

**Minutes of the 139th Quarterly Meeting
of the
Upper Mississippi River Basin Association**

**August 9, 2016
La Crosse, Wisconsin**

UMRBA Chair Robert Stout called the meeting to order at 9:37 a.m. Participants were as follows:

UMRBA Representatives, Alternates:

Dan Stephenson	Illinois Department of Natural Resources
Randy Schultz	Iowa Department of Natural Resources
Dave Frederickson	Minnesota Department of Agriculture
Barb Naramore	Minnesota Department of Natural Resources
Robert Stout	Missouri Department of Natural Resources
Dan Baumann	Wisconsin Department of Natural Resources
Jim Fischer	Wisconsin Department of Natural Resources

Federal UMRBA Liaisons:

Thatch Shepard	U.S. Army Corps of Engineers, MVD (on behalf of Don Balch)
Marty Adkins	U.S. Department of Agriculture, NRCS
Sabrina Chandler	U.S. Fish and Wildlife Service
Scott Morlock	U.S. Geological Survey
Brandon Criman	U.S. Maritime Administration

Others in Attendance:

Lawrence Patterson	Illinois Department of Natural Resources
Megan Moore	Minnesota Department of Natural Resources
Kevin Stauffer	Minnesota Department of Natural Resources
Kurt Rasmussen	Wisconsin Department of Natural Resources
Ben Robinson	U.S. Army Corps of Engineers, MVD
Chris Erickson	U.S. Army Corps of Engineers, MVP
Shahin Khazrajafari	U.S. Army Corps of Engineers, MVP
Steve Tapp	U.S. Army Corps of Engineers, MVP
Col. Craig Baumgartner	U.S. Army Corps of Engineers, MVR
Dennis Hamilton	U.S. Army Corps of Engineers, MVR
Ken Barr	U.S. Army Corps of Engineers, MVR
Marv Hubbell	U.S. Army Corps of Engineers, MVR
Karen Hagerty	U.S. Army Corps of Engineers, MVR
Scott Whitney	U.S. Army Corps of Engineers, MVR
Maj. Richard Star	U.S. Army Corps of Engineers, MVS
Tim Eagan	U.S. Army Corps of Engineers, MVS
Brian Markert	U.S. Army Corps of Engineers, MVS
Deanne Strauser	U.S. Army Corps of Engineers, MVS
Shawn Sullivan	U.S. Army Corps of Engineers, MVS
Tim Yager	U.S. Fish and Wildlife Service

Jennie Sauer	U.S. Geological Survey, UMESC
Mike Welvaert	National Weather Service
Tom Boland	Amec Foster Wheeler
Brad Walker	Missouri Coalition for the Environment
Damon Hall	Saint Louis University
Don Powell	SEH, Inc.
Gretchen Benjamin	The Nature Conservancy
Mike Klingner	Upper Mississippi, Illinois, and Missouri Rivers Association
Dru Buntin	Upper Mississippi River Basin Association
Dave Hokanson	Upper Mississippi River Basin Association
Kirsten Mickelsen	Upper Mississippi River Basin Association

Minutes

Brad Walker provided suggested revisions to the description of his comments regarding the Navigation and Ecosystem Sustainability Program (NESP) contained in the draft minutes of the May 24, 2016 quarterly meeting. Dan Baumann moved and Randy Schultz seconded a motion to approve the draft minutes of the May 24, 2016 quarterly meeting with Walker's suggested revisions. The motion carried unanimously on a voice vote.

Executive Director's Report

Dru Buntin presented the Executive Director's report, noting the report is organized according to the focus areas in the 2013-17 UMRBA Strategic Plan. Among the items in the report, in the *Commercial Navigation and Ecosystem Restoration and Monitoring focus areas*, Buntin noted that he, Gretchen Benjamin with The Nature Conservancy (TNC), and Paul Rohde and Tracy Zea with the Waterways Council participated in July 11-13, 2016 advocacy visits in Washington, DC. These meetings with Administration staff from the Office of Management and Budget, the Assistant Secretary of the Army for Civil Works, Corps of Engineers Headquarters, as well as Congressional staff were primarily focused on future funding for navigation and ecosystem priorities, both in terms of FY 2017 appropriations and also FY 2018 budget development. Buntin said partners requested that Congress maximize federal appropriations to fully match industry cost share available through the Inland Waterways Trust Fund (IWTF) in order to provide funding for major rehabilitation of La Grange Lock and Dam on the Illinois River. Partners also requested full funding of \$33.17 million for the Upper Mississippi River Restoration (UMRR) program, \$10 million for the Navigation and Ecosystem Sustainability Program (NESP), and increased operations and maintenance funding for the UMRS. Buntin said they also discussed issues related to the Corps' project partnership agreements (PPAs).

In the *Ecosystem Restoration and Monitoring focus area*, Buntin said UMRR partners participated in a celebration of the program's 30 years of successful achievement yesterday (August 8, 2016). Buntin expressed UMRBA's appreciation to all those who participated in the event and in particular to TNC and the J.F. Brennan Company for sponsoring the boat tour following the ceremony.

In the *Flood Risk Management focus area*, Buntin said he, UMRBA Chair Robert Stout, Paul Osman with the Illinois Department of Natural Resources, and Phil Bradshaw with the National Soybean Association participated in a July 21, 2016 flood risk management and navigation stakeholder discussion as a part of the Corps of Engineers Mississippi Valley Division (MVD) regional meeting. Buntin said the discussion included the challenges with implementing public-private partnerships (P3s) on the inland waterways system. Discussion also included a watershed study focused on flood risk and channel maintenance management, as well as the additional study under the Upper Mississippi River Comprehensive Plan that is included in the Senate version of the current Water Resources Development Act. Osman presented information regarding the State of Illinois floodplain regulatory program at this meeting.

In the *Spill Response Planning and Mapping focus area*, Buntin noted that UMRBA has hired two new Oil Pollution Act (OPA) project staff. Mike Robinson joined UMRBA on June 6, 2016 to work on both the St. Croix Riverway project and aid ongoing region-wide spill contingency mapping and planning. Robinson holds a Master of Science degree in Geography from Minnesota State University and previously worked for the Minnesota Department of Natural Resources and the Nature Conservancy. Tyler Leske joined UMRBA on July 8, 2016 and will work largely in support of regional spill mapping and planning. Leske holds a Bachelor of Science degree in Geography from the University of Minnesota and served as a geospatial engineer in the U.S. Army National Guard. Buntin said Leske replaces Molly McDonald who left UMRBA after two years of service to pursue other career opportunities.

In the *Water Quality focus area*, Dave Hokanson provided an update on the pilot implementation of the *Upper Mississippi River Clean Water Act Recommended Monitoring Plan* in Minnesota and Wisconsin. Hokanson said staff from the Minnesota Pollution Control Agency, Minnesota Department of Natural Resources, Wisconsin Department of Natural Resources, and the Twin Cities Metropolitan Council have begun pilot field implementation of the plan on the segment of the UMR between the Twin Cities and La Crosse, Wisconsin. This sampling includes chemistry, fish, macroinvertebrate, and vegetative components and monitoring will continue throughout the remainder of 2016. Hokanson said UMRBA staff have supported the effort by documenting monitoring plans and procedures via an online viewer and field operations manual. He said staff will continue to work with the agencies and the Water Quality Task Force as data become available. Hokanson noted that the Water Quality Task Force will meet September 20-21, 2016 in Moline, Illinois.

In response to a question from Dan Baumann, Buntin said the UMRBA Board will hold a strategic planning meeting on October 17-18, 2016 in St. Louis, Missouri. Buntin said UMRBA staff are still developing materials for this meeting, but the general focus will include a review of the *2013 – 2017 UMRBA Strategic Plan* and discussion of the structure of the Association's next five-year strategic plan. Baumann said it would be helpful to receive the specific agenda as soon as possible in order to allow Board members to coordinate with other agencies in their states in advance of the meeting.

Buntin directed the Board's attention to page B-16 of the agenda packet for a copy of UMRBA Treasurer Jason Tidemann's statement regarding his review of UMRBA's financial statement for the period of May 1, 2016 through June 30, 2016. Buntin noted that Illinois has paid their FY 2016 dues and this will necessitate an FY 2017 budget amendment to reflect anticipated income from Illinois dues as well as restoration of the Illinois travel allotment. Dave Frederickson offered and Dan Stevenson seconded a motion to amend the Association's FY 2017 budget (the second FY 2017 budget amendment) to reflect anticipated income of \$48,000 from the State of Illinois' dues as well as anticipated expenditure of \$5,000 for Illinois' travel reimbursement allotment. The Board unanimously adopted the amendment by voice vote. Dan Baumann offered and Dave Frederickson seconded a motion to adopt the Treasurer's statement, the FY 2017 balance sheet, and the FY 2017 Profit and Loss statement. The Board unanimously adopted the motion by voice vote.

Regional Flood Risk Management

Corps Update and Discussion of Potential Watershed Study

Association Chair Robert Stout noted that UMRBA has proposed a watershed study designed to address flood risk management and channel maintenance on the UMRS. Stout said flood risk management discussions have historically been contentious. The states believe that a watershed study offers an opportunity means to bring together a broad range of stakeholders into the discussion about improving

regional flood risk management. He noted that the UMRS watershed study proposal is included in the meeting packet. Stout introduced Scott Whitney who provided an update from the Corps of Engineers regarding regional flood risk management.

Whitney noted that the Corps and the UMRS states have a long history of working together in recognition of the fact that flood risk management is a responsibility shared by multiple levels of government. He said a number of factors are increasing flood risk in the United States, referencing data showing that flood events are getting more extreme and more frequent. Whitney said there is increasing focus among stakeholders on efforts designed to break the cycle of repeated damage and repairs as flooding is the costliest natural hazard in the nation. The consequences of flooding include the loss of life, loss of business revenue, property damage, infrastructure damage, environmental damage, and recovery costs. Whitney said that, throughout the nation, both existing and new developments are in flood prone areas and are often protected by poorly maintained infrastructure. He said there is limited information available on the extent of current and future flood risks.

Whitney shared pictures of a number of recent flooding events on the Mississippi River and its tributaries and said these events are testing the limits of current flood risk management systems and approaches. He said basin partners have expressed interest in looking for new strategies to improve resilience to flood events. Whitney said there is a need to develop a shared vision for improving flood risk management in the UMRS. He said this vision would guide efforts to improve resilience by coming to consensus regarding nonstructural and structural approaches in the floodplain, while also considering larger watershed inputs and other factors. Whitney said partners must also consider how any current and future levee modifications will be addressed.

Whitney said there are a number of challenges to addressing flood risk management. He said the Corps has existing authorities, but these opportunities are limited by available funding and cost share requirements. Whitney said the Corps is interested in opportunities to align federal, state, and local authorities to create a more consistent multijurisdictional system. The Corps asserts that a decentralized approach will not optimize predictability of a larger system. Whitney said discussion regarding such an approach must be fully transparent and involve all interested partners. Given the often contentious nature of past flood risk discussions, he said there is a need to build trust among all partners.

Whitney said the Corps' goal is to implement meaningful flood risk reduction actions. The development of a shared vision supported by regional partners will help inform these actions. Whitney said moving towards action is critical as another flood of record such as the flood of 1993 could happen at any time. The Corps is taking action to help define the regional flood risk challenge by continuing to develop a comprehensive HEC-RAS model as well as by completing a survey of levee heights. Whitney said the Corps would like to work with the states to establish a regional interagency team to coordinate on flood risk management issues and also build a coalition of stakeholders as a part of the effort. The HEC-RAS model will allow for a better understanding of the impacts from frequent and higher peak flows. However, Whitney said stakeholder development of a regional strategy would also help in implementation of measures to improve system performance. Whitney said the Corps has secured funding to develop the first increment of the HEC-RAS model from Lock and Dam 19 to Thebes gap. Development of this portion of the model is expected to take approximately one year. He said the unified HEC-RAS model will provide a number of benefits, including:

- Serving as the critical first step to developing a systemic regional flood risk management strategy
- Allowing additional analytical tools to improve understanding of risk
- Increasing predictive accuracy and communication
- Allowing impact analysis for levee or floodplain alterations
- Facilitating improved flood response, preparation, and mitigation

- Enhancing real time river forecasting
- Enjoying the support from the states and regional partners and NGOs
- Serving as an important catalyst for stakeholder participation in flood risk management strategies

Whitney said that, in addition to the HEC-RAS model, development of hydrologic analyses will be needed to show actual impacts.

Whitney noted that the Mississippi River Commission and the Corps will host an August 11, 2016 UMRS flood risk management roundtable discussion with partners on the MV Mississippi as a part of the Commission's low water inspection tour. Robert Sinkler (TNC), Loren Wobig (Illinois Department of Natural Resources), Robert Stout (Missouri Department of Natural Resources), Mark Harvey (Neighbors of the Mississippi), Meghan Kaiser (UMIMRA), and Dru Buntin (UMRBA) are scheduled to participate in the discussion. Whitney said each panelist was asked to focus their presentations on the top five flood risk management challenges from the perspective of their organizations and to offer recommendations for improving management.

Whitney said the Corps will also participate in an August 22, 2016 levee stakeholder summit hosted by UMIMRA in Hannibal, Missouri. In 2008, the Corps released the Upper Mississippi River Comprehensive Plan report. However, Whitney said little progress has been made in implementing strategies since that time. He said the purpose of UMIMRA's flood summit is to restart the conversation regarding the Comprehensive Plan among stakeholders, state government, and the Corps and seek their input on a systemic flood control plan.

Whitney said the Corps' flood risk management responsibilities and activities include:

- Communication, coordination, and collaboration
- Studies and technical assistance
- Project construction
- Emergency response and recovery
- Section 408 permits
- Levee certification
- Levee rehabilitation and inspection
- Dam safety

Whitney said that in recent years the Mississippi Valley Division has secured \$6 million in funding for Silver Jackets work that has also leveraged additional funding for a total of \$16 million. Scott Morlock noted that, in his previous position, he was involved in the Indiana Silver Jackets team. He said this was a successful leveraging of multiple agency activities and assisted in developing community response plans. Morlock said the biggest gap in Indiana was the absence of an understanding of the impact resulting from erosion. The Silver Jackets initiative helped facilitate creation of erosion hazards mitigation approaches. Whitney said information sharing among the Silver Jackets groups has been important. Marty Adkins said good work has also been done in Iowa through the Silver Jackets initiative. Adkins said there is room for improving community approaches to flood risk management and a part of this effort should be to provide information to decision makers.

Karen Hagerty said one thing that stood out from the America's Watershed Initiative report card for the UMRS was the low grade for flood risk management due to an increase in population in the floodplain. Robert Stout said that since winter flooding on the Meramec River this past winter, the Federal Emergency Management Agency (FEMA) has conducted a number of meetings to develop flood

resilience and mitigation plans. These discussions have highlighted the need for new ways to communicate to communities regarding resiliency strategies. Stout said developing additional tools such as the HEC-RAS model is important, but community engagement is also critical. Mike Klingner said a repeat of the 1993 flood could happen at any time. Klingner said UMIMRA supports Section 4010 of the 2016 Senate Water Resources Development Act as a way to allow for additional work on regional flood risk management.

Dan Baumann said Wisconsin supports development of the HEC-RAS model and believes that the trend information of increasing flows will inform local decision-making. Col. Baumgartner said the model can serve as an important tool for communicating risk and allowing communities to identify steps at the local level to address residual risk. Morlock said USGS has found the greatest success in providing technical support to community flood risk plans.

In response to a question from Dru Buntin, Mike Klingner said UMIMRA agrees with other stakeholders that the UMR Comprehensive Plan did not go far enough in identifying specific implementation measures and additional planning is required. Klingner said UMIMRA also supports the approach taken in the Iowa Watershed Approach initiative. He said they believe that Section 4010 of the Senate WRDA bill would allow for a new approach. Klingner said not all affected stakeholders are providing input regarding this issue and we need to identify ways to get their input. Buntin said some partners have expressed confusion regarding how the Section 4010 provisions related to system benefits would be implemented. He said this is an example of the need to build consensus surrounding the preferred regional approach.

In response to a question from Barb Naramore regarding the scope of a UMRS watershed study, Buntin said the watershed study process itself is designed to go beyond specific project planning towards more of a comprehensive and strategic evaluation that includes diverse stakeholder considerations. However, given the geographic scale of the UMRS, Buntin said the states identified flood risk management and long term channel maintenance planning as the initial proposed scope of the study. He said the recommended actions would likely focus mostly within the floodplain, while also evaluating watershed influences and impacts. Naramore said partners may want to revisit some of the analytical tools that emerged following the 1993 flood in order to more rigorously assess watershed influences.

Brad Walker said the Nicollet Island Coalition prepared a fact sheet regarding the Upper Mississippi River Comprehensive Plan outlining why they do not think it is viable.

Strategic In-Depth Citizen Engagement in Water Planning and Floodplain Management

Dru Buntin introduced Dr. Damon Hall from the University of St. Louis to provide a presentation based on his work with the Corps and other federal and state agencies on public engagement on water resource management. Hall said the rationale behind his research is that all environmental policy decision-making processes are rooted in a baseline of assumptions about what is true in a particular setting. He said the environmental sciences and the social sciences have long been driven by the search for a more complete understanding of the social and natural world. However, a consensus of science does not necessarily lead to good policy. Hall said that, although lack of information about social and ecological functioning contributes to poor policy decisions, providing that information is not sufficient to produce good policy. Hall provided a quote from a 1988 journal article by T.W. Clark and Stephen Kellett which states “Natural resource policy and environmental management is a social practice often lacking scientific grounds that is driven by external forces and divergent perspectives of the problems and solutions.” Hall said policy takes its cue from society’s values and cultural norms.

Hall said good policy, sound planning, and management emerges at the confluence of science and culture. The former Chief of the U.S. Forest Service once said “managing natural resources is five

percent managing nature and 95 percent managing people.” Hall said one must understand the people before one can expect them to carry out a policy. Hall said inviting the public to comment in decisions that affect their livelihoods is considered a best practice for making decisions. However, the logistics of conducting good public engagement and comment are riddled with problems.

Hall said several compounding factors make stakeholder engagement one of the most complicated and challenging communication situations. Research reveals that people often feel surprised by new planning. They report feeling shocked that they were not invited from the earliest stages of planning and are often angry to know that planning began in agencies years earlier concerning decisions that affect them. Hall said research shows that natural resource managers have limited understanding of the constituents they serve. He said that, from a local affected resident’s perspective, it is difficult to trust the judgement of outside experts over that of people who have lived in a community for generations. Hall said managers tasked with carrying out public engagement are often trained in biology, engineering, ecology, or natural resources management and not in communications, conflict negotiation, or facilitation. He said many managers readily admit that backgrounds in engineering or biology are not necessarily adequate when dealing with diverse and divided publics. In addition, Hall said most citizens are unaware of how managers are constrained by legal and statutory mandates and cannot share decision authority or power.

Hall said when people attend a traditional public hearing, provided they even hear or read about it, they often do not have the information needed to effectively engage. Traditional public hearings are also often scheduled at inconvenient times for the majority of people. Hall said the primary means of participation in such hearings is to give individuals time-limited opportunities to speak on public record in front of their neighbors who they may not want to know of their opinion. Hall said that in this setting many are afraid to speak. He cited a study completed several years ago that showed Americans fear public speaking more than they fear death. Hall said the old joke is that, at a funeral, most would rather be in the coffin rather than delivering the eulogy. All of this sets up a hostile environment for having a conversation that advances planning. This is especially compounded in matters of risk or hazards that threaten land use and family livelihoods.

With all of these challenges in mind, Hall said the question becomes how to capture culture in a manner meaningful and useful for informing decision making and the entire decision making process. Hall said he believes public participation can work when it is strategically designed to fit the local setting. He said we know that citizens are experts when it comes to their home locations and they sometimes have more viable, cost-effective ideas for policy or management solutions that will work given the politics of their communities. Hall said local citizens are opinion leaders with powerful social networks and they are capable of framing and reframing messages involved in decision making.

Hall said the research of he and his colleagues offers an alternative approach to gathering needed information about people, local needs, desires, and opinions from affected communities. He said they design communication settings that are familiar, comfortable, and accessible. They meet people in their homes, in their fields, their favorite café, or other location on their schedules with no time limits. They also talk one-on-one or in small groups with no government officials present. Hall said citizens are experts and they listen to them as experts. Because of this, and because they are third-party nongovernmental neutral university researchers, Hall asserted that they get a level of access that enables people to talk to them and provide input. He said they treat these conversations as data and analyze them as such. Everything is digitally audio recorded and Hall said this makes people know their input is being heard. Hall said they treat the comments not as a regulatory mandate, but as research data to be provided to decision makers in a way the comments can be used. Hall said the researchers listen to and analyze every citizen conversation at least six times.

Hall provided two examples of projects on which they have used these public engagement techniques. The first is a 2006 Corps of Engineers inventory on the cumulative effects of bank stabilization on cultural resources on the Yellowstone River. Hall said this effort involved a high degree of conflict and distrust of government agencies. He said the approach in the public engagement for this project included 313 in-depth interviews. The second example is the State of Montana's 2015 development of a state water plan. Hall said this project also included mistrust, but was more future-oriented. The public engagement approach for this project included 40 focus groups with a total of 259 people.

In the Montana water plan development, Hall said the Montana Department of Natural Resources and Conservation originally envisioned informational talks followed by public hearings where the Basin Advisory Council could hear public comments. Hall said this approach is familiar, the logistics are manageable, and it ensures maximum control. However, given the sensitivity of water issues in western water rights states, this is likely not an effective public engagement strategy. Hall noted that, in discussions as a part of the engagement strategy ultimately employed, they heard someone at virtually every meeting saying they were in attendance to make sure their water rights were not being taken away.

Hall said research shows that successful public engagement must give citizens three things: access to information and an opportunity to speak; knowledge that their voice was heard; and confidence that their comments were considered. He said when people lack these things, they get emotional. Hall said if one feels they have not been heard on an issue extremely important to them and their families, they speak louder or shout to be heard.

In the Montana water planning example, they designed a process that allowed citizens time and access to express themselves with Basin Advisory Council members listening. Hall said this entailed small groups of five to ten people talking at length and listening to each other's concerns. He said the conversations were recorded and transcribed and the resulting notes were included in a final report. Hall said the resulting public engagement process was satisfactory to citizens, funders, and the Basin Advisory Council. He said they know this because they built in questions into the interviews to assess the engagement approach.

Hall said the cultural resource inventory on the Yellowstone River was initiated after flooding in 1996 and 1997. Following the 1996 flood, the Corps issued the highest number of bank stabilization permits ever recorded. And, following the 1997 flood, the Corps issued a new record high number of permits. Hall said this resulted in a public debate over the impacts of bank stabilization efforts. In addition, fly fishing, environmental groups, and recreational interests filed a lawsuit challenging the Corps permitting criteria. The resulting court ruling required the Corps to perform a cumulative effects study. Hall provided a quote from a local official in Park County, Montana that provides a sense of the climate of mistrust surrounding the issue. The official said "In this culture, nobody sweetens their tea. It is a very self-reliant culture, ... [an] everybody-takes-care-of-their-own type culture. The view of government out here is no just suspicious. It is flat-out distrust. If government is involved, something is wrong. In other communities they at least give you a chance to screw up. Here they assume you already have and they haven't found out about it."

As a part of the cumulative impacts analysis, Hall said they designed a socio-economic and cultural analysis aspect that made it easy for participants to provide their comments and ideas. The resulting data documented how riverfront landowners describe the physical character of the river and how they think the river's physical processes should be managed. It also provided insight into the degree to which riparian zones are recognized and valued and provided an outlet for concerns regarding the management of the river's resources. Hall shared with the Board a chart outlining the number of participants from the agricultural, civic, recreation, residential, and Native American sectors. As a result of this effort, the Yellowstone River Cultural Inventory project included field researchers,

transcriptionists, and other research staff creating and analyzing 2,200 pages of transcripts. The resulting 756-page report was presented at 40 local meetings, was the subject of a 90-minute National Public Radio call-in show, and was made available online and in each county library along the river.

Hall said he has witnessed the possibilities resulting from these public engagement techniques during his in-depth interactions with stakeholders in the field. In the two case studies he mentioned, Hall said that the input received regarding bank stabilization and water use was valuable and applicable to other river management challenges. He said the resulting data has multiple potential uses. It can help identify the most effective strategies for engagement such as opinion leaders who influence others. It also reveals the political will of the community. And, Hall said when discussions are confidential, people often provide information they would not otherwise submit. Local citizens are also likely to have the best sense of what actions will work locally. Hall said when people are visited in their homes and invited to participate in planning about a shared resource, long-term working relationships are often established.

Hall said much falls under the umbrella of stakeholder engagement. However, Hall said his research argues that we must move beyond thinking of engagement as one-way information exchange. He said stakeholder engagement is not about acquiring consent. He said consent is the byproduct of citizens being treated like experts and feeling engaged and heard. Hall said no one likes someone from outside telling them how to do things. Robert Stout said he thought these types of public engagement techniques would be relevant to the proposed UMRS watershed study.

Water Level Management

Sabrina Chandler and Tom Novak provided information regarding water level management on the UMRS. A Water Level Management Task Force (WLMTF) was created by the River Resources Forum in 1995 as a technical committee to evaluate the potential for water level management in the St. Paul District. The first experimental drawdown on the Mississippi River was on Pool 25 in 1994 when a 2-foot drawdown for 30 days was completed. The success of this experiment fueled excitement up and down the river about the possibility of using drawdowns as a restoration tool on other reaches of the river. Small-scale demonstration drawdowns were conducted in the St. Paul District from 1996 to 1999 at three locations. These demonstrations were successful and the team moved ahead with planning for a pool-wide drawdown.

Chandler said a drawdown is a temporary reduction in water level during the growing season (approximately June 15 to September 15) to promote the growth of aquatic emergent plants, dry exposed sediments, and return natural low water variability to mimic the natural conditions under which plants and animals evolved on the river. She said historically, natural high and low water levels influenced complex physical and ecological relationships between substrate, water quality, plants, and biota creating high diversity and resiliency within the Upper Mississippi River system. Chandler said the dates of June 15 through September 15 were selected as the primary growing season for aquatic vegetation. However, she said the WLMTF would like to explore the option of following the natural hydrology. For example, once the spring flood pulse is completed, a drawdown would begin regardless of the date.

Chandler provided information regarding the locations and results of UMRS drawdowns. Drawdowns of 1.5 feet at the dam were targeted for Pool 8 in 2001 and 2002, Pool 5 in 2005 and 2006, and a 1-foot drawdown was targeted on Pool 6 in 2010. Chandler said she uses the term “targeted” because the goals for either the depth or number of days were not the same in all cases. These drawdowns exposed 1,954 acres of substrate in Pool 8, 1,032 acres in Pool 5, and 286 acres in Pool 6. Chandler said more than 50 species of moist-soil, perennial emergent, and aquatic species grew on the exposed substrate. She said

emergent aquatic plants are important as they provide cover or shelter, food, and nursery habitat for fish, invertebrates, birds, and mammals. These plants also provide protection to the shoreline of the river. Emergent aquatic plants are limited on the UMRS due to the reservoir-like conditions created by the locks and dams. Chandler said that monitoring has shown that drawdowns have no impact on submerged aquatic vegetation. Monitoring has also shown that the increase in the frequency of occurrence of emergent aquatic plants continues in the years following a drawdown.

Chandler showed the Board a map depicting the success of the drawdown in Pool 5 as well as photos of the response to drawdown in Pool 8 at the Weaver Bottoms and Reno Access sites. She also provided a chart showing the frequency of occurrence of several species on plants in Pool 5 from 2005 to 2015. Chandler said monitoring has shown that drawdowns also benefit waterfowl. While many factors influence waterfowl use, in Pool 5 use by dabbling and diving ducks (and, to some extent tundra swans) was higher following the drawdown than the previous 10 years. The average duck use for dabblers increased from 71,000 to 295,000 and divers increased from 52,000 to 297,000.

Chandler said there are some potential negative affects resulting from drawdowns. Mussels can die due to stranding, and there were impacts to recreational boaters during the drawdowns. Mussel studies conducted on Pool 6 suggest that some species (such as pocketbook) were able to survive the drawdown because they moved into deeper water. Other species (such as threeridge) were unable to move into deeper water and thus some mortality occurred. Chandler said they estimate natural mortality of 5percent for mussels and mortality in the dewatered areas during drawdowns is estimated to be 11 percent. She said mussel rescues were conducted in Pools 8 and 5. During the 2006 drawdown on Pool 5, 998 surveys were randomly distributed on windshields at boat landings on Pool 5 and 431 were returned. These surveys showed that 94 percent of respondents were satisfied or very satisfied with their boating experience. Chandler said 91 percent had some knowledge about the drawdown and 51 percent rated the drawdown as very effective or mildly effective for improving habitat.

Tom Novak said there are a number of things that must be considered prior to a drawdown. The Corps must evaluate how much pre-dredging will be required to facilitate the desired depth of water level reduction. The Corps must also consider how much pre-dredging will cost and if there is funding available as well as whether there are locations available for placement of the dredged material. Novak said the Corps and partners must also look at previous years flow data and determine the likelihood that the desired water level reduction can be achieved and maintained throughout the growing season.

Novak showed the Board a graphical depiction of normal pool management. He said routine dredging is conducted to the lowest controlled pool elevation. Novak said the low level tolerance at dams in the St. Paul District is very small and averages approximately .2 feet. He said this low tolerance minimized overall dredging needs, but does not support routine drawdowns. Novak showed a graphical depiction of drawdown pool management highlighting the additional dredging required.

Novak said there are also considerations regarding the public prior to a drawdown, such as how many public and private boat landings, launches, and marinas will be affected by the reduced water depth. He said the Corps must also consider whether the drawdown can be implemented without impacting commercial navigation. Novak shared an example of the process used by the Corps for drawdown implementation planning. He said implementation of individual drawdowns takes an excessive amount of time and noted that it has been seven years since the Pool 6 drawdown. Novak said the WLMTF would like to implement multiple pool drawdowns in consecutive years and they are exploring options to manage Pool 8 on a multi-year drawdown schedule. They are also interested in exploring options to change the water control manuals to help facilitate future drawdowns.

Novak said drawdowns provide multiple benefits. They expose mud flats and sandbars that sprout vegetation. This increased vegetation growth improved water clarity during the growing season and the

clear water increases the acres of vegetation and helps vegetation persist. The increase in vegetation provides food and cover for wildlife.

In response to a question from Brandon Criman, Novak said there would be no impact to commercial navigation as a result of a drawdown because the Corps would conduct additional dredging to keep the navigation channel open. In response to a question from Jim Fischer, Novak said that, while the pre-drawdown dredging can reduce the need for dredging in subsequent years, this starts to change after about three years and the overall dredging volume is increasing. Consequently, Novak said the habitat benefit is the primary consideration.

Gretchen Benjamin noted that the habitat created under the Upper Mississippi River Restoration (UMRR) program may not see the maximum response in the absence of drawdowns. She said water level management should be considered as a necessary habitat maintenance measure and incorporated into operations. She said TNC and other partners are committed to working with the Corps and other agencies to facilitate this change. Sabrina Chandler said she agrees that there are opportunities to take a more systemic approach. In response to a question from Marty Adkins, Benjamin said additional monitoring and analysis needs to be conducted on the long-term effect on plant nutrient uptake following drawdowns. Chandler noted that there is also a need to better quantify the benefits drawdowns have for stabilizing sediment. In response to a question from Lawrence Patterson, Novak said the Corps has always seen the desired response with vegetation, provided the timing and duration of the drawdown was achieved. In response to a question from Jim Fischer, Novak said the WLMTF white paper will be the first step in determining the potential for changes in operations manuals. Steve Tapp noted that drawdown dredging requirements need to be fully understood. He noted that in recent years MVP has seen increased flows and sedimentation and they want to understand how water level management would impact this. Jim Fischer said this illustrates the need for a UMRS watershed study as the same forces that affect flooding affect channel maintenance.

Harmful Algal Bloom Work Group Update

Dave Hokanson provided the Board with an update regarding the UMR Harmful Algal Bloom (HAB) Work Group. In November 2015, the UMRBA Board directed staff to form the HAB Work Group to explore the issue and evaluate whether additional steps are needed to address HABs on the UMR. Hokanson noted that the Work Group met along with the Water Quality Task Force meetings in February and June 2016, as well as via conference call in March and May 2016. Participants in the HAB Working Group include representatives from:

- UMRBA member state agencies
- U.S. Environmental Protection Agency
- U.S. Geological Survey
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- Drinking water systems
- National Great Rivers Research and Education Center
- UMRBA

Hokanson said the Work Group is developing a UMR HAB Response Resource Manual that includes a communication list, maps and spatial resources, example press releases, current algae and toxin guidelines, and a compilation of agency capacities. He noted that the Work Group has also created an e-mail list serve on HABs. The Work Group has a conference call on September 14, 2016 to report on summer developments and identify next steps and action items. Hokanson said the HAB Work Group also plans to finalize the Resource Manual and post it on the Association's website.

Spill Response Plans for the UMR Pools

Mark Ellis provided an overview of Upper Mississippi River Pool-focused spill response planning. Ellis said the goal of this planning is to develop site-specific response strategies and create products to enhance response. These efforts improve the ability to protect key resources and mitigate impacts from spills, while also improving awareness and communication between trustees and responders. Ellis said this planning also enhances knowledge of equipment availability and needs, encourages proper training, and improves familiarity with existing plans.

Ellis said the pool plans are created to supplement the existing UMR Spill Response Plan and Resource Manual as well as existing state and county emergency management plans. He said the UMR Resource Manual includes important information, including:

- Organizational roles
- Notification protocols
- Policy information
- River information and location resources
- Response resources
- Key sensitive resource information
- Potential spill sources
- Regional and local response resources
- Information regarding in-situ burning and chemical oil spill treatment agents

Ellis showed the Board a map indicating where UMR pool response plans have been completed. On the UMR, full pool response plans are completed for Pools 5, 5A, 6, 7, 8, 10, 13, and 19. Ellis said response strategies have also been completed for the Twin Cities, Quad Cities, and St. Louis. He said the pool planning process involves a number of steps. Resource managers and trustees identify key areas warranting protection such as those with sensitive species, water intakes, or cultural sites. Then, spill responders and resource experts draft response actions, discuss possible actions to mitigate damage, and identify collection sites and equipment needs. Ellis said field visits are conducted to verify draft strategy sites. The resulting Initial Incident Action Plan delineates agency roles and responsibilities and includes pre-filled forms to speed initial response.

Ellis demonstrated for the Board the user interface into spill response plans and resources and showed a map of response strategy sites in Pool 7. He also showed an example of the information contained in the strategy for a specific site in Pool 7. At this site, specific potential collection points are suggested and maps and aerial views are provided as well. Ellis said this information supplements the information available in the Inland Sensitivity Atlas maps. He showed the Board an example of the Incident Action Plans and the information contained in them.

In addition to their use in direct response to spills, Ellis said the pool response plans are also used for exercises and training and have served as a model for other regional response efforts. He said the next steps include completing the plan for Pools 11 and 12, completing the St. Croix National Scenic Riverway plan, investigating opportunities to align with strategies developed by the rail industry, and refining and improving existing plans. In response to a question from Robert Stout, Ellis said one benefit of the online format is the ability to continually update contact lists. In response to a question from Shawn Giblin, Dave Hokanson said UMRBA activities to date have focused primarily on spill response rather than spill prevention. Hokanson explained that the Association's contract with USEPA Region 5 is focused on response and the UMR Spills Group is made up of response staff who might not

be positioned to recommend spill prevention actions. Giblin said it seems to be a logical extension to focus on prevention actions, especially in light of the increasing number of rail spill events. He suggested that staff reach out to the departments of transportation to start a discussion of what the UMR state might collaboratively do together on the prevention side. Stout noted that the specific authority that is germane to prevention lies with a number of different agencies, and this should be a consideration.

Administrative Issues

UMRBA FY 2018 – 2019 Dues

Dan Stephenson offered and Dan Baumann seconded a motion to set the annual UMRBA dues at \$60,000 per state and the annual water quality assessment at \$20,000 per state for the FY 2018 – FY 2019 period. The motion was approved unanimously on voice vote.

Future Meeting Schedule

Stout said the next meeting series will be held November 14-16, 2016 in St. Paul, Minnesota with a joint UMRBA Board and Water Quality Executive Committee meeting on the 14th, the UMRBA quarterly meeting on the 15th, and the UMRR Coordinating Committee quarterly meeting on the 16th. The February meetings will be held February 7-8, 2017 in Rock Island, Illinois with the UMRBA quarterly meeting on the 7th, and UMRR Coordinating Committee quarterly meeting on the 8th. The May quarterly meetings will be held May 23-24, 2017 in St. Louis, Missouri with the UMRBA quarterly meeting on the 23rd, and the UMRR Coordinating Committee quarterly meeting on the 24th.

With no further business, Dave Frederickson offered and Dan Stephenson seconded a motion to adjourn. The motion passed unanimously, and the meeting adjourned at 1:30 p.m.