

Additional Accomplishments

Wildfire Response

The NCDFR water quality and non-point source unit staff served critical roles for out-of-state wildfire assignments throughout the year, thanks to North Carolina's relatively calm wildfire and hurricane season. North Carolina routinely assists other state forestry agencies during critical fire outbreaks as reciprocal mutual aid.

Our staff participated as:

- Fire Prevention Team Leader for the Wichita Mountains National Wildlife Refuge in Oklahoma
- Public Information Officer for the Texas Forest Service
- Initial attack hand-crew firefighter on the "Shake Table Complex" fire in Oregon
- Planning Section Chief on the "Caddo II" fire in Texas
- Situation Unit Leader during the 2005-2006 winter wildfire outbreak in Oklahoma



River Basin Forestry Facts

We provide forestry statistics and information for each of the 17 river basins in North Carolina to our sister agency, the Division of Water Quality (DWQ) for its Basinwide Water Quality Plans. Each year, the DWQ revises several of these Basinwide Plans. This year we compiled forestry information on these river basins:



Hiwassee	Little Tennessee	Neuse	Pasquotank
<p>Timberland Ownership: 50% Private 50% Public</p> <ul style="list-style-type: none"> • 90% FPG compliance • 213 FPG water quality inspections • 1,300 acres reforested • 300 management plans 	<p>Timberland Ownership: 52% Private 48% Public</p> <ul style="list-style-type: none"> • 87% FPG compliance • 349 FPG water quality inspections • 800 acres reforested • 600 management plans 	<p>Timberland Ownership: 77% Private 13% Public 10% Industry</p> <ul style="list-style-type: none"> • 99% FPG compliance • 5,832 FPG water quality inspections • 106,500 acres reforested • 7,580 management plans 	<p>Timberland Ownership: 44% Private 43% Public 13% Industry</p> <ul style="list-style-type: none"> • 97% FPG compliance • 916 FPG water quality inspections • 22,362 acres reforested • 368 management plans

2006 Financial and Operating Partners



Our Goals for 2007:

- ✓ Rollout the new & improved, revised Forestry BMP Manual and Quick Reference Field Guide
- ✓ Complete Phase II of our stream restoration along Purlear Creek, which will be among the highest gradient restorations in the state
- ✓ Finish data collection for Round 2 of our periodic statewide BMP Implementation Survey of active logging sites
- ✓ Stabilize and restore the shoreline of the Little River below Hooker Falls on DuPont State Forest
- ✓ Collect the first year of baseline watershed monitoring data for our BMP Effectiveness Study
- ✓ Construct the NPS Education Pavilion and River Basin Observation Dock at Clemmons Educational State Forest
- ✓ Install BMP Demonstration Exhibits at Rendezvous Mountain Educational State Forest and DuPont State Forest
- ✓ Acquire additional replacement bridgemats to insure statewide availability for customer use and stream protection



Michael F. Easley
Governor

For updates, visit the "Water Quality Newsdesk" on our Web site: www.dfr.state.nc.us where you can also sign up on the 'ForestryNPS' e-mail list

1,000 copies of this public document were printed at a cost of \$ 885.26 or .88 each
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William G. Ross Jr.
Secretary

2006 YEAR IN REVIEW

Success Stories & Accomplishments



North Carolina Division of Forest Resources Non-Point Source Unit and Water Quality Program



2000-2003 Best Management Practices (BMP) Implementation Survey Final Report

Results of our comprehensive statewide BMP survey of 565 active logging sites are detailed in our Final Report, which was released in early-2006.

This survey followed protocols defined by the USDA-Forest Service and Southern Group of State Foresters. A sample of average BMP implementation rates published in the Final Report include:

- 82% Statewide average
- 87% Piedmont region
- 85% Coastal plain region
- 69% Mountains region
- 84% Implementation by trained loggers
- 77% Implementation by un-trained loggers

In 2006, we started Round 2 of this statewide survey to begin evaluating trends in BMP usage during forestry operations. We are evaluating 200 sites over the 1-year duration of this latest survey.

New Tree Planting Guide for Stream and Wetland Restorations

Millions of dollars have been spent on stream and wetland restorations across North Carolina. Success of each project should not simply be measured according to what was engineered within the stream channel, but also by the growth of new greenery alongside the channel!

The Forestry Non-Point Source Unit assisted the Division's Nursery & Tree Improvement Program in developing a reference guide with time-tested, effective and reasonable recommendations for planting tree seedlings in riparian and wetland areas of North Carolina.



This new Pocket Guide was unveiled at the North Carolina Stream Restoration Institute Conference in Charlotte during October and it proved to be a smashing success, with nearly 400 copies given away to conference attendees!



NONPOINT SOURCE
MANAGEMENT PROGRAM
Section 319(h) of the Clean Water Act
319 GRANT



www.dfr.state.nc.us



North Carolina
Non-point Source
Program

We are committed to protecting the state's forest resources so they can continue to produce the best quality water for the benefit of our health, environment and economy.

The Division of Forest Resources Water Quality and Non-Point Source programs work together with our partners to protect and restore water quality while educating citizens about how we all can meet society's needs for healthy forests.

Education & Technical Assistance

Information, Education and Outreach

- Neuse River Day in New Bern for the 5th year
- North Carolina's Mountain State Fair
- From January to October 2006, we counted almost 44,700 visits to water quality topics on our Web site www.dfr.state.nc.us.
- 135 students participated with the rollout of our NPS Educational Module I Workbook at Clemmons Educational State Forest in Johnston County.



Education Ranger Kevin Pittman assists a student collecting aquatic insects from the pond at Clemmons ESF during a school class that was using our NPS Educational Module I Workbook.

"BMPs for Logging Skid Trails" Training Video

- Released our latest BMP training video in July.
- Incorporated as part of the North Carolina ProLogger Program's annual continuing education module.
- Anticipated audience of over 1,500 logging and forestry professionals statewide through ProLogger.
- Distributed nearly 200 copies across western North Carolina, where studies have shown that skid trails can be an erosion problem if not correctly managed.



BMP Effectiveness Monitoring Watershed Study

- Two new partnerships forged this year:
 - N.C. Department of Agriculture & Consumer Services
 - NCSU Department of Forestry & Environmental Resources
- They are providing areas of their forestlands for our 5-year paired-watershed BMP Effectiveness Monitoring Study.
- Technical oversight and peer-review provided by the USDA-Forest Service Southern Global Change Program.
- Funding from a USEPA Section 319 Grant.
- Purchase and installation of stream monitoring equipment is planned to begin in December 2006.

Water Quality Foresters and Field Staff*

Our ten Water Quality Foresters and statewide field staff assist with planning, implementing and monitoring Best Management Practices to supplement the work required to the meet the minimum standards outlined in the state's Forest Practices Guidelines Related to Water Quality regulations.

- >> 4,062 FPG inspections conducted
- >> 119 preharvest plans developed
- >> 263,228 acres of BMPs implemented, recommended or observed
- >> 95% compliance
- >> 6 referrals for enforcement

* Figures cited are for state fiscal year (June 2005 through July 2006)

WATERS Technical Assistance

- Through our internal Water Resources Assessment and Technical Response Support process (known as WATERS), we:
- Compiled a comprehensive Petroleum Displacement Plan for the Division in an effort to reduce the consumption of petroleum fuel products statewide.
 - Secured federal and state water quality permits for emergency repairs to the Holmes Educational State Forest drinking-water supply line which crosses a trout stream in Henderson County.

Water Quality Program Audit Review

In January we hosted a 4-person audit review team that included the USDA-Forest Service Southern Region and a water quality forester of three different state forestry agencies from across the South.

These voluntary audit reviews are part of the Southern Group of State Foresters' and USDA-Forest Service's commitment to excellence in water quality program delivery. All of the 13 southern states have participated.

The review evaluates 9 key elements on how each state forestry agency addresses Best Management Practices (BMP) implementation, effectiveness and education.

North Carolina's program rated high praise in the review team's report: "The NCDFR is commended for placing such high priority on building and operating a highly professional water quality program. The number of staff dedicated to the subject is unmatched in the South, and their high quality and dedication clearly reflect the value placed on the program by the State Forester and the rest of the state's leaders."

Bridgemat Brochure

- Updated and reprinted 15,000 copies of our popular informational brochure.
- Outlines the proper use of portable bridgemats for establishing temporary crossings over streams and ditches.
- This third printing of the brochure incorporates steel bridgemats in addition to wooden timber mats.
- Reformatted for improved field use.



Protection

Bridgemat Education and Protection Project

Bridgemats are portable wooden or steel panels used by loggers to protect streams at temporary crossings. We loan bridgemats to loggers on a first-come, first-served basis to help protect the state's water resources. As a direct result of our successful ongoing bridgemat project, similar efforts have been established by the state forestry agencies in Florida and Virginia, and are being pursued in Georgia and Tennessee. North Carolina's nationally-recognized bridgemat project leads the way in promoting efficient and effective stream crossings that helps keep our streams free from sediment and debris.

Through October 2006, we had protected 59 stream crossings during 44 loan events that accessed over 1,100 acres of timberland in North Carolina.

In 2006 we deployed these three newly acquired sets of wooden timber bridgemats across two of our mountain Districts. The mats are seen here staged for assignment shortly after delivery from the manufacturer.



Restoration

Wow! 2006 marked the first completion of stream restoration work in the history of the Division! The 1st phase of our Purlear Creek project at Rendezvous Mountain Educational State Forest claims this honor.

Phase I Purlear Creek Project Vitals

- 600 feet of stream relocated and reconnected to the floodplain.
- Over three-dozen log cross-veins installed to mimic natural step-pools.
- New, larger-sized road culvert installed.
- Transplanted over 100 shrubs, trees and plants.
- Almost one-half acre of wetland created.
- Twenty-five attendees at a stream restoration contractor workshop hosted on-site during construction.
- Phase I construction services by



Upstream view of newly-installed culvert, log veins and rootwads a few days after installation.



Restored stream 2.5 months after completion.

Visit our Web site to view a before & after slideshow of photos for Phase I: www.dfr.state.nc.us/water_quality/wq_purlear.htm

What's Going on at Hooker Falls and the Little River?!

This frequently visited waterfall at DuPont State Forest was showcased on the cover of our 2004 Year in Review. After sustaining heavy blows from intense floods over the last few years, we obtained the services of Mulkey Engineers and Consultants during 2006. They will help us to develop and execute a plan that will allow the public to once again appreciate the beauty of Hooker Falls, while promoting improved water quality with the implementation of erosion control and shoreline stabilization.



By the end of 2007, the right bank of the Little River shoreline below Hooker Falls will be stabilized and protected from further damage.