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The Fire Effects Information System (FEIS) Doubling Our Knowledge about Fire and Eastern Invasive Plants

This is a quick overview of the recently completed JFSP research project, 08-1-2-04. This study presents synthesized information on fire and invasive plants east of the 100th meridian and was summarized by Dr. Molly Hunter.

Project Objectives

1. Provide a comprehensive synthesis in FEIS of available information on invasive plant species in the eastern U.S. focusing on
 - a. Evidence of invasiveness and conditions/locations of invasives
 - b. Effects of fire and fire management practices on the species
 - c. Effects of plant invasions on fuel, fire behavior, and fire regime characteristics
 - d. Potential use of prescribed fire to control the species
2. Develop a quantitative analysis of knowledge gaps regarding fire and invasive plant species in the eastern U.S.
3. Collaborate with directors of invasive species and fire programs to provide training and increase use of FEIS in the eastern U.S., among both federal and nonfederal wildland managers.

Specific Findings

- Fifty-seven knowledge syntheses covering the relationship of fire to 75 species of invasive plants in the eastern United States have been added to the Fire Effects Information System (FEIS, at www.fs.fed.us/database/feis) in this project; for a species list, consult Table 1 in the Final Report (https://www.firescience.gov/projects/08-1-2-04/project/08-1-2-04_ifsp_project_08-1-2-04_final_report.pdf), and for details consult species reviews in FEIS.
- Observation-based knowledge about fire effects on invasive plant species in the eastern United States is often lacking; we found observation-based information covering a majority of fire topics (e.g., immediate fire effect, postfire response, fuel properties, influences on fire regime) for fewer than half of 57 knowledge syntheses written for the Fire Effects Information System in this project.

Key findings

- There is a lack of high quality data on fire and invasive species in the eastern U.S.
- For the species with information on fire, data typically came from a narrow portion of the species range.
- The most common topics addressed in fire/invasive studies were fuels, invasive occurrence after fire, and post-fire seedling establishment.
- The topics with the least amount of high quality data included fire experiments, fire regimes, and heat tolerance of seed.

	Fire experiment	Fire regimes	Fuels	Heat tolerance of seed	Immediate fire effect on plant	Occurrence on burned site	Postfire abundance	Postfire seedling establishment	Postfire vegetative response
Number of reviews with Type 1 information	12	19	29	14	24	28	25	28	22
Percent of reviews with Type 1 information	21	33	51	25	42	49	44	49	39

Weblinks

Here's the address for the list of *all* invasives covered in FEIS:

<http://www.fs.fed.us/database/feis/plants/weed/index.html>

And here is the link to Fire Studies

http://www.fs.fed.us/database/feis/research_project_summaries/Fire_studies_page.html

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