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Diversity and Abundance of Aquatic Macroinvertebrates Associated with Different Benthic Substrates in the East Branch of the Little Calumet River

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As part of an ongoing study of the effect of removing logjams to open the East Branch of the Little Calumet River for recreational purposes, we worked with park staff at the Indiana Dunes National Lakeshore on a study of the abundance and diversity of aquatic macroinvertebrates. We used a quantitative sampling technique to obtain samples of macroinvertebrates from five substrates in reaches of the river above and below four focal logjams. Diversity as measured by the Shannon-Weiner index varied with river substrate (sand=1.467, root wad=1.854, wood=1.64). Sand had the lowest average number of macroinvertebrates (92, as compared to 191 in root wad and 140 in wood). We found that Ephemeroptera were especially abundant on woody debris, Amphipoda and Diptera were abundant in root wads, and Coleoptera were least abundant in sand. Overall, sand was the least productive substrate, while root wads and woody debris were generally more productive. Our data will provide initial baseline values to detect potential changes resulting from logjam removal. This research project provides the national park with data important to the management of tributary streams within their jurisdiction.

Information about the Authors:

Ali Olson is a senior geography major with a Native American studies minor and has worked as a water quality intern at the Indiana Dunes National Lakeshore. Halina Hopkins is a senior biology, environmental science, and humanities major with experience in biological fieldwork. They both are seeking jobs in fieldwork or education related to environmental conservation. Halina intends to attend graduate school in education to earn a master's degree and her teaching license in preparation for a career as a middle school science and English teacher and a future teacher educator. Ali hopes to continue working in outdoor settings on projects related to sustainable living and is considering further study relating to the environment. They became interested in this topic because of their interest in environmental science and the opportunity to work with the national park as part of a larger study.

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