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Research Interests

Broadly, I am interested in understanding fundamental ecological relationships and applying this understanding to conserve and restore natural habitats. Specifically, I focus on all aspects of invasion biology such as biological control, multitrophic interactions, population dynamics, and ecological impacts.

Current Project

My current research seeks to develop an integrated pest management approach to control the invasive emerald ash borer, a wood-boring beetle that has killed millions of ash trees in North America and continues to spread rapidly into new areas. A classical biological control program targeting emerald ash borer has been in place since 2007, however because of the rapid tree mortality caused by EAB and its dispersal and population growth capabilities, establishing a natural enemy population sufficient for control has been challenging. I seek to create a self-sustaining EAB-parasitoid system by treating a select number of trees with insecticide to prevent or suppress the initial exponential increase of EAB populations in newly invaded areas enough to allow natural enemy populations to establish and increase to levels capable of controlling EAB before widespread tree mortality occurs.