SERDP
Strategic Environmental Research and Development Program

Impacts of Military Training and Land Management on Threatened and Endangered Species in the Southeastern Fall Line/Sandhills Community

Conservation
CS-1302

Background:

In the southeastern U.S., the Department of Defense (DoD) has extensive land holdings in the Fall Line ecoregion, along the interface between the Coastal Plain and Piedmont provinces. Throughout this region, there are extensive areas of sandhills, which support a unique flora and fauna, including a suite of threatened and endangered plant and animal species (TES). Forests on military installations along the Fall Line are managed to promote open pine woodlands as habitat for the federally endangered red-cockaded woodpecker (RCW). It is not known whether management efforts directed primarily toward RCW populations are also beneficial, or possibly harmful, for other sandhills TES. A more holistic and efficient approach is needed to integrate the effects of land management, military training demands, and ecosystem sensitivities into management of sandhills communities and associated TES that occur in these habitats.

Objective:

This study evaluates the effects of forest management practices and military training activities on the Fall Line sandhills community and the suite of TES that they contain. Specific objectives are: (1) at the landscape level, to assess whether military training and forest management to promote RCW habitat (e.g., burn season and frequency, use of herbicides) are appropriate for managing sandhills communities, and (2) at the species population level, to determine how these combinations of forest management and training activities affect individual TES, such as select sandhills plant and animal species.

Summary of Process/Technology:

Spatially explicit landscape-level and species-based habitat models will be combined with field surveys and experiments to evaluate potential conflicts among management scenarios for selected TES. Geographic information systems (GIS) will be used to discriminate sandhills communities and to describe the spatial extent and intensity of forest management practices and military training at the primary study sites, Ft. Benning and Ft. Gordon, GA. Probability-based habitat models, nested within the landscape models, will be developed for selected TES and used to identify areas with habitat conditions that can support multiple species or habitat conditions where conflicts among species may occur. Field surveys and experiments will be used to quantify the impacts of forest management practices across the array of military conditions on sandhills communities and TES.

Benefit:

Results of this research will provide land managers at military installations along the Fall Line ecoregion with information needed to make decisions concerning training intensity and forest management that more effectively protect sandhills communities and their TES, and concomitantly allow for continued military training.

Sandhills communities of the Fall Line ecoregion are habitat to more than twenty plant and animal TES. Shown above are: Pickering's morning-glory (top left); chaffhead (top right); and Gopher tortoise (lower).

Accomplishments:

This project began in FY 2002. Accomplishments will be noted upon completion of the project.

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