

## 2011 US-IALE ABSTRACT

Title:

Navigating the methodological landscape: a roadmap for landscape ecologists

Wilson, Tammy L.

Edwards Jr., Thomas C.

Abstract:

Landscape ecologists typically ask questions addressing complex systems at spatial and temporal scales that make data analysis using traditional statistical methods inappropriate. In recent years there has been a rapid increase in statistical methods used by landscape ecologists for analyzing spatial ecological data. Development of these different approaches has gone on in relative isolation, leading to the creation of cottage industries surrounding methods. This trend has the potential to lead to a narrowing of focus among researchers working on both the development and application of a specific technique. We review the use of several statistical modeling approaches used by landscape ecologists to determine trends about the types of questions, scale domains, and quality of spatial information characteristic of each. In doing this, we identify similarities of seemingly disparate lines of research, and illustrate opportunities for advancing the field of landscape ecology by combining efforts of different methodological camps.

Key Words:

Generalized linear model

Niche model

Occupancy model

Resource selection functions

Species distribution model