

## ABSTRACT

**RESEARCH PAPER:** THE EFFECTS OF PHARMACEUTICALS ON METRICS OF THE FRESHWATER BIVALVE, *CORBICULA FLUMINEA*: A FIELD STUDY

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Rivers and streams around the world are increasingly polluted by pharmaceuticals and personal care products (PPCPs). In order to understand what the effects on freshwater systems are, it is necessary to combine laboratory testing of water samples in conjunction with biomonitoring. The Asiatic clam, *Corbicula fluminea*, is an ideal species for biomonitoring since they accumulate toxins within their tissues. In 2011 and 2012, *C. fluminea* were systematically sampled across nine sites in 2011 and nineteen sites in 2012; water samples were collected and subsequently analyzed for pharmaceuticals. Principal component analysis, Canonical Correspondence Analysis, and univariate linear regressions were used to analyze the results from both sampling years. Results from the Principal Component Analysis showed *Corbicula fluminea* density and average biomass were related to environmental parameters. Results from the Canonical Correspondence Analysis showed Triclocarban and Carbamazepine were related to environmental parameters. In 2011, *C. fluminea* density was correlated with Carbamazepine; there were no relationships in 2012.