

LINKING ECOLOGICAL AND SOCIAL DIMENSIONS OF MISSOURI LANDSCAPES

Adam D. Baer

Drs. Hong S. He and Bernard J. Lewis, Thesis Co-Supervisors

ABSTRACT

A recent study by the Brookings Institution concluded that patterns of growth in Missouri are eroding the quality of life and rural heritage, and threatening the environment. Reversing these trends will require better understanding the relationship between ecological and socio-economic dimensions of Missouri landscapes. This project begins to examine this relationship. Ecological characteristics of Missouri landscapes were identified via the Ecological Classification System (ECS). Socio-economic attributes were obtained from the 2000 U.S. Census of Population & Housing. This information was explored for relationships through: social profile; CART; and diversity/fragmentation techniques. Social profiles revealed certain variables that reflected significant differences across ecological units. In CART analysis, certain socio-economic variables were prominent in distinguishing between ecological units. Diversity/fragmentation analysis revealed rugged ecological units were not socially diverse or fragmented; while those containing metropolitan areas were. It is hypothesized that in diverse and fragmented ecological units more challenges to collaborative planning and resource management become apparent. However, because of limitations in exploratory studies, combining quantitative and qualitative techniques would aid in fully understanding socio-ecological relationships on Missouri landscapes.