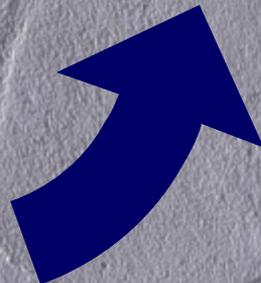


Creating Revenue-Generating Programs: *The Good, the Bad & the Ugly*

January 31, 2007

Cal Sawyer, Clemson University

USDA-CSREES National Water Conference
Savannah, GA



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The Landscape

- Natural resources always require further study, conservation, enhancement and protection
- Challenges from our respective administrations to create programs that are self-sustaining
- Citizenry or clientele that has finite resources
 - Time
 - Money
 - Interest
- Always increasing level of accountability



Overview



- Certified Erosion Prevention and Sediment Control Inspector
- Carolina Clear
 - Coastal Waccamaw Stormwater Education Consortium
- Certified Stormwater Plan Reviewer

What is CEPSCI?

- Certified Erosion Prevention and Sediment Control Inspector program
- Approved by the SC Department of Health and Environmental Control
- Administered by Clemson University



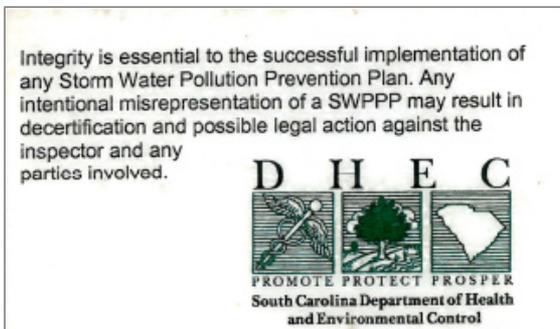
Why CEPSCI?

- Sediment major impairment of surface waters.
- Construction projects are a primary contributor.
- Revised NPDES Construction General Permit has additional requirements for:
 - Inspector certification
 - Inspection frequency
 - Reporting
- Education easier and less costly than enforcement actions (important to SCDOT).
- Increased enforcement in SC by local, state, and federal regulatory personnel.



Resources Required

- Materials
 - Notebook and handouts
 - Plan sheets
 - Qualifying exams and score sheets
- Web and database development/management
- Digital video production
- AV equipment
- Facilities
 - Appropriate room
 - Meals and breaks
- Instructor travel



Challenges

- Demand for CEPSCI has far exceeded original estimates
- Program audited by state legislative committee
- Recent pilot effort at instruction-testing consolidation did not meet expectations



Results

- 51 Training sessions held across the state with about 60 persons in each
- Over 2,900 individuals attended
- Approximately 2,400 people have taken qualifying exams
- Ten exam dates with up to three locations per date
 - Passing grade of 75% established
 - ~80% passing rate for examinees
- In December, CEPSCI received the Clemson Cooperative Extension Service 2006 Team Award for Outstanding Achievement

SOUTH CAROLINA



CEPSCI

**CERTIFIED EROSION
PREVENTION AND SEDIMENT
CONTROL INSPECTOR PROGRAM**









<http://www.ces.clemson.edu/t3s/cepsci>

Carolina Clear



Carolina Clear is a comprehensive education and outreach initiative designed to inform South Carolinians about the impacts of stormwater runoff

NPDES MS4 Phase II Stormwater Rules

- Public Education and Outreach
- Public Participation and Involvement
- Illicit Discharge Detection and Elimination
- Construction-Site Runoff Controls
- Post Construction Runoff Controls
- Pollution Prevention and Good Housekeeping

Why Carolina Clear?



- Polluted runoff is the #1 water quality problem in South Carolina
- 66% of our lakes, rivers and creeks are listed by DHEC as impaired
- New federal and state regulations require communities to begin storm water outreach and education programs for their citizens

Development Process

- Initiate contact with MS4
 - Coordinate meeting
 - Exchange information
 - Address scaled fee structure
- Obtain Memorandum of Understanding (MOU) between MS4 and Clemson University
 - Signifies intent of MS4 to use Clemson
 - Simple two-pager saying (generally):
 - Whereas CU has expertise and programs in education and the impact of stormwater on natural resources, and
 - Whereas _____ (MS4) has required control measures as part of a regulatory permit,
 - Therefore, be it resolved that _____ (MS4) intends to use CU to help satisfy the requirements of the permit



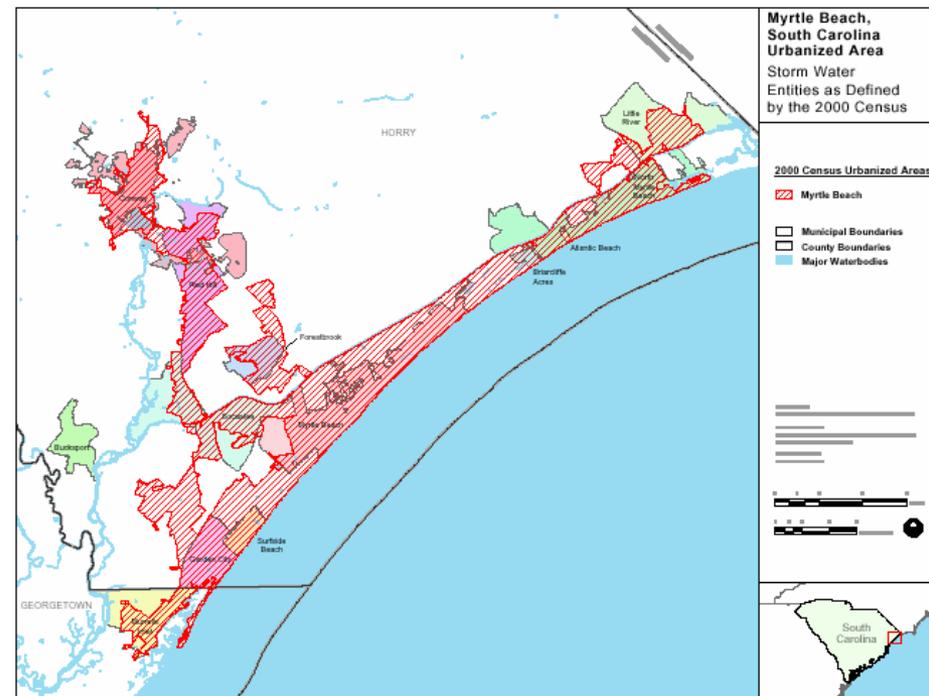
Development Process

- Negotiate Contract Between CU and MS4
 - Discuss deliverables
 - Discuss capabilities and limitations of county/regional staff
 - Examine time commitments
 - Establish Extension POC for MS4
 - Reconcile contract language with minimum permit requirements



Case Study - CWSEC

- Coastal Waccamaw Stormwater Education Consortium
- 1st Urbanized Area where CC is being implemented
 - Horry County
 - North Myrtle Beach
 - Atlantic Beach
 - Briarcliffe Acres
 - Myrtle Beach
 - Surfside Beach
 - Conway
 - Georgetown County



CWSEC Goal

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



CWSEC Education Providers



- Clemson University
- Coastal Carolina University's Waccamaw Watershed Academy
- North Inlet-Winyah Bay National Estuarine Research Reserve Coastal Training Program
- SC Sea Grant Extension Program

CWSEC Joint Resolution

- Signed June 1, 2005
- Press Conference



CWSEC Programs

- Stormwater Education Workshops (NEMO-style)
- Technical Workshops
- General Public
 - PSAs
 - Newspaper articles
- Homeowners
 - Master Gardener
 - Rain Garden Workshops



Carolina Clear Costs



Carolina Clear Rate Schedule

Carolina Clear Rates

Carolina Clear is a comprehensive program developed by Clemson University Cooperative Extension Service to inform and educate communities about water quality and the cumulative effects of stormwater. Carolina Clear addresses the special significance of South Carolina's water resources and the role they play in the state's economy, environmental health, and overall quality of life.

Development and implementation of Carolina Clear within regulated MS4s will have considerable costs. Community program development and delivery, mass media production and coordination, as well as collection, compilation and analysis of impact data will be just some of the tasks performed by the Carolina Clear team.

Because larger MS4s will have a higher level of cost associated with program implementation, a sliding rate schedule has been developed based on urbanized area (UA) listed in the 2000 US Census.

Rate Schedule

<u>Urbanized Area Population from 2000 Census</u>	<u>Annual Rate</u>
UA Population < 10,000	\$3,000
20,000 > UA Population > 10,000	\$8,000
35,000 > UA Population > 20,000	\$15,000
50,000 > UA Population > 35,000	\$25,000
UA Population > 50,000	\$35,000

Carolina Clear

- Sliding scale based on population
- Includes all elements indicated within contract
- Works better when multiple MS4s are involved
- CU reserves right to decline involvement

New Program - CSPR

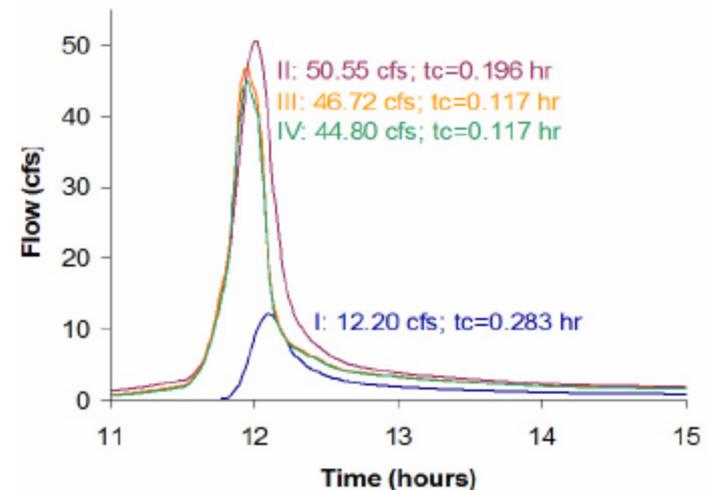


- Certified Stormwater Plan Reviewer
 - Provide an approved course at the request of DHEC

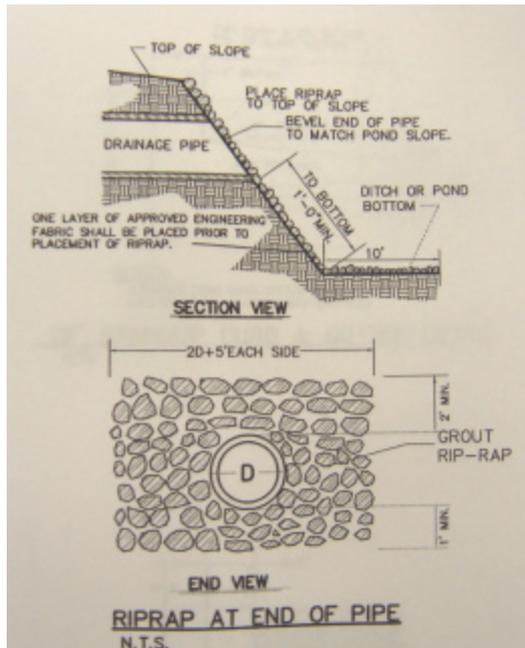
- DHEC regulation (SC-72-300) required that SW plans be reviewed by “certified” personnel
 - Last class they taught was 2000
 - 72-300 requires re-certification every 5 years
- DHEC had neither the resources nor the staff to administer any such program
- Since similar relationship existed for CEPSCI, DHEC approached Clemson

CSPR Agenda (2 day course)

- I. Introduction
- II. Stormwater Regulations & Checklist
- III. Design Requirements & Standards
- IV. Technical Background
- V. Land Development BMPs
- VI. Post-Construction Water Quality BMPs
- VII. Review of Checklist Items
- VIII. Review of Plan Details & Lab Exercise
- IX. Exam Overview



CSPR Results



- Only three (3) courses taught to date
- Average 30 people per class
- Evaluations were mostly positive
 - Modify several elements
 - Add one (1) additional element
- Big September 1, 2007 deadline approaching fast

Challenges

$$V = \frac{1.49}{n} R^{2/3} S^{1/2}$$

$$R = \frac{bd + Zd^2}{b + 2d\sqrt{Z^2 + 1}}$$

$$Q = 2.5 \tan(\mathbf{q}/2) H^{2.5}$$

- Requires more teaching personnel
- A more educated audience with higher expectations
- Adds another:
 - Database
 - web site
 - qualifying exam
- More “duties to be assigned later”!

Conclusions

- Develop programs based on demonstrated or anticipated needs
- If required, secure modest underwriting or seed money until full implementation
- Establish justifiable and fair fee structure
- Keep good records
- Evaluate everything and be prepared to change course if necessary

\$ is good!!



Questions?

