Upper Mississippi River Basin Association
Water Quality Executive Committee and Water Quality Task Force
Virtual Meeting

July 22, 2020

Highlights and Action Items Summary

January 28-29, 2020 Meeting Summary

The UMRBA Water Quality Executive Committee (WQEC) Water Quality Task Force (WQTF) approved the draft highlights and action items summary of its January 28-29, 2020 meeting as written.

COVID-19 State and Agency Updates

State Updates

Missouri – Chris Wieberg announced that the development of the FY 2022 budget is underway. The FY 2021 budget was approved in early 2020, and water quality did not have any significant funding decreases. A lot of water quality initiatives are funded through permit fees, which are still being paid. Now and through 2021, Wieberg will start negotiating fee increases to pay for water quality general revenue. In 2022, Missouri DNR will have to look for alternatives to reduce expenditures (e.g., reduced contracting, supply spending, staff training, and traveling).

Missouri DNR went through the regulatory relief process for industry and agriculture (e.g., CAFOs). DNR staff were a part of a sampling effort to see if genetic markers for COVID-19 showed up in waste water. The data will be evaluated by the Dept. of Health, and represents ground breaking work in health evaluations in waste water.

The State is under a hiring freeze, and Missouri DNR has 20-25 vacancies. Wieberg noted staff are having a tough time with MS4 inspections and are piloting virtual inspections to save resources.

John Hoke said that macroinvertebrate sampling has slowed and staff are hoping to resume biological sampling in the fall. His section is also looking for ways to streamline monitoring.

Minnesota – Katrina Kessler reported that the State assembled an incident command team to put together a return to work plan. The plan minimizes the number of people in a building. Field work has resumed, but is at a reduced capacity. The State is facing a significant budget deficit, and the Clean Water fund is affected.

Pam Anderson added that MNPCA staff are not allowed on boats, which means that no fish IBI data collection is occurring. Macroinvertebrate monitoring is able to resume, but is delayed at least one year. CWA assessments are on schedule but some watersheds will be missing.

MNPCA provided regulatory relief primarily for land (e.g., exceeding animal limits) and air (e.g., exceeding air stacking limits).

Wisconsin – Jim Fischer said WIDNR staff are still working from home. Field work resumed in mid-June, and can continue as long as social distancing guidelines are adhered to. Boat use is permitted, but electrofishing is not. Field sampling staff are not permitted to travel together, and local supervisors are tasked with prioritizing data collection. Large river monitoring (e.g., Chippewa, Red, and Cedar Rivers) was postponed.

WIDNR's Dan Helsel is leading the agency return to work plan. There are three phases, and state agencies are currently in phase two. They are likely to stay in phase two the remainder of 2020. Fischer said Wisconsin anticipates budget cuts but does not know the details yet.

Illinois – Gregg Good said field sampling resumed on July 13 after the work plan was approved by the Director's office. Crews are a maximum of two people. Illinois EPA was unable to hire interns this summer, who help significantly with the summer field sampling work load. Staff hope to sample Lake Michigan in late July 2020. Since resuming field sampling, staff have experienced issues with samples being shipped by USPS and arriving on-time.

Good said he is unaware of budget issues. Illinois EPA is currently doing more hiring than it has done in the past.

Iowa – Adam Schnieders said Iowa's budget is good for now, but he does not know what the future holds. Iowa DNR has been able to keep work moving. Staff are working remotely successfully. Iowa DNR also has a return to work plan, but the building is very open and is being renovated to keep staff socially distanced.

Iowa DNR had some issues training waste water and drinking water operators remotely. The agency had a backlog of packing plants shutting down. Overall, the situation could have been more dire. Iowa DNR staff were ready to provide regulatory relief.

Dan Kendall shared that overnight travel for field sampling is not permitted, except in select situations. Staff are allowed to travel in a vehicle together but must be masked and have their temperature taken. Field sampling sites have been cut in half because of the distance to lakes. River sampling has been maintained by contractors. The beach program is keeping up with sampling needs. Fish sampling is occurring in two person teams and teams may not be swapped out. Kendall remarked that typically when samples are shipped via UPS they lose 2-3 samples per year. Now 2-3 samples per week are being lost. In response to a question from Lauren Salvato regarding adapting to sample loss, Kendall replied that they cannot change the situation because they cannot spend more on shipping or increase the sampling quantity.

Federal Updates

USEPA Region 5 – Micah Bennett said early on during the pandemic the region started using electronic signatures to resolve routing issues and speed up the approval process. Staff are still working from home but are planning to get back to the office in a phased approach.

Ed Hammer noted that with the exception of emergency response field sampling, no staff are in the field. USEPA is working on national field sampling guidance.

USEPA Region 7 – Amy Shields said Region 7 staff are working from home. She applauded states for doing a great job of sending TMDLs, and said Region 7 staff are working hard to coordinate those remotely.

Shields also included a link for financial impact tools for WWTP linked here: https://www.epa.gov/newsreleases/epa-releases-financial-impact-tool-help-water-utilities.

USGS – Kelly Warner said that during the first four months of the pandemic, USGS remained focused on water quality flows and any potential damages to property (e.g., flooding). Staff are currently back up to full field sampling capacity.

U.S. Army Corps of Engineers, Rock Island District – Karen Hagerty provided a UMRR LTRM update. Missouri and Iowa were able to conduct fixed site monitoring in May. There are still challenges with fish sampling and additional costs for extra vehicles. A special project, sampling aquatic vegetation on the IWW during navigation closures, will not occur in August. The sampling team is working on contingency plans.

Nicole Manasco said that staff have been able to maintain most monitoring capabilities. Two YSI probes were added to reduce field sampling. Manasco remarked on the increased communication and relationship building as a result of the pandemic. She and her staff have reached out to state agencies to see how they can provide support.

UMR WQ Improvement Act

Salvato shared the UMR Water Quality (WQ) Improvement Act update. She noted that there has not been much progress since spring 2020 because of the COVID-19 pandemic. The UMRBA Board endorsed the WQIA proposal. UMRBA staff were looking into WRDA as a potential vehicle for the Act's authorization. The House didn't want WQ provisions in the 2020 WRDA cycle, although the Senate ultimately added WQ provisions.

For the next legislative session, UMRBA is planning to conduct additional stakeholder engagement prior to talking to staffers. Questions remain on how best to do that with everyone working remotely. One idea is designing wide-reaching webinars to present on topics such as why UMRBA has obligations to the River, the Interstate WQ Monitoring Plan, and explaining why the $600 million price tag of the WQIA is too little, not too much. Other topics could be featuring state WQ programs and the implementation of BMPs via the NRS.

Wallace added that the Senate included CWA provisions in the WRDA 2020. The U.S. Army Corps of Engineers is typically the focus of WRDA. In a typical year, UMRBA could invite stakeholders and constituents to sit in the same room. The goal of the webinar series is to get everyone on the same page and speak as one regional voice.

Harmful Algal Blooms

February 3-4, 2020 HABs Workshop

Salvato reminded participants that the agenda for the February 3-4, 2020 USEPA Regions 5, 7, and 8 workshop was included in the agenda packet. Salvato attended the workshop and appreciated the opportunity to meet more Region 7 staff. She presented on the harmful algal blooms (HABs) manual, as a resource for others to respond to multijurisdictional HAB blooms.

USEPA invited a wide range of organizations, such as local government units that had never heard of HABs before. The workshop began broadly and the second day included focused break out groups. One takeaway was that HABs are included in the state hazard mitigation plans of Missouri and Wisconsin. An idea would be for all five states to include HABs in their respective plans.

Anderson enjoyed the workshop, and in particular the presentation on the Interstate Regulatory and Technology Council (IRTC) HAB workgroup's comprehensive web project. She said that MNPCA is planning to direct local public health agencies to the web site when it is finished. Kendall said that he liked the workshop break out sessions. The ITRC workgroup is still making progress with its web project. Its projected completion is early 2021. Shields appreciated the workshop feedback and added that Region 7 staff Steve Schaff is working on the conference proceedings and action items, and may be willing to share the proceedings at the next WQTF meeting.

Giblin said he recently published a paper on a predictive model for environmental factors controlling phytoplankton dynamics with an emphasis on cyanobacteria. Bennett announced that USEPA Headquarters is planning to release guidance on cyanotoxin criteria at the end of 2020.

Action Items

- **UMRBA staff will follow up with USEPA Region 7 staff, Steve Schaff, regarding a potential presentation at the September WQTF meeting.**

Report: *How Clean is the River?* Update

Salvato reminded participants that in fall 2019, the WQTF decided to update the 1989 publication *How Clean is the River?* The report described the WQ condition of the UMR through five methods: 1) exceedances in standards, 2) support of use assessments, 3) fish consumption advisories, 4) sediment quality, and 5) spatial and temporal trends. The WQTF agreed to update the report and conduct a 1989-2018 water quality trend analysis utilizing state and federal datasets. On the WQTF's July 8 conference call, they agreed to calculate trends for a wider range of parameters (e.g., nutrient, metals) and calculate loading for a small subset of sites. Missouri DNR has provided staff resources to consolidate datasets and prepare the R package for the WRTDS method. The anticipated completion is winter 2020-2021. Illinois EPA also applied for Section 106 funding to cover the cost of a publication of the *How Clean is the River?* report update.

The Hypoxia Task Force (HTF) is engaged in a comparable effort and is calculating nutrient loading for the tributaries of the Mississippi River Basin. The WQTF and NGRREC, the contractor to the HTF, are collaborating on R codes and other areas where possible. Ted Krastchmer said the HTF project aims to be complete by fall 2020 and the results will be published on the Great Lakes to Gulf dashboard. The loading and trend estimates will be for total nitrogen, total phosphorus, nitrate, and ortho phosphate. Salvato is also on the email distribution for the HTF's metric workgroup and recently participated in the July 21 conference call. The workgroup will be presenting an update at the HTF's September meeting.

Interstate Water Quality Monitoring

Reaches 8-9 Pilot

Salvato announced that the Reaches 8-9 pilot has been postponed until October 1, 2020. Samples were collected for the fixed and drinking water uses in December 2019, February 2020, and March 2020 [note: January 2020 sampling was intentionally omitted]. The planning committee continues to have conference calls monthly to discuss field sampling and laboratories capabilities. The Army Corps is now allowing nonessential business access to the L&Ds (where the fixed site samples are collected). Other laboratories such as Missouri DNR and USEPA Region 5 are still getting up to speed on processing nonessential samples.

The planning committee has also had discussions on recuperating funding for the three months of sampling that already occurred. Illinois EPA applied for Section 106 funding to cover the expenses.

UMR Recommended WQ Monitoring Plan

Salvato said she would like to start the conversation on what happens after the Reaches 8-9 pilot is over and broadly what aspects of the Recommended Monitoring Plan may need to be amended.

The WQTF developed a shared monitoring approach utilizing the EMAP-GRE method developed by USEPA Office of Research and Development (ORD). The implementation timeline to test the monitoring plan for its feasibility and effectiveness was 2013 to 2022. The northern states, Minnesota and Wisconsin, piloted the monitoring plan first, during 2016 to 2017. The end products were a condition assessment and evaluation report. The evaluation report conclusions were the following:

1) Implement coordinated monitoring throughout the UMR before the close of the current 10-year monitoring plan timeframe – from 2013 to 2022

2) Modify the UMR CWA Recommended Monitoring Plan to improve its effectiveness and feasibility

3) Reassess the status and success of macroinvertebrate monitoring and assessment

Salvato said the Reaches 8-9 pilot does not know the outcome of the aquatic life use assessment yet, but recalled that the Reaches 0-3 pilot had issues with the artificial samples due to high water and/or theft.

4) Modify the vegetation monitoring approach

This conclusion would be specific to the Reaches 0-3 pilot, as vegetation sampling below Reach 6 is not suggested. Salvato recalled that vegetation sampling was very tedious for the Reaches 0-3 pilot.

5) Explore integration of HAB-related monitoring

Salvato noted that HABs are a tier-II issue of the WQ committees, and moving forward it seems important to include in the monitoring plan.

6) Revisit the need for a UMR CWA data management plan

Data management was conducted quite differently between the two pilots. The Reaches 8-9 pilot utilized Google Drive for storing files and a report desktop server to conduct data entry.

7) Consider a single laboratory for chemistry analysis to eliminate disparities in results and reduce possibilities for error

The Reaches 8-9 planning committee listened to this recommendation and is using one laboratory for parameters. However, shipping costs are significant and there are additional staff resources that go into coordinating the logistics.

8) Pursue opportunities to integrate the UMR CWA data with other river monitoring programs

9) Explore options for securing resources

10) Maintain and build capacity at UMRBA to support coordinated monitoring

UMRBA staff support for the two pilots has also varied. Scaling the plan up to the entire River will take significant staff resources, both for the states and UMRBA.

Salvato reviewed that similar to the Reaches 0-3 pilot, the Reaches 8-9 pilot did not conduct probabilistic metals monitoring, monitor index sites, or evaluate the tributary loading network. The Reaches 8-9 pilot differed from the Reaches 0-3 pilot in that PFAS sampling was added to the drinking water, recreation, and fixed monitoring. Microcystins and cylindrospermopsin were added to recreation and drinking water use assessments. Pesticides, herbicides, carbamates, and glyphosate were added to the drinking water use assessments. Key decisions made were 1) adopting the LTRM methodology for fish tissue sampling and 2) eliminating TSS as a supplementary indicator for aquatic life use assessment [note: TSS data will still be collected].

Salvato posed some considerations and questions for discussion including:

- What are the pros and cons for using one laboratory vs. the nearest laboratories?
- How can monitoring be scaled up?
- Should the Recommended Monitoring Plan still use the EMAP-GRE methods?
- What are consistent funding sources for monitoring?

Participants agreed that it is important to reassess the procedures in the Recommended Monitoring Plan after the Reaches 8-9 pilot is over, and that the long-term funding source for monitoring on the UMR is the UMR WQ Improvement Act. Hagerty mentioned that adopting LTRM methods would allow for the WQTF to augment their dataset with the LTRM trend sites. In addition, macroinvertebrate sampling may be added back as a component.

Kendall said it would be good to adjust to be more collaborative with UMR monitoring. Fischer agreed and said it makes sense to stick with LTRM methodologies, especially for fish sampling, where efficiencies are gained. The crossover between EMAP-GRE and LTRM methods was reported in Dukerschein et al. 2011 (report linked here).

Giblin asked Salvato to share the TSS writeup to support the decision to eliminate it as a supplementary variable. Anderson said that in Minnesota they find that fish can handle higher levels of TSS, but the invertebrate composition is more sensitive to changes.

Action Items

- **Anderson will distribute the MNPCA's Technical Support Document for its TSS standard for additional guidance on macroinvertebrate and TSS relationships.**
- **UMRBA staff will distribute the TSS indicator research for the Reaches 8-9 pilot to Giblin.**

Clean Water Act (CWA) Program Updates

State Updates

Missouri – The 2020 impaired waters list is complete and assessed. It is currently under review by USEPA Region 7. The 2022 assessment will be started soon.

For TMDLs there are 8 to 9 revisions, initiated by Missouri to revise TMDLs for nutrients approved under a previous consent decree. Hoke said he appreciated all the technical help from USEPA Region 7 to revise the TMDLs to achieve attainable nutrient end points.

Albert Ettinger asked if the TMDLs are more achievable, and Wieberg replied that the previous TMDL as it related to the consent decree was organized by the effluent limits in each of Missouri's ecoregions. The revisions will include effluent limits based on waste water loading allocations. Missouri DNR staff found that it would cost hundreds of millions of dollars to install reverse osmosis systems and waste water loading could be achieved with the available nutrient reduction technology.

Minnesota – The 2020 assessment list is currently awaiting approval at the Governor's office. MNPCA staff are developing a methodology to use for sulfate assessments. They are developing multiple approaches, and MNPCA staff are working with the Governor's office to formally go through consultation with the tribes to determine a path forward.

Eight TMDLs were recently completed and are in the public comment period. Lake Pepin's comment period is over, and MNPCA staff are reviewing the comments.

Wisconsin – Marcia Wilhite said the integrated 2020 assessment report was submitted on April 9, 2020. The report included Reaches 0-3 pilot data as well as data collected by the Mississippi River team. Statewide, phosphorus is the primary cause of impairments. There has been a decrease in the number of impairments compared to previous assessment cycles. Wisconsin DNR identified waters under a restoration plan and 83% of the assessed waters are in good condition.

The Wisconsin River TMDL was approved in 2019, including three site-specific standards for reservoirs along the Mississippi River. In response to a question from Ettinger, Wilhite said that the criteria for reservoirs are separate from the river's criteria.

The other TMDLs that are in development are for the Fox River and the Des Plaines River. Both rivers are tributaries to the Illinois River.

Illinois – Good said Illinois EPA is still working on an agreement with USEPA Region 5 on previous assessments reports: 2008, 2010, 2012, 2014, and 2018. Illinois EPA staff have the 2018 assessment, and hope to have that approved.

Iowa – Kendall said 2018 assessments were approved by USEPA Region 7. The 2020 assessments are underway, and the goal is to submit them by the end of 2020. He added that Iowa DNR is revising its assessment methodology to have more uniform assessments.

In response to a question from Ettinger, Kendall replied that Iowa DNR uses the microcystin value of 8 µg/L for beach advisories. Iowa DNR switched to USEPA's value from the WHO's value last year.

Emerging Contaminants

Microplastics Presentation

Dr. Jeremy Conkle received a grant from NOAA to sample the Mississippi River for microplastics (µP) above and below the confluence of the Illinois, Missouri, and Ohio Rivers. His presentation will include the preliminary results, but noted that his laboratory is still determining its QA/QC related to analysis. Conkle said he is aware of microplastics research at St. Louis University and the University of Mississippi, but otherwise there are not a lot of data for the Mississippi River.

The research objectives were to quantify and characterize microplastics on the Mississippi River by determining the contributions from the tributaries, determining the depth where microplastics are found, and estimate the microplastics discharge to the Gulf of Mexico. Sampling occurred during the summer at both high and low flow periods. The laboratory methodology was published in the Journal of Visualized Experiments, and can be found in the meeting agenda packet. Samples were analyzed by the naked eye and microscope (14-90x). Suspect microplastics were separated for further analysis into 70% ethanol solution. Materials found included:

- Fully Synthetic (10% of total)
    - 70% Polyester or Polyethylene Terephthalate (density: 1.38 g cm-3)

- Semi-synthetic (65% of total)
    - 46% Cotton Blend (density: 1.54 g cm^{-3})
    - 16% Rayon (density: 1.5, 3.0 and 4.5 g cm^{-3})
    - 14% Cellophane (density: 1.42 g cm^{-3})

The highest concentrations of fully synthetic materials were found at and below the confluence of the Missouri River. The likely contributors are the water, stormwater, and wastewater treatment plants located in the St. Louis metro area. Additional results Conkle covered included that spatial trends are not yet distinguishable; there is preliminary indication of more µP at depth; and there is a lot of very tiny material (fully and semi-synthetic) in the massive Mississippi River. Conkle said the next steps are to determine a more rigorous QA/QC process for the laboratory analysis, to conduct blank corrections by individual material types, and then to reassess the data.

Ettinger asked what the microplastics results mean for the environment, both in terms of criteria and philosophically. Conkle replied that microplastics in the environment do matter but what does it impact? Humans can physically pass fibers/synthetics but that is not necessarily the case for young of year (YOY) fish. Studies have examined the guts of YOY fish to examine how the guilds are affected.

In response to a question from Salvato, Conkle said he does not have any plans to conduct additional sampling. His co-investigator on the NOAA grant, Dr. Liz Hasenmueller at St. Louis University, is conducting separate studies on microplastics transport in the Mississippi River. Schnieders asked if there has been any work on microplastic removal efficiency at wastewater treatment plants (influent vs effluent). Are some treatment types better than others? Conkle said that 80-90% of microplastics are being removed in wastewater treatment facilities. The field of study is relatively new. In response to a question from Hagerty, Conkle said he is not looking for microplastic fibers in zooplankton.

Schnieders asked whether it is fair to assume the microplastics loading calculated to the Gulf or River has been consistent over the last 50 years or so. And, how would the historical loading impact the potential research on aquatic life impacts. Conkle replied that regarding historical loading from fully synthetic fibers, materials are increasing but unsure to what extent. Schnieders asked if stormwater or treated wastewater is a bigger source of microplastic loading on annual basis. In response, Conkle said

stormwater is a larger contributor but wastewater is contributing smaller materials. The WQTF responded no to Shields' question regarding whether the states monitor microplastics in their 303(d) listings.

Nutrients

NRS Progress Tracking Workshop

Salvato said the workshop was originally planned for July 22-23, 2020 but has since been delayed until TBD 2021. The planning committee agreed to have short, focused webinars to build towards an eventual workshop. One topic proposed was data sharing with NRCS. There is an HTF agreement with the 12 states to share HUC 12 data each year. Some states have challenges aggregating datasets across multiple sources. Marcia Wilhite added it would be good to make sure member states understand the pathways of disseminating the NRCS data. Wieberg agreed the additional coordination would be helpful. Shields asked whether NRCS has been encouraged to submit its data to USEPA's WQ portal. Wilhite was unsure that conservation practice data and its metadata could be uploaded.

State Updates

Missouri – Wieberg said the additional HTF grant money will go towards a contractor to help set up the nutrient trading clearinghouse. There is a lot of work to be done to set up the clearinghouse, including figuring out the cost of the credits.

Minnesota – Anderson said with the additional $70,000 HTF grant, MNPCA is relying on the University of Minnesota to explore public-private partnerships and develop a framework that analyzes the social science aspects of the partnerships.

The NRS progress report is currently at the Commissioner's Office in review.

Wisconsin – Wilhite said in April 2020, the 2017-2019 NRS report was updated. Going forward, Wisconsin DNR will be standardizing metrics for reporting on TMDL registration.

The HTF funding will be used to support a BMP tracking system. Wisconsin DNR will hire a staff person to manage the completion of the data management system. The goal is to make it centralized for other partners to use.

The TMDLs are nutrient focused, and Wisconsin DNR is working on a target performance standard internally to modify programs to reduce losses to groundwater. Ettinger asked whether the decade old stormwater law resulted in a cost share plan, and Wilhite responded that no, cost shares are not available in every case.

Illinois– Good said that Illinois NLRS is five years old. The HTF funding available last year was put towards the University of Illinois developing implementation scenarios and administratively to the watershed coordinators working in the priority watersheds.

Good said there was an algal bloom on the Upper Illinois River near Starved Rock State Park. Microcystin levels were as high as 150 µg/L. One week later, microcystin levels were below detection. The USGS continuous gages also confirmed the bloom with temperature and DO readings. Illinois EPA provided samples bottles and instructions to Illinois Natural History Survey and the Rock Island District Corps of Engineers to mobilize and collect samples. This represented a new collaboration and much

more will occur in the future. Illinois EPA is planning to apply for USEPA Region 5 grant money to expand its HAB program, including the development of Illinois' version of the UMRBA HAB manual.

Iowa – Schnieders stated that the HTF grant will be put towards improving and streamlining the NRS reporting format. The NRS identifies practices that benefit the local landscape and downstream users – e.g., wetlands can protect source water, provide habitat, and improve water quality. There is growing interest from cities in investing in the watershed. The City of Dubuque signed an MOU with Iowa DNR to meet water quality requirements by working with farmers to implement conservation practices in the surrounding watersheds.

Schnieders added that Iowa DNR staff are actively reviewing USEPA's proposed numeric nutrient criteria (NNC). Staff are trying to better understand the underlying models. Ettinger noted that environmental groups are reviewing the criteria as well. He asked if the other WQTF members are reviewing the proposed criteria. Wilhite said Wisconsin is working on providing comments. Minnesota is reviewing the criteria. Bennett said that USEPA Region 5 states are convening a call with USEPA headquarters on July 30 to discuss questions. In response to a question from Schnieders, Shields said that she was unaware of a scheduled call with USEPA Region 7 states. Salvato requested that Region 7 states be included on the Region 5 call. Wieberg said that Missouri will be submitting an extensive letter. It will be challenging for Missouri DNR to apply the USEPA's proposed criteria to fit the individual state criteria. Wieberg appreciates the work that went into developing the criteria, but he finds it challenging to explain to stakeholders within the state. He suggested that USEPA help with the communication aspects of the proposed criteria and what it means for states to adopt. Bennett agreed with Wieberg's remarks on the complexity of the proposed NNC. He noted that Tetra Tech will be on the July 30 conference call, and staff have the ability to communicate differently.

Administrative Items

Future Meetings

- The next WQTF meeting will be convened virtually September 22, 2020.

Attendance

Anna Belyaeva	Illinois Environmental Protection Agency
Gregg Good	Illinois Environmental Protection Agency
Daniel Kendall	Iowa Department of Natural Resources
Adam Schnieders	Iowa Department of Natural Resources
Pam Anderson	Minnesota Pollution Control Agency
Katrina Kessler	Minnesota Pollution Control Agency
John Hoke	Missouri Department of Natural Resources
Chris Wieberg	Missouri Department of Natural Resources
Jim Fischer	Wisconsin Department of Natural Resources
Shawn Giblin	Wisconsin Department of Natural Resources
Dan Helsel	Wisconsin Department of Natural Resources
Mike Shupryt	Wisconsin Department of Natural Resources
Greg Searle	Wisconsin Department of Natural Resources
Marcia Wilhite	Wisconsin Department of Natural Resources
Karen Hagerty	U.S. Army Corps of Engineers, Rock Island District
Nicole Manasco	U.S. Army Corps of Engineers, Rock Island District
Micah Bennett	U.S. Environmental Protection Agency, Region 5
Wendy Drake	U.S. Environmental Protection Agency, Region 5
Peggy Donnelly	U.S. Environmental Protection Agency, Region 5
Alexandra Flevarakis	U.S. Environmental Protection Agency, Region 5
Aaron Johnson	U.S. Environmental Protection Agency, Region 5
Ed Hammer	U.S. Environmental Protection Agency, Region 5
Donna Keclik	U.S. Environmental Protection Agency, Region 5
Sydney Weiss	U.S. Environmental Protection Agency, Region 5
Dave Werbach	U.S. Environmental Protection Agency, Region 5
Jason Daniels	U.S. Environmental Protection Agency, Region 7
Regina Klepikow	U.S. Environmental Protection Agency, Region 7
Steve Schaff	U.S. Environmental Protection Agency, Region 7
Jared Schmalstieg	U.S. Environmental Protection Agency, Region 7
Amy Shields	U.S. Environmental Protection Agency, Region 7
Aleshia Kenney	U.S. Fish and Wildlife Service, Region 3
Jeff Houser	U.S. Geological Survey, Upper Midwest Environmental Science Center
Kelly Warner	U.S. Geological Survey, Central Midwest Water Science Center
Albert Ettinger	Mississippi River Collaborative and Sierra Club
Alicia Vasto	Iowa Environmental Council
Jeremy Conkle	Texas A&M, Corpus Christi
Lauren Salvato	Upper Mississippi River Basin Association
Kirsten Wallace	Upper Mississippi River Basin Association