



BMP Newsletter

Best Management Practices for Water Quality & Soil Conservation



Moriah Van Voorhis (below) on a logging site, conducting a BMP survey that is mapped in the GIS image above featuring points of interest on a BMP survey.



The Best Management Practice Process

Best management practices (BMPs) help protect the biological, chemical and physical integrity of water. When installed correctly, BMPs effectively minimize water pollution in sufficient amounts. The process of adhering to the BMP recommendations consist of four steps outlined below:

- 1) **Planning** - Planning will help you determine a site's condition and applicable regulations. Knowing these site conditions, the type of operation you intend to conduct and regulations will determine the type and amount of BMPs that you should consider. Planning is key to successful and effective use of BMPs.
- 2) **Implementing** - Correctly and effectively implementing BMPs will lead to water quality and site productivity protection, efficient and less costly forest operations, landowner and public approval, and professional improvement.
- 3) **Stabilizing** - Stabilizing disturbed soil areas is important to assure short-term water quality protection. In many cases, it is appropriate to stabilize inactive areas such as roads, skid trails and log decks while the operation is still active.
- 4) **Monitoring and Maintaining** - Monitoring the condition of implemented BMPs can make you aware of their functionality. Maintaining BMPs until the site has stabilized can help protect water quality.

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Post wildfire suppression repair and stabilization

Wildland fires pose a risk to water quality both during active burning and years after the fire has been contained. The loss of vegetation and leaf litter can cause increased rates of erosion and sedimentation. Soil stabilization through the deployment of BMPs is recommended to mitigate erosion and repair suppression disturbances once the fire has been contained.

Richard Cockerham and Moriah Van Voorhis of the Water Quality Resources Branch assessed the Poplar Drive wildfire Nov. 17, 2023, and recommended seven sites for suppression repair efforts. The main suppression repair technique recommended were water bars.

Water bars are berms of soil or debris that are installed to slow down and disperse water in areas that are at high risk of accelerated erosion such as fire lines.

The recommended BMPs implemented at the site of the Poplar Drive fire focused on protecting surface waters from polluted runoff, installing water diversions and stabilizing fire lines and roads.



*Poplar Drive fire Nov. 11, 2023 (left: Photo by EJ Dwigans.)
Map of water bar locations for Poplar Drive fire (right).*

Flooding and storm damage



When harvesting storm damaged timber within the SMZ, keep in mind that water quality rules still apply. Follow the BMPs for minimizing soil disturbance and avoid crossing the stream where possible. If salvaged timber is used for firewood, a good rule of thumb is to burn wood within a 50 mile radius of its origin!

As we move into spring, it's good practice to be prepared for severe storms. If a storm is expected to produce heavy rains and flooding, plan accordingly—be safe! Relocate machinery to higher ground to protect from flooding. Move and secure fuel containers so they're out of the flood zone. Finally, stabilize loose soils to decrease rates of erosion.



Welcome Austin



Austin Harriett is the division's newest water quality forester having begun Jan. 2, 2024.

Austin has spent the last eight years as a service forester and is no stranger to the water quality program. Austin was the recipient of the 2021-2022 Moreland Gueth Water Quality Award. Austin's experience will be valued in his new role.

Austin Harriett is stationed in NCFS Region 1 and can be reached at 252-520-3964 or austin.harriett@ncagr.gov. Austin's coverage area can be viewed on Page 4.

Congratulations to Janet White and Elizabeth Edwards!

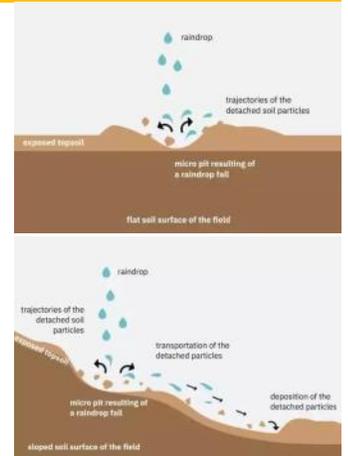


N.C. Forest Service Surry County rangers Janet White and Elizabeth Edwards have been named recipients of the 2023 Moreland Gueth Water Quality Award. This award is presented annually to the N.C. Forest Service employee or team of employees who demonstrate creativity and dedication toward the protection of North Carolina's water resources. "Janet and Elizabeth have embraced water quality," said Nancy Blackwood, district forester for NCFS District 10. "They both have a passion for clean water and are dedicated to improving the condition of

logging jobs in Surry County to protect our streams from sedimentation and flow issues." Established in 2010, the Moreland Gueth Water Quality Award pays tribute to its namesake, who served as the N.C. Forest Service's water quality and wetlands staff forester from 1995 to 2004.

Did you know? SPLASH EROSION!

Splash erosion is when water droplets strike bare soil, pushing soil particles short distances. Splashed soil particles can move more than 1-foot vertical and nearly 5-feet sideways. More than **220 tons of soil** can be splashed into the air on a single hectare (2.47 acres) of bare and loosen soil during a large rain event! Splash erosion can dislodge soil particles and make the soil more vulnerable to subsequent rain events. Providing soil cover to reduce rainfall impacts is a fundamental BMP that will help minimize water quality impacts on forestry sites.

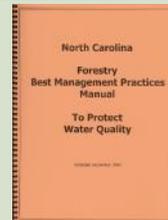


Brookes, K.N.; Ffolliott, P.F.; Gregerson, H.M.; DeBano, L.F. 2003. *Hydrology and the management of watersheds* (Ed. 3). Iowa State University Press. Page 161.

Photo Credit: Water Erosion: Types, Causes, Effects, and Prevention, EOS Data Analytics.

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

Healthy Trees, Healthy Lives

www.healthytreeshealthy lives.org

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