ECOLOGY AND ENVIRONMENTAL SCIENCE

 Poster presentation

Season fluctuations in *Ambystoma barbouri* eDNA in central Kentucky streams.

ANDREW W. NESSELROADE1, RONALD B. SAMS1, CIERLA V. MCGUIRE1, SUMATHI SANKARAN-WALTERS2, MIKE C. MCGRANN2, MALINDA A. STULL1, BEN F. BRAMMELL1

1Department of Natural Sciences, Asbury University, Wilmore, KY 40390

2Department of Environmental Science, William Jessup University, Rocklin, CA 95765

Environmental DNA (eDNA) provides an effective, non-invasive method to determine organism presence or absence in an efficient manner. The majority of salamanders native to central Kentucky have an aquatic phase to their life cycle. Many *Ambystomid* species persist as aquatic larvae for just a few months before progressing to their terrestrial phase. We developed species specific eDNA primers for streamside (*Ambystoma barbouri*) salamanders that effectively amplify salamander DNA filtered from stream water. We collected 1 liter water samples biweekly from February to July 2015 in four small streams in Jessamine and Madison County, Kentucky to examine season fluctuation in eDNA levels of different salamander species. Initial data reveal a complete absence of *A. barbouri* eDNA in early spring samples but high levels later in the spring corresponding with breeding and larval presence. RT PCR analysis is in progress in order to determine quantitative levels of DNA at each collection. These data add to the growing pool of knowledge concerning eDNA monitoring of species and should provide useful reference data for future monitoring or range delineation studies.