

A FORESTLAND ALLOCATION MODEL FOR URBANIZING LANDSCAPES

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Abstract—With rapid increases in rural population and continuing expectations of economic growth, pressures on land resources within the central hardwoods region have increasingly become a topic of public debate. Controversy over the allocation of rural and urban fringe forestland often results from the competition between forest management and low-density residential development. Land allocated to forest management provides a flow of both market and non-market benefits to society. These same forests, on the other hand, are sought by developers for profitable building sites.

Though forests provide many economic and environmental benefits to communities, local land use plans and zoning ordinances rarely consider forest management as the highest and best use of rural land. This study employs a multi-criteria/multi-objective decision making model to allocate land within a 32,000 acre study area in north central Indiana to competing uses. Results form an appraisal of each 30x30 meter cell in a raster GIS database of the study area in terms of suitability for forestry and residential use. Results of the land allocation model also identify lands with increased potential for urban/forest conflict.

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