

The Habitat Preferences of the Data Deficient, *Cambarus spicatus*

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The Broad River Spiny crayfish, *Cambarus spicatus*, is endemic to the Broad River and some of its tributaries. Few life history studies of *C. spicatus* have caused the IUCN to list it as data deficient. The goal of this study was to determine the impacts of land development on the distribution of *C. spicatus*. In the summer of the 2017, the West Liberty University Crayfish Conservation Research Lab surveyed the Catawba watershed in North Carolina and the Broad and Saluda watersheds in South Carolina in search of *C. spicatus*. A standard protocol of ten seine hauls per riffle was implemented in one hundred and twenty-three streams. Dip nets were used in addition to seines to survey the banks of the streams. ArcMap, an application of ArcGIS, was utilized by adding layers such as land cover and a buffer around each collection area which provided land type percentages for each survey site. Six individuals from four sites in North Carolina and one individual from South Carolina were collected out of a total of one-hundred and twenty-three sites. According to the models, *C. spicatus* was least likely to be found in areas developed for agriculture and urban development. This study provides strong evidence that land development is negatively impacting *C. spicatus* distribution. Additional studies are needed throughout the species range to make a final determination that land development has a negative impact on *C. spicatus*.