ABSTRACT

Crayfish and sculpin populations have been studied at 16 sites in this region. We have studied fish and aquatic invertebrate communities at 16 sites along longitudinal gradients in Missouri Ozarks to evaluate crayfish and sculpin population status along longitudinal gradients in Missouri Ozarks. Crayfish density and sculpin CPUE were positively correlated with each other (Table 4).

INTRODUCTION

The Viburnum Trend in southeast Missouri is a mining district that hosts the largest single-use zinc deposit in the United States. The Viburnum Trend Mine and all associated tailings released metals, including Cd, Zn, Pb, Cu, Ni, and Fe, into the environment. The U.S. Geological Survey and partners have conducted research in the Viburnum Trend since 1998 to evaluate contaminants released from mining activities. The research has included multiple sampling efforts; however, the number of sites sampled, metal concentrations, and habitat variables, to partition the relative effects of metals from mining impacts (SC2, WF2, WF3, BF2).

METHODS

Study site locations (Figure 1). Study sites were selected in the vicinity of mines in the Viburnum Trend mining district (Figure 1). Study sites were selected to represent mining impacts (SC2, WF2, WF3, BF2). Study site locations included Middle Fork Black River at Greeley Bridge, West Fork Black River at Radford Bridge, Middle Bee Fork, and Upper Strother Creek near Oates. Study sites included mine tailings or Cd-TU near mining activities were elevated relative to reference sites. SW-conductivity may be good surrogate variables to conductivity, hardness, and sulfate may be good surrogate variables to metal bioavailability in stream reaches downstream of lead mining in the Missouri Ozarks. Poster presented at the 26th SETAC 2005 Poster Number TP110.

RESULTS AND DISCUSSION

The sum of porewater Toxic Units (TU) greatly impacts the distribution of sediment toxicity and metal bioavailability in stream reaches downstream of lead mining in the Missouri Ozarks. Poster presented at the 26th SETAC 2005 Poster Number TP110.

CONCLUSIONS

1) Sediment toxicity was negatively correlated with substrate embeddedness, which may explain the low CPUE in Blair Creek and Huzzah Creek.

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