

YEAR IN REVIEW 2017



Success Stories & Accomplishments

North Carolina Forest Service, Nonpoint Source & Water Quality programs

BMP Implementation Assessments on Logging Sites

Four Year Assessment of Forestry Best Management Practices (BMPs)

Findings show an 84 percent statewide average implementation performance rate. Nearly 100 percent of the time, water quality risk was prevented by using forestry BMPs.

Study Highlights:

- ✓ Evaluated 204 sites in 94 of the state's 100 counties from 2012 to 2016.
- ✓ Assessed 28,491 BMP implementation opportunities across North Carolina.
- ✓ Statewide, the average effective width of protective buffer zones along perennial streams was about 30 feet.
- ✓ Overall BMP implementation minimized soil disturbance during timber harvests.
- ✓ Portable, temporary bridgemats appeared most effective in protecting water quality when crossing streams.
- ✓ Our use of technology improved the study's workflow efficiency, data management and analysis of results.

Forestry BMPs are the recognized non-regulatory approach to achieving state and federal water quality standards. Every 5 to 6 years, the North Carolina Forest Service evaluates data from logging operations to assess the degree to which BMPs are being used and how they are functioning. The report of findings will be completed in early 2018 and published at ncforestservice.gov, along with a story map of the study.

This type of BMP implementation monitoring survey is conducted by each of the southern states following an established framework adopted by the Southern Group of State Foresters. North Carolina's results will be included in the next south-wide regional summary report, also due to be published in 2018.



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Education, Outreach & Training

In 2017, our focus was on training, education and outreach for both external audiences as well as with N.C. Forest Service employees.

- Completed a multi-year revision to update the N.C. Forest Service Water Quality Program's operating policies to improve customer service consistency and efficiencies. Several roll-out training sessions were held for N.C. Forest Service personnel to highlight notable revisions.
- Our agency's highly-regarded Ranger Training Program was updated to incorporate a full chapter and exam exclusively on water quality rules and BMPs. This new chapter was taught to a large class of 40 rangers.
- Conducted a series of seven water quality refresher workshops around the state (details on the next page).
- We partnered with the USDA-Forest Service and the Extension Forestry Department of N.C. State University to host the Bottomland & Swamp Forests Symposium in Wilmington. This event drew approximately 150 attendees and guest speakers from across the southern U.S. (details below).
- We continued our partnership with the N.C. ProLogger Program to provide training for new loggers; as well as our partnership with local colleges to instruct students on forestry, water quality and timber harvesting logistics.

Bottomland & Swamp Forest Silviculture Symposium

This symposium was the crowning achievement of a grant allocated by the USDA-Forest Service to examine the regeneration of forests in bottomland swamps that typically have deep mucky soils and standing water through much of the year. The event included bottomland forest experts from across the south who spoke on their work, as well as a full-day field tour of multiple examples of these important forest systems. A summary of the presentations, poster abstracts and speaker bios is available at the symposium's website, <http://go.ncsu.edu/bottomland-symposium>.



Four field tour stops and attendees at the Bottomland and Swamp Forests Symposium field tour, November 2017.

Education, Outreach & Training Continued

Water Quality Refresher Workshop Series

We conducted seven workshops across the state, reaching a total audience of approximately 280 forestry, water quality, and natural resources professionals. Topics included a summary of the water quality rules governing forestry, BMPs for forest roads and stream crossings, highlights of recent forestry BMP research, how to stabilize a logging job, understanding the relationships between forests and watersheds, how to identify streams, and a demonstration of the Forest Preharvest Planning Tool. Presentations from these workshops can be viewed or downloaded from the Water Quality homepage via the “Programs and Services” section of our agency website, ncforestservice.gov.



Attendees at the water quality workshop held in Yadkinville, March 2017.



Attendees at the water quality workshop held in Kenansville, May 2017.

Other Training, Education & Outreach

Notable events that included a significant contribution of information on BMPs, water quality, or forest watersheds:

- 155 loggers through the N.C. ProLogger Program.
- 23 college students from N.C. State University and Wayne Community College.
- 27 Boy Scouts through N.C. State University’s Boy Scout Merit Badge College.
- 97 high school students in the annual Resource Conservation Workshop at Clemmons Educational State Forest.
- 35 employees from the U.S. Army Corps of Engineers at their statewide programs update workshop.
- 29 attendees of the state’s Surface Water Identification and Training Certification Course.
- 157 natural resource professionals through N.C. Wildlife Resources Commission’s Wildlife Action Plan Workshops.
- Presented a poster on the costs of BMP materials at the 19th Biennial Southern Silviculture Research Conference.
- Participated in a special session on forested wetlands during the annual southern regional meeting of the National Council for Air and Stream Improvement.
- Contributed to the Water Resources Committee at the annual meeting of the Southern Group of State Foresters.
- Attended the annual conference of the North Carolina Water Resources Research Institute.



Marion ProLogger Base Course Group, October 2017 (Photo credit: Chris Brown, N.C. Forestry Association)

Free Online Forestry Preharvest Planning Tool

This past year was the first full-year rollout of this new free online tool that was developed by the N.C. Forest Service and the N.C. Department of Agriculture & Consumer Services. This tool allows a user to observe maps, aerial images, soil survey information specific to forestry, and species of special concern. The user can prepare their own pre-harvest map, draw specific land features (such as roads, utility lines, and skid trails) and add icons to represent the locations where forestry BMPs may be needed. While there is no fee to use the tool, users must first register and create an account. The Forest Preharvest Planning Tool (FPPT), including how-to user guides, is available at this website: http://ncforestservice.gov/water_quality/fppt.htm



Water Quality and Erosion & Sediment Control Site Inspections

For the state Fiscal Year of July 2016 through June 2017, the following results were observed by the North Carolina Forest Service while conducting inspections of forestry-related, land-disturbing activities to determine compliance with the standards of the Forest Practice Guidelines Related to Water Quality ("FPGs": 02 NCAC 60C .0100 to .0209), as part of the N.C. Sedimentation Pollution Control Act.

Type of Operation	In-Compliance	Out-of-Compliance	Total
Timber Harvest: Active	2,014	43	2,057
Timber Harvest: Completed	859	21	880
Reforestation and Site Prep	145	0	145
Other*	165	0	165
Total	3,183	64	3,247

* Other activities include silvicultural management practices such as: precommercial thinning, crop-tree release, herbicide or fertilizer application, prescribed burning or forest road construction not associated with a timber harvest.

Bridgemats

For 20 years, the N.C. Forest Service has provided portable, temporary bridgemats to loggers as an 'in-woods' demonstration project to show how well they can protect water quality on stream or ditch crossings. During this past year, our bridgemats were used on 33 logging jobs, to protect 45 water crossings, and provided access to an estimated 1,875 acres of timber for harvesting. Bridgemats were also used for an emergency response purpose this past November. NCFCS delivered a set of bridgemats to a western North Carolina community cut off from a storm-induced bridge failure. Next year, we will produce a status report on this project, to supplement the previous report that was produced in 2009. That report, as well as a list of bridgemat suppliers, is available from the Water Quality homepage of the "Programs and Services" section of the ncforestservice.gov website.

Partners and Cooperators



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