

Establishing water and crayfish community baselines for streams harboring the federally threatened Big Sandy Crayfish (*Cambarus callainus*)

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Coal slurry, one of the main pollutants created from coal mining, can spill from retention ponds and end up in aquatic ecosystems, potentially harming aquatic life. An area especially affected by this issue due to the heavy presence of coal mining is the central Appalachian coalfields. Aquatic life native to the coalfields where spills occur serve as a source of take for two federally listed crayfish: threatened *Cambarus callainus* and endangered *Cambarus veteranus*. Although this is a prominent issue, no baseline physiochemical data exists for streams harboring *C. callainus*. The main goal of this effort was to establish physiochemical and biological baselines of coalfields streams by measuring common water quality parameters and the crayfish community for one year at historic/current *C. callainus* sites. Results indicated there were not strong correlations between any chemical driver and total crayfish or crayfish species presence/absence. This data will be used to generate a response protocol to coal slurry spills to aid coalfields crayfish and other aquatic taxa in the future.