



2016 Water Quality Program Progress Report

Protecting Water Quality Through Interstate Cooperation

In 2016, the Upper Mississippi River Basin Association (UMRBA) and its five member states continued to work with federal partners and other stakeholders to improve water quality protection on the Upper Mississippi River (UMR). Efforts this year focused on implementing an interstate UMR Clean Water Act (CWA) Monitoring Strategy, improving capacity to respond to harmful algal blooms (HABs), and sharing information and fostering collaboration in a variety of contexts, including in regard to regional efforts to reduce nutrient impacts on water quality. Further information regarding UMRBA's water quality work is available at www.umnba.org/wq.htm.

Coordinated Clean Water Act Monitoring - Field Pilot Moves Forward

In 2016, coordinated Clean Water Act (CWA) monitoring on the Upper Mississippi River (UMR) took a major step forward with the implementation of a pilot project on the reaches of the river from the Twin Cities to La Crosse (see figure at right). This pilot project followed the structure established in the interstate *UMR CWA Recommended Monitoring Plan*, which was approved by UMRBA's Board in 2014.

What Was Sampled?

Following the vision set out in the *UMR CWA Recommended Monitoring Plan*, samples were collected to evaluate the water quality condition of the river using chemical, physical, and biological data. Biological monitoring included fish, vegetation, and macroinvertebrate samples, as well as physical characteristic data, at 60 randomly located (probabilistic) sites spread across the project area. Water chemistry samples were also collected at these sites, as well as at four fixed sites – one in each of four CWA assessment reaches included in the pilot. Sampling began in May 2016 and will continue through April 2017 – and had to overcome some particularly challenging summer high flow conditions.



Three biological assemblages – fish, vegetation, and macroinvertebrates – as well as water chemistry have been sampled as part of the pilot monitoring project.

Photos above courtesy of USGS, USFWS, and NPS.



Location of UMR CWA Field Pilot Monitoring Project (Wisconsin-Minnesota Shared Reaches)

Who Participated?

Staff of the Minnesota Pollution Control Agency, Minnesota Department of Natural Resources, Wisconsin Department of Natural Resources, and (Twin Cities) Metropolitan Council all participated in pilot project monitoring, making this a truly collaborative effort.

Next Steps: Evaluating Sampling Results and Pilot Success

With biological monitoring now complete – only monthly chemistry sampling is ongoing through April 2017 – review and analysis of data will begin in late 2016. Data collected via the pilot can be used individually by the participating agencies for their water quality program needs and will be run through the *Provisional Methodology for Clean Water Act Assessment of the Upper Mississippi River* in order to test the process and outcomes of this shared methodology.

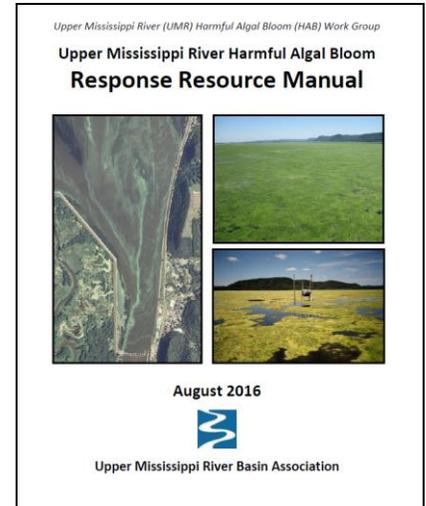
Beyond the monitoring results *per se*, the efficacy of the pilot program in total (costs, staffing, logistics, data flow, etc.) will also be evaluated to help inform future implementation of the *UMR CWA Recommended Monitoring Plan*.

Harmful Algal Blooms on the UMR: Coordinating to Improve Response

In early 2016, a UMR Harmful Algal Bloom (HAB) Work Group was formed per the direction of the UMRBA Board to improve communication and collaboration regarding HABs on the river. The work group met several times via conference call throughout the year and developed the *UMR HAB Response Resource Manual* (pictured at right).

The purpose of this *Response Resource Manual* is to provide information to assist the states of the UMR, as well as their federal partners and others, in addressing HABs on the UMR. In particular, it is envisioned for use in larger bloom incidents that may impact more than one state. However, the resources it contains may also be valuable for smaller-scale blooms and for information sharing purposes generally.

The UMR HAB Work Group will continue to convene regularly in 2017 and as needed in response to UMR HAB events.



UMR HAB Response Resource Manual

For more information:

Visit UMRBA's water quality web page at:
www.umrba.org/wq.htm
OR
Contact Dave Hokanson
(651-224-2880 or dhokanson@umrba.org)



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Building Connections and Sharing Information

Throughout the year, UMRBA has emphasized building connections and sharing information in its water quality program. Examples include:

- Sharing information and lessons learned regarding the implementation of states' nutrient reduction strategies.
- Ongoing consultation regarding states' CWA Section 303(d) impairment listings for the UMR, as well as the implementation of TMDLs on the UMR main stem and tributaries.
- Collaborating with UMR stakeholders including universities, mayors, and drinking water suppliers regarding water quality issues.
- Developing web-based tools to disseminate information and support UMRBA's water quality-focused work groups.

Priorities for 2017 Water Quality Work

- ✓ Continue *UMR CWA Recommended Monitoring Plan* Implementation Via Completion and Evaluation of Field Pilot
- ✓ Test *Provisional UMR CWA Methodology* Using Data From Pilot Project
- ✓ Support UMR HAB Work Group and Refine *Response Resource Manual*
- ✓ Further Develop Web-Based Tools to Aid UMR Water Quality Work
- ✓ Continue to Support Regional Nutrient Reduction Efforts and Share Information on Nutrient-Related Issues

The Governors' Vision for Clean Water Act Implementation on the UMR

"We are committed not only to the protection of the River's water quality, but we are also committed to doing so in a coordinated manner...We are therefore supporting the coordination of water quality monitoring, assessment, and standards for the Upper Mississippi River by the States of Illinois, Iowa, Minnesota, Missouri, and Wisconsin and the Upper Mississippi River Basin Association. This approach will allow the Clean Water Act to be implemented on the Upper Mississippi River in a more coordinated and consistent fashion than has ever been possible previously."

- Statement of the Governors of Illinois, Iowa, Minnesota, Missouri, and Wisconsin on Water Quality Protection for the Mississippi River (August 2007)