Minutes of the 172nd Quarterly Meeting
of the
Upper Mississippi River Basin Association

November 19, 2024
Edina, Minnesota

Grant Wilson called the meeting to order at 11:00 a.m. Participants were as follows:

UMRBA Representatives, Alternates, and State Members of the Water Quality Executive Committee:

Rick Pohlman	Illinois Department of Natural Resources
Loren Wobig	Illinois Department of Natural Resources
Tim Hall	Iowa Department of Natural Resources
Jake Hansen	Iowa Department of Agriculture and Land Stewardship
Grant Wilson	Minnesota Department of Natural Resources
Patrick Phenow	Minnesota Department of Transportation
Glenn Skuta	Minnesota Pollution Control Agency
Chris Wieberg	Missouri Department of Natural Resources
Chris Klenklen	Missouri Department of Agriculture
Matt Vitello	Missouri Department of Conservation
Wade Strickland	Wisconsin Department of Natural Resources
Adrian Stocks	Wisconsin Department of Natural Resources

Federal UMRBA Liaisons:

Brian Chewning	U.S. Army Corps of Engineers, Mississippi Valley Division
JC Nelson	U.S. Geological Survey, Midcontinent Region
Sabrina Chandler	U.S. Fish and Wildlife Service

Others in Attendance:

Dave Glover	Illinois Department of Natural Resources
Matt O'Hara	Illinois Department of Natural Resources
John Seitz	Illinois Department of Natural Resources
Liz Scherber	Minnesota Department of Natural Resources
Nicole Ward	Minnesota Department of Natural Resources
Charmayne Anderson	Minnesota Department of Natural Resources
Samantha Clary	Missouri Department of Conservation
Erin Fanning	Missouri Department of Natural Resources
Stacey Fowler	Missouri Department of Transportation
Vanessa Perry	Wisconsin Department of Natural Resources
Sammi Boyd	Wisconsin Department of Natural Resources
Patrick Kelly	Wisconsin Department of Natural Resources
Chuck Camillo	U.S. Army Corps of Engineers, Mississippi Valley Division
Kelly Keefe	U.S. Army Corps of Engineers, Mississippi Valley Division
LeeAnn Riggs	U.S. Army Corps of Engineers, Mississippi Valley Division

Jim Cole	U.S. Army Corps of Engineers, Mississippi Valley Division
Thatch Shepard	U.S. Army Corps of Engineers, Mississippi Valley Division
Angela Deen	U.S. Army Corps of Engineers, St. Paul District
Nathan Wallerstedt	U.S. Army Corps of Engineers, St. Paul District
John Henderson	U.S. Army Corps of Engineers, St. Paul District
Andrew Goodall	U.S. Army Corps of Engineers, Rock Island District
Scott Whitney	U.S. Army Corps of Engineers, Rock Island District
Leo Keller	U.S. Army Corps of Engineers, Rock Island District
Daniel Smith	U.S. Army Corps of Engineers, St. Paul District, Rock Island District
Lou Dell'Orco	U.S. Army Corps of Engineers, St. Louis District
Greg Kohler	U.S. Army Corps of Engineers, St. Louis District
Brian Markert	U.S. Army Corps of Engineers, St. Louis District
Shawn Sullivan	U.S. Army Corps of Engineers, St. Louis District
Colleen Roberts	U.S. Army Corps of Engineers, Kansas City District
Amy Shields	U.S. Environmental Protection Agency, Region 7
Jared Schmalstieg	U.S. Environmental Protection Agency, Region 7
Matt Mangan	U.S. Fish and Wildlife Service, UMR Refuges
Kraig McPeek	U.S. Fish and Wildlife Service, Illinois-Iowa Field Office
Sara Schmuecker	U.S. Fish and Wildlife Service, Illinois-Iowa Field Office
Lauren Larson	U.S. Fish and Wildlife Service, Illinois-Iowa Field Office
Lori Sprague	U.S. Geological Survey, Water Resources Mission Area
Jon Amberg	U.S. Geological Survey, Upper Midwest Environmental Sciences Center
Jeff Houser	U.S. Geological Survey, Upper Midwest Environmental Sciences Center
Jim Fischer	U.S. Geological Survey, Upper Midwest Environmental Sciences Center
Jennifer Dieck	U.S. Geological Survey, Upper Midwest Environmental Sciences Center
David Dupre	U.S. Geological Survey, Central Midwest Water Science Center
Michael Sertle	American Rivers
Kim Lutz	America's Watershed Initiative
Sierra Schuchard	America's Watershed Initiative
Brent Newman	Audubon
Alicia Vasto	Audubon
Anshu Singh	Corn Belt Ports
Shane Kinne	Coalition to Protect the Missouri River
John O'Donnell	Heartlands Conservancy
Alexander Keilty	Lake Pepin Legacy
Gretchen Sabel	League of Women Voters, Upper Mississippi River (Virtual)
Madeline Heim	Mississippi River Ag and Water Desk
Nancy Guyton	Neighbors of the Mississippi
Christine Favilla	Sierra Club
Bryan Hopkins	The Nature Conservancy
Sarah Gatzke	The Nature Conservancy
Rob Hunt	The Nature Conservancy
Doug Daigle	[No affiliation]
Edward LaBelle	[No affiliation]
Deborah Neustadt	[No affiliation]
Libby Reuter	[No affiliation]
Gary Williams	[No affiliation]
Kirsten Wallace	Upper Mississippi River Basin Association

Brian Stenquist	Upper Mississippi River Basin Association
Mark Ellis	Upper Mississippi River Basin Association
Henry Hansen	Upper Mississippi River Basin Association
Natalie Lenzen	Upper Mississippi River Basin Association
Sadie Neuman	Upper Mississippi River Basin Association
Ken Peterson	Upper Mississippi River Basin Association
Lauren Salvato	Upper Mississippi River Basin Association
Laura Talbert	Upper Mississippi River Basin Association
Josh Wolf	Upper Mississippi River Basin Association

Minutes

Chris Wieberg moved and Tim Hall seconded a motion to approve the draft minutes of the August 6, 2024 UMRBA quarterly meeting as provided in the agenda packet. The motion was approved unanimously.

Board Member Recognition

In announcing their upcoming retirements, Grant Wilson recognized the substantial contributions of Tim Hall and Loren Wobig to the strategic direction, growth, and maturity during their long tenure as Board Members of the Upper Mississippi River Basin Association. Wilson commented on their positive and engaging camaraderie. Kirsten Wallace added her perspective on the immense value that Hall and Wobig contributed to the Association as well as the support they provided to her.

Hall and Wobig remarked on their positive experience serving as a leader and participant on the UMRBA Board, particularly in creating interstate partnerships and collaborations.

Executive Director's Report

Kirsten Wallace pointed to the Executive Director's report in the agenda packet for a summary of the Association's work efforts since the August 2024 meeting.

Wallace announced that UMRBA has expanded its staff team with the addition of Henry Hansen, Sadie Neuman, Laura Talbert, and Josh Wolf. Wallace introduced the new team members, as follows:

Henry Hansen serves our team as the Ecosystem Program Lead, Sadie Neuman as the Public Participation and Communications Project Specialist, Laura Talbert as the Ecosystem Program Coordinator, and Josh Wolf as the Water Quality Program Coordinator.

Wallace explained that UMRBA is initiating two new partnerships for which UMRBA will enter into financial arrangements. In response to Wallace's request, the UMRBA Board provided Wallace with the authority to execute the associated agreements, as follows:

1) Water Availability Project Cooperative Agreement — Wade Strickland moved and Chris Wieberg seconded the motion to authorize Kirsten Wallace to execute a contract with the University of Minnesota, under which UMRBA will work with the U.S. Geological Survey and University of Minnesota to implement a water availability assessment for the Upper

Mississippi River Basin. The contract is expected to be two years in duration with funding of up to $420,000 for UMRBA's contributions to the project. The motion passed unanimously.

2) Water Resources Database Development Project — Chris Wieberg moved and Wade Strickland seconded the motion to authorize Kirsten Wallace to execute a contract with the Illinois DNR as a subaward recipient to an Exchange Network Grant that the U.S. Environmental Protection Agency awarded to Illinois DNR. The contract is expected to be two years in duration with funding of up to $240,000 for UMRBA's contributions to the project. The motion passed unanimously.

Wallace pointed to the UMRBA financial statements for July 2024 through September 2024 as provided on pages B-12 to B-20 of the agenda packet. Tim Hall moved and Rick Pohlman seconded the motion to accept the Association's budget report and balance sheet as included in the agenda packet. The motion was approved unanimously.

Water Quality Program

As Chair of the UMRBA Water Quality Executive Committee, Nicole Vidales reported on UMRBA's water quality program in 2023 and its outlook for 2024. Highlights of UMRBA's water quality program include:

- Published the How Clean is the River? Report, which is UMRBA's second comprehensive assessment of water quality conditions along the Upper Mississippi River. UMRBA also employed targeted communications of the water quality trend information.
- Planned for implementation of fixed site sampling under the UMRBA Interstate Water Quality Monitoring Plan, starting in fall 2025.
- In partnership with Illinois DNR, secured a USEPA Exchange Network Grant to build a database management program for UMRBA's water resources data.
- Convened nutrient management leaders who collectively identified and mapped leverage points for accelerating the use of multi-benefit conservation practices.
- Facilitated information exchange, and explored interstate collaboration, on the batch-and-build approach for implementing conservation practices that has been successful in Iowa.
- Participated in the Hypoxia Task Force Coordinating Committee and its communications work group.

Vidales reported that the WQEC has set priorities for UMRBA's water quality program in 2025 as including:

- Continue preparing for, and initiate in fall 2025, the fixed site sampling network under the UMR Interstate Water Quality Monitoring Plan. Example actions include planning split site sampling and developing a risk communication strategy.
- Design a database to house and analyze water quality monitoring data.
- Form a Nutrient Reduction Committee and draft the Upper Mississippi River Nutrient Reduction Strategy Plan.
- Develop a multi-year approach to advancing interstate cooperation related to chloride runoff reduction, implementing the UMRBA Chloride Resolution.

- Develop a multi-year approach to facilitate interstate cooperation of harmful algal bloom mitigation and response on the Upper Mississippi River, including in partnership with public water suppliers – e.g., employ a gap analysis of capacity and tools.

Bryan Hopkins mentioned that The Nature Conservancy is developing a Mississippi River basin-wide water quality monitoring framework. The framework will include a fiscal report, which Hopkins says will illustrate the cost-effectiveness of continuous monitoring programs in comparison to *ad hoc* monitoring events.

Water Availability and Supply Resilience

Missouri River Basin Diversion Proposal

Kirsten Wallace reported that, in early September, North Dakota water supply legislation was introduced in the Senate Energy and Natural Resources Committee Water and Power Subcommittee and the House Natural Resources Committee (S. 4996 and H.R. 9554, respectively). In response, UMRBA submitted a letter to those Committees on October 28, 2024 voicing opposition to the legislation. In the letter, UMRBA respectfully requests that any analysis of out-of-basin water diversions thoroughly evaluate all dimensions of the potential implications to water resource in the Missouri and Mississippi River Basins. Wallace noted that the letter is provided on page C-2 of the agenda packet.

Chris Wieberg reported on the state of Missouri's concerns with proposals for diverting water out of the Missouri River basin given the potential consequences to water levels in the Missouri River within the state's jurisdiction as well as the Mississippi River. In part, the concern is related to supporting a reliable navigation system. In a letter to the House Committee on Natural Resources, dated October 21, 2024, the Missouri DNR expresses opposition to the Dakota Water Resources Act of 2024 and requests that the Committee take no action on the proposed amendment. The letter is provided on pages C-3 to C-4 of the agenda packet.

2024 Navigation Channel Report

Lou Dell'Orco provided a report on the Upper Mississippi River System's channel maintenance and management actions throughout the 2024 navigation season, which was challenged by consistent low water levels. Dell'Orco explained the Corps' sophistication in its communications and coordination with industry, U.S. Coast Guard, and the National Weather Service as well as its interdistrict optimization of dredges.

Dell'Orco reported that the St. Louis District has successfully maintained the Congressionally-authorized dimensions of the navigation channel. While the District is accelerating maintenance activities given recent increases in water levels from rainfall, it is monitoring potential issues associated with the scheduled cut-off of navigation flow support from the Missouri River in mid-December.

Reflecting on the costs for dredging the river in low water years, Wieberg advised the Corps to consider costs to navigation on the Missouri and Mississippi Rivers when evaluating the management of river flows on the Missouri River. Wieberg also suggested that UMRBA underscore the navigation considerations when putting forward positions on out-of-basin transfers of water.

In response to a question from Chuck Camillo, Dell'Orco explained that there is not a clear trend on the relationships between the regulatory works and dredging operations over the past few years. The ultimate goal for the regulatory works is to facilitate more natural self-scouring riverine functions.

Bryan Hopkins underscored the value of beneficial reuse of dredged material, particularly to advance ecological and habitat goals held by the Upper Mississippi River Basin partnership. In response to a question from Alicia Vasto, Dell'Orco explained the relational contributions of river flows from the Missouri River in comparison with the Upper Mississippi and Illinois Rivers. Wieberg added that, while the proposed diversion of water from the Missouri River to North Dakota is relatively small, the diversion would represent a new precedent of allowing for such diversions and, potentially cumulatively over time, could have significant consequences to the Missouri and Mississippi Rivers. This includes the availability of water for public supply.

UMRBA Water Availability Assessment Partnership Project

Wallace announced that UMRBA and several partner organizations are launching a project that will identify which basin watersheds have greater impacts on river flows that support the nine-foot navigation channel essential to commercial barge traffic on the river.

U.S. Geological Survey is providing $600,000 to support the project. The University of Minnesota will conduct the hydrologic analysis. UMRBA will facilitate interstate coordination. The states of Illinois, Iowa, Minnesota, Missouri, and Wisconsin will provide technical expertise to the University of Minnesota. U.S. Geological Survey will also provide technical expertise to the states and the University of Minnesota, as they explore how the information can be used to support decision making.

The objectives of this project are to:

1) Estimate the existing hydrologic flows from the basin watersheds into the Upper Mississippi River System navigation channel

2) Determine the thresholds of discharge in various reaches at which negative impacts may occur to the UMRS navigation channel (including duration and frequency of occurrence)

3) Explore how diversions and consumptive uses might affect the hydrologic flows from the basin watersheds into the UMRS navigation channel

4) Scope follow-on research goals for assessing the implications of limited water availability analysis for river products and services beyond the UMRS navigation channel – e.g., impacts to drinking water, recreation, and aquatic ecosystem health of the UMRS

5) Convene interstate conversations among Illinois, Iowa, Minnesota, Missouri, and Wisconsin technical experts and agency leaders to a) learn the research findings, b) relate the research findings to management and policy decision making, and c) recommend principles and policies for cooperative and effectively managing the water resources of the Upper Mississippi River basin

In a related project, Illinois DNR secured a $282,000 grant from the U.S. Environmental Protection Agency to build a database infrastructure that will store the water quantity data from Illinois, Iowa, Minnesota,

Missouri, and Wisconsin. The database will allow the data to be readily accessible and available for basin-scale analyses.

Beyond this initial partnership project, UMRBA hopes to expand assessments to examine future climate conditions and the implications of water availability to the river's many different water uses.

Public Engagement in Flow Frequency Studies

Missouri River Lessons Learned and Advice to the UMRS

USACE Process Overview and Insights

Colleen Roberts provided a briefing of the Missouri River flow and stage frequency study, which indicates that the Missouri River will likely experience i) increased flows for less frequent events (with some exceptions below the confluence of the Grand River) and ii) increased flows upstream of Kansas City, Missouri with generally minor changes in flood frequency. The analysis of stage frequency was started in 2023 and is scheduled to be completed in early 2026. Roberts discussed the Corps communications strategies and messages for the flow and stage frequency project, including key messages, stakeholder assessments, communications products and activities.

Roberts shared a summary of lessons learned that might be applicable to the Upper Mississippi River System project to renew flow frequency and surface water profiles, as follows:

1) It is important to involve FEMA in developing and delivering messages and participating in meetings.
2) It is important to integrate messages among the project partners, Corps Districts and Division leaders, state leaders, and other partner leaders.
3) Start communications early with frequent touchpoints with the public, levee districts, and partners.
4) Highly technical information should be well coordinated and communicated with the appropriate technical experts.
5) Employ a third-party, technical review by state, federal, and university partners.
6) The Corps will employ a similar approach to stakeholder communications and public engagement for the surface water profiles as had done for the flow frequency profiles.
7) Communication needs to be developed and supported by a larger team with continued assessments of progress and schedule and communications needs.

Wieberg and Tim Hall commended the tremendous amount of community outreach employed by the Corps in partnership with the states for the Lower Missouri River Flood Risk Reduction and Resiliency Study. A particular challenge was communicating about the program in ways that related to the levels of awareness and understanding among stakeholders. It is important to understand how stakeholders will consume the information and what perspectives or other biases might affect the way that information is received and perceived. Establishing and maintaining trust and open dialogue as well as communicating concepts through visualizations have been important to improving stakeholder engagement and consensus building.

In highlighting lower attendance at certain public meeting, Hall asked Roberts for her opinions on how to improve attendance in the meetings and attract broader interest and awareness in the flood frequency study results and flood risk reduction and resilience planning. Roberts cited concerns with overall representation of people attending the meeting versus the people impacted by floods on the Missouri River. Roberts underscored the value of identifying a local advocate to help organize and disseminate information, such as meeting notices. Roberts suggested avoiding planting and harvest seasons, coordinating around community events (e.g., school schedules), and strategically plan for timing that would meet community needs.

In response to a question from Kelly Keefe, Roberts explained that climate analyses are being incorporated in the flow and stage frequency study with general assumptions and then in the site-specific, local spin-off studies.

Loren Wobig pointed out the need for state and federal regulatory agencies to collaborate in their use of flow and stage frequency and projections of changing hydrology.

In response to a question from Brian Stenquist, Roberts said stakeholders' most stated concerns of flow and stage frequency data are the impact to crop and home insurance rates. Stakeholders seem to recognize that flooding on the Missouri River is occurring more frequently, and the concern is whether the study results will affect levee accreditation. Wieberg said Missouri DNR has been proactively engaging with communities where the impacts may be the greatest to develop spin-off studies and move the conversations towards solutions.

Hall mentioned that the renewed flow and stage frequency have helped to align transportation, agriculture, homeland security, and conservation agencies within Iowa. In response, Iowa Department of Homeland Security has met with municipal leaders about flood protection.

Wieberg noted that FEMA incorporation of flow and stage frequency is an ongoing and important question. FEMA has been citing uncertainty in future funding, deflecting question about the agency's decision-making processes with the renewed information. Wieberg reflected on the bigger point of renewing the flow and stage frequency information, and that is to improve knowledge of where water might go during high water events and create a state and national interest in investing in infrastructure improvements and other measures to reduce flood risk and improve community resilience.

Stakeholder Perspective

Shane Kinney shared common perspectives voiced levee districts located in the Lower Missouri River floodplain on the flow and stage frequency study and the flood risk reduction and resiliency study. Kinney expressed alignment with Robert's observations of stakeholder perceptions, interests, and concerns.

Kinney offered the following key factors for obtaining public consent with the flow and stage frequency data and moving forward to the next planning phase: early engagement of the stakeholder community, clear transparency in decision making (particularly related to making assumptions), and integrating trusted individuals on technical review communities. Kinney suggested that stakeholders be asked for input regarding participants on the technical review committees, with the participants then being able to comprehend the data and results, ask questions relevant to the stakeholder communities, and understanding the rationale of decisions. Kinney also underscored the importance of FEMA's involvement

in the study process, but particularly in the community engagement, and of properly conveying the importance and impact of the results and study process to the stakeholder communities.

UMRS Initial Stakeholder Assessment

Kirsten Wallace explained that the UMRBA Board had requested that each state share an initial assessment of stakeholders who might be affected by renewing the flow frequency and surface water profiles on the UMRS. For each stakeholder community, representatives from each state provided a general assessment regarding:

a) How they use the flow frequency and surface water profiles or how the profiles are used in ways that affect them – e.g., homeowner insurance rates, zoning and development.

b) Their interest and awareness in the flow frequency study methodology.

c) Their interest and awareness in the flow frequency study results.

d) How the results might impact their interest in the methodology.

e) How does your respective state (or agency) communicate and engage with the stakeholder community.

The state agency representatives spoke about interest and engagement with tribes, levee districts, individual property owners, river-adjacent communities, tourism and recreation providers, emergency managers and responders, transportation planners.

UMRS Study Project Briefing

Scott Whitney described the efforts to renew regulated and unregulated flow frequency curves and hydraulic provides along the mainstem of the Upper Mississippi River System. The existing dataset was published in 2004, using data covering the period of record through 1998. As a means to illustrate the importance of this project, Whitney pointed out that the most significant flooding on the Upper Mississippi River occurred in 2001, 2008, 2011, 2013, 2014, 2028 and 2019. On the Illinois River, five of the 10 highest flood crests have occurred since 1998, including the record crest in 2013.

Whitney provided a briefing on the planned implementation schedule. The Rock Island District the hydrologic management plan (HEMP) is currently undergoing a review by technical experts. Pending the comments received, a revised version based on that feedback will be disseminated to a group of stakeholders for review in February through March.

The total project cost is estimated at $3.6 million. The Corps allocated $765 million in FY 2021 through FY 2023. Congress provided a $1 million appropriation to support the project in FY 2024. That leaves $1.885 million in remaining project costs. Kirsten Wallace noted that the House and Senate Appropriations Committees have included $1 million in their energy and water spending bills.

In response to similar questions from Chris Wieberg and Bryan Hopkins, Whitney explained the rationale for limited stakeholder involvement and public outreach. The rationale from the District's perspective is that a) the study is for technical purposes and follow-on planning efforts will be more appropriate forums for public engagement on the implications and potential management strategies, b) the project does not

have the authority or funding to provide additional planning or communications efforts related to implications or potential solutions. Shawn Sullivan pointed to the HEC-RAS model and other inter-District collaborations, and in response to a clarifying question, Whitney agreed that there are general authorities, collaborations with USGS and NWS, and tools (e.g., inundation mapping) that can be employed in ways to transfer the data into meaningful information for people.

In response to a question from Wieberg, Whitney confirmed that the study includes renewing both flow frequency and surface water profiles.

Other Business

Future Meeting Schedule

February 2025 to be held virtually

- UMRBA Quarterly Meeting – February 25
- UMRR Coordinating Committee quarterly meeting – February 26

May 2024 in La Crosse, Wisconsin

- UMRBA Quarterly Meeting – May 20
- UMRR Coordinating Committee quarterly meeting – May 21

August 2024 in Edina, Minnesota

- UMRBA Quarterly Meeting – August 5
- UMRR Coordinating Committee quarterly meeting – August 6

With no further business, the meeting adjourned at 2:54 p.m.