

A QUALITATIVE FRESHWATER MUSSEL (BIVALVIA: UNIONIDAE) SURVEY OF THE LAMINE AND BLACKWATER RIVER BASINS, MISSOURI

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ABSTRACT

From 2003 to 2006 freshwater mussels (Bivalvia: Unionidae) were qualitatively surveyed in the Lamine River basin, a Missouri River tributary in west central Missouri. Timed searches (average time/site = 1.9 hr) were conducted to ascertain the distribution, diversity and abundance of unionids in the basin. A total of 45 sites were sampled and 5287 individuals from 27 species were observed, including *Ligumia recta*, a Missouri Species of Conservation Concern. The invasive *Corbicula fluminea* was observed live at nearly all sampling locations throughout the basin. Overall average Catch per Unit Effort (CPUE, live individuals/person hr) was 54.7 and ranged from 0 to 417.6. *Amblema plicata* was the most abundant species, with 2989 individuals recovered at 34 sites, representing 56.5% of the live mussels collected. *Leptodea fragilis* and *Potamilus alatus* were the most widely distributed species, each occurring at 36 sites. The Lamine basin unionid fauna (30 historic, 27 extant species) is more diverse than that of prairie streams in the Missouri River system and is similar to Ozark rivers. Given the anthropogenic impacts occurring in the basin, the Lamine River basin has a diverse freshwater mussel fauna. A number of species rich mussel assemblages were observed in the mainstem Lamine River. Continuing with management objectives to maintain water quality, improve aquatic habitat, and work with private landowners to stabilize streambanks and improve riparian zones will be necessary to maintain the diversity of freshwater mussels in the Lamine River basin.

KEY WORDS Freshwater Mussels, Qualitative Survey, Lamine River, Blackwater River, Missouri