

Report for 2001MO2901B: Identifying Reference Stream Reaches for Comprehensive bioassessment

There are no reported publications resulting from this project.

Report Follows:

Summary Report of Final Project

Identifying reference stream reaches for comprehensive bioassessment.

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Research was conducted to validate the Missouri Resource Assessment Partnership's (MoRAP) newly designed hierarchical classification scheme using biotic assemblages. The Aquatic Ecological System (AES) level of the scheme was evaluated using crayfish assemblages. Six species of crayfish were sampled from four macrohabitats: runs, backwaters, riffles, vegetation plots, from nine streams in three AES units within the Meramec Ecological Drainage Unit (EDU). Crayfish assemblages were compared both within and between AES's for all four macrohabitat types.

The results showed that there were differences in crayfish assemblages between the three AES Types, just as predicted by the model. Assemblages of crayfishes varied between the three AES Types for any given macrohabitat, yet the assemblages, within an AES Type, were relatively similar for riffles and runs as well as backwaters and vegetation plots. There was more variation in assemblages between AES types than within, suggesting that the Aquatic Ecological System level of the hierarchy was appropriate for classifying differences in some aquatic biota. This research indicates a good potential for the MoRAP system in improving conservation and management programs at the regional level. Subsequent evaluation of the hierarchical system using the benthic invertebrate community is currently underway.