WATERSHED EDUCATION FOR COMMUNITIES AND LOCAL OFFICIALS

Currents

WINTER/SPRING 1999

The Newsletter for the White Oak River Basin

Welcome

Welcome to the premiere issue of CURRENTS — the official White Oak River Basin newsletter. This biannual newsletter will focus on various projects designed to improve water quality through research, demonstration and education. North Carolina has been blessed with wonderful coastal resources. This newsletter will highlight the efforts the North Carolina Cooperative Extension Service and North Carolina State University in protecting and enhancing these resources. It will also show the importance of partnering with other agencies and universities to accomplish that goal.

This first newsletter serves as a summary, a snapshot of sorts. Each of the projects listed is equally important and will be discussed in much more detail in future editions of CURRENTS. We hope this newsletter format provides valuable, easy-to-read information about the research, demonstration and education activities underway in the White Oak River Basin.

Ray Harris,
Carteret County Extension Director
Minton Small,
Jones County Extension Director
Daniel Shaw,
Onslow County Extension Director

WECO focuses on educating local citizens and officials on pertinent water quality issues.

WECO

Project

Watershed Education for Communities and Local Officials (WECO)

Goals

To investigate water quality problems in the watershed, educate local officials and citizens about water quality issues and then review and evaluate policy options available to local and state governments to improve water quality.

Summary

The White Oak River Watershed Advisory Board is the first sponsored effort of WECO. They are currently investigating shellfish closures in the White Oak River. They will work to reach a consensus and then make recommendations to the county commissioners of Carteret, and Jones, Onslow Counties.

Cooperators

- ❑ Citizens of Onslow, Carteret, and Jones Counties
- ❑ North Carolina Cooperative Extension Service
- ❑ North Carolina State University
- ❑ North Carolina Division of Coastal Management
- ❑ North Carolina Division of Water Quality
- ❑ Croatan National Forest
- ❑ North Carolina Department of Transportation

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Funding Agency

United States Department of Agriculture (USDA)

EPA 319 BMP Demonstration Project

Citizens learn about best management practices (BMPs) to improve water quality.

Project

White Oak BMP Demonstration Project

Goal

To quantify and demonstrate the effectiveness of BMPs to mitigate impact from water-transported pollutants.

Summary

Techniques to be tested and demonstrated include bio-retention, streambank stabilization, livestock trails, nutrient management, constructed wetlands, storm drain stenciling and livestock exclusion.

Cooperators

- ❑ Citizens of Carteret, Jones and Onslow Counties
- ❑ North Carolina Cooperative Extension Service — Carteret, Jones and Onslow Centers
- ❑ North Carolina State University
- ❑ North Carolina Department of Environment and Natural Resources — Shellfish Sanitation Section, Divisions of Water Quality, Coastal Management, Soil and Water Conservation
- ❑ Carteret-Craven Electric Cooperative
- ❑ Town of Jacksonville
- ❑ Duke Marine Laboratory
- ❑ Open Grounds Farms

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Funding Agencies

EPA 319; North Carolina Department of Environment and Natural Resources—Nonpoint Source Management Program

Shellfish Restoration Project

Private citizens are cooperating with NC State researchers by providng access to areas in Jumping Run Creek .

Project

Jumping Run Creek Shellfish Restoration

Goal

To reduce the number of closure days in the shellfish resource at the mouth of the creek.

Summary

More than a year's worth of data has been collected to document the levels of bacteria, nutrients and sediment in the creek. Also, time, travel and flow studies have been performed to determine volume and speed of the water in the system.

Cooperators

- ❑ Citizens of Carteret County
- ❑ North Carolina Cooperative Extension Service — Carteret Center
- ❑ North Carolina State University
- ❑ North Carolina Department of Environment and Natural Resources — Shellfish Sanitation Section (Division of Water Quality—Wetlands Restoration Program, Division of Coastal Management)
- ❑ Carteret-Craven Electric Cooperative
- ❑ Duke Marine Laboratory

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Funding Agencies

EPA 319; North Carolina Department of Environment and Natural Resources—Nonpoint Source Management Program; North Carolina Clean Water Management Trust Fund

EPA 319 Project

Tidal marshlands, characteristic of coastal river systems, will be studied to enhance shellfish resources.

Project

Bear Creek EPA 319 project

Goal

To implement best management practices (BMPs) to reduce bacterial loading in the Bear Creek Watershed.

Summary

The Bear Creek project involves water quality monitoring, BMP implementation, field trips and educational visits to demonstrate the BMPs and observe changes in water quality.

Cooperators

- ❑ North Carolina Cooperative Extension Service — Onslow Center
- ❑ North Carolina State University
- ❑ North Carolina Department of Transportation
- ❑ North Carolina Department of Environment and Natural Resources— Shellfish Sanitation Section
- ❑ Local Soil and Water Conservation District
- ❑ Camp Lejeune Marine Corps Base
- ❑ Duke Marine Lab
- ❑ Division of Forest Resources

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Funding Agencies

EPA 319; North Carolina Department of Environment and Natural Resources—Nonpoint Source Management Program

Project Research Sites

The research sites in the White Oak River Basin were chosen because they represent all types of land use in the coastal area. Researchers are working to identify science-based solutions that can be implemented effectively.

Demonstrating effective erosion control is a major goal of the Camp Mitchell Project.

Site

Mitchell 4-H Camp, Swansboro

Goal

To show Southeastern North Carolina residents methods they can use on their own properties to help improve quality.

Summary

Located on the eastern shore of Queens Creek, Camp Mitchell serves as an environmental education center for Neuse River Basin and Southeastern North Carolina residents. Various demonstrations show simple methods for controlling erosion and improving the quality of runoff water.

Cooperators

- ❑ North Carolina Cooperative Extension Service — Onslow Center
- ❑ North Carolina State University

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Project Research Sites *(continued)*

Sampling streams, like the one pictured above, is an important part of educating local citizens and officials.

Site

Wilson Bay

Goal

To involve residents and officials in the City of Jacksonville in the improvement of water quality in Wilson Bay.

Summary

Water quality in Wilson Bay is poor. High levels of nutrients, low oxygen and high bacteria counts plague this resource. Background information is being collected to determine the amounts and types of pollutants.

Funding Agencies

- ❑ Environmental Protection Agency 319
- ❑ North Carolina Department of Environment and Natural Resources — Nonpoint Source Management Program

Cooperators

- ❑ North Carolina Cooperative Extension Service — Onslow Center
- ❑ North Carolina State University
- ❑ Citizens of the City of Jacksonville
- ❑ Camp Lejeune.

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Duke scientist Bill Kirby Smith studies data at a controlled-drainage structure.

Site

Research at Open Grounds Farm

Goal

To examine the effects of agricultural water management systems on nutrients, soils and fecal coliform bacteria.

Summary

Open Grounds Farm, a 44,000 acre farm in Carteret County, has been cooperating with university scientists in agricultural and environmental research for over 20 years. Water management systems installed and studied for the recent 319 project include a restored wetland, a rock dam, a flashboard riser and grass buffer strips.

Funding Agencies

- ❑ Environmental Protection Agency 319
- ❑ North Carolina Clean Water Management Trust Fund

Cooperators

- ❑ Open Grounds Farm, Duke University Marine Lab
- ❑ North Carolina Cooperative Extension Service
- ❑ North Carolina State University
- ❑ University of North Carolina — Institute of Marine Sciences

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This publication is supported in part by the U.S. Department of Agriculture, CSREES, under special project number 97-EWQI-1-0150 .

W99 35683—2/99