KALEB NORRIS, ZACHARY LOUGHMAN, Department of Biological Sciences, West Liberty University, West Liberty, WV 26074, & KATHRYN SCHULZ, Office of Kentucky Nature Preserves, Kentucky Energy and Environment Cabinet, Frankfort, KY 40601. Updated Occurrence and Species Accounts of Crayfish in Southeastern Kentucky's Upper Cumberland River Subbasin

The southeastern United States represents the global center of freshwater crayfish biodiversity. The geological and hydrological heterogeneity of the Appalachian Mountain region creates ideal conditions for narrowly endemic species including numerous crayfish species. Kentucky, situated with the central Appalachia region, supports over 60 species of crayfish. In Kentucky, three large scale crayfish surveys have been conducted since Ortmann's (1931) survey of southern Appalachian crayfishes; however, no study has focused solely on Upper Cumberland River subbasin. In response to this knowledge gap, West Liberty University's Astacology Lab was tasked with conducting field surveys within the Upper Cumberland watershed during the 2024 – 2025 field season. These efforts produced a comprehensive species list, update distribution maps, and new species accounts for over 300 sites and 3,000 individuals within the region. Defining species occurrence and geographic range allows local and government agencies to allocate conservation resources more effectively. Historically, broad regional scale crayfish surveys have led to new species discoveries, undocumented range extensions, and taxonomic revisions within the Upper Cumberland River subbasin. Preliminary data collected by the West Liberty University Astacology Lab during the 2022 – 2024 field season have already extended the known ranges of at least 3 species of crayfish and revealed numerous taxonomic uncertainties within southeastern Kentucky.