2019 LAMBERSON ECOLOGY LECTURE SERIES

Please join us for a two-part lecture series presented by

Dr. Larissa Bailey,
Associate Professor
Colorado State University

Thursday, April 11, 2019

BSSB, Room 166

4:00 p.m. Afternoon technical talk

Recent Advances and Applications of Occupancy Models

The past decade has seen an explosion of the development and application of models aimed at estimating species occurrence and occupancy dynamics while accounting for possible non-detection or species misidentification. Here, I discuss some recent occupancy estimation methods and the biological systems that motivated their development. Collectively, these models offer tremendous flexibility, which may also be a liability. Investigators utilizing occupancy models have the ability, and responsibility, to define their sample units, replicate sampling occasions (i.e., surveys), the time period over which species occurrence is assumed to be static, and even the criteria that constitutes 'detection' of a target species. to illustrate the breadth of biological questions that can be addressed with these models.

A pre-lecture reception will be held in the foyer outside of Natural Resources, Rm. 101 at 6:00 p.m.

NR, Room 101

6:30 p.m. Evening, public talk

Combining Science and Expert Knowledge to Determine Optimal Management Strategies for a Declining Amphibian

Emerging infectious diseases (EIDs) are a salient threat to many animal taxa, causing local and global extinctions, altering communities and ecosystem function. On such disease, chytridiomycosis, is a prominent driver of amphibian declines caused by the fungal pathogen *Batrachochytrium dendrobatidis* (Bd). To guide conservation policy, we combined empirical knowledge of host-pathogen metapopulation dynamics with expert judgment regarding effects of management actions, to select from potential conservation strategies. Our findings are incorporated into management policy to guide conservation planning. We also developed a user-friendly online application that could serve as a template for managers of other systems challenged by EIDs.

The Lamberson Ecology Lecture Series is co-hosted by emeritus professor, Dr. Rollie Lamberson and the College of Natural Resources and Sciences at https://cnrs.humboldt.edu/.