

## **12th North American Forest Ecology Workshop**

**Theme: Forests on the edge: forest ecology in rapidly changing conditions**

June 23-27, 2019 · Little America Hotel · Flagstaff, Arizona

Abstracts are invited from professionals—forest ecologists, silviculturists, wildlife biologists, and other forest researchers—and students who can demonstrate an alignment with conference’s theme and one or more of its interest areas, which are listed below.

The deadline for submitting a contributed abstract is Friday, February 1, 2019, with decisions announced as soon as possible thereafter but not later than Friday, March 1, 2019.

### **Contributed Session Categories**

1. Wildlife
2. Fire Ecology and Fire Response
3. Soils
4. Climate Change
5. Applications
6. Disturbances
7. Nonnative Species
8. Interdisciplinary
9. Social Science and Policy
10. Economics
11. Genetics and Adaptation

### **Selection Criteria**

Abstracts will be evaluated by at least two reviewers. To increase the probability that your abstract will be selected for presentation, please consider the following criteria carefully:

- Scientific merit
- Relevance to North American Forests
- Relevance to conference’s theme and interest areas
- Novelty of the topic (not covered at the past two workshops)

### **Guidelines for Abstract Preparation**

- Clearly indicate your preference: oral session or poster.
- Author(s) must select at least one theme from the list above that best describes the contents of their abstract.
- Each presenting author may submit no more than two abstracts.
- Once submitted, abstracts will be considered final.
- Abstracts may be no longer than 300 words; abstracts exceeding this limit will not be considered.

- Abstracts should be prepared as a Microsoft Word document, using 12 pt ‘Times New Roman’ font and single line spacing. If authors do not have access to Microsoft Word, abstracts may be submitted in the body of an email.
- Please indicate your status: professional or student (see example below). **Students must indicate their student status to be considered for prizes and awards.**

If you are submitting a contributed abstract, please send it to [NAFEW\\_abstracts@nau.edu](mailto:NAFEW_abstracts@nau.edu) no later than Friday, February 1, 2019. If your paper is part of an invited session, please send it to your session organizer.

## Presenting Authors

The presenting author is the person who will present the paper at the conference. Conference organizers will communicate only with the presenting author and all communication will be by email. For this reason, presenting authors must provide contact details, including an email address. The presenting author is asked to register for the conference no later than May 1, 2019.

## Abstract Example

**Presenting author’s email:** km325@nau.edu

**Preference:** Poster session

**Theme:** Nonnative Species

**Status:** Student

### **Disrupting mycorrhizal mutualisms: a potential mechanism by which exotic tamarisk outcompetes native cottonwoods**

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**Abstract:** The disruption of mutualisms between plants and mycorrhizal fungi is a potentially powerful mechanism by which invasives can negatively impact native species. We provide several lines of evidence indicating that invasive tamarisk (*Tamarix* sp.) negatively affects native cottonwoods (*Populus fremontii*) by disrupting their associations with arbuscular mycorrhizal (AM) and ectomycorrhizal (EM) fungi. At a field site in the early stages of tamarisk invasion, cottonwoods with tamarisk neighbors had reduced EM colonization and altered EM fungal community composition relative to cottonwoods with native neighbors, leading to reductions in EM propagule abundance in the soil beneath tamarisk. Similarly, AM colonization of cottonwoods was reduced with a tamarisk neighbor, but there were no significant changes in AM fungal spore communities or propagule abundance. Root colonization by nonmycorrhizal fungi, including potential pathogens, was higher in cottonwoods with tamarisk neighbors. A

greenhouse experiment in which AM and EM inoculation and plant neighbor were manipulated in a fully factorial design showed that cottonwoods benefited from mycorrhizas, especially EM, in terms of shoot biomass when grown with a conspecific, but shoot biomass was similar to that of nonmycorrhizal controls when cottonwoods were grown with a tamarisk neighbor. These results are partially explained by a reduction in EM but not AM colonization of cottonwoods by a tamarisk neighbor. Tamarisk neighbors negatively affected cottonwood specific leaf area, but not chlorophyll content, in the field. We measured soil chemistry in the field and the growth response of an EM fungus (*Hebeloma crustuliniforme*) to salt-amended media in the laboratory. Tamarisk increased both NO<sub>3</sub><sup>-</sup> concentrations and electrical conductivity 2.5-fold beneath neighboring cottonwoods in the field. Salt-amended media did not affect the growth of *H. crustuliniforme*. Our findings demonstrate that a nonnative species, even in the early stages of invasion, can negatively affect a native species by disrupting its mycorrhizal symbioses.