

ISSUE ONE : FALL 2015
OPEN RIVERS : RETHINKING THE MISSISSIPPI



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<http://openrivers.umn.edu>
An interdisciplinary online journal rethinking the Mississippi
from multiple perspectives within and beyond the academy

FROM WASHINGTON BY 33 261 LOOKING UP STREAM

The cover image is of spring flooding at the Bohemian Flats in 1897. Image Courtesy of the Hennepin County Library.

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MUSSELS: A RIVER LIFE ATLAS COLLECTION

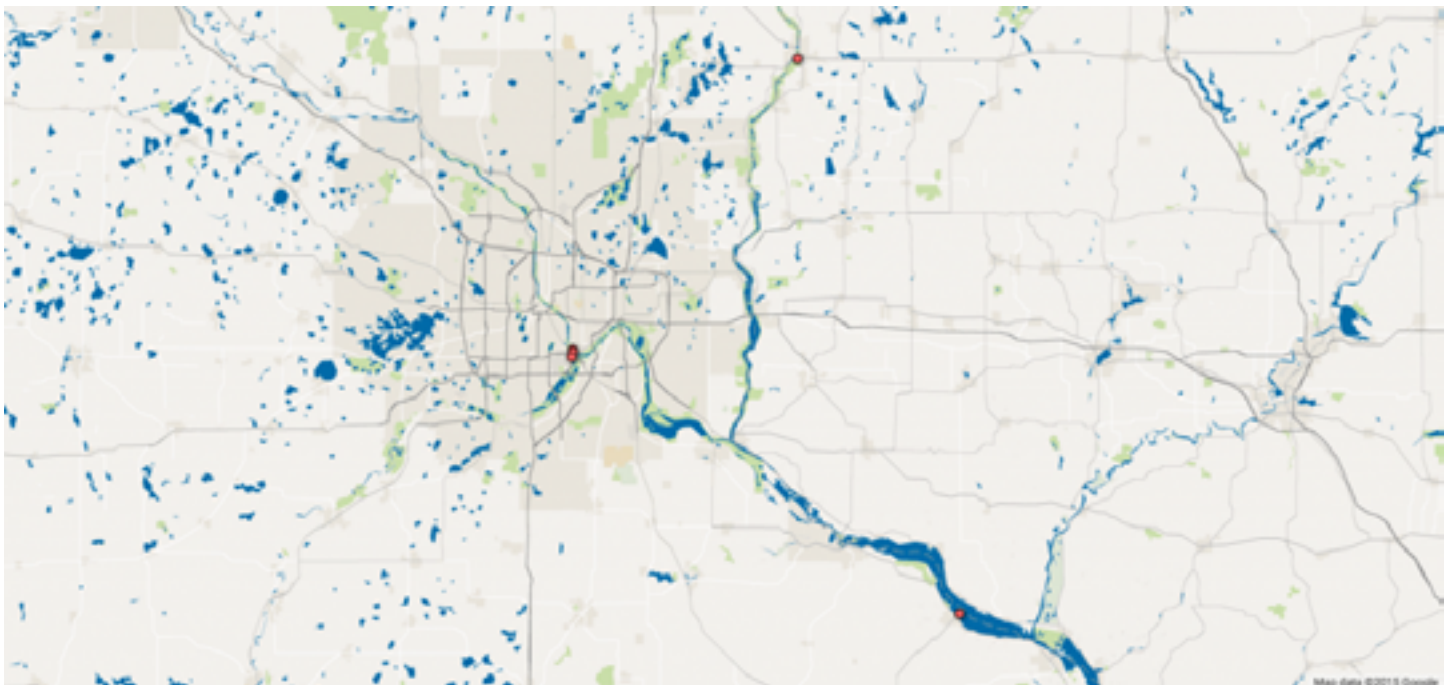
BY JOANNE RICHARDSON

One of the key components of people's sense of self is a sense of place, which becomes a meaningful precursor for knowing what courses of action to take, and why. To facilitate the development and exploration of a sense of place, particularly in the Upper Mississippi River, the University of Minnesota's River Life program developed a River Atlas to explore issues critical to understanding the river in a relevant and place-based manner.

Originally developed in 2010, River Atlas is a collaborative project of River Life and multiple partners, both on- and off-campus at the University of Minnesota. It is a searchable, curated collection of the people, places, and projects of significance on the Mississippi River and around the world. With over 340 individual entries,

collections have been prepared by students, partners, or River Life and may cover science, policy, engagement or all three. Some work relates to geographic features, St. Anthony Falls, Bdote, or Lake Pepin, for instance. Other work relates to Dakota people, mussels, floods, art, public agencies or organizations, interpretation, or heritage.

The River Atlas' collection detailing the history of mussels in the upper Mississippi River explores the history of the river itself. Through the seemingly quiet lives of these unassuming bivalves, we see how they have borne witness to the pollution and cleanup of the river, through the booming of new industries and their eventual decline, through the policy structures that threatened then saved them, and how the biological



River Life's River Atlas showing the mussel collection.

processes of their watery lives help us understand the systems of the river.

This collection was prepared by a research assistant from Water Resources Science at the University of Minnesota. Her work focused on mussels because it is a subject that is broadly interesting, and has significance for water specialists; she did historical research and talked to

Department of Natural Resources staff who were experts on the topic. The interdisciplinary and community-engaged work done here has relevance for public, student, and scholarly audiences alike.

The collection clusters in three main areas, the Mississippi River Gorge, Lake Pepin, and the St. Croix River.

Visit the collection at River Life : [River Atlas Mussel Collection](#)

The Mississippi River Gorge



Brooding display of the Black Sandshell mussel.

Courtesy of Mike Davis, Minnesota Department of Natural Resources.

This is an area where the pollution from upstream industry, sanitary, and stormwater discharges so significantly polluted the river that in 1926 the Minnesota Board of Health reported that “all fish life has been exterminated,” whereas previously the river had been rich with life. The

passage of the Clean Water Act of the early 1970s has improved water quality significantly, and this area is home to a flourishing mussel population and its impressive brooding displays.

Lake Pepin



Mussel propagation cages in Lake Pepin at the site of the present day public boat ramp. August 30, 1919.

Image courtesy of the Minnesota Department of Natural Resources.

Mussel propagation cages in Lake Pepin at the site of the present day public boat ramp. August 30, 1919. Image courtesy of Minnesota Department of Natural Resources

Lake Pepin is a wide and slow moving section of the Mississippi River about 60 miles downstream from St. Paul. It was the site in the late 19th and early 20th centuries of a booming industry in which the mussel shells were harvested and used to make buttons. Worries about protecting the populations necessary for the industry led to early conservation efforts and some of the methods developed are still being used today to help regrow the mussel population in Minnesota.

St. Croix River



Winged Mapleleaf mantle display. Courtesy of Mike Davis, Minnesota Department of Natural Resources.

The St. Croix River is a tributary that joins the Mississippi River upstream of Lake Pepin. Relatively pristine in comparison to the more agricultural and industrial Mississippi, it is protected as a National Wild and Scenic River. Stretches of the river boast impressive biodiversity, and in the words of Aldo Leopold, “The first rule of intelligent tinkering is to keep all the pieces.” This genetic diversity of the mussels in the St. Croix has provided healthy and diverse populations to support repopulation of other rivers in the area as new areas of habitat become available.

Comparatively untouched by invasive Zebra mussels, this also provides scientists opportunities to study native mussels in isolation and help scientists do a better job reintroducing mussels into the Mississippi River by choosing propagation areas with similar conditions.

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About the Author

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