PH.D. POSITION IN SPATIAL RESILIENCE AND RESTORATION ECOLOGY

The labs of Dr. Dirac Twidwell and Dr. Craig R Allen at the University of Nebraska are looking for a highly motivated Ph.D. student to advance ongoing research that operationalizes the concept of spatial resilience in restoration ecology. Spatial resilience is the contribution of spatial attributes to the feedbacks that ultimately determine how complex systems adapt, change form, or persist, but the concept is not a mainstream focus of ecological restoration. Restoration efforts typically seek to overcome the resilience of an undesirable ecological state in order to promote the reorganization of a new state with greater ecosystem service potential, and would therefore benefit from knowledge of how spatial properties of ecosystems can make it easier, or more difficult, to achieve restoration success. For instance, landscape-level restoration actions have been implemented for years in the Great Plains to restore grasslands from their current woody-dominated state, and restoration effectiveness has not been assessed at broad scales. These locations provide a network of experimental sites central to understanding multiple questions, such as: How does the spatial structure and variation of systems contribute to complex and surprising restoration outcomes? How have novel contemporary human activities (e.g. tree plantings) altered spatial resilience of Great Plains grasslands and their potential to change form? Can knowledge of spatial resilience be used to more strategically employ restoration actions in the future?

The student will be joining the University of Nebraska's Complexity Science Working Group, which includes an interdisciplinary and international cohort focusing on applications of resilience theory in complex social-ecological systems. Students are given opportunities for cross-project collaborations and to pursue independent research interests. Natural resource management agencies are also anticipating that the findings from this research project will shape future conservation actions. The successful candidate will therefore be expected to build relationships with a diverse group of agency personnel and to communicate results in a manner that enhances learning and adaptive management in this landscape.

Qualifications:
The successful candidate will be highly motivated, passionate about scientific inquiry, possess excellent writing and communication skills, and publish research in refereed scientific journals. Applicants must possess an M.S. in a relevant discipline. The candidate should also have a strong interest in spatial ecology, a desire to conduct interdisciplinary research, and a passion to apply research to real-world restoration and conservation efforts.

Contact and application information:
Students interested in this position should send a statement of interest with research qualifications and career goals, GPA and GRE scores, your most recent transcript (unofficial is fine) and a CV that includes contact information for three references (email preferred). Please send applications to Dirac Twidwell (dirac.twidwell@unl.edu). Funding is available for 4 years. The stipend rate for 2017 is $25,200. Full tuition waiver and graduate student health benefits are provided. Review of applications will begin September 30, 2016, and continue until a qualified candidate is identified. The ideal candidate will begin January 2017.