

# FACT SHEET

No. 13

## Timber & Timber Harvesting in West Virginia

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### Forest Water

Water from a forest free of recent disturbance often is considered the best example of high-quality water. From the viewpoint of the citizenry, one of the most common disturbances of forests is timber harvesting which they believe lowers water quality. However, the deleterious impact of logging depends upon the amount of mineral soil that is exposed and/or compacted and many scientific studies have shown that the use of forestry best management practices (BMP's) reduces water quality impacts to levels that are immeasurable.

Soil erosion and transport of sediment to streams depends upon soil infiltration characteristics and overland flow. Infiltration is the ability of rainfall and snowmelt to move down through the forest floor. Overland flow is water that moves over the surface of the ground and does not infiltrate. Forest soils typically have very high infiltration rates, so that even the most intense precipitation usually can penetrate and move through the forest floor almost immediately. Consequently, most rainfall and snowmelt moves to streams as subsurface flow through the soil and does not cause erosion. By contrast, on compacted soils, such as roads and log landings, rainfall and snowmelt do not infiltrate rapidly or at all. As less moisture is absorbed in the soil, more becomes overland flow. If overland flow is uncontrolled and its volume increases, its energy also increases. As a result, soil erosion can occur and sediment can be transported to streams and other water bodies.

Because of the intimate connection between water, infiltration, and erosion, most forestry BMP's are focused on some aspect of minimizing the amount of soil disturbance, maintaining sufficient distance between disturbed areas and streams, and controlling the volume of water on exposed soils and compacted surfaces. BMP practices include such things as assuring properly sized cross drain culverts and broad based dips at adequate spacing on forest roads, seeding fill slopes and cut banks quickly, seeding and water barring skid roads and skid trails after they are no longer needed, and locating roads and log landings sufficiently far from streams.

In West Virginia, studies have shown that BMP's are used on more than 80% of logging operations. The recent (2002) addition of several new staff foresters to the WV Division of Forestry, combined with the appointment of an assistant state forester in charge of logging operations, soon should result in BMP use on nearly 100 percent of the

logging jobs in the State. In 2000, the U. S. Environmental Protection Agency ranked silviculture as seventh in terms of sources of stream impairment across the Nation, while natural sources of pollution impairment ranked third. Considering all these things, West Virginia's forested streams are not at great risk from harvesting and silvicultural operations.

(Prepared by Jim Kochenderfer & Bill Gillespie)

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