

Public Abstract

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Linking Ecological and Social Dimensions of Missouri Landscapes

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ABSTRACT

A recent study by the Brookings Institution concluded that current patterns of growth in Missouri are eroding the quality of life and rural heritage, and threatening the environment and natural areas in this state. 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 at multiple scales of the Ecological Classification System (ECS). Socio-economic attributes of people were described utilizing the 2000 U.S. Census of Population & Housing. The above ecological and social information was explored for relationships via – social profiles; CART analysis; and social diversity/fragmentation analysis. Social profiles revealed: certain variables reflected significant differences across ecological sections of Missouri (e.g., Bachelors Degree); and other variables did not reflect any differences (e.g., age). Through CART analysis, it was discovered that no single variable was prominent at all ECS levels. In addition, when moving down the ECS hierarchy, prominent attributes revealed more specific behaviors (e.g., commute time). With respect to the diversity/fragmentation analysis, rugged ecological units tended to be homogenous and clustered; while those containing portions of metropolitan areas tended to be diverse and fragmented. It is hypothesized that in diverse and fragmented ecological units more challenges to collaborative planning and resource management become apparent. However, because of limitations for establishing causality in exploratory studies, combining quantitative (e.g., CART) and qualitative techniques (e.g., surveys) would aid in fully understanding relationships between social and ecological dimensions of Missouri landscapes.