

# YEAR IN REVIEW 2015



Success Stories & Accomplishments

North Carolina Forest Service, Nonpoint Source & Water Quality programs

## Interagency Partnership Supports Watershed Improvements

In mid-2015 a major stream restoration project began on “The Canal” (yes it’s really named that on the map) located at the Claridge State Forest Tree Nursery in Wayne County. This restoration project is funded and managed by the N.C. Department of Transportation as compensatory mitigation for impacts that resulted from construction of the new U.S. Highway 70 Bypass.

- An estimated 7,200 cubic yards of soil will be graded.
- A new lower-elevation floodplain will be created, allowing high water to flow out of the banks during storms, thus potentially reducing flood impacts downstream.
- The straight-line canal and a feeder ditch will be replaced with a new channel of a more naturally-curving form.
- Restoration will conclude in 2016. Thousands of trees and shrubs will be planted along the newly restored riparian zone.

So, as you make a trip along this new section of U.S. 70 and breeze across the long causeway bridge over the Little River, you can know that the N.C. Forest Service is doing its part to support our state’s transportation infrastructure needs.



**Left photo** of The Canal in 2014 before restoration. There was very little functioning riparian zone or floodplain.

**Right photo** of the same section of The Canal in 2015, viewed from the opposite end, soon after channel reconfiguration. A lowered floodplain allows water to naturally spill out during high flow.



[ncforestservice.gov](http://ncforestservice.gov)  
[www.buynctrees.com](http://www.buynctrees.com)



# Education, Outreach & Training

Several educational outreach products were developed, including new exhibits for N.C. Forest Service employees to use across the state. Look for these next time you visit a State Forest, or see the Forest Service set-up at a civic event.

## Is the Stream on Your Farm Washing Away?



**Planting Trees Can Help.**

**What's Wrong With These Photos?**

- Runoff from the pasture/field is uncontrolled.
- Stream banks are unstable and eroding.
- Soil is more likely to wash into the stream, causing pollution.
- Productive land can be lost.
- If you only leave one or two individual trees, they are more prone to uprooting from wind, snow or ice, causing more stream bank damage.
- Minimal habitat for birds, wildlife and beneficial pollinators.



## Establish Trees, Shrubs or Native Grass Along Your Stream



**How Is This Better?**

- Stream banks are stable.
- Research has shown that trees, shrubs or natural grass along streams can filter-out sediment and excess nutrients.
- Birds, wildlife and pollinators have shelter, nesting and food.
- Low-cost, low-maintenance, low-risk, high-reward.
- Even a narrow conservation strip along the stream will help... It does not need to be excessively wide
- Trees do not need to be tall: shorter trees can minimize shading over crops, and are less likely to get blown-over from wind storms.

*Examples of trees growing from an area that was once a stream bank. Stream banks are the best places to plant trees to stabilize stream banks and improve water quality.*




## The North Carolina Forest Service Can Help



- We cultivate and sell a diversity of seedlings that are native to North Carolina: **1-888-NGTREES or www.buyncstrees.com**. Pines, hardwoods, cypress, cedar, and bunch-grasses.
- We have a free pocket guide on how to select and plant trees along streams and wetlands.
- We can loan tree planting tools\* and demonstrate correct planting methods.
- We can develop a customized tree-planting plan.\*
- We can provide information on tree planting contractors.

**\* A Service Fee May Be Required**



## Wetland Forests: Where Trees Meet The Water

Wetlands can be an important source of timber for the paper, wood, and energy needs that we all have. Many different types of trees can grow in wetlands: pine, hardwood, cypress, and cedar.

Because many of the other, upland areas in our state have already been taken for farms, homes, roads, schools, and businesses, sometimes the only places that are left to grow timber is in the wetlands. This means that wetlands may become an even more important source of timber in the future: so many of the pine, cypress, and hardwood trees that are harvested in the wetlands are planted by people who want to live in North Carolina.

Caring and removing timber from wetlands is often done using specialized methods, and requires a lot of skill from an experienced logger. Special procedures should be taken to protect the soil and water in the wetland when timber is harvested. These procedures are called Best Management Practices. Foresters call them BMPs.




## Wetlands: More Than Just A Swamp

Wetlands attract birds, fish, water, and are an important place where the land meets water.

Wetlands are special because many trees, shrubs, and plants grow there that you can't find anywhere else. Some plants and animals are specially adapted to live in wetlands because of the special soil between rain and the conditions.

We are lucky to have many different types of wetlands in North Carolina. Each type of wetland serves a unique function. But just as different, we have many different types of wetlands because of the differences in soil, topography, and climate from the mountains to the coast.

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### Notable Outreach Events with NCFS Participation:

(Estimated number of attendees shown in parentheses)

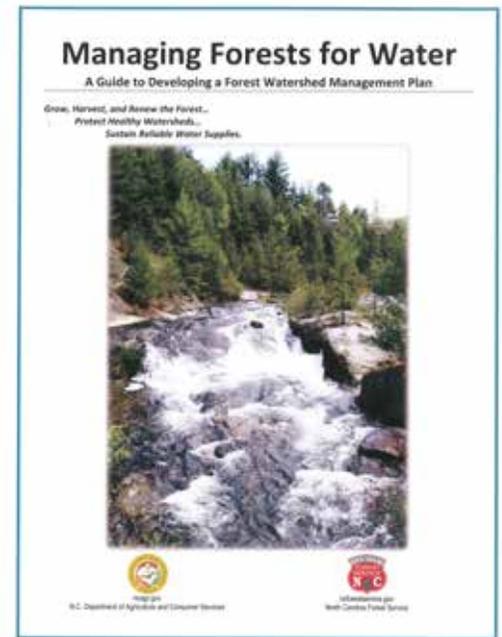
- 5th Interagency Conference for Research in Watersheds (300)
- 2015 Annual Conference of the N.C. Water Resources Research Institute (250)
- 2015 Mid-Atlantic Logging & Biomass Equipment Expo (3,500)
- 2015 Resource Conservation Workshop for high school students (90)
- 2015 Southern Farm Show (thousands!)
- 2015 State EnviroThon, serving as an expert judge to review the final entrant teams
- Trained 132 loggers at North Carolina ProLogger workshops
- Instructed 52 forestry college students on harvest planning and forestry Best Management Practices (BMPs)

# Forests & Watersheds

In 2015 the N.C. Forest Service developed and published “**Managing Forests for Water**” as a guide for developing a forest watershed management plan. There is a lot of interest among foresters and water system managers in understanding the interconnection between forests and water supply watersheds.

This 15-page guide briefly summarizes some of the research on this topic. It then outlines how a forest watershed management plan could be developed to focus on water resources, while still accommodating the traditional goals of timber, wildlife and personal recreation.

A forest need not be preserved in order to maximize watershed protection. Silviculture and forest management can be compatible with watershed protection when you use BMPs (Best Management Practices).



***Remember: Healthy Forests = Clean Water!***



## Stream Restoration

An initial round of funding was awarded by the N.C. Clean Water Management Trust Fund to restore an estimated 1,400 feet of the Linville River in Avery County at the NCFS Mountain Training Facility. Planning for this large-scale restoration project will occur in 2016, with expected work to begin in 2017.

*Photo of the Linville River. The road crossing and island will be removed to create a new channel and enhance fish habitat.*

## Compliance Inspections

Results from statewide FPG inspections in state fiscal year 2014-2015:

(FPG = N.C. Forest Practices Guidelines Related to Water Quality, rule 02 NCAC 60C .0100 - .0209)

- 4,047: Number of forestry sites inspected for compliance with the FPG standards
- 3,518: Number of re-inspections
- 98%: Statewide average FPG compliance rate
- 62: Number of inspected sites that were not-in-compliance upon initial inspection
- 115: Number of sites inspected as a result of receiving a complaint
- 19: Number of complaint sites that were not-in-compliance upon initial inspection
- 2: Number of cases that were referred for enforcement of a FPG non-compliance

# Bridgemats

The N.C. Forest Service allows loggers to borrow agency-owned portable steel bridgemats for establishing temporary stream or ditch crossings. This effort is intended to demonstrate their value in protecting water quality when compared with other stream crossing methods. During 2015, the NCFS bridgemats were deployed on 44 logging jobs, to protect 65 crossings, and provided access to an estimated 2,600 acres of timber harvest.

Many loggers and timber buyers now have their own bridgemats, as seen in this photo of long bridgemats owned by a logger in central North Carolina. We feel that our outreach and demonstration project has led to more loggers buying or building their own bridgemats over the past decade.



In sharing our success story with other state forestry agencies, it has become clear that North Carolina leads the South in the use of bridgemats as a low-impact, low-risk stream crossing method for logging.

## Technical Assistance

### A few examples of assistance provided by N.C. Forest Service staff in 2015:

**Washington County:** Visited and assessed a tract for a woodland owner who requested information about constructing a permanent stream crossing and improving about 500 feet of an old road in a wetland for accessing his timber.

**Statewide:** Analyzed the proposed changes to the federal definition of “waters of the U.S.” to determine potential implications for forestry. Prepared and shared summaries with forestry leaders in North Carolina, and for state forestry agencies across the Southern region of the U.S. On October 8, 2015 this proposed rules change was halted by a federal judge. The final outcome remains to be determined.

**Statewide:** Completed another year of Forestry BMP Implementation Monitoring, to assess the degree to which forestry BMPs are being used, and how they are functioning. So far we have conducted detailed assessments on 147 sites, and expect to complete this study in 2016.

### Partners and Cooperators



Duke Forest

NCDWR



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