

Managing White-Nose Syndrome in the Presence of Spatial Dynamics

White-nose syndrome (WNS), caused by the invasive fungal pathogen *Pseudogymnoascus destructans*, is a virulent disease that has plagued North American bat populations since 2006. Over the past decade, WNS has rapidly spread throughout much of the eastern United States, leading to mass mortality and threatening range-wide extinction in many bat species. Previous studies have explored disease dynamics and control in a single hibernaculum model. Using a two-hibernacula model, my colleagues and I incorporated spatial dynamics to investigate the effects of seasonal bat dispersal on the efficacy of five developing control strategies. In this presentation, I will talk about the single hibernaculum model, the multi-hibernacula model and the efficacy of controls in those models. In the end, I will show that the effects of dispersal on control efficacy is dependent on both the control combination and the primary mode of disease transmission.