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# Local students to help test river

BY HOWARD MCEWEN | ENQUIRER CONTRIBUTOR

In August, for the sixth consecutive year, researchers from six schools, including Northern Kentucky University, Thomas More College and the University of Cincinnati, will take samples of the Ohio River every five miles of its 981-mile length from Pittsburgh to Cairo, Ill.

The research project, done the same time every year, is known as the Ohio River Run.

"The NKU part of the team concentrates on the basis of the aquatic food chain in the river, the algae and, in particular, the diatoms. Algae are excellent indicators of environmental conditions and can indicate potential taste and odor problems of interest to the drinking water industry. Some algae also are potential toxin producers," said Dr. Miriam Steinitz-Kannan, a professor in NKU's department of biological sciences. Diatoms are a type of phytoplankton.

ADVERTISEMENT The other schools also have specific areas of study. UC measures water chemistry. Thomas More researches zebra mussels, and Marshall University studies antibiotic-resistant bacteria and coliforms. This year, Murray State University and Hanover (Ind.) College have been added to the team.

"We collect the data to understand the Ohio River's ecosystem. We also want to help develop and evaluate good indicators of water quality such as a Diatom Index of Biological Integrity or an Index of Water quality based on the presence of antibiotic resistant bacteria," Kannan said.

The data are expected to be published in a book to be written by Joshua Cooper, who participated in the project as an NKU undergraduate and will begin graduate school in Oklahoma this fall.

Students are involved in collecting data during the two-week trip and analyzing it at NKU. Each student receives a directed research credit for their work.

After five years, the researchers have enough data to make some generalizations about the river's quality and health.

"We can compare years with low water with very wet years," Kannan said.

"We have years when zebra mussels are very high and others when there are hardly any. The zebra mussels have dramatic effects on the algae. When they are present in large numbers, the river can turn pea-green with blooms of potentially toxic cyanobacteria that the zebras do not eat. The results show a very dynamic river."

Ohio River Run is done when dry weather makes boating downriver easier. Zebra mussels are also plentiful during this time, and the warm weather helps grow algae and bacteria.

Kannan thinks that the study is unique because it provides a multi-year "snapshot" of data taken the same month and every five miles.

### About zebra mussels

Zebra mussels came to the Great Lakes from eastern Europe in the 1980s in the ballast water of large ships and have quickly spread through inland waterways.

They cling to underwater objects and clog water-intake systems at power plants and businesses.

They also can smother native aquatic species.

The U.S. Coast Guard urge boat owners to thoroughly inspect and clean their boats.

Anglers are asked to clean their equipment and dispose of unwanted bait on land, and water fowl hunters are advised to use bulb-shaped decoys to avoid collecting submerged and floating aquatic plants.

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