

CLASSIFICATION AND EVALUATION OF THE NATCHEZ TRACE STATE FOREST, STATE RESORT PARK,  
AND WILDLIFE MANAGEMENT AREA FOR TIMBER AND WILDLIFE HABITAT<sup>1/</sup>

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ABSTRACT

The 45,000-acre Natchez Trace State Forest, Park, and Wildlife Management Area (NTSF) began as a land reclamation project of the Resettlement Administration in 1935. The State of Tennessee acquired ownership in 1955. Smoother ridges, moist bottoms, and some slopes were cleared, row-cropped, and pastured resulting in extensive sheet and gully erosion of the fragile soils. Mixed oak forests dominate the uplands that were not cleared; loblolly pine plantations occupy the former gullied cropland. Bottomland hardwoods occur in the wet bottoms; some ponded areas support alder thickets. Most of the erosion has been controlled. Upland soils are derived from a 2 to 3-foot cap of loess and/or the underlying loamy and clayey unconsolidated Coastal Plain sediments.

A land classification system has been developed as part of the overall land management planning process. The landscape was divided into eighteen landtypes based on the differences in geology, topography, soils, and vegetation. Landtypes are described in terms of nine elements (geographic setting, dominant soils, parent material, solum thickness, surface soil texture, internal soil drainage, relative soil water supply, soil fertility, and vegetation). Each landtype is evaluated in terms of productivity (site index and mean annual cubic growth) and desirability

(most desirable, acceptable, and least desirable) of selected hardwoods and conifers for timber production, and for suitability as wildlife habitat. Also, each landtype is rated for five problems (plant competition, seedling mortality, equipment limitations, erosion hazard, and wind-throw hazard,) that can affect forest management operations. The resulting landtype map is one element of the physical and biological information about NTSF that is stored on an ESRI (Environmental Systems Research Institute) Geographic Information System.

The land classification system permits the intensive study of the relationships between forest plant communities and the landscape units. The ultimate goal of such a study is the capability of predicting which community(s) grow on each unit and to ascertain the successional pathways resulting from various forest cuttings. Once plant-landscape relationships are known, land managers can easily and economically determine wildlife habitat parameters.

Although the land classification was developed just for NTSF, it is applicable to an estimated 1 to 2 million acres in West Tennessee, northeast Mississippi, and northwest Alabama.

Key words: Forest land classification, site productivity, erosion, timber management, wildlife habitat, Upper East Gulf Coastal Plain, West Tennessee.

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