



2017 FIRE CONGRESS Research Highlight



Response of seed bank composition to soil burn severity across a range of pine barren restoration phases

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MAIN QUESTIONS OR ISSUES THAT YOU ADDRESSED

How does fire severity of prescribed fire affect plant seed bank composition and diversity along a gradient of restoration phases?

LOCATION AND ECOSYSTEM INVESTIGATED

Pine barren ecosystems, northern Wisconsin, USA.

KEY FINDINGS OF YOUR RESEARCH

We found that seed banks were most associated with stage of restoration. Woodland areas, or degraded areas where restoration is just beginning, had high abundance and high richness of species. Woodlands represent a disturbance-free period that allowed forest development to later seral stages and, subsequently, time to build up seed.

HOW DID YOU ANSWER THE MAIN QUESTIONS OR INFORM THE ISSUES?

With the support of the Joint Fire Sciences Program, Lake States Fire Science Consortium, USDA Forest Service, and Michigan State University, we used a research design overlaid on a large restoration project of pine barrens. We stratified seed bank samples by dominant vegetation type, stage of restoration, and fuel conditions.

HOW MIGHT/WILL IT INFLUENCE FIRE MANAGEMENT DECISIONS OR PRACTICES?

The seed bank study provides managers with composition and abundance of seed reserves in various stages of restoration. This will aid efforts to understand the potential of the site to provide local seed for vegetation and habitat restoration.

WHO IS THE MAIN END-USER OF YOUR RESEARCH?

Forest managers and ecologists

CONGRESS SESSION

Connecting Direct and Indirect Measures of Soil Heating to First- and Second-Order Fire Effects Using Wildfire, Prescribed Fire, and Laboratory Investigation

This research was presented at the 7th International Fire Ecology and Management Congress, which was held in Orlando, Florida, November 28-December 2, 2017 and was hosted by the Association for Fire Ecology, in cooperation with the Southern Fire Exchange.