Environmental Sciences Graduate Program Student Seminar Series

Impacts on community assembly in a degraded oak forest: Understanding the relationships between abiotic, biotic, and disturbance filters on native tree regeneration, recruitment, and resiliency

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February 19th, 2021 | 2:00-3:00 PM

Join Zoom Meeting
https://osu.zoom.us/j/99820921442?pwd=d3hpTS9wYnc2Z29uZDR4NE4wNy81UT09

Meeting ID: 998 2092 1442
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Abstract

Removal of natural disturbance regimes from oak forest communities has led to alterations in oak forest traits (i.e., canopy cover, soil moisture) leading to mesophication and the encroachment of non-native invasive species. As mesic and non-native invasive species populate the oak forest community, the regeneration and recruitment of the native tree species are negatively impacted. Understanding the degradation in oak forests' regeneration and recruitment cycling can assist in the restoration of an oak forest's community assembly. My research examines the abiotic, biotic, and disturbance filters in an existing degraded oak forest, and how each filter impacts the regeneration, recruitment, and resiliency of the native trees. Using canopy cover, canopy group type, non-native invasive species coverage, and the integrated moisture index, ecological significances are explored between the filters, abundance of specie functional types, and composition of woody vegetation in the seedling, sapling size classes. Once ecological significances are identified between abiotic/biotic filers and regeneration, disturbance practices for restoration can be studied. For my research, the disturbances of mechanical clearing and goat grazing are employed to determine the best management practice in eradicating non-native invasive species and limiting negative impact on the native tree species.