Alternative Futures: Effects of management and money on conservation land acquisition at the urban fringe, Kane County, IL

Adam M. Skibbe, Department of Landscape Architecture, 146 College of Design, Iowa State University, Ames, IA, 50010-3094, USA. amskibbe@iastate.edu
James R. Miller, Department of Landscape Architecture and Department of Natural Resources Ecology and Management, 146 College of Design, Iowa State University, Ames, IA, 50010-3094, USA. jrmiller@iastate.edu

Poster Abstract: Kane County is located west of Chicago on the fringe of the greater metropolitan area. Increasing development pressures have caused rapid increases in land consumption and property values. The Kane County Forest Preserve District currently has a program in place to purchase land for conservation, but it is important to fully understand the long-term costs associated with specific conservation goals. Our objectives are to 1) identify costs associated with long-term maintenance of existing conservation lands, 2) determine the amount of money necessary to maintain a viable conservation land-purchasing program under different scenarios, 3) identify differences in the geographic location of conservation land under different scenarios. Three scenarios [current trends for land conservation, increased land conservation, decreased land conservation] were identified as possible alternative futures for Kane County's conservation goals. A geographic information systems (GIS) model was created using ArcGIS 9.0 to evaluate these scenarios with consideration for maintenance costs, land market values, proximity to existing conservation lands, land use, and other criteria. Preliminary results suggest initial costs of restoration, in addition to long-term costs to maintain these conservation lands, are considerable. There are substantial differences in the costs among the three scenarios we considered. Regardless of scenario, the conservation network appears to show the most growth in the southern and western part of the county, likely due to land prices and proximity to existing conservation lands. The results of our project will foster explicit consideration of the long-term costs associated with conservation strategies. Additionally, our results will help county staff estimate future operating budgets specific to Kane County.

Topic Area: Conservation Planning

Key Words: Alternative Futures, Modeling, Geographic Information Systems, Urbanization