



North Carolina Forest Service



A Division of the N.C. Department of Agriculture and Consumer Services
Steve Troxler, Commissioner

BMP Newsletter

Best Management Practices for Water Quality & Soil Conservation



This issue's cover photo is of a V-notched weir at the Coweeta Hydrologic Laboratory in Otto, NC. Multiple nested catchments owned and operated by the U.S. Forest Service are equipped at the outlets with weirs like this one. Weirs enable measurements of stream discharge and allow forest researchers to examine changes in streamflow under different forest conditions through time. Hydrologic data collection at Coweeta began in the 1930's and continues today. It is the longest operating water-based experimental forest among the southern research stations.

Read more about the U.S. Forest Service's Southern Research Stations water-based experimental forests here: <https://www.fs.usda.gov/research/srs/forestsandranges/locations>

Inside this issue:

| | |
|--|---|
| Log bridge versus pole crossing | 1 |
| New fishing trail along the Linville River | 2 |
| New N.C. Forest Service Water Resources Branch Staff | 3 |
| N.C. Forest Service's 2023 Water Quality Ranger Training Class | 4 |
| Water and forestry webinars and podcasts | 4 |
| NCFS Water Quality Forester Areas | 4 |

Log bridge versus pole crossing

Using natural material in forestry operations is an attractive option for at least a few reasons:

- 1) **Available** - woody material of varying sizes is often readily obtainable on harvest operations.
- 2) **Low-cost** - onsite woody material can be temporarily used and later merchandized or left behind for soil stabilization.
- 3) **Natural** - fiber grown onsite already exists within the watershed and does not introduce new chemical or other materials from outside of the watershed.

A couple common methods of using woody material to cross channels are log bridges and pole crossings. So, what's the difference?

Log bridges are comprised of whole logs that have been topped, delimited and laid **perpendicular** across a short-span channel for in-woods machines to crossover. Logging mats, or other decking, can be placed atop to improve the log bridge.



Log bridge



Pole crossing

Pole crossings are similar but instead are laid **parallel** to a dry channel. These logs are stacked within the channel high enough so equipment can travel across.

Both methods of channel crossings are only temporary and should not have soil filled over the logs. While a log bridge may be suitable for streams with flowing water in the channel, pole crossings are not. Be sure to monitor the integrity of the logs for damage! Logs will vary in strength depending on tree species and how they grew. Be sure to remove either crossing when rain is forecasted.

New fishing trail along the Linville River

Attention fishing enthusiasts! We are excited to announce the completion of a new fishing trail along the Linville River in Gill State Forest. This new trail provides improved river access for fishermen and visitors of the Mountain Training Facility in Crossnore, NC. The trail adds protection for the tree plantings in the area. Until now, there was no official path or trail for navigating the riverbank. We hope the completion of this project will make the experience more accessible and enjoyable for everyone.

The decision to incorporate a fishing trail was prompted by the recent stream restoration project and subsequent tree plantings along the riverbanks. The restoration aimed to enhance the overall health and vitality of the river ecosystem. The planting of trees was crucial for preventing erosion, providing shade to keep the water cool for trout and serving as habitat for terrestrial wildlife.



NCFS B.R.I.D.G.E crew installing stones for the fishing trail (left) and a photo of an installed section of trail taken a couple of months later (right).



Two of the educational signs along the bank of the stream restoration.

Four educational signs have been installed to provide visitors with information about the restoration project and the benefits of ecosystem preservation. These signs highlight the importance of restoring and protecting natural habitats for the benefit of both the environment and local communities. A big thank you to N.C. Forest Service's B.R.I.D.G.E program who worked in coordination with Water Resources Branch staff.

If you are traveling to the Mountain Training Facility for a workshop, or are planning to be in the area, we encourage you to check it out and hope you enjoy the landscape and maybe even catch a fish! In addition, we want to remind everyone that the fishing trail was designed to protect the ecosystem, so we ask that visitors respect the area and follow "Leave No Trace" principles.

New N.C. Forest Service Water Resources Branch Staff



Moriah Van Voorhis is the new Forest Water Quality Senior Specialist with the N.C. Forest Service. Among her duties, she will be managing the BMP implementation survey and Forest Preharvest Planning Tool. She brings several years of professional experience as a landscape scale environmental scientist. She received her B.S. in ecology, evolution and environmental biology from Appalachian State University and her M.S. in fisheries, wildlife and conservation biology from N.C. State University. She enjoys engaging with land managers and members of the public. Her education and professional experiences bring a new, highly-valued perspective and talent to the N.C. Forest Service. We are very pleased to have Moriah join the team!

Moriah is stationed at the Archdale building in Raleigh and can be reached at **919-857-4855** or **Moriah.vanvoorhis@ncagr.gov**

Richard Cockerham was recently promoted to Water Resources Staff Forester within the N.C. Forest Service's Water Resources Branch. Richard brings more than 28 years of agency experience and has had the opportunity to work in each region of the state. Richard graduated from N.C. State University in 1994 with a B.S. in forest management. He spent a couple years working for a consultant before coming to the N.C. Forest Service as a BMP forester. Richard later held a service forester role and served as Region 3 water quality forester. Richard has also served as a geographic information systems specialist and situation snit leader on incident management teams during his N.C. Forest Service tenure. If you know Richard, you know that his demeanor and open-mindedness will serve him well in this new role.

Richard is stationed at the Morganton Forestry Center and can be reached at **704-616-0747** or **Richard.Cockerham@ncagr.gov**.



N.C. Forest Service's 2023 Water Quality Ranger Training Class

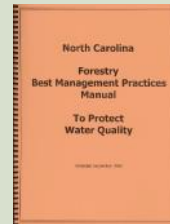


Pictured left are students and cadre alongside logging operator Tyler Buchanan of T&L Logging. Mr. Buchanan welcomed the group to his operation and allowed us to observe his constructed road and trails as part of the ranger training field exercises.

Each year, new rangers learn about forestry water quality protection rules, BMP recommendations and the fundamentals of forest soils and hydrology. Congratulations to all rangers as each passed their final exam!

For recorded and live webinars related to forestry and/or erosion control, check out:

- [The Forestry & Natural Resources Webinar Portal](#)
- [How the River Flows Podcast](#)
- [N.C. Forest Service BMP Videos](#)



Contact your local **N.C. Forest Service county office** for a copy of the **2021 updated BMP manual!**

N.C. Forest Service - Water Quality

www.ncforestsservice.gov/water_quality/water_quality.htm

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North Carolina Forest Service

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