

**CFAES**

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES

THURSDAY JUNE 28, 2018 | 1 P.M. | KOTTMAN HALL 333

# GRADUATE EXIT SEMINAR

Bryce Adams

*Quantifying Avian and Forest Communities to Understand Interdependencies of Ecological Systems to Inform Forest Bird Conservation*



Advisor: Dr. Stephen Matthews

My overall research seeks to integrate new methodologies for the landscape-level quantification of avian and forest communities and to investigate the interrelationships that emerge to help inform forest bird conservation in southeastern Ohio. Avian and forest communities were sampled across a spectrum of forest stands of different composition and structure among six study sites in 2015 and 2016 in southeastern Ohio. My objectives include: (1) to determine the relative importance of plant species composition versus vegetation structure for the species composition of avian assemblages; (2) to examine the effectiveness of multi-sensor fusion of disparate remote sensing platforms for the improved monitoring of forest successional state; (3) to incorporate concepts of community-continua in the mapping of forest communities; (4) to develop predictive models of bird species abundance to map potential habitat quality for selected species and examine the importance of various remotely-sensible data attributes; and (5) to develop a community-level model of bird species composition and evaluate its efficacy in providing species-level inference. Collectively, my results help to reinforce (1) the importance of environmental heterogeneity in maintaining bird diversity within managed forests, (2) the many interdependencies among avian and plant assemblages, and (3) the effectiveness of remote sensing platforms in quantifying ecological process and spatial pattern of forested landscapes.