

Final Report for the North Carolina
Forestry Best Management Practices Implementation Survey
2000-2003

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Executive Summary

In April 2003, the N.C. Division of Forest Resources completed a three-year survey to evaluate the implementation of Forestry Best Management Practices, otherwise known as BMPs. As a result of this baseline survey, the NCDFR has met the established management measures and BMP Implementation Survey (survey) project objectives identified within this report. The survey continues to be an integral part of NCDFR's effort to assess, develop and promote BMPs that protect North Carolina's forest water resources.

The NCDFR surveyed 187 active forest harvesting operations (sites) in 2000-01, 175 sites in 2001-02, and 203 sites in 2002-03. The level of BMP implementation was based on the review of more than 5,000 individual practices identified on 565 harvest sites. The division's field surveyors only evaluated the practices that were applicable to each site at the time of inspection. A water quality risk factor was also assigned to each identified practice. Additionally, an assessment of compliance with North Carolina's Forest Practices Guidelines Related to Water Quality (FPGs) was completed.

Average statewide BMP implementation over the three-year survey period was 82 percent. The level of BMP implementation varied regionally. Implementation of BMPs was high in the Piedmont (87 percent) and Coastal Plain (85 percent). In contrast, only 69 percent of the BMPs were implemented in the Mountain region. Statewide, an average of 8 percent of the forestry related practices threatened water quality. Regionally, few forestry related practices threatened water quality in the Piedmont (5 percent) and Coastal Plain (4 percent), whereas 16 percent of Mountain region forestry-related practices threatened water quality. Approximately 42 percent of the non-implemented BMPs posed a risk or threatened water quality. Threats or risk to water quality due to non-implementation of BMPs was lower in the Coastal Plain (31 percent) and Piedmont (38 percent), whereas in Mountain region was greater than 50 percent. The BMPs for skid trails, stream crossings, Streamside Management Zone (SMZ) conditions and prevention of debris entering the stream were frequently not implemented. These four BMPs accounted for 80 percent of the BMP non-implementation and 90 percent of the risk to water quality. Skid trails alone contributed to one-third of the BMP non-implementation and more than 20 percent of the risk to water quality. Stream crossings accounted for less than 20 percent of BMP non-implementation, however, this BMP category posed one-third of the risk to water quality.

The FPG standards were evaluated for each surveyed site to determine how closely the rule compliance aligned with the BMPs. The mean statewide FPG compliance score of the tracts evaluated during the Survey was 82 percent. The lowest average FPG compliance was found in the Mountain region (61 percent) and the highest occurred in the Coastal Plain (91 percent). The mean FPG compliance score in the Piedmont was 87 percent. Data collected from the Forest Management and Planning Program Accomplishment Report (FM Accomplishment Program) indicates a statewide average FPG compliance of 88 percent on active harvest sites from May 1, 2000 to April 30, 2003. This FPG compliance score is based on 3,281 active harvest site inspections conducted by NCDFR's field personnel. During this survey, four of the performance standards were most commonly observed to be in violation of the FPGs. Specifically, SMZ (.0201), Prohibition of debris entering streams and waterbodies (.0202), Access road and skid trail stream crossings (.0203) and Rehabilitation of project site (.0209) represented 96 percent of the FPG- violations observed during this three-year survey. The FPG compliance scores recorded in the survey are integrated into NCDFR's Forest Management procedures. The procedures are supported by the FM Accomplishment Program that typically captures about 4,000 FPG inspections per year.