

CHRISTOPHER VOPAL, Dept of Natural Sciences and Mathematics, West Liberty University, West Liberty, WV 26074, ZACHARY LOUGHMAN Dept of Natural Sciences and Mathematics, West Liberty University, West Liberty, WV 26074. Life History of an Imperiled Appalachian Crayfish Species, *Cambarus callainus* (Big Sandy Crayfish)

In 2016, a species of crayfish endemic to Central Appalachia, *Cambarus callainus* (Big Sandy Crayfish), was listed by the United States Fish & Wildlife Service (USFWS) as threatened under the Endangered Species Act (ESA) due to limited and declining range caused by various anthropogenic activities, especially those causing stream sedimentation. *Cambarus callainus* was recently described and was formerly considered to represent the Big Sandy River populations of *Cambarus veteranus* (Guyandotte River Crayfish), a species which was listed as endangered under the ESA by USFWS in 2016. A limited picture of the life history of *C. callainus* has been pieced together from surveys conducted over the past decade, as well as from specimens from historic collections. A more complete life history analysis of *C. callainus* is needed, one which follows the same populations a consecutive year, which will better aid state and federal agencies in formulating effective conservation strategies. A twelve-month life history of *C. callainus* began in March 2018, following two populations. One population in the Dry Fork watershed at War, WV; and the other population in the Russell Fork watershed at Haysi & Davenport, VA. The project also examines the community composition and interplay with three syntopic stream crayfish species: *Faxonius cristavarius* (Spiny Stream Crayfish), *Cambarus hatfieldi* (Tug Valley Crayfish), and *Cambarus theepiensis* (Coalfields Crayfish).