

ECOLOGICAL CLASSIFICATION IN THE CENTRAL TILL PLAIN REGION OF INDIANA

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Research has begun to create an ecological classification system for forests of the Bluffton Till Plain Section of the Central Till Plain Region of Indiana. This system will follow the structure for ecological classification systems described by the US Forest Service. Research sites in this highly fragmented region have been selected from Indiana's Classified Forest Program, state nature preserves, and recreational areas. Data collected include tree species composition and size, herbaceous species cover, soil profile characteristics such as pH and drainage, and physiographic variables relating to topography. A variety of multivariate techniques have been used to explore the species-environment relationships, including Mantel tests, cluster analysis, factor analysis, DCA, NMDS, and MRPP. Analysis of data from one field season indicates that herbaceous species abundance may be more important as a site condition indicator than presence-absence of any particular species. Plant species abundance is dependent largely on moisture regimes created through the swell and swale topography found throughout the Central Till Plain. Current data collection is focused on the relative importance of the change in species composition and the role of minor topographic changes in the vegetation-soil-physiography relationship. A first approximation of ecological land types will be presented.

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