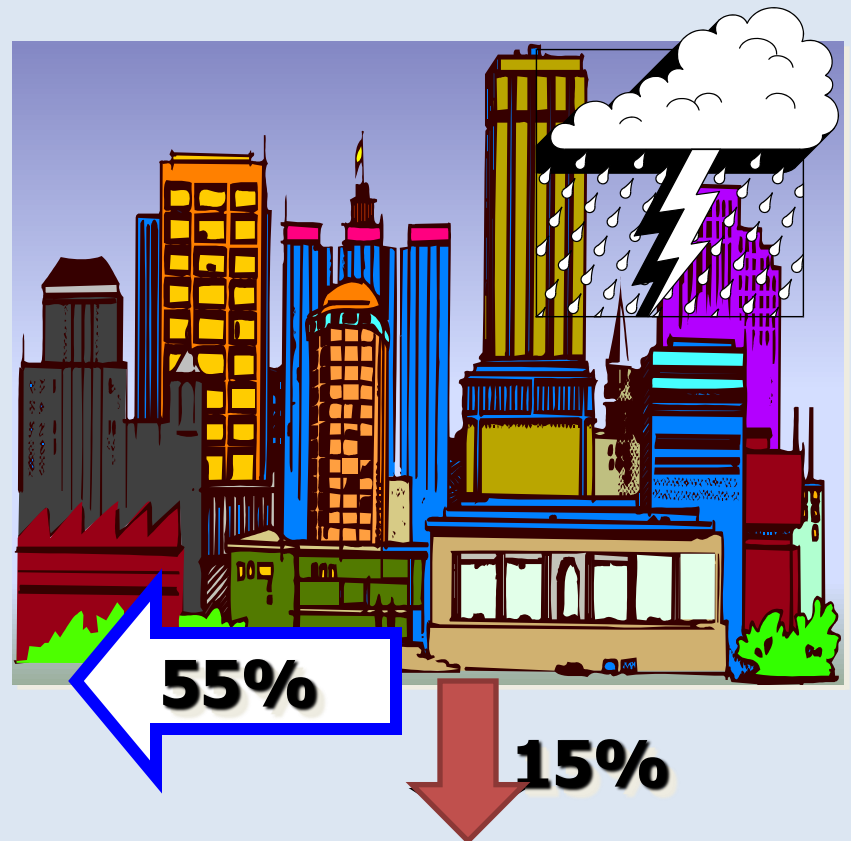
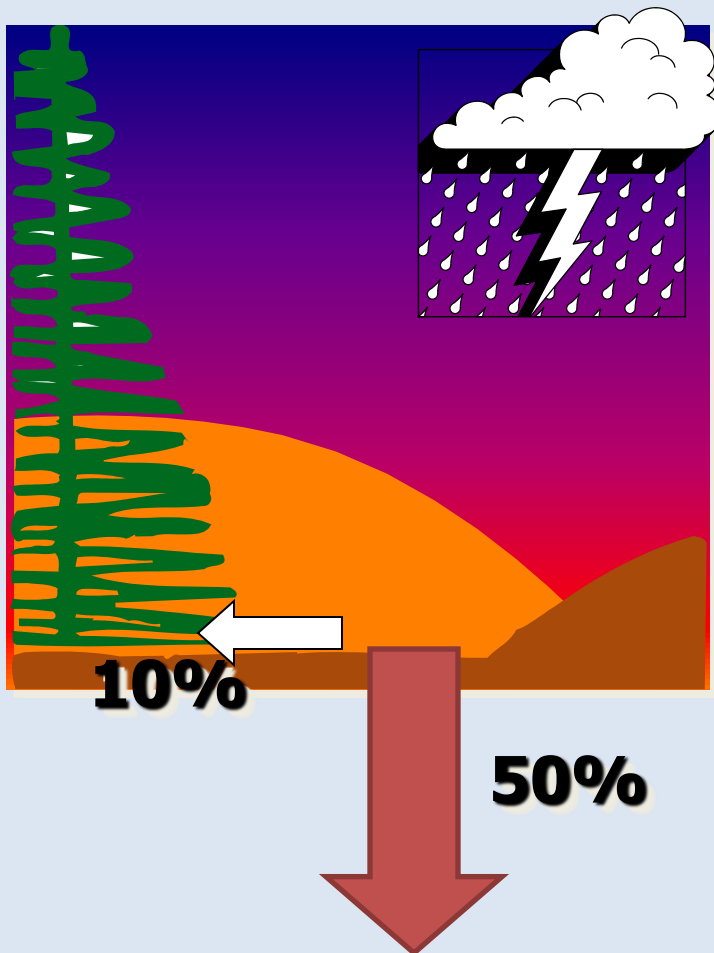


The Dirt on Stormwater Runoff

- Major source of water pollution in Richland County
- Harms fish and wildlife
- Affects drinking water sources



Our Changing Landscape

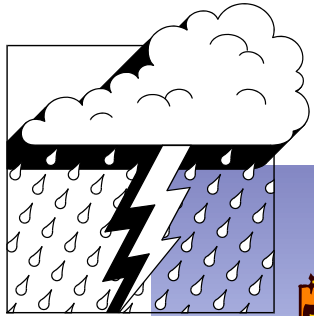


Development Impacts on Water Quality



CS

Development Impacts on Water Quality



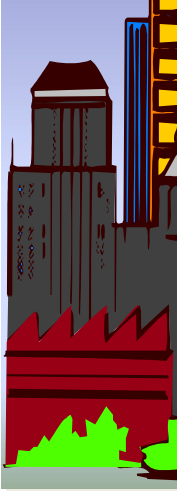
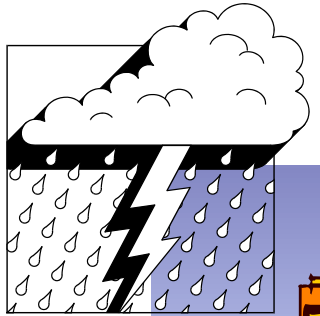
Increased quantity

Decreased quality



Development

Water Quality



Increase in
Development

Contaminants

Stress

So What Can We Do As Individuals to Solve this Problem?

- ◆ We can start by becoming stewards of the watershed and managing our residences and businesses with the watershed in mind.
- ◆ We can encourage others by raising awareness, demonstrating solutions, profiling successes and making going **green** more simple.
- ◆ Creating a *Carolina Yard* is a great start!



THE CAROLINA YARD



Does your yard measure up?

By following the ***nine principles*** outlined in this presentation, you can ...

- save time and money,
- make your yard the best it can be, and
- protect South Carolina's environment.



THE CAROLINA YARD

- CYN is a recognition program for homeowners who want a more environmentally friendly yard.
 - Download the *Carolina Yardstick Workbook* at www.clemson.edu/cyn
 - Each action you take (or have already taken) earns you points, or “inches”
-
- A yard that measures up to **at least 36 inches** is a **Carolina Yard!**



9 Basic Principles

- 
- ***Right Plant, Right Place***
 - ***Water Efficiently***
 - ***Mulch***
 - ***Recycle***
 - ***Fertilizing***
 - ***Yard Pests***
 - ***Stormwater Runoff***
 - ***Wildlife***
 - ***On the Waterfront***

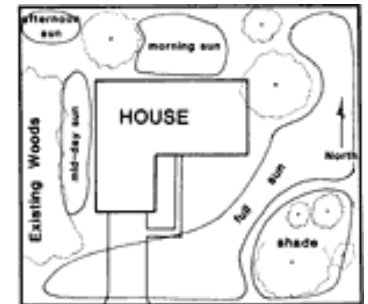
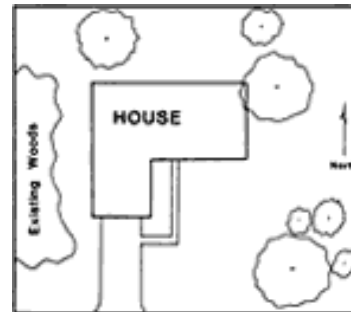
Right Plant, Right Place

Needs & Site Conditions

3. Determine the Site Conditions in Your Yard

- *Mountains, Piedmonts, Midlands, Coastal*
- *Soil type, soil drainage, sun & shade exposure*

4. Create Your Design Plan



5. Choose Plants to Meet the Conditions You Selected



Right Plant, Right Place

Carolina Yard Actions

- **Choose plants suited to the site conditions**
 - Reduces the need for water, fertilizer, pesticides and pruning
 - Natives are best!
- **Group plants** according to their needs (water, fertilizer, etc.)
- **Keep lawn area at a minimum**
 - Use low-maintenance ground covers, shrubs, mulch or other types of porous surfaces



Water Efficiently



Design your yard so that it thrives predominantly on rainfall.

Give your warm season lawn a break from late fall to early spring.

Let your plants tell you when they need water.



Water Efficiently

Carolina Yard Actions



- **Mow lawns high** to encourage a deeper, more drought and pest tolerant root system and shade out weeds.
- Water your lawn and other plants **only when they show signs of stress**.
- Put a **rain gauge** in your yard to track rainfall to avoid unnecessary watering.
- Connect an **automatic rain shut-off device** to your sprinkler system's timer.

Water Efficiently

Carolina Yard Actions

- **Design or modify your sprinkler system** to water lawn areas separately from plant beds requiring less water. Make sure you're not irrigating sidewalks and roadways.
- **Calibrate your sprinkler(s)** to apply $\frac{1}{2}$ to $\frac{3}{4}$ inch of water per application.
- **Use a drip or micro-spray irrigation system** to more efficiently water plant and flower beds.



Mulch

Mulch keeps moisture in the soil and moderates soil temperature, while reducing erosion and weeds.

Common Mulch Materials

1. Shredded Hardwood
2. Pine Straw
3. Shredded Leaves
4. Pine Bark Nuggets



Mulch Application

- Apply 2 to 3 inches deep (up to 5 inches for pine straw)
- Keep mulch 2 to 3 inches from the stems of trees and shrubs and do not cover the crowns of perennials.



Mulching a rain garden.



“Volcano” mulching will reduce a tree’s lifespan.

Mulch

Carolina Yard Actions

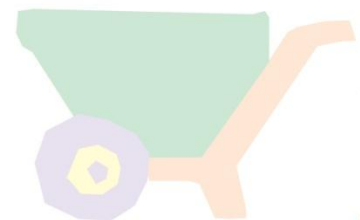
- **Replenish mulch** once or twice a year, as needed to maintain a 2-3 inch depth.
- **Use organic mulches** such as bark and pine straw.
- Use **fallen leaves and pine needles** as mulch under trees and shrubs. (Share extra with a friend or neighbor.)
- **Create self-mulching areas** under trees where leaves can stay where they fall.

Recycle



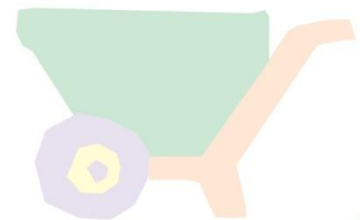
In a **Carolina Yard**, grass clippings, leaves and yard trimmings are recycled rather than thrown away.

Recycle **grass clippings** by leaving them on the lawn. Mulching lawn mowers or mulching blades are not necessary.

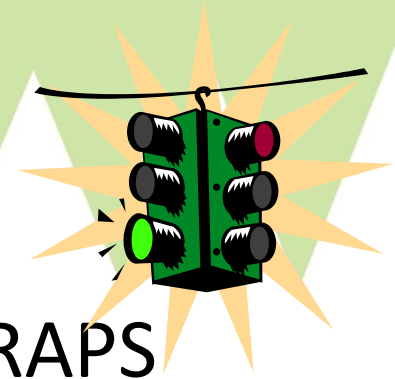


Why compost?

- Reduce waste in landfills,
- Grow healthier plants,
- Improve soil,
- Conserve water,
- Improve water quality.



Materials for Composting

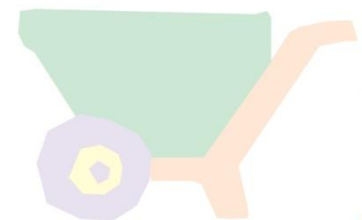


YARD WASTE

- Weeds
- Grass clippings
- Leaves
- Sawdust (extra N req.)
- Straw
- Sod
- Wood Ash (moderate amounts only)
- Wood Chips

KITCHEN SCRAPS

- Tea leaves
- Paper
- Bread
- Coffee grounds
- Egg shells
- Fruit & Vegetable rinds, peelings etc.
- Dryer lint
- Cereal



What Not to Compost

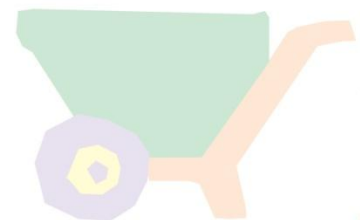
YARD WASTE

- Cat or Dog Manure
- Diseased plants
- Charcoal Ashes



KITCHEN SCRAPS

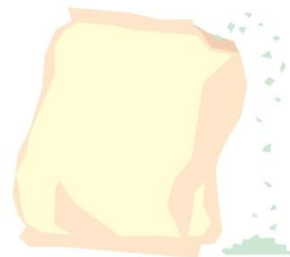
- Mayonnaise
- Meat
- Milk
- Oils
- Peanut Butter
- Salad Dressing
- Sour Cream
- Butter
- Bones
- Cheese
- Chicken
- Fish Scraps
- Lard
- Vegetable Oil



Fertilizing

Many trees and landscape plants require little to no fertilizer once they are established and mature.

Fertilizer can be hazardous to the health of your yard and environment if misused.



Fertilizing

Your decision to fertilize should be *based upon the health of the plant, the desired rate of growth, and a soil analysis*. A soil analysis will give the soil pH and amounts of nutrients available for plant growth.



Fertilizing

Carolina Yard Actions

- **Fertilize only as needed**
- **Identify the problem BEFORE** applying fertilizer.
- **Use slow-release fertilizers.** Buy fertilizers that contain 30% or more of the nitrogen in slow-release forms.
- **Use iron** (ferrous sulfate or chelated iron) instead of nitrogen to make your lawn green during the summer.



Managing Yard Pests



It is unrealistic, and even unwise, to strive for an insect-, disease- and weed-free yard.

Many insects are beneficial by keeping other pests under control, and many others simply cause no harm.



Managing Yard Pests

Carolina Yard Actions

- **Check plants** regularly for signs of problems.
- **Avoid routine applications** of pesticides.
 - Treat only affected areas rather than spraying your entire lawn or yard.
- **Use environmentally-friendly pesticides**
 - horticultural oils, *Bacillus thuringiensis* (Bt), and insecticidal soaps.
- Use **cultural/nonchemical** pest control
 - pruning off affected areas, hand-removing insects, etc.



Managing Yard Pests

"The Good Guys"



Syrphid Fly



Assassin Bug



Lady Beetle



Big-Eyed Bug

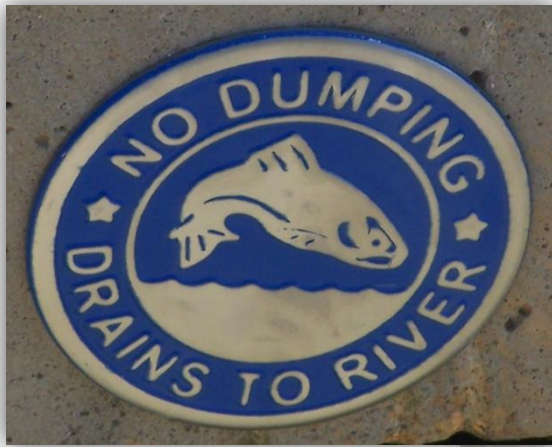


Green Lacewing

Stormwater Runoff

Only rain down the storm drain!

Stormwater is not treated at a waste treatment plant. It flows directly into ponds, lakes, rivers, and bays.



Stormwater Runoff

Carolina Yard Actions

- **Direct downspouts and gutters** to drain onto the lawn or plant beds.
- **Plant groundcovers** to decrease soil erosion where lawn grass doesn't thrive (under trees or on steep slopes)
- **Use mulch, bricks, flagstone, gravel,** or other porous surfaces for walkways, patios, and drives.



Stormwater Runoff

Carolina Yard Actions

- **Pick up after pets.** This will help reduce bacterial and nutrient pollution entering storm drain systems.
- **Collect and store rain runoff** from your roof in a rain barrel or cistern.
- **Create swales** (low areas), **rain gardens** or **terracing** to catch, hold, and filter stormwater.



Stormwater Runoff

Additional Items

- **RAIN GARDEN:** a rain garden is a planted depression in your yard that receives stormwater runoff and infiltrates it into the groundwater table.
- **MORE ON SWALES...**swales are vegetated ditches that transport runoff. Vegetated could refer to planted or to grass allowed to grow a little higher than usual.



Stormwater Runoff

Carolina Yard Actions

- **Clean up oil spills and leaks on the driveway.**
Instead of using soap and water, spread cat litter over oil, sweep it up, and then throw away in the trash.
- **Keep grass clippings, fertilizer, soil, and trash away from storm drains.**





Wildlife

With more than 600 species of animals, South Carolina is one of the most biologically diverse states in the Southeast.

- Butterflies and birds add beauty to our yards.
 - Bees and butterflies pollinate plants
 - Frogs control unwanted insects.





Wildlife

Carolina Yard Actions

- **Plant vines, shrubs, and trees**
 - provide cover, nesting areas, host plants, or food
- **Provide a water source,**
 - bird bath or small pond for wildlife.
- **Provide wildlife shelters**
 - bird house, bat house, brush pile, or a dead tree



Wildlife Butterflies

Why do butterflies visit a garden?

- **NECTAR**: the food that butterflies need to survive
- **HOST PLANTS**: the place where female butterflies will lay eggs and supply food for the emerging caterpillars.



On the Waterfront

- Whether you live on a stream, along a lake or have a stormwater pond in your development, there are important considerations for water quality and habitat protection.



On the Waterfront

Carolina Yard Actions

- **Remove invasive exotic aquatic plants.**
 - Prevent submerged and floating weeds from covering more than 15% of water surface
 - Never apply aquatic fertilizers or herbicides to community ponds or public waterways (only licensed professionals).
- **Establish a 10-30 foot “no fertilizer, no pesticide zone” along your shoreline.**



On the Waterfront

- **Shoreline Buffers**
 - trees, shrubs and perennials with deep root systems
- **Why use buffers?**
 - Stabilize shorelines
 - Prevent erosion
 - Trap pollution



On the Waterfront

Carolina Yard Actions

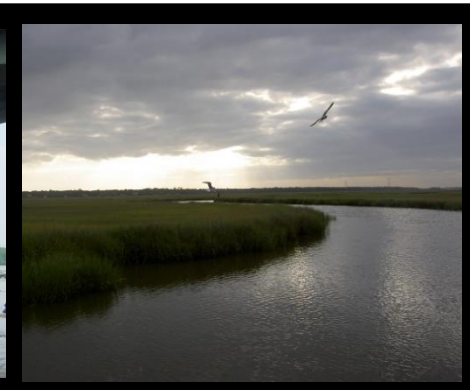
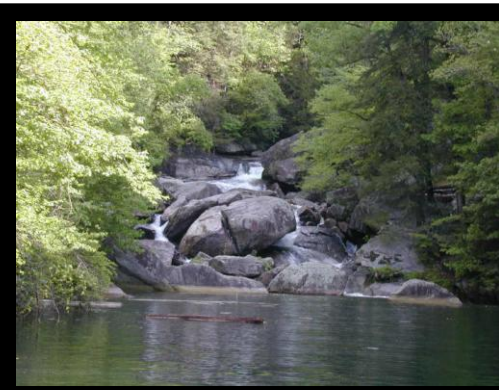


THE CAROLINA YARD

With a **Carolina Yard**, you win and so does South Carolina's environment.



You don't waste water, fertilizers or pesticides, and South Carolina's lakes, rivers, bays, and wildlife are better protected for future generations.



Recognizing Homeowners with a Carolina Yard

- Homeowners can use the form distributed (and online) to fax in their information and checklist to a Clemson Extension Agent.
 - This is a self-certification process – the honor system!
 - A certificate of award will be mailed.
- Certifications will last for a 5-year period, after which the homeowner can recertify if they still meet requirements.

Certified CAROLINA YARD

**This certificate recognizes the establishment and
maintenance of an official Carolina Yard**

Bill Blackston

This yard is certified through
Clemson Cooperative Extension's
Carolina Yards and Neighborhoods
Program. This owner's implementation
of the principles of environmental
landscape management
conserve and protect
South Carolina's
water resources.

Terasa M. Young
Natural Resource Agent



0001 Sample

CLEMSON
COOPERATIVE EXTENSION



CLEMSON
MASTER GARDENER

**Mailbox
Magnet
\$7.00**



**Yard
Sign
~ \$18.00**



**Garden
Stone**
~ \$35.00



**Engraved
Tile**
~ \$64.00



CLEMSON[®]
EXTENSION



THE CAROLINA YARDSTICK WORKBOOK



Does your yard measure up?

By following the simple steps inside this workbook you can save time and money, make your yard the best it can be, and protect South Carolina's environment.

CAROLINA
YARDS &
NEIGHBORHOODS

Midlands Carolina Yards Contest

*First 5 yards certified in
Richland County receive a
FREE CYN Mailbox Magnet!*

CERTIFIED

Carolina Yard

Environmentally Friendly Landscaping

www.clemson.edu/cyn



CLEMSON
COOPERATIVE EXTENSION

CLEMSON
MASTER GARDENER



*Also being offered in Sumter and
Lexington Counties*

Questions?

CERTIFIED

Carolina Yard

Environmentally Friendly Landscaping

www.clemson.edu/cyn



Mary Nevins: mnevins@clemson.edu, 803-865-1216

www.clemson.edu/carolinaclear/rcsc

www.facebook.com/midlandsstormwater





Backyard Landscaping Mini-Series

May 15, 2012

Managing Water in the Landscape

Slow it down, Soak it in - Low Impact Design

Mary Caflisch, Clemson Carolina Clear

Rain Gardens for Homes

Tom Falvey, South Carolina State Museum

