Building Greener Schools: Collaborative Effort on Stormwater Control

SC Water Resources Conference
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Goal

Develop and implement effective, outcomes-based stormwater education and outreach programs to meet federal requirements and satisfy local environmental and economic needs.
These municipalities encompass over 2,000 square miles of land with approximately 300,000 residents.
Education Providers

Coastal Carolina University’s Waccamaw Watershed Academy

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

Clemson University’s Carolina Clear Program

SC Sea Grant Extension Program

Waccamaw Riverkeeper®

Murrells Inlet 2007 & Beyond
Sustainability

We view environmental sustainability as one of the most important opportunities for both the future of our business, and the future of our world.

Our opportunity is to become a better company by looking at every facet of our business—from the products we offer to the energy we use—through the lens of sustainability.

Environment

Wal-Mart's environmental goals are simple and straightforward: to be supplied 100 percent by renewable energy; to create zero waste; and to sell products that sustain our natural resources and the environment.

Sustainable Value Networks

With the help of our Sustainable Value Networks, we are making progress toward our goals. Sustainable Value Networks bring together leaders inside of Wal-Mart along with leaders from supplier companies, environmental groups, academia and government to focus on everything from the energy we use in our stores to the packaging used on products.

Sustainability Goals

The steps we take to help us meet these goals are not only good for the environment—they are good for our business, too. For instance, by increasing the fuel efficiency of our trucks we will:

- Save money for our company.
- Contribute to a greener planet.

Think About This:

Wal-Mart's Acres for America program has permanently conserved 395,000 acres, more than three times the original goal of the program.

More Thoughts

Related Information

- Sustainability Fact Sheets
- Live Better Index - Sustainability
- Walmart.com/Green
- The Cleantech Accelerator Project
- Wal-Mart Expands Leadership On Energy Efficiency, Ethical Sourcing And Health Care

Related Resources

- Locally Grown Produce Fact Sheet - July 2008
- Ponce, Puerto Rico Sustainable City Green Challenge
Interesting Partnership

- County Stormwater Departments
- Local Schools
- Regional Wal-Mart

Coastal Waccamaw Stormwater Education Consortium

- Coordinate Construction
- Proposal Writing including Budget
- Construction
- Educational Resources & Presentations
- Assist with Installations & Press Releases
- Funding
- Community Demonstration
- On-site Field Experience
- Curriculum & Student Lessons Including Student Research
Rain Garden Schematic

Vegetation on Surface

EARTH FILL - Primarily Sand

Underdrain System

Runoff

Source: Bill Hunt, NCSU
How to Build a Rain Garden

Rain Garden Materials:
• 50 – 60% Sand
• 20 – 30% Top Soil
• 20 – 30% Compost
• Check native soil first!
• Native plants
• Dense-material mulch

➢ In well-drained, sandy soils ~ 20% of the drainage area or impervious area (rooftops, driveways, etc.)

➢ In poorly drained, loamy soils, 20% to 60% of impervious area

Source: Dan Hitchcock, Clemson University
The Final Product

Planting in June ‘06

1 Year Later – August ‘07
$14,000 from Wal-Mart for stormwater Best Management Practices (BMPs)
• Infiltration swale & bioretention cell with under drain systems
• Sand, compost, native SC plants, mulch and sod
• Educational & research equipment

Also served as media event to introduce stormwater BMP concept
Socastee High School
BMP Installation

Bioretention cell to collect roof runoff

Infiltration swale to improve drainage of athletic fields

Media returned for action shots and story
Fall ’08 More Schools

- Burgess Elementary – Horry Co.
- Conway High – Horry Co.
- Georgetown High – Georgetown Co.
- North Myrtle Beach (TBD) – Horry Co.
Educational Activities & Equipment

• Monitoring
  Water Quality – colorimeter; portable pH/conductivity meter;
  Rainfall/weather conditions - Davis Wireless Vantage Pro 2 Weather Station

• Habitat
  Bioassessment – magnifiers, insect nets

• Watersheds
  Land Uses & Effects – Enviroscape Model
Additional Educational Ideas

*The drain is just for the rain!*

- Install rain garden and/or rain barrels
- Plant shrubs and trees – vegetated buffers
- Storm drain stenciling
- River/beach sweeps
- Scoop the Poop! Campaign
Additional Funding Sources

- Captain Planet Foundation
- NSTA Toyota Tapestry Science Grants
- National Gardening Association (with Home Depot)
- Lowe’s Outdoor Schoolyard Grant Program
- US Environmental Protection Agency
- Palmetto Pride
For More Information

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