

KATIE SCOTT & ZACHARY LOUGHMAN, Department of Biological Sciences, West Liberty University. Specific microhabitat utilization and resource partitioning of the federally protected species of crayfish (Decapoda: Cambaridae) *Cambarus callainus* and the sympatric Cambarid species *Cambarus hatfieldi*

Following the description of *Cambarus callainus*, a range-wide survey was completed to determine the current distribution and conservation status for the species, resulting in federal protection enforced by the United States Fish and Wildlife Service. While significant efforts evaluating physiochemical and physical habitat associations for *C. callainus* have been completed, a more specific analysis of microhabitat utilization, habitat preference, resource partitioning, and movement patterns remains incomplete. We aim to resolve these unknowns for *C. callainus* as well as the sympatric species *Cambarus hatfieldi* by observing potential species interactions regarding habitat preference and individual movement patterns, assessed via radiotelemetry. Ten adult *C. callainus* individuals at each of two selected sites will be fitted with transmitters, as well as ten adult *C. hatfieldi* individuals from a single collection site. Tracking will occur hourly over the course of ten days of varying lunar luminosity during the summer and repeated the following year. Qualitative Habitat Evaluation Index forms and hydrology data will be documented for observed microhabitat. Efforts will also include attempting to locate young of the year and determine movement patterns within the stream, as that has not yet been observed and would be beneficial to designing and implementing appropriate conservation protocols.