

PRACTICING BEST MANAGEMENT

BY BILLY RYE

The phrase “Best Management Practices” is used frequently in the forestry community. According to the National Association of State Foresters, Best Management Practices (BMPs) are used to protect water quality during timber harvests and other forest management activities.¹ Most states began developing BMPs in the 1970s in response to passage of the Clean Water Act. This Act established the basic structure for regulating discharges of pollutants into all waters in the United States that may be used in interstate or foreign

commerce. The good news for those in the forestry community is that there is no federal law that requires forestry BMPs; in fact, the Clean Water Act exempts normal silvicultural (forest management) activities from permitting requirements under most circumstances.

The Alabama Department of Environmental Management (ADEM) is authorized to enforce water quality standards, regulations, and penalties to carry out the provisions of state and federal water quality laws in Alabama. ADEM Administrative



This is an example of a temporary stream crossing. They are permitted under Alabama's BMPs as long as they do not impede the flow of the stream and are removed when harvesting is complete.

Code prohibits the deposition of pollutants into or the degradation of waters of the state. A “water of the state” is any water that is not wholly contained on the property of an individual or corporation. Pollutants associated with forest management include, but are not limited to, sediment, organic materials, temperature, trash, pesticides, and nutrients that are man-induced. While ADEM has the authority to propose measures to clean up polluted waters, they prefer avoiding environmental problems through voluntary application of preventative techniques.

Through a Memorandum of Understanding with ADEM, the Alabama Forestry Commission has agreed to prepare recommended preventative techniques known as Alabama’s Best Management Practices for Forestry.² These BMPs are non-regulatory guidelines suggested to help Alabama’s forestry community avoid violating state and federal water quality laws. However, rational on-site judgement must be applied to ensure that water quality standards are maintained. Responsibility for maintaining water quality standards during a forestry operation has been broadly interpreted to include all parties involved in the authorization, planning or implementation of the operation. The responsible parties may include professional forestry practitioner(s) such as forest resource managers, timber purchasers, loggers, vendors, forest engineers or others.

The most current version of Alabama’s BMPs may be obtained from your local office of the Alabama Forestry Commission or online at https://forestry.alabama.gov/Pages/Management/Forms/2007_BMP_Manual.pdf. These BMPs address seven aspects of forest management which have the potential to impact water quality. Below is a quick overview of the recommended BMPs. However, the most recent version of this publication should be referenced for the specific requirements of each activity before forest management is implemented.

Streamside Management Zone (SMZ).³ An SMZ is a strip of land immediately adjacent to a water of the state that is managed to protect the integrity of surface water. SMZs should be maintained at least 35 feet on each side of perennial and intermittent stream banks. The width of SMZs should be increased with the erodibility of the soils or steepness of the terrain. While timber harvesting is permitted within the SMZs, at least 50% of the original canopy should be retained. Mechanical site preparation and fertilization should not be conducted inside SMZs and herbicides should be used consistent with their label.



The forester responsible for laying out this timber sale has a good understanding of BMPs. The areas marked in blue indicate the location of Streamside Management Zones as they are marked on the ground.

Stream Crossings.⁴ The crossing of streams by roads, skidder trails, and fire lanes should be avoided when possible. In those cases where it is unavoidable, streams may be crossed where the bank and SMZ will be least disturbed and installed at right angles to the flow of water. Temporary crossings made of logs or logging debris may be used if their installation does not impede the flow of water and must be removed upon the completion of harvesting. The specifications for other forms of stream crossings such as bridges (permanent and portable), fords, and culverts are provided in Alabama’s BMPs.

Forest Roads.⁵ Alabama’s BMPs encourage proper planning and location of roads to minimize the potential for polluting waters of the state. Roads should avoid SMZs where possible and grades should be minimized for highly erodible soils or where topography is steep. Dredge and fill operations may require a permit from the Corps of Engineers. Adequate drainage is the most important factor in controlling soil erosion and keeping roads in a serviceable condition. The implementation of broad-based dips, water bars with turnouts, in- and out-sloping techniques, and the value of crowned roads are all discussed in Alabama’s BMPs.

Timber Harvestings.⁶ The location of logging roads, skid trails, and landings should be planned before harvesting is initiated to reduce their potential impact on water quality. Landings should be kept as small as possible, consistent with safe and efficient operation. Logging roads and landings must be located on firm ground, outside of SMZs and above the ordinary high-water mark of streams. Landings must be located to prevent the adverse impact of skidding

on water quality. Trash disposal must be properly handled throughout the operation in accordance with all applicable laws. Fuel, lubricants, and other toxic chemicals must never be drained into the soil. Food and drink containers, discarded equipment parts, and used fluids must be properly removed and disposed. Trash must not be burned or buried on-site.

Reforestation/Stand Management.⁷ Mechanical site preparation applied outside of the SMZs must be applied in such a manner as to minimize impact to waters of the state. Drum chopping should always be done up and down hill so that sediment can be trapped in the slits created by the chopper blades. Bedding, subsoiling, discing, and machine planting should follow the contour. Shearing requires that the operator keep the blade out of the soil to minimize soil disturbance. Debris may not be piled into any water of the state. Under no circumstances should herbicides be applied directly onto or allowed to drift or wash into surface waters unless labeled for such applications. Firebreaks should be stabilized with water diversion devices and revegetated to minimize their impact on water quality.

Forested Wetland Management.⁸ The U.S. Army Corp of Engineers allows “normal” forest management activities within jurisdictional wetlands. Howev-

er, landowners should work closely with a registered forester to determine if a permit is needed for their planned activities. SMZs should be established and managed around the perimeter of all major drainages and open bodies of water (i.e., mainstream courses, oxbow lakes, sloughs) contained within wetlands. Timber harvesting using normal methods and equipment may be appropriate if harvesting is timed during dry periods. Minor drainage, roads and stream crossings, reforestation, land clearing, the use of herbicides, bedding, species composition change, and removal of beaver dams are all allowed in jurisdictional wetlands if the proposed activities meet the U.S. Army Corps of Engineers baseline BMPs and do not convert a wetland into an upland. Silt screen and hay bales can be used to filter runoff water from closed roads and skid trails to prevent or stop sediment from flowing downslope into waters of the state.

Revegetation/Stabilization.⁹ Some forestry-related soil disturbing activities require the establishment of a vegetative cover to stabilize mineral soil. The USDA Natural Resources Conservation Service can provide information on the site preparation, use of limestone and fertilizer, plant species recommendations, and the use of mulch for revegetating these sites. Finally, the best method of avoiding reactiva-



This landowner not only has a high-yielding timber investment, she also has protected the water resources which flow through her property. The gray areas are hardwood SMZs which were retained during the past timber harvest.



This landowner failed to require the implementation of BMPs in his timber sale contract. The road would likely still be passible and the adverse impact on water resources would have been much less had the road been stabilized according to BMPs.

tion of existing gullies is to neither operate in nor apply site preparation techniques to those areas.

The forestry community in Alabama has taken a proactive approach to avoiding degradation of the state's water resources. The Alabama Professional Logging Manager (PLM) program strives to improve the practice of sustainable forestry through training and education programs for loggers.¹⁰ While participation in Alabama's PLM is voluntary, it is encouraged by the Alabama Cooperative Extension System, Alabama Forestry Association, Alabama Forestry Commission and the Alabama Loggers Council. In addition, most forestland owners require the imple-



Wetlands are unique areas and should be protected while conducting forest management activities. Work with a registered forester to ensure that your efforts comply with the required U.S. Corp of Engineers Baseline BMPs. Photograph by Ed Travis.

mentation of BMPs in all forest management and harvesting contracts.

Alabama's Best Management Practices for Forestry are recommended to protect the water resources of our state and to help the forestry community avoid violating federal and state water quality laws. By becoming knowledgeable about specific recommendations and requirements, landowners can ensure that they are practicing best management on their property. ●

References

¹ National Association of State Foresters. Best Management Practices. <https://www.stateforesters.org/bmps/> . Accessed March 14, 2023.

² Alabama Forestry Commission. Alabama's Best Management Practices for Forestry. https://forestry.alabama.gov/Pages/Management/Forms/2007_BMP_Manual.pdf. Accessed March 20, 2023.

³ Alabama's Best Management Practices for Forestry. pp 4-5. https://forestry.alabama.gov/Pages/Management/BMP_Practices.aspx . Accessed March 20, 2023.

⁴ Alabama's Best Management Practices for Forestry. pp 6-8. https://forestry.alabama.gov/Pages/Management/BMP_Practices.aspx . Accessed March 20, 2023.

⁵ Alabama's Best Management Practices for Forestry. pp 9-13. https://forestry.alabama.gov/Pages/Management/BMP_Practices.aspx . Accessed March 20, 2023.

⁶ Alabama's Best Management Practices for Forestry. pp 13-14. https://forestry.alabama.gov/Pages/Management/BMP_Practices.aspx . Accessed March 20, 2023.

⁷ Alabama's Best Management Practices for Forestry. pp 15-16. https://forestry.alabama.gov/Pages/Management/BMP_Practices.aspx . Accessed March 20, 2023.

⁸ Alabama's Best Management Practices for Forestry. pp 17-21. https://forestry.alabama.gov/Pages/Management/BMP_Practices.aspx . Accessed March 20, 2023.

⁹ Alabama's Best Management Practices for Forestry pp 22-23. https://forestry.alabama.gov/Pages/Management/BMP_Practices.aspx. Accessed March 20, 2023.

¹⁰ Alabama Forestry Association. PLM-Professional Logging Manager. <https://www.alaforestry.org/general/custom.asp?page=PLMGeneral> . Accessed March 18, 2023.