PRESETTLEMENT FORESTS OF THE UNGLACIATED PORTION OF SOUTHERN ILLINOIS

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Abstract.--General Land Office survey notes of 1805-1815 were used to reconstruct the presettlement forests of southern Illinois. Witness trees were grouped into stands according to soil associations. Phytosociological attributes of absolute (D_2) and relative density (D_3), absolute (B_2) and relative basal area (B_3), percent importance

$$V_3 = \frac{D_3 + B_3}{2}$$

and mean diameter for the 32 resulting stands were estimated by applying random pairs and closest individual sampling methods.

Four forest types (based on dominant species and physiographic location) were recognized and mapped: Mesic Oak-Hickory, Mixed Hardwoods, Lowland-Depressional, and Floodplain Forests. Mesic Oak-Hickory Forest, consisting primarily of Quercus alba L., Q. velutina Lam., and Carya spp., occurred on soils of thin loess in the Shawnee Hills. The more mesic Mixed Hardwoods Forest was found mainly on the thicker loess of the Thebes Hills. It was dominated by Fagus grandifolia Ehrh., Quercus alba, Q. velutina, Liquidambar styraciflua L., and Liriodendron tulipifera L. Annually-flooded inland lowlands supported a Lowland-Depressional Forest of Ulmus, Fraxinus, Quercus and Carya spp., plus Liquidambar. Floodplain Forest, dominated by Platanus occidentalis L., Populus deltoides Bartr., and Fraxinus and Ulmus spp., occurred on the alluvial soils of the Mississippi River.

This mixture of climax and successional communities was described as Western Mesophytic (after Braun 1950). The possibility that Fagus grandifolia may have migrated from the south or southwest was proposed, due to its concentration in the Thebes Hills.

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