WILDLAND FUELS AND FIRE MANAGEMENT IN TEXAS: AN ECOLOGICAL AND HUMAN-DIMENSION COMPARATIVE APPROACH

A McIntire-Stennis supported project

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The current species composition and community structure of East Texas forests has drastically changed due to altered fire regimes, the introduction of exotic species, and anthopogenic management activities. Because of this, the region exhibits different potential wildland fire conditions than found historically. Additionally, land fragmentation caused by urban development provides opportunities for the movement and expansion of invasive plant species not included in previously classified fuel models. A greater understanding of these modern wildland fuel conditions in both growing and dormant seasons, and how those conditions may influence fire behavior and forest management is of utmost priority.

Using traditional field sampling methods for fuel assessment, along with chemical analysis of targeted species, vegetative communities of concern are being measured to determine fuel hazard conditions. This data will then be used in standard fire behavior models to evaluate if the changes in conditions found now cause differences in expected fire behavior.

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

The sites used for this project are owned or managed by various state and federal agencies, as well as a few private owners who generously provided access.

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Graduate students are supported through this project.

IMPACT

This research directly augments scientfic understanding of the effects of Texas' altered landscape on wildland fires, allowing land managers to better understand current fuel conditions and adapt land management practices accordingly.

14,500
Communities within Texas' wildland urban interface

>$49.2 million
Spent fighting Texas' wildland fires during the 2011 fiscal year.

10,026,086
U.S. acres burned by wildland fires in the 2017.