

From: Paige Barlow
Subject: MS assistantship - land use decision support in native prairie

Dr. Paige Ferguson, assistant professor in the Department of Biological Sciences at the University of Alabama, is seeking a MS student to begin in Summer or Fall 2017. Research will use structured decision making to evaluate management of private land use in the Black Belt Region of Alabama. The MS student will plan and run workshops with Black Belt prairie landowners and build and analyze a Bayesian decision network to identify optimal methods of private land management. Project outputs will include a better understanding of landowner objectives, identification of land management options that can help landowners meet their objectives, a decision network modeling prairie ecology and the expected outcomes of management options, and a ranking of management options by their expected ability to produce outcomes that satisfy land use objectives.

The Black Belt Region is of great interest ecologically and culturally. Land use change throughout the nineteenth and twentieth centuries have left less than 1% of the native Black Belt prairie. There is evidence that the Black Belt Prairie was historically connected with the Great Plains and may have served as a refugium for Great Plains species during glacial episodes. Several invertebrate species have disjunct distributions, with the Black Belt prairie comprising the eastern boundary of their range. The Black Belt prairie provides important habitat for many species of grassland birds and invertebrates. Sites in the Black Belt are also used for recreational hunting of white-tailed deer and quail. The human history of the Black Belt Region is as equally important as the natural history, and both have contributed to current patterns of land use and prairie habitat quality. From the mid-1800s to the early 1900s, the Black Belt Region was the site of extensive slave-based cotton farming. When cotton farming declined, land was often converted to pasture. In 2014, the poverty rate in the Black Belt Region of Alabama was 30.0%, well above state (19.2%) and national (15.5%) averages. How land is distributed and used may contribute to socio-economic patterns among landowners and to social, political, and economic dynamics in a region.

Applicants should have experience in many of the following: ecology, environmental science, working with landowners and management agencies, leading discussions, communicating with diverse people, project planning and organization, GIS, ecological modeling, statistics, computer programming, and field work. Applicants should be highly motivated and prepared to conduct independent research.

To apply, please email Dr. Ferguson (pfferguson@ua.edu) the following:

- 1. a cover letter describing your interest in the project and prior experiences that have prepared you for a MS in Dr. Ferguson's lab**
- 2. your undergraduate transcript (an unofficial copy is fine),**
- 3. GRE scores,**

4. a sample of your scientific writing (for example a manuscript or lab report), and
5. contact information for 3 references.

Review of applications will begin immediately and will continue until positions are filled.

The position comes with a full tuition waiver, a competitive stipend, and health insurance. Funding during the academic year is available as a Graduate Teaching Assistant through the Department of Biological Sciences. Highly qualified applicants may be considered for Graduate School Fellowships, which offer a Research Assistantship during the student's first year. A summer stipend and funding for summer field work expenses are available, and additional funds, as needed, will be acquired through internal and external funding sources in close collaboration with Dr. Ferguson. For example, funding for conference presentations is available competitively through the University of Alabama.

Additional information is available from the following links:

Dr. Ferguson's Research: <http://bsc.ua.edu/paige-ferguson/>

Department of Biological Sciences: <http://bsc.ua.edu/>

Graduate School: <http://graduate.ua.edu>

University of Alabama: <http://www.ua.edu>

Outdoor opportunities in Alabama: <http://www.outdooralabama.com>

Tuscaloosa: <http://www.tuscaloosa.com/visitor-services>