

PhD Position – Penn State Applied Population Ecology Lab – Determining drivers of large-scale variation in avian demography

I am recruiting a PhD student to begin in the fall of 2014 to work on a project examining large-scale geographic variation in avian population dynamics. Our research group focuses on the application of demographic methods to inform species' conservation and management (<http://ecosystems.psu.edu/research/labs/miller-lab>). The student will be housed in the Department of Ecosystem Science and Management at Pennsylvania State University and will have the opportunity to choose between the graduate programs in wildlife (<http://ecosystems.psu.edu/graduateprograms>) and ecology (<http://www.huck.psu.edu/education/ecology/>).

The project will focus on determining how environmental factors, density, and land-use affect demography of mourning dove populations. The student will have access to more than a decade of recruitment and mark-recapture data, collected from more than 40 states throughout the species' range, as well as historic datasets on abundance, nesting biology, and juvenile recruitment. These comprise some of the most comprehensive, detailed, and wide-spread avian demographic datasets ever collected for a single species. Depending on research interests, the student may focus on within-species life-history variation, approaches to dynamic species distribution modeling, scaling of environmental drivers of population dynamics, local variation in the effect of climate drivers on demography, and/or the application of demographic models to decision analysis. There will be a strong quantitative component to the project, which will include developing hierarchical models in a Bayesian framework to determine factors influencing population parameters and assisting in the development of population models to be used in making predictions. The student will be expected to collaborate with and solicit input from personnel at the US Fish and Wildlife Service and state-agencies tasked with management of migratory dove populations.

The ideal candidate will have a strong interest in quantitative ecology and population demography. Applicants with previous experience in the following areas will be given priority: estimating demographic parameters (e.g., mark-recapture), implementing hierarchical models using MCMC, managing large databases, programming in R, GIS, decision-making for harvest management, and/or modeling climate change effects. An M.S. degree in Ecology, Wildlife Biology, Statistics, or other similar fields is preferred, but I will also consider students with only an undergraduate degree that have a demonstrated interest in quantitative ecology.

To apply:

Interested applicants should send a cover letter including a description of their research interests, CV including GRE scores and GPA, and names and contact information for 3 references to Dr. David Miller (dxm84@psu.edu). I will begin to review applications as they arrive and hope to make a final decision by mid-January.