ZACHARY W. DILLARD, NICOLE M. SADECKY, RACHEL K. SCOTT and ZACHARY J. LOUGHMAN, Department of Natural Science and Mathematics, West Liberty University, West Liberty, WV 26074, and Stuart A. Welsh, U.S. Geological Survey, West Virginia Cooperative Fish and Wildlife Research Unit, Morgantown, WV 26506. Environmental Associations of *Cambarus Veteranus* Faxon, 1914 (Decapoda: Cambaridae), an Imperiled West Virginian Crayfish.

Cambarus veteranus Faxon, 1914, a narrow endemic crayfish native to the Upper Guyandotte River Basin (UGB) in West Virginia, was petitioned in 2005 by the United States Fish and Wildlife Service to be listed as Endangered. However, a status survey was recommended to determine if listing was warranted. During May and June 2015, surveys were undertaken across the UGB to determine the current distribution of *C. veteranus*. A total of 71 sites were sampled, including all streams where the species was previously recorded, as well as semi-randomly selected streams, with 1-9 125 m long sites sampled per wadable stream. Physiochemical and physical habitat data (based on the Qualitative Habitat Evaluation Index, QHEI) were obtained at each site to determine abiotic factors associated with *C. veteranus*. Site detection or non-detection of *C. veteranus* and associated site covariates were modeled using logistic regression to determine covariates associated with the presence of the species. *C. veteranus* was present in both the Pinnacle Creek and Clear Fork/Laurel Fork watersheds at 10 sites, but it was not observed in the remaining 61 sites. An additive effects model with conductivity and QHEI was selected as the best approximating model. *C. veteranus* was associated with lower than average UGB conductivity (379 µS) and high (>80) QHEI score. All sites where *C. veteranus* was not detected had higher conductivity and/or lower QHEI scores.