

Chapter 29

Forestry in the Cape Fear River Basin



29.1 Impacted Streams in Forestland

Forestland was 60 (3,531,100 acres) percent of the land use in the Cape Fear River basin in 1997. While still the largest portion of the basin land use, this is six percent less forestland than in 1982 (USDA-NRCS, 2001). In the Cape Fear River basin, there are no Impaired stream miles that have been directly impacted by forest harvesting activities. Impacts to water quality from forestry sources may decrease over the next basin cycle due to substantial increases in urban/built-up areas throughout the river basin. Most land clearing activities around urban areas are for development and usually not associated with forest harvesting.

DWQ will identify streams where forest harvesting may be impacting water quality and aquatic habitat. This information will be related to Division of Forest Resources staff to investigate the impacts in these watersheds and to recommend BMPs to reduce impacts. DWQ recommends that funding and technical support for forestry BMPs be continued and increased. Refer to Appendix VIII for forestry nonpoint source agency contact information.

29.2 Forestland Ownership

Nearly 3.2 million acres are classified as timberland in the Cape Fear River basin, as estimated from data in the most recent publication by the USDA-Forest Service (Brown, 2004) Nearly 84 percent of this land is owned by nonindustrial private landowners. Forest industry accounts for 7 percent of the timberland, while federal and state governments each comprise approximately 4 percent ownership (Figure 39). Local governments own the remaining 1 percent of timberland.

While there are no National Forests in the basin, publicly-owned forestland includes over 33,000 acres at Bladen Lakes State Forest located in Bladen County (subbasin 03-06-16). This demonstration forest, certified under the international Forest Stewardship Council (FSC), is managed for the sustainable production of forest resources and contributes to the protection of the unique pocosin and Carolina Bay ecosystems.

Two Educational State Forests are also operated by the Division of Forest Resources' to provide educational programs while managing the forests for multiple resources. Turnbull Creek ESF, at 890 acres, protects portions of Turnbull Creek and is located north of Elizabethtown (subbasin 03-06-16). Approximately 900 acres of the federally protected lands around Jordan Lake are managed as the Jordan Lake ESF (subbasin 03-06-05). More information about the ESFs is available on the DFR's website www.dfr.state.nc.us.

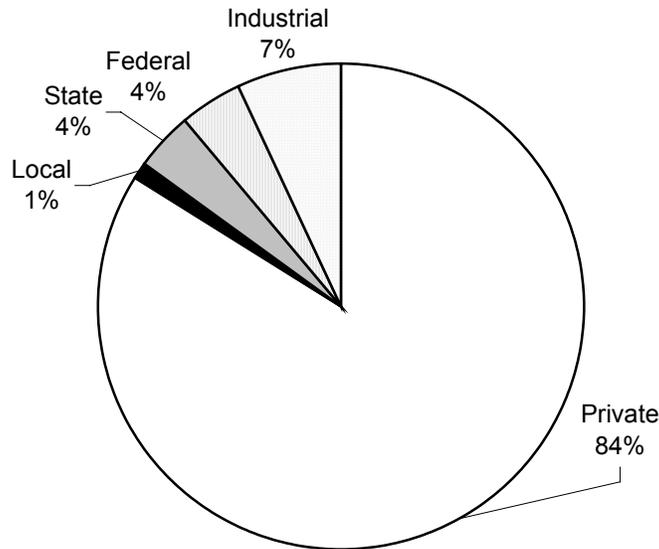


Figure 39 Ownership of Forestland in the Cape Fear River Basin

29.3 Forestry Water Quality Regulations in North Carolina

29.3.1 Forest Practices Guidelines for Water Quality (FPGs) and Randleman Buffer Rules

Forestry operations in North Carolina are subject to regulation under the Sedimentation Pollution Control Act of 1973 (G.S. Ch.113A Art.4 referred to as “SPCA”). However, forestry operations may be exempted from the permit and plan requirements of the SPCA, if the operations meet the compliance standards outlined in the *Forest Practices Guidelines Related to Water Quality* (15A NCAC II .0101 - .0209, referred to as “FPGs”) and General Statutes regarding stream obstruction (G.S.77-13 and G.S.77-14). Additional regulations affect forestry operations that occur within the Randleman Lake watershed, including mandatory vegetative riparian buffers and specific limitations on tree harvesting in the buffer.

The North Carolina Division of Forest Resources (DFR) is delegated the authority to monitor and evaluate forestry operations for compliance with these aforementioned laws and/or rules. In addition, the DFR works to resolve identified FPG compliance questions brought to its attention through citizen complaints. Violations of the FPG performance standards that cannot be resolved by the DFR are referred to the appropriate state agency for enforcement action.

During the period January 1, 1999 through December 31, 2003, the Division of Forest Resources conducted 4,111 FPG inspections for water quality issues on forestry-related activities in the Cape Fear River basin; 96 percent of the sites inspected were in compliance.

29.3.2 Other Forestry Related Water Quality Regulations

In addition to the state regulations noted above, DFR monitors the implementation of the following federal rules relating to water quality and forestry operations:

- The Section 404 Dredge and Fill exemption under the Clean Water Act.
- The US Army Corps of Engineers 15 mandatory Best Management Practices (BMPs) related to road construction in wetlands.
- The US Army Corps of Engineers BMPs for mechanical site preparation activities for the establishment of pine plantations in the southeast.

29.3.3 Water Quality Foresters

Two Water Quality Foresters based out of the DFR's Hillsborough and Whiteville District Offices handle water quality issues on forestry operations located in the upper and lower subbasins of the Cape Fear River basin. Two additional Water Quality Foresters handle those small portions of the Cape Fear River basin located in Wayne and Onslow counties. The DFR currently has a Water Quality Forester located in seven of the DFR's 13 districts across the state. Assistant District Foresters or Service Foresters handle water quality issues in the remaining districts, along with other forest management and fire control responsibilities. Water Quality Foresters conduct FPG inspections, survey BMP implementation, develop pre-harvest plans, and provide training opportunities for landowners, loggers and the public regarding water quality issues related to forestry.

29.3.4 Forestry Best Management Practices

Implementing Forestry Best Management Practices is strongly encouraged by the Division of Forest Resources in order to efficiently and effectively protect the water resources of North Carolina. The *Forestry Best Management Practices Manual* describes recommended techniques that should be used to help comply with the state's forestry laws and help protect water quality. This manual is currently undergoing its first revision since adoption in 1989. This revision, led by the DENR-appointed Technical Advisory Committee (TAC), has undertaken over two years' of effort on this project.

From March 2000 through March 2003, the DFR conducted a statewide BMP Implementation Survey to evaluate Forestry BMPs on active harvest operations related to forest management. This survey evaluated 65 sites in the Cape Fear River basin, with a resulting BMP implementation rate of 82 percent, on par with the statewide implementation rate. The problems most often cited in this survey, across the state, relate to stream crossings, skid trails and site rehabilitation. This survey, and additional surveys to be conducted, will serve as a basis for focused efforts in the forestry community to address water quality concerns through better and more effective BMP implementation and training.

To help address some of these issues, the DFR has been providing bridgemats on loan out to loggers for establishing temporary stream crossings during harvest activities. Temporary bridges are usually the best solution for stream crossings, instead of culverts or hard-surfaced 'ford' crossings. Bridgemats have been available for use in the entire Cape Fear River basin for only a

short period of time. They are available upon request from DFR District Offices. More information about using bridgemats, and the above noted BMP survey, is available on the ‘Water Quality’ section of the DFR’s website at www.dfr.state.nc.us. These bridgemats were acquired through Section 319 grants from the USEPA.

29.4 Forest Resources

29.4.1 Forest Products Industry

Forestry is a vital economic driver throughout the Cape Fear River basin, with significant forest industry operations located in the upper, middle and lower sectors of the basin. Statewide, forest industry contributes nearly \$18 billion annually to North Carolina’s economy. In the Cape Fear River basin, 32 different businesses are considered “Primary Processors” of forest products raw material, which represents 13 percent of the total number of primary processors in the state. This basin includes one of the five major pulp and paper mills located in North Carolina. Other examples of a primary processor are a sawmill, veneer mill, chip mill, pallet mill or plywood mill. These primary processors pay an assessment to the state, which is then combined with annual legislative appropriations, to fund the “Forest Development Program - FDP”, which provides cost shared reforestation assistance for forest landowners.

29.4.2 Forest Management

At least 106,000 acres of privately-owned land were established or regenerated with forest trees across the Cape Fear River basin from January 1, 1999 through December 31, 2003 with nearly one-half of these acres reforested with partial funding through the FDP. During this same time period, the DFR provided approximately 5,800 individual forest management plans for landowners, encompassing over 326,000 acres in the Cape Fear River basin.

Nearly 18,000 acres across 61 tracts are certified under the DFR’s Forest Stewardship Program. This voluntary, cooperative program helps individual forest owners manage their total forest resource. Landowners receive technical assistance in developing a stewardship management plan based on their ownership objectives. Activities are scheduled to enhance the forest for wildlife, soil and water quality, timber production, recreational opportunities, and natural beauty. Recertification is required periodically to benchmark the progress of the owner’s stewardship plan.

29.4.3 Urban Forestry

Twelve towns and cities are “Tree City USA” communities, ranging from recent awards in Wilmington (2002) to the longest term in Graham (1980). Since 2001, the Urban and Community Forestry Grant Program has awarded over \$98,000 for 13 community-based urban forestry projects in the basin. These projects may include urban forestry education, municipal tree inventories, tree planting and teacher education. Urban forestry and an associated field known as ‘Agroforestry’ are becoming increasingly vital components in reducing NPS runoff by integrating “working green space” into urban development projects.

29.5 Forestry Accomplishments

Since the previous basinwide plan was produced, the DFR accomplished the following tasks in an ongoing effort to improve compliance with forest regulations and, in turn, minimize nonpoint source (NPS) pollution from forestry activities:

1. Expanded the availability of bridgemats to all of DFR's operating districts within the Cape Fear River basin.
2. Established a Forestry NPS Unit that develops and oversees projects throughout the state that involves protection, restoration and education on forestry NPS issues.
3. Produced 1,500 copies of an information leaflet explaining the Randleman Lake Watershed Buffer Protection Rule for use by loggers, landowners and forestry professionals.
4. Revised and produced 10,000 copies of a pocket field guide outlining the requirements of the FPGs and suggested BMPs to implement.
5. Created and published 15,000 copies of a new brochure "Call Before You Cut" for landowners promoting pre-harvest planning to insure water quality issues are addressed prior to undertaking timber harvesting.
6. Continued to assist with workshops in cooperation with the NC Forestry Association's "ProLogger" logger training program. As of 2004, this program requires at least six credit hours of continuing education every three years focused exclusively on water quality topics.
7. Achieved third-party sustainable forestry certification at Bladen Lakes State Forest through the internationally recognized Forest Stewardship Council (FSC).

DFR continues its efforts to protect water quality through various protection, restoration and education projects. This includes research project, on-site demonstrations, and integration of NPS topics through the DFR's network of Educational State Forests and State Forests. Progress reports and summaries are posted in the 'Water Quality' section of the DFR's website at www.dfr.state.nc.us as they are completed.