Spatial and Temporal Demographic Change from 1940-1990 in the North Central United States

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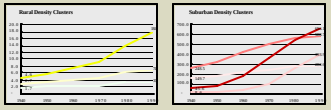
Housing Development

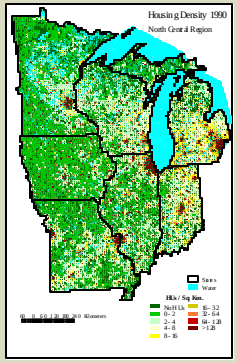
- Cause of Landscape Change
- Profound effects at metropolitan fringe and in rural amenity areas
- Occurs according to different trajectories over time and across space

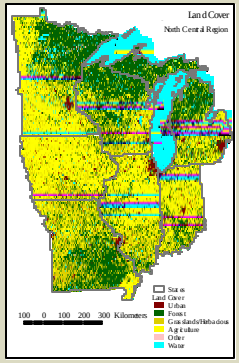
Methods

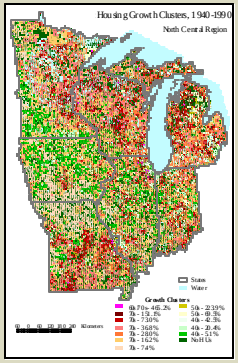
- Small, neighborhood-like units (PBGs)
- Cluster analysis identifies similarities and allows comparison across observations and over time

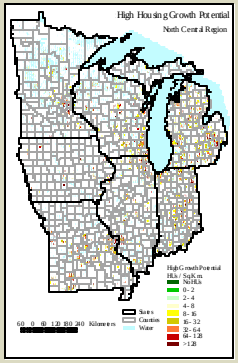
Rural and Suburban Development over Time











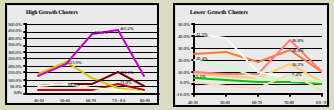
Housing Growth Clusters

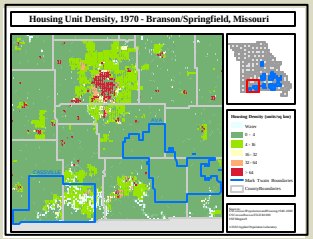
- Non similarities between housing growth cluster and land cover maps
- PBGs chosen by decade of highest growth and average growth rate in that decade
- High growth in more recent years in rural amenity areas (Northwoods, Ozarks) and at metropolitan fringe
- Agricultural areas show little growth since modest gains in 1940's and 1950's

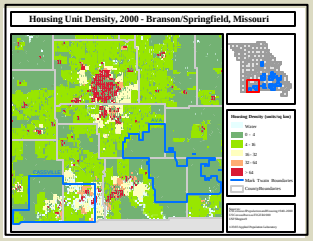
High Housing Growth Potential

- Metropolitan periphery
- Recreation and amenity areas

Types of Housing Density Growth over Time







Housing Density in 1970 and 2000, Branson/Springfield area, Missouri

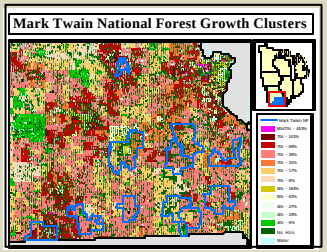
- Major changes in and near Cassville ranger district
- Magnitude of growth and proximity to forest may affect forest ecosystems and local management decisions
- Growth may sway public opinion about forest management as new attitudes enter, use increases, and socio-cultural and socio-economic characteristics shift (see graphs for right)

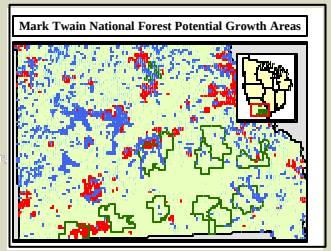
Mark Twain National Forest Growth Clusters

- 1940's was decade of slow growth for all of Midwest - no cluster had highest growth in 1940's
- 1970's was decade of highest growth in and around National Forest land
- Especially high growth in 1970's around Cassville and Ava ranger districts (Branson area) and around Cedar Creek ranger district (Columbia/Jefferson area)

Mark Twain National Forest Potential Growth Areas

- Zoom in of S. Missouri shows PBGs identified by cluster analysis as potential growth areas, based on past trends
- Areas of high potential growth are near forest land, water and on the urban fringe
- Uneven potential growth - Ranger districts vary
- Ranger districts with highest growth potential include: Cassville, Ava, Cedar Creek, Rolla, and Houston



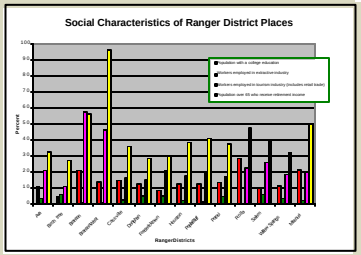


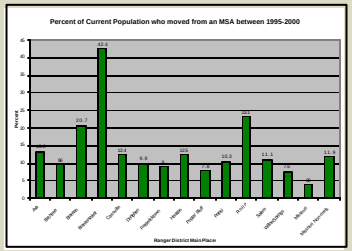
In-migration spurs social change in low density areas

- Changes in social values affect forest management decisions
- In-migration and change are uneven
- Branson, Branson West (maps at far left) and Rolla have very high percentages of recent in-migrants from metropolitan areas in their populations

What are some possible effects?

- Seniors have more retirement income, but may not have local family for support as they age
- In-migrants and tourists have higher education levels
- Branson and Branson West have high levels of tourism
- Economy is shifting away from extractive industry





Why Does it Matter?

- Complex urban and rural value differences; environmental attitudes, forest values may differ
- Urban in-migrants may bring organizing skills
- Changes in forest use patterns
- Retirees, amenity migrants may be less concerned about economic value of forest products
- Increases in education may change forest values
- Tourism focus may attract more growth (reciprocal relationship)

Sources: U.S. Census of Population and Housing 1940-2000, USFS Region 9, National Land Cover Dataset 1993

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