

## **Distribution and habitat preferences of eastern hellbenders within the Greenbrier River**

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The eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*) is experiencing extensive population declines throughout its native range as a result of habitat loss and degradation associated with widespread anthropogenic activity. Consequently, there is a critical need to conserve and expand remaining populations. One factor currently limiting conservation efforts within West Virginia is a lack of knowledge regarding the extent of their distribution. The overall goal of this study was to better understand distribution and habitat use of eastern hellbenders within the Greenbrier River, WV. Hellbenders are known to occur in the East and West Forks of the Greenbrier River; however, their status within the Greenbrier River main-stem is unknown. Our specific objectives were to: 1) characterize habitat preferences of individuals within targeted sites via traditional survey techniques; and 2) use environmental DNA (eDNA) to sample a larger number of sites to determine their distribution along the Greenbrier River main-stem. Physical surveys yielded three individuals from 17 total sites. Hellbenders within the East and West Forks were observed to occupy sites and focal microhabitats with less fine sediment (i.e., sand and silt). Physical surveys yielded no individuals from the Greenbrier River main-stem. Currently, eDNA collected from the West Fork sites where hellbenders were identified via physical surveys were positive. While, eDNA samples from the main-stem are currently being analyzed and should provide a better understanding of the status of the eastern hellbender within the Greenbrier River.