

FACT SHEET

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Timber & Timber Harvesting in West Virginia

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Best Management Practices

The 1972 Federal Water Pollution Control Act amendments emphasized the need to protect and maintain the quality of the nation's water resources. Silvicultural activities, such as timber harvesting, were identified as potential sources of nonpoint pollution and each state was required to develop procedures for controlling nonpoint sources of pollution. Forest management practices designed to minimize or prevent nonpoint source water pollution are called best management practices (BMPs). West Virginia's 1992 Logging Sediment Control Act requires that BMPs be used for controlling erosion and soil movement into streams and designated the West Virginia Division of Forestry (DOF) to carry out the mandates and provisions of this Act.

The primary cause of the degradation of water quality associated with timber harvesting activities is erosion from bare soil exposed on highly disturbed areas such as roads and landings. Aside from the stream channels themselves, which are the largest source of sediment on most forested watersheds, roads and landings are usually the only place in forests where large areas of bare soil are exposed. Studies conducted in West Virginia have shown that where wheeled skidders are used, roads and landings occupy about 10 percent of harvested areas. Erosion from carefully managed forestland is about 0.05 to 0.1 tons/acre/year. Although erosion rates from other land uses such as public roads, cropland, construction sites, etc. are much higher than those from forestland, careless timber harvesting activities have the potential to cause high rates of forest soil erosion and stream sedimentation.

West Virginia has been at the forefront in developing and applying practices designed to protect water quality on forestlands. A booklet titled "West Virginia Forest Practice Standards" was published in 1972 prior to implementation of the Federal Water Pollution Control Act. Guidelines to protect soil and water resources during harvesting operations were provided in this booklet. The West Virginia DOF publishes a manual titled "Best Management Practices for Controlling Soil Erosion and Sedimentation from Logging Operations in West Virginia" that provides detailed information on BMPs recommended in West Virginia. Many of these guidelines were developed by researchers working on the Fernow Experimental Forest located near Parsons, West Virginia. This manual is widely used at DOF training sessions and is revised as new technology becomes available. Since at least one certified logger is required on each logging operation, many loggers in West Virginia have received BMP training.

Research conducted on an experimental watershed has demonstrated that West Virginia's BMPs are effective in minimizing adverse impacts to soil and water resources. The BMPs used in this study included the use of broad-based dips, culverts, waterbars, seeding and traffic regulation during excessively wet conditions. This study emphasized the importance of careful planning to minimize the amount and grade of roads and the importance of keeping roads and landings away from streams. Other studies in the eastern United States have also demonstrated that BMPs are effective in preventing serious deterioration in water quality during timber harvesting operations. However, some BMPs, such as removal of tree tops from intermittent streams, are controversial. Arguments for leaving slash include improving habitat and adding a food source while arguments against include the possibility of culvert plugging and blockage and rerouting of existing stream channels.

A survey conducted in 1995-96 indicated that compliance with West Virginia's BMPs has increased since earlier surveys. The lowest levels of compliance were found for seeding and mulching. The survey also indicated that improvements were needed in waterbar usage on skidroads and cross drainage on haul roads. These BMPs are especially important because their use enables water to be handled in small amounts, an axiom in erosion control. DOF statistics for the year 2000 indicated that 52 percent of the compliance problems they encountered resulted from administrative failures rather than BMP deficiencies. Lack of notification forms and timbering licenses were the two most common problems.

Much public concern about forest harvesting stems from the visual impacts of timber harvesting operations. However, the critical factor in regard to adverse soil and water impacts is not the intensity of harvest, but the care taken during logging. Forest harvesting is widespread on the 11.5 million acres of timberland in West Virginia each year. BMPs currently in use in West Virginia are effective in protecting soil and water resources. When existing BMPs are applied properly, timber harvesting activities can be one of the more benign uses of forestland.

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