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Joel Hoffman, PhD
Research Biologist

US Environmental Protection Agency Office of Research and Development
National Health and Environmental Effects Research Laboratory
Mid-Continent Ecology Division
6201 Congdon Blvd
Duluth, MN 55804 USA

Poster presentation:

Title: Zooplankton linkages between rivers and Great Lakes: case study from the St. Louis River

Authors: Andrew Just*, Timothy D. Corry, and Joel C. Hoffman

US Environmental Protection Agency Office of Research and Development, National Health and Environmental Effects Research Laboratory, Mid-Continent Ecology Division, 6201 Congdon Blvd, Duluth, MN 55804

*presenting author; just.andrew@epa.gov; 218-529-5228

Abstract

In this case study, we characterized the spatial and seasonal distribution and abundance of zooplankton within the hydrologically complex drowned river mouth of the St. Louis River, the second largest tributary to Lake Superior and an important fish nursery. We hypothesize that zooplankton dynamics in Great Lakes river mouth ecosystems are influenced by tributary discharge and periodic seiches. We sampled nine stations along the river-lake transition zone from early May through mid July. The maximum total abundance ranged from 52 zooplankton m^{-3} , which occurred in a protected embayment, to 3.5 zooplankton m^{-3} , which occurred in St. Louis River thalweg samples in the central portion of the study area. Although overall abundance was low in the river, temporal variability was high in upriver samples and low in those stations most influenced by Lake Superior. Species distributions reflected the connection to the lake, with Lake Superior zooplankton most prevalent at the station located adjacent to the lake. Together, zooplankton and water quality data reveal dramatic differences between the lotic river environment and more lentic environments provided by adjacent embayments, which emphasizes the importance of characterizing sub-basins of differing geomorphology within a river mouth ecosystem. This abstract does not necessarily reflect U.S. EPA policy.