

DESTINEE A. DAVIS and DR. ZACHARY J. LOUGHMAN, West Liberty University, Department of Natural Sciences and Mathematics, West Liberty, WV, 26074. Movement Ecology of the Big Sandy Crayfish (*Cambarus callainus*) Assessed via Radio Telemetry

In 2018, a life history study was conducted for *Cambarus callainus* (Big Sandy Crayfish), a federally threatened species endemic to the coalfields of Kentucky, Virginia, and West Virginia. Most crayfish life history studies make broad assumptions regarding habitat preference and temporal patterns. Additionally, life history studies fail to account for diurnal movements based on species specific behavior. Previous surveys indicate *C. callainus* showing a preference towards large slab boulders in fast flowing water with little sedimentation. However, they can be found in areas with high anthropogenic disturbances such as mining, timber, and urbanization. In 2013, Zachary Loughman used radio telemetry to track *Cambarus chasmodactylus*, an ecological equivalent to *C. callainus*. Their method was effective and non-invasive—an essential proponent when dealing with federally protected organisms. Beginning May 2020, I will begin a radio telemetry movement and behavioral study in the Tug Fork and Upper Guyandotte river systems. A radio transmitter will be attached to the left chela of *C. callainus* which will be tracked over multiple tracking periods. The data collected will be used as a baseline to determine how anthropogenic disturbances could affect the movement and behavior of *C. callainus*. Furthermore, this study will fill knowledge gaps for *C. callainus* such as its habitat interaction, diurnal habitat preferences, and movement.