NGGREC Scientists Successfully Collect Living Zooplankton from Mesocosms

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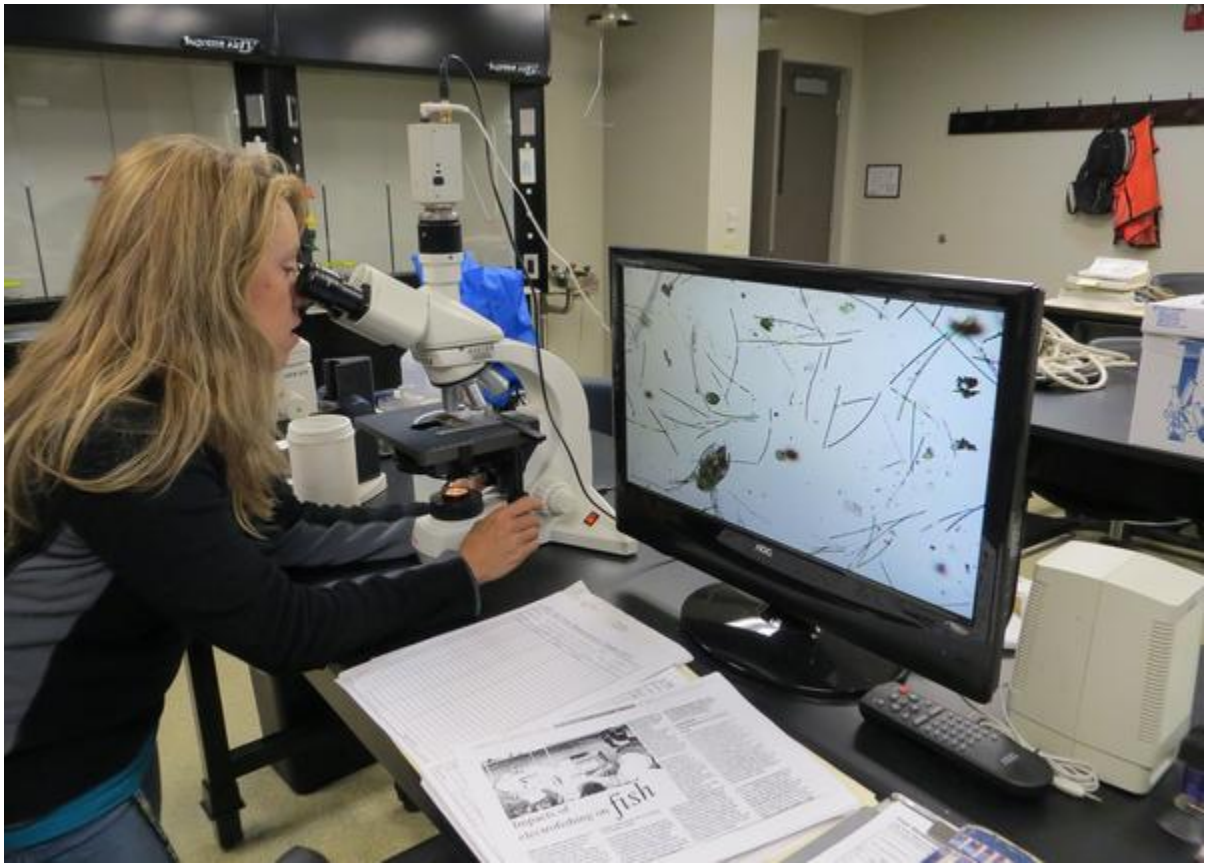

National Great Rivers Research and Education Center scientists recently collected living plankton from the Jerry F. Costello Confluence Field Station's aquatic mesocosms.

Mesocosm is a general term for an experimental tool that brings a small part of the natural environment under controlled conditions, allowing scientists to conduct unique experiments to further our understanding of river organisms, hydrology, and the transport of sediment and nutrients.

NGRREC’s aquatic mesocosms consist of three 50-foot by 6-foot concrete raceways, which can each be split into two channels and are capable of pumping more than three million gallons of water to the system per day, while keeping its plankton community, sediment and nutrients intact.

The water comes from the Mississippi River via a pump located near the Dynegy Wood River Power Station, which takes in 350 million gallons of river water each day for cooling purposes. Ultimately, the information gained from research in these mesocosms will help state and federal decision makers develop better river management strategies.

The scientists recently collected a plankton sample from several gallons of water in the mesocosms and condensed it to a few ounces, which they studied under a microscope.

“Seeing the living plankton was an exciting first step on the way to operating our experimental system,” said NGRREC Director of Aquatic Ecologist John Chick. “Our goal is to bring the planktonic community to the mesocosms intact and alive, in levels similar to the Mississippi River. We now know that many of these organisms are

surviving the journey from the river, through the pumps, and all the way to our mesocosms alive."

"We saw several species of microscopic plants and animals, and at first glance the diversity of species appears to be similar to what we find naturally in the Mississippi River, and that's important because we would never be able to recreate that natural community in our lab," said Lori Gittinger, an NGRREC aquatic ecologist.

NGGREC's system of mesocosms is unique on the Mississippi River.

"We don't know of any other system of this scale that uses water drawn directly from the river," said NGGREC Field Station Manager Ted Kratschmer. "We think it will be a major asset to the river science community and help solidify NGRREC's position as a hub for large river research."

NGRREC is an innovative center for research, education and outreach located near the confluence of the Mississippi, Missouri and Illinois rivers in East Alton, Ill. The National Great Rivers Research and Education Center is a partnership of Lewis and Clark Community College, the University of Illinois at Urbana-Champaign, and the Prairie Research Institute's Illinois Natural History Survey.

For more information about NGRREC, visit www.ngrrec.org