SPATIALLY EXPLICIT MODELS TO ENHANCE SPECIES MANAGEMENT IN CHANGING LANDSCAPES

A McIntire-Stennis project aimed at improving land management for the benefit of fish and wildlife habitat using geospatial models.

UNIVERSITY OF GEORGIA
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More than half of the world's land has been transformed into a new use, often from forests to agriculture and other developed uses. This transformation has major implications for our overall ecosystem and species biodiversity. Add to that the effects of climate change, and these land use changes will exert pressure on all of our landscapes, both natural and modified by humans.

When our landscapes are functioning properly, they benefit all, providing raw materials, water, recreation, pollination and animal habitat. But changes in landscapes make it difficult for land managers to make informed decisions. Thankfully, we can use technology to develop new models that alleviate these issues

This project aims to use geospatial tools, such as GIS and remote sensing, to develop and apply ecological models that can inform better wildlife management decisions. By combining population simulations with landscape maps, this project will create an updated set of tools to allow land managers more support for decisions across multi-use landscapes.

About McIntire-Stennis

The McIntire-Stennis program, a unique federal-state partnership, cultivates and delivers forestry and natural resource innovations for a better future. By advancing research and education that increases the understanding of emerging challenges and fosters the development of relevant solutions, the McIntire-Stennis program has ensured healthy resilient forests and communities and an exceptional natural resources workforce since 1962.

USDA

COLLABORATION

- Joseph Jones Ecological Research Center
- Georgia Department of Natural Resources
- Georgia Forestry Commission
- National Oceanic and Atmospheric Administration
- The Longleaf Alliance
- USDA Forest Service
- National Parks Service

7 GOVERNMENT AND NONPROFIT ORGANIZATIONS

IMPACT

Using spatially explicit tools will help prioritize funding for habitat conservation and restoration.

This project identifies coastal areas that can support critical species habitat by 2050 given projected sea level rise and development

Using GIS-based tools allows utilities and landowners to work together for species habitats and improved water quality

This project also helps pinpoint key areas of concern, such as a drastic decrease in the bat community in North Georgia

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