

**Minutes of the 157th Quarterly Meeting  
of the  
Upper Mississippi River Basin Association**

**February 23, 2021  
Web-Based Conference Meeting**

Steve Galarneau called the meeting to order at 8:00 a.m. Participants were as follows:

UMRBA Representatives and Alternates:

Rick Pohlman	Illinois Department of Natural Resources
Chad Craycraft	Illinois Department of Natural Resources
Dave Glover	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
Sam Hiscocks	Iowa Department of Transportation
Barb Naramore	Minnesota Department of Natural Resources
Dru Buntin	Missouri Department of Natural Resource
Chris Wieberg	Missouri Department of Natural Resource
Jennifer Hoggatt	Missouri Department of Natural Resource
Chris Klenklen	Missouri Department of Agriculture
Matt Vitello	Missouri Department of Conservation
Steve Galarneau	Wisconsin Department of Natural Resources
Jim Fischer	Wisconsin Department of Natural Resources

Federal UMRBA Liaisons:

Brian Chewning	U.S. Army Corps of Engineers, MVD
Ken Westlake	U.S. Environmental Protection Agency, Region 5
Sabrina Chandler	U.S. Fish and Wildlife Service, UMR Refuges
Scott Morlock	U.S. Geological Survey, Midcontinent Region
Verlon Barnes	Natural Resources Conservation Services

Others in Attendance:

Bill McCormick	Colorado Department of Natural Resources
Wes Cattoor	Illinois Department of Natural Resources
Kirk Hansen	Iowa Department of Natural Resources
Randy Schultz	Iowa Department of Natural Resources
Garrett Pedersen	Iowa Department of Transportation
Nathan Grider	Illinois Department of Natural Resources
Megan Moore	Minnesota Department of Natural Resources
Neil Rude	Minnesota Department of Natural Resources
Patrick Phenow	Minnesota Department of Transportation

Bryan Hopkins	Missouri Department of Natural Resources
Dan Baumann	Wisconsin Department of Natural Resources
Adam Freihofer	Wisconsin Department of Natural Resources
Shaili Pfeifer	Wisconsin Department of Natural Resources
Sharon Sartor	U.S. Army Corps of Engineers, Headquarters
Bryan Taylor	U.S. Army Corps of Engineers, Headquarters
Jim Cole	U.S. Army Corps of Engineers, MVD
Leanne Riggs	U.S. Army Corps of Engineers, MVD
Thatch Shepard	U.S. Army Corps of Engineers, MVD
Renee Turner	U.S. Army Corps of Engineers, MVD
Col. Karl Jansen	U.S. Army Corps of Engineers, MVP
Kevin Wilson	U.S. Army Corps of Engineers, MVP
Terry Birkenstock	U.S. Army Corps of Engineers, MVP
Ann Banitt	U.S. Army Corps of Engineers, MVP
Angela Deen	U.S. Army Corps of Engineers, MVP
Aaron McFarlane	U.S. Army Corps of Engineers, MVP
Rachel Perrine	U.S. Army Corps of Engineers, MVP
Steve Tapp	U.S. Army Corps of Engineers, MVP
Terry Zien	U.S. Army Corps of Engineers, MVP
Col. Steve Sattinger	U.S. Army Corps of Engineers, MVR
Kim Thomas	U.S. Army Corps of Engineers, MVR
Andy Barnes	U.S. Army Corps of Engineers, MVR
Roger Perk	U.S. Army Corps of Engineers, MVR
Jon Klingman	U.S. Army Corps of Engineers, MVR
Jodi Creswell	U.S. Army Corps of Engineers, MVR
Colin Ewan	U.S. Army Corps of Engineers, MVR
Andrew Goodall	U.S. Army Corps of Engineers, MVR
Karen Hagerty	U.S. Army Corps of Engineers, MVR
Davi Michl	U.S. Army Corps of Engineers, MVR
Tara Gambon	U.S. Army Corps of Engineers, MVR
Scott Whitney	U.S. Army Corps of Engineers, MVR
Marshall Plumley	U.S. Army Corps of Engineers, MVR
Col. Kevin Golinghorst	U.S. Army Corps of Engineers, MVS
Susan Wilson	U.S. Army Corps of Engineers, MVS
Jasen Brown	U.S. Army Corps of Engineers, MVS
Hal Graef	U.S. Army Corps of Engineers, MVS
Brian Markert	U.S. Army Corps of Engineers, MVS
Ben McGuire	U.S. Army Corps of Engineers, MVS
Lance Engle	U.S. Army Corps of Engineers, MVS
Shane Simmons	U.S. Army Corps of Engineers, MVS
Shawn Sullivan	U.S. Army Corps of Engineers, MVS
Brian Johnson	U.S. Army Corps of Engineers, Regional Planning Division North
Nate Richards	U.S. Army Corps of Engineers, Regional Planning Division North
Jason Daniels	U.S. Environmental Protection Agency, Region 7
Steve Schaff	U.S. Environmental Protection Agency, Region 7
Neal Jackson	U.S. Fish and Wildlife Service, UMRCC
Kraig McPeek	U.S. Fish and Wildlife Service, Illinois-Iowa Ecological Services
Sara Schmuecker	U.S. Fish and Wildlife Service, Illinois-Iowa Ecological Services
Tyler Porter	U.S. Fish and Wildlife Service, Illinois-Iowa Ecological Services

Kelly Warner	U.S. Geological Survey, Central Midwest Water Science Center
Jim Duncker	U.S. Geological Survey, Central Midwest Water Science Center
JC Nelson	U.S. Geological Survey, Midcontinent Region
Danelle Larson	U.S. Geological Survey, UMESC
Jennifer Dieck	U.S. Geological Survey, UMESC
Jeff Houser	U.S. Geological Survey, UMESC
Jennie Sauer	U.S. Geological Survey, UMESC
Mark Gaikowski	U.S. Geological Survey, UMESC
Kim Wickland	U.S. Geological Survey, Water Mission Area
Steve Buan	National Oceanic and Atmospheric Administration, NWS
Jessica Brooks	National Oceanic and Atmospheric Administration, NWS
Mike Welvaert	National Oceanic and Atmospheric Administration, NWS
Tom Streight	Alter River Terminals
Jon Omgvig	AMEC
Olivia Dorothy	American Rivers
Kim Lutz	America's Watershed Initiative
Caroline Sevier	American Society of Civil Engineers
Tim Kabat	City of La Crosse (Mayor)
Paul Dierking	HDR Engineering
Jim Kearns	Inland Rivers, Ports, and Terminals Association
Kenz Becoo	Lake Pepin Legacy Alliance
Carolyn Mahlum-Jenkins	League of Women Voters
Mary Ploeser	League of Women Voters
Colin Wellenkamp	Mississippi River Cities and Towns Initiative
Maisah Khan	Mississippi River Network
Nancy Guyton	Neighbors of the Mississippi
Rick Stoff	<i>Our Mississippi</i>
Christine Favilla	Sierra Club
Gretchen Benjamin	The Nature Conservancy
Doug Blodgett	The Nature Conservancy
Rachel Curry	University of Illinois
Marian Muste	University of Iowa
Xuesong (John) Zhang	University of Maryland
Mike Klingner	Upper Mississippi, Illinois, and Missouri Rivers Association
Angela Love	Wood
Tom Boland	Wood
Kirsten Wallace	Upper Mississippi River Basin Association
Mark Ellis	Upper Mississippi River Basin Association
Lauren Salvato	Upper Mississippi River Basin Association
Andrew Stephenson	Upper Mississippi River Basin Association

### **Minutes**

Loren Wobig moved and Tim Hall seconded a motion to approve the draft minutes of the October 27, 2020 UMRBA quarterly meeting as provided in the agenda packet. The motion was approved unanimously.

## **Executive Director's Report**

Kirsten Wallace pointed to the Executive Director's report in the agenda packet for a summary of the Association's other work load efforts since the October 2020 quarterly meeting. Of particular note are the January 18, 2021 letters to the Federal Water Subcabinet and the Biden Administration transition teams. In the letter to the Federal Water Subcabinet, UMRBA requests a long term funding source to support the states' nutrient reduction strategies and other water quality improvement efforts and an agreement to facilitate a coordinated partnership between the Subcabinet and UMRBA.

Wallace explained that the UMRBA interstate water quality monitoring pilot in CWA Reaches 8-9 is ongoing in partnership with Illinois, Iowa, and Missouri. We continue to refine cost estimates for the remainder of the pilot and have determined that, in addition to their in-kind work, Missouri DoC would contribute \$40,000 and Iowa DNR would contribute \$20,000 to UMRBA to pay for pilot-related expenses. In response to a question of contracting approval from Wallace, Steve Galarneau moved and Dru Buntin seconded a motion to for UMRBA to enter into a contractual agreement with Missouri DoC to receive up to \$40,000 and with Iowa DNR to receive up to \$20,000 for pilot implementation. The motion passed unanimously.

Wallace announced that the Corps' Sustainable Rivers Program selected the Upper Mississippi River for a series of workshops to employ structured decision making regarding the implementation of water level management. In addition, the Upper Mississippi River Restoration program has agreed to utilize UMRBA's support services agreements to support a trained facilitator for the workshops. In response to an approval request from Wallace, Steve Galarneau moved and Dru Buntin seconded a motion for UMRBA to enter into an agreement with Pat Heglund for up to \$11,000 in facilitation support services.

Wallace pointed to UMRBA's financial statements on pages B-16 to B-19 of the agenda packet. Tim Hall moved and Rick Pohlman seconded a motion to approve the Association's budget report and balance sheet as included in the agenda packet. The motion was approved unanimously.

## **Keys to the River Report**

Kirsten Wallace announced that UMRBA, in partnership with the Corps, put together a written report of the actions and more complex planning questions that are intended to improve the Upper Mississippi River System's resilience to floods, sediment, and drought. The report also includes a relatively brief summary of the river's geographic setting and a historical context of the socio-political dynamics. These ideas were generated and vetted over the fall and winter of 2019 into the spring of 2020. Disruptions from COVID-19 delayed some of the report writing.

Wallace recognized that this will be the first time the ideas and questions have more detailed written context, with the ideas all pulled together, and that there are many targeted audiences for this report. The latter makes it challenging to balance those audiences' needs with respect to report structure, language, and level of detail. On January 14, 2021, UMRBA sent a "targeted review" of a draft Keys to the River Report to over 60 individuals with varying mandates and perspectives – i.e., government employees, interest groups, and other individuals – from different geographic locations on the river and in the watershed. The goal of this review was to gauge support for the report and get feedback on how to improve the report. They were asked what they like about the report, what actions are important and can best support their work, their preferences for UMRBA's next actions, what else is needed to support their work, and if there's anything in the report that might make their work more difficult.

UMRBA's next steps are to review and consider comments received from the targeted review, develop a one- to three-year work plan for UMRBA, advocate for actions and continued planning, convene discussions, and develop "branding" or a clear communications umbrella for explaining UMRBA's resilience planning work.

Wallace said 20 people had submitted comments on the draft Keys to the River Report in both written and verbal ways. Those 20 people have different backgrounds and expertise related to the river. Wallace reiterated that UMRBA is anticipating that more comments will be submitted. Wallace provided a general characterization of the comments received as follows, explaining that UMRBA's Board intends to review the feedback and evaluate any modifications over the next month.

Wallace said commenters expressed support for the interstate, multi-purpose, long term, adaptive strategy outlined in the report as well as its description of peoples' experiences, the historical summary of legislation and management decisions, and the importance of the river to agriculture, river communities, and navigation. Commenters expressed support for the work building upon well-established planning principles and science and the connection to the watershed as well as the statement acknowledging that the status quo of river management is commonly viewed among stakeholders as no longer acceptable. Commenters found the report to be practical, concise, and succinct. Commenters also called out support for specific actions related to information exchange, beneficial use, and efforts to eliminate, minimize, and mitigate damages.

Commenters also suggested that the Keys to the River Report add tribal authorities and acknowledge that underserved communities face disproportionate environmental risks and impacts as well as the gaps in outreach, communication, or engagement to these communities. Commenters requested more detailed solutions regarding flood control, retirement of certain agriculture lands, drought-related forecasting, conservation easements, and natural/nature-based solutions as well as the objective of enhancing ecological resilience in more places. In addition, commenters suggested employing the risk informed decisions framework and emphasizing soil health and water cycle restoration in the watershed.

Wallace provided an overview of commenters suggestions for UMRBA's next steps as follows:

- Consider wake restrictions, alternates to traditional dredging, and sand traps in the watershed
- Integrate with state transportation plans
- Explore partnership opportunities with the U.S. Department of Homeland Security to conduct assessments of risk, including port and terminal physical and cyber security assessments
- Add public safety as a priority
- Add scientific citations
- Explain local communities' dependence on recreation and tourism
- Emphasize that the river is a public resource
- Address equity through the involvement of underserved communities in planning and in fair solutions
- Continue long term resilience planning with a more detailed scope of work/plan, including developing a detailed shared vision statement and ways to track progress
- Convene a regional academic team to develop an integrated science plan

- Host regional meetings and facilitate information exchange, including expanding the historical summary to include other issue topics such as water quality management
- Broaden the drought issue assessment to a national context
- Integrate water quality goals and nutrient reduction strategies into the set of solutions
- Leverage existing information and recognize past efforts

Wallace said UMRBA’s planned next steps include reviewing and considering comments from the targeted review of the January 14, 2021 version of the Keys to the River Report as well as developing a more detailed scope of work during summer 2021, advocating for actions and continued planning, convening discussions, and developing branding/a communications strategy. Wallace expressed her sincere appreciation to those who took time and provided input to the Keys to the River Report as well as all those who have contributed to this work along the way.

Steve Galarneau acknowledged the enormous challenges of this work and thanked our partners who have joined with us to find solutions knowing that these conversations would be difficult. We are clearly not at the beginning and not at the end. This is a very active process with substantial work. The states and our partners are hungry for action and not a sole focus on study. We want to be deliberative and thoughtful and learn from our actions as we continue to work towards improving the river’s resilience.

Dru Buntin echoed Galarneau’s comments and expressed gratitude to those who provided feedback on the draft Keys to the River Report. Buntin acknowledged the difficulty of this work, particularly as it involves a diverse set of interests with their own particular ideas for a future vision. The misalignment makes finding solutions difficult. Buntin said the function of convening and advancing these conversations is an important role for UMRBA. As this work continues, UMRBA will need to continually revisit its engagement strategies to ensure that the information reaches a wide variety of residents in the basin. Buntin said he looks forward to this work continuing.

Loren Wobig said the Keys to the River Report provides a nice snapshot in time as we continue to move forward with the ongoing development of a regional plan that examines sediment, drought, and flood conditions. The report documents the feedback from the outreach in 2019 and 2020 and defines a direction for moving forward. The report will be used as a springboard to dive into the development of a scope of work. Galarneau reinforced the need and value of stakeholder comments. Solutions are found when we do careful listening.

**Interbasin Diversions**

*Annual Reporting*

The five states are party to the 1989 Upper Mississippi River Basin Charter, which sets forth a notification and consultation process for any new or increased water diversion out of the basin that will exceed an average of five million gallons per day during any 30-day period. The Charter requires the signatory states to report on their involvement in qualifying diversion requests at UMRBA’s annual meeting. The states reported as follows:

- |                          |                                    |
|--------------------------|------------------------------------|
| Illinois, Rick Pohlman   | — no qualifying diversion requests |
| Iowa, Tim Hall           | — no qualifying diversion requests |
| Minnesota, Barb Naramore | — no qualifying diversion requests |

Missouri, Dru Buntin — no qualifying diversion requests  
Wisconsin, Steve Galarneau — no qualifying diversion requests

Kirsten Wallace said UMRBA will send its customary letters to the Governors conveying the results of the states' annual diversion reporting.

### *Charter Review*

Lauren Salvato explained that the UMR Basin Charter is a non-binding agreement that has not yet been triggered – i.e., there has not been a known proposal setting forth the notification and consultation process. Growing interest in the potential for significant out-of-basin water diversions from the Upper Mississippi River Basin have raised both the prospect of implementing the Charter's consultation process and important contextual questions regarding the Charter's provisions. In 2019, the UMRBA Board directed the Association to convene state experts to assess the Charter's current provisions and identify any recommended revisions to the Charter to ensure that it advances the Charter's stated principles. The direction to this *ad hoc* group was also to compare the signatory states' current approaches to regulating water use and consider how differences in those regulatory authorities may influence implementation of the Charter.

Salvato reported that the *ad hoc* group includes a representative for UMRBA's member state departments of natural resources. Thus far, the group has updated individual state protocols for water withdrawals and reviewed the Great Lakes Compact and other interstate agreements as well as scientific literature related to out-of-basin diversions. That work resulted in the conclusions that a) the states differ significantly in their policies and permitting approaches and b) there remain significant knowledge gaps regarding how out-of-basin diversions affect the hydrological cycle at regional scales. There is enormous complexity and possible variables involved in potential individual out-of-basin water diversions (including at cascading or synergistic effects), making it challenging to draw any particular assumptions about the impacts of diversions in general on the Upper Mississippi River basin's resources.

In 2019, the group proposed implementing a table top exercise that was postponed due to covid-related restrictions on in-person meetings. After reassessing options for best evaluating potential ways to evaluate the existing Charter agreement, the *ad hoc* working group is recommending that three to five scenario planning exercises be implemented in order to:

- Illuminate ambiguities, clarify definitions, and discuss policy needs
- Develop a scientific framework for evaluating proposals
- Evaluate known and unknown questions

Example questions that might be explored through scenario planning include:

- How is ground water treated differently or similarly to surface water withdrawals?
- Is a withdrawal still considered to be an out-of-basin diversion if it is returned later?
- Should consumptive and non-consumptive uses be treated differently?
- How might potential unforeseen factors affect decision making – e.g., commitment by a receiving watershed, climate variability?
- Should the Charter thresholds be modified?

Galarneau expressed support for scenario planning to objectively consider issues and the states' differing processes through a deeper analysis. Buntin explained that Missouri DNR is involved in litigating against an out-of-basin diversion in the Missouri River Basin, with its own complexity because Missouri and Iowa are riparian-rights states while the other basin states are water-right states. There is a long history of contention in that basin over those types of issues with the now added challenges of increasing impacts of climate change that might affect the economics of interbasin diversions. Buntin said it is wise and important to examine changes since 1989 that might warrant revisions to the Charter that envisions these types of issues and how we would handle them prior to an out-of-basin diversion request. Buntin suggested that focusing on potential revisions be a priority for UMRBA and the states.

Hall expressed support for the recommendation. Iowa's state climatologist has observed that the southwestern U.S. is trending toward consistent dryness while the Midwest is trending toward a wetter climate. Recognizing that there will likely be a time when the problems in the southwest want to be solved by the wetness in the Midwest, Hall encouraged the states to stay ahead of the issue and prepare for potential out-of-basin diversion proposals. Working through scenarios will better position the states to handling major proposals by better understanding where we stand on particular matters and what our options are for working in an interstate manner.

Naramore asked if the *ad hoc* team had considered employing scenarios within different geographies or a particular scenario under the unique regulatory regime in each state. Salvato replied that the group is considering both approaches, with each state implementing a common scenario and a scenario that might answer a particular question or two. The idea is also to better understand which types of out-of-basin diversions might affect the basin's resources. Naramore expressed support for the recommendation and requested an additional conversation among the Board to discuss the strategic approach to these scenarios. Board members may have particular thoughts about which issues would be helpful to explore through the scenarios. Naramore suggested that the states implement a common scenario through their respective regulatory regimes, noting that it will likely illicit different results.

### **Navigation and Ecosystem Sustainability Program**

Andrew Goodall provided an update on the Navigation and Ecosystem Sustainability Program (NESP). Goodall reported that NESP received \$4.5 million in the FY 2020 work plan for preconstruction engineering and design (PED) work, with \$3.0 million allocated to navigation projects and \$1.5 million for ecosystem projects. Goodall said the Corps worked with partners to determine which projects to advance with that funding, as summarized below:

#### *Navigation-related:*

- L&D 25 lockwall modifications in preparation for the 1,200-foot chamber (95 percent design level in March 2021)
- L&D 14 mooring cell for efficiency as tows approach the lock chamber (95 percent design level)
- Moore's towhead systemic mitigation to provide new habitat and maintain existing habitat (65 percent design level)

#### *Ecosystem-related:*

- Twin Islands on the Illinois River to maintain existing islands and side channels, increase channel geomorphic diversity, and improve aquatic habitat (65 percent design level)



- Alton Pool Islands on the Illinois River to decrease sediment deposition and erosion as well as prevent loss of islands and associated side channels (65 percent design level)
- Pool 2 wingdam notching on the Mississippi River to improve channel border fish habitat (95 percent design level)
- Starved Rock habitat restoration and enhancement to restore submerged aquatic vegetation and increase habitat for migratory waterfowl and native fish (35 percent design level)
- Lock 22 fish passage to increase the opportunity for fish to pass through the dam and access upstream habitats (TSP selected in December 2020; nearly 35 percent design level)

Goodall explained that the Corps' primary goal was to have construction-ready project elements prepared for a new start, with \$10 million for navigation projects and \$10 million for ecosystem projects. Loren Wobig asked if any of the projects are construction-ready given that 95 percent is the highest design level among the projects listed. Goodall explained that all projects discussed earlier are scheduled to be construction-ready by September 2021, allowing NESP to compete for a construction new start. Scott Whitney added that a project's final cost-estimation has an immediate shelf life, so 95 percent complete is typically the furthest completion point in design work until available funding for construction is certain.

Gretchen Benjamin asked for more information about the Starved Rock project design. Marshall Plumley explained that the purpose of the breakwater is to knock down wind fetch to allow for the reestablishment of submersed aquatic vegetation and not necessarily induce island creation. The project is targeted at submersed aquatic vegetation beds that are already present in the project area.

Mike Klingner asked for information about targeted fish species that are anticipated to benefit from the L&D 22 fish passage either upstream or downstream. Whitney said the project is targeting long distant migratory species as well as local resident fish to aid in their upstream movements to access feeding, overwintering, and spawning habitat – e.g., paddlefish. The project is designed to meet multiple swim speeds and capacities. Klingner mentioned a University of Iowa design suggestion and asked if that had been considered in the design.

Goodall reported that NESP received \$5 million in the FY 2021 work plan for PED-related activities, with \$2.375 million allocated to ecosystem restoration work and \$2.625 million allocated to navigation work. The FY 2021 work plan was published on January 19, 2021. The District has not yet received the funds to start work under NESP.

Jim Fischer asked about plans for more formal engagement with the states and other federal agencies – i.e., reinvigorating the Navigation and Ecosystem Coordinating Committee (NECC). Goodall said that, with the minimal funding received in the last two years, only initial coordination activities have occurred. The Corps is developing its priorities internally for spending this year. One option for coordination could be a forum similar to the NECC. The Corps is deliberating over whether now is the right time to stand up a coordinating body. Goodall reminded that there were quasi-partnership meetings convened last year. The Corps is trying to be lean with its NESP funding

Kraig McPeek replied to Goodall's statement with a question of if now is not the right time, when would be the right time to get the partners' input especially after two years of consistent funding? At what point would you get the partnership rallied around feedback to the Corps if not willing to do so now? Gretchen Benjamin echoed McPeek's comment, recognizing the importance of seeking input at the frontend rather than the backend, and working on restoration priorities.

Olivia Dorothy raised outstanding items to implement ASA(CW) Jo-Ellen Darcy's issuance of planning guidance as well as peer review. Dorothy asked if the Corps is going to resume standing planning protocols. Goodall said he will need to follow up with Dorothy.

Kirsten Wallace asked if it might be helpful for the partnership to help scope coordination needs and desired outcomes and what that would involve to achieve. Goodall agreed that would be helpful, including for getting projects in the pipeline. Wallace said the region has a deeply rooted partnership and strong experience in multi-agency coordination. She said coordination could be inexpensive but effective. Goodall said there are still undecided priorities that could benefit from partnership discussion. Scott Whitney added that the FY 2020 goal was to achieve construction readiness. FY 2021 funds will fulfill that commitment. Now, the Corps is weighting how much of the additional funds should be used to add to NESP's construction readiness package.

Wallace and Goodall confirmed that the next step is to convene federal and state partners to put together a proposal for the interagency consultation to present at the UMRBA May 25, 2021 quarterly meeting.

### **Beneficial Use Panel Discussion**

Kirsten Wallace introduced the panel discussion by explaining the potential for beneficial use to increase the resilience of the 9-foot navigation channel by reducing the overall demand for placement sites. Wallace explained the multi-jurisdictional nature of 9-foot navigation channel maintenance and management and the shared interest of advancing beneficial use. The passage of WRDA 2020 makes this panel session very timely. In that action, Congress added economic and ecological benefits from the beneficial use of dredged material to the low-cost federal standard. The Corps is currently seeking comment on the subsequent implementation guidance.

#### *Definition*

Steve Tapp provided a summary of what beneficial use means related to dredged material. The Corps' formal definition is as follows: "All productive and positive uses of dredged material, which cover broad use categories ranging from fish and wildlife habitat development, to human recreation, to industrial/commercial uses." In basic terms, beneficial use means placing the material where it can be used productively.

Tapp noted that the St. Paul District has done a fair amount of beneficial use projects relative to other regions of the county; in large part because the District has had to find those alternatives given lack of placement sites. In 2007, the Corps and USEPA published a beneficial use planning manual to aid in identifying, planning, and financing beneficial use material. The manual includes seven categories of types of beneficial uses.

Mike Klingner mentioned that some levee districts have requested the use of dredged material to rebuild interior berms on the landside of levees. It has been problematic to advance those types of partnerships with the federal standard.

Jon Klingman said MVR is looking at opportunities for placement within the levee districts. Real estate is a major hurdle for those types of projects. There has been some success at doing so, and the District is improving its processes.

### *Importance of Beneficial*

Sara Schmuecker provided background on the GREAT studies, which Congress directed the Corps to undertake in the 1970s to address management needs and recommend implementation strategies of the Upper Mississippi River up to 2025. As an outcome of the GREAT studies, on-site inspection teams were formed to address localized dredge material problems with greater coordination of input from river biologists into the Corps' dredged material placement decisions. A GREAT II objective was to produce an environmentally and economically acceptable channel maintenance and operations program, leading to a channel maintenance handbook. While the plan was intended to last to 2025, watershed influences and deposition changes within the river have shortened the longevity of planned placement sites.

In 2016, Schmuecker explained that the on-site inspection team (OSIT) members identified several recommendations for improving channel maintenance and management that remain unresolved. Beneficial use of dredged material was a recommendation to alleviate placement capacity while realizing additional benefits. Schmuecker said many of the challenges identified in 2016 remain today. That includes a combination of limited placement capacity of dredged material (including previously identified sites no longer available) and a transition to maintaining a pilot channel rather than clearing the channel often due to limited resources. Dredging needs are increasing over time, including areas of the river that historically had not required dredging. Emergency declarations are issued when suitable placement sites cannot be readily identified.

Beneficial use is limited by the low-cost federal standard and real estate. The low cost standard had not accounted for long term savings or benefits to that beneficial use. Schmuecker discussed a beneficial use project with the Green Bay Levee District in Pool 19 through the P.L. 84-99 program. In that area, deferred dredging in 2019 led to an emergency declaration in 2020. The least cost option was bankline placement that had significant environmental concerns. Ultimately, the Corps was able to select the beneficial use option.

Matt Vitello explained recent changes to the Corps' real estate policies prevented a beneficial use project in Pool 22, where the landowner was interested in using the material. Instead, the material was placed in a dike field in the river because the upland site was no longer available. There is now ongoing work to rebuild Harris Island using placement of dredged material to shore up the head of the island as well as erosion control.

Schmuecker said accessibility and usability of existing dredged material managing plans (DMMPs) can be problematic because of timing requiring for construction, acquisition and real estate, and updating environmental compliance documents. Schmuecker cited the Pool 16 Buffalo Update and Pool 17 Barkis Island Upland DMMPs as examples.

Kirk Hansen discussed issues related to material stabilization and aligning timing of placement needs with opportunities to expand placement capacity. These material stabilization costs are a common reason for beneficial use options being eliminated. Hansen explained how stabilization was an important factor for Hurricane Island bankline placement in Pool 11 and Cormorant Islands in Pool 13. Vitello explained the flex pipe placement option in the Open River to create ephemeral islands, sandbars, and habitat to stabilize material over a longer duration.

Channel maintenance is often reactionary, especially during the past several years of high water. The pressing requirements for placement often require a quick solution, precluding beneficial use projects that require permitting and environmental assessments. Sometimes the states are notified of new placement activities within a day or a few days, limiting the states' abilities to properly permit and complete environmental assessments these activities and precluding beneficial use. Hansen mentioned four examples of the Upper Mississippi River Restoration (UMRR) program utilizing dredged material for habitat projects. Hansen also provided an overview of a missed opportunity where River Stone sand mining operation is interested in the material dredged at a nearby Marais D'Osier cut. Currently, the dredged material is barged approximately six miles to a bankline placement site. The quarry is open to Section 19 navigable waters so there should no real estate interests required. Next steps include working through environmental compliance and confirmation that no real estate is required.

Hansen provided an overview of several successes in beneficial use, including projects that improved habitat, raised forest elevation, facilitated cover crop planting, reduced and prevented shoreline erosion, and aided in transportation projects.

Hansen provided a set of proposed solutions for beneficial use, including the following:

- Strategically identify and resolve questions regarding beneficial use opportunities and implementation, including per the new calculation of the federal standard
- Proactively integrate beneficial use into dredged material management planning at a larger-spatial scale
- Build flexibility into the system to prepare for emergency situations
- Continually seek cross-programmatic opportunities that are beneficial to the entire system

Wallace pointed to pages D-1 to D-10 of the agenda packet for an excerpt of Section 125 of WRDA 2020, which changes the calculation of the federal standard to include the economic and environmental benefits, efficiencies, and impacts. Wallace read the statement asserted by Congress in this section that it would be the "policy of the [Corps] to maximize the beneficial use, in an environmentally acceptable manner, of suitable dredged material obtained from the construction or operation and maintenance of water resource development projects." Wallace recognized that the timing is significant in that the Corps is developing implementation guidance and the states and other stakeholders could provide input to ensure that it does in fact alleviate the federal cost standard from being a major limitation to beneficial use.

Steve Tapp referenced back to the federal standard definition (33 CRF Part 335.7) and explained that the least cost alternative is often referred to as the base plan, which is a more accurate operational description of the federal standard. The base plan defines the placement costs associated with the navigational purpose of the project. Limitations related to beneficial use of dredged material include the requirement of a nonfederal cost-share partner; costs are typically not well-defined for economic analysis and alternative comparison; chemical, physical, and biological properties of material can limit potential uses; and the one-time, smaller beneficial use opportunities does not typically suit the longer time channel maintenance planning needs. Additionally, Tapp mentioned that a more fundamental question remains as to how to evaluate benefits across multiple projects. Other limiting factors not necessarily tied to the low-cost federal standard include real estate policies, limited marketing, floodplain management restrictions, and permitting and environment hurdles.

Tapp said it will be important to recognize that the federal standard definition did not change, just the consideration of the calculation with a beneficial use focus. The Corps will still need to consider the purpose for the federal standard and have a way to establish a base plan. Uncertainty remains with the implementation guidance and how the federal standard calculation may provide for beneficial use opportunities. Goal is to minimize the need for stockpiling and rehandling dredged material to the extent feasible. Jon Klingman said the Corps Districts are eager to see if the new guidance will facilitate new opportunities and new partnerships for beneficial use. Klingman described the enormity and complexity of the MVP and MVR channel maintenance and management programs. At any given time, the two Districts are managing 60-75 dredging locations using 6 to 10 different dredge plants. Many locations are logistically challenging to execute beneficial use projects. Klingman suggested that partners explore beneficial opportunities in accessible locations where upfront success can be achieved and built upon.

Mark Ellis referred to Mike Klingner's comment in the online chat feature requesting a sample real estate agreement for beneficial use projects in partnership with levee districts. Klingman said he will follow up with the information about the appropriate processes and procedures.

Jim Fischer acknowledged that now is an opportune time with the expanded federal standard calculation to transition from opportunistic to planned beneficial use as part of our channel maintenance and management strategies. Fischer recognized the strong partnership efforts to-date. It is a complex challenge, but we continue to have a better understanding of the issues as we talk about them. Partners have established beneficial use work teams in MVP and MVR as a result of the Keys to the River Report development. Those teams are scheduled to meet jointly in the next month. Fischer suggested that the teams identify the most significant issues requiring clarity that can be provided to Corps staff developing implementation guidance for Section 125 of WRDA 2020. Additionally, noting the nation-wide relevance of Section 125, Fischer encouraged Board members and other partners to engage their colleagues in other regions about potential comments for the implementation guidance.

Wallace said UMRBA can work with partners to carry forward Fischer's suggestions. Sabrina Chandler expressed support for Fischer's suggestions. Chandler pointed out that USFWS Refuges staff receive questions about the potential for the use of dredged material for recreational purposes such as beach nourishment that quickly become a public expectation. Chandler advised that the public perception of beneficial use is considered when evaluating those alternatives and asked if the Corps foresees entertaining more of those recreational requests throughout the system.

Marian Muste asked to be involved in the beneficial use work teams. Shawn Sullivan explained the established process for commenting on WRDA implementation guidance, and said he anticipates that the listening sessions will be announced soon as well as the solicitation for written comment.

### **Federal Agency Funding Reports**

#### *U.S. Geological Survey*

Scott Morlock announced Dave Applegate as exercising authority of the USGS Director. Congress is holding a hearing today, February 23, to considering Deb Haaland's nomination as the DOI Secretary under President Joe Biden. Scott de la Vega is currently serving as acting DOI Secretary. USGS leadership is working hard with the Biden Administration's transition team.

Morlock explained that the Biden's Administration's priorities for USGS that related to the Upper Mississippi River include slowing spread of covid, addressing systemic inequality, tackling the climate crisis, and the "building back better" initiative. Morlock said he anticipates that USGS's science will play a major role in advancing climate and land conservation measures, particularly surrounding the goal of conserving at least 30 percent of the country's lands by 2030 – i.e., the 30x30 initiative. Morlock said 12 percent of America's terrestrial lands are permanently protected while 23 percent of America's oceans are permanently protected.

USGS received a \$44 million increase in its FY 2021 appropriation over its FY 2020 enacted level, including increases for both the water resources mission area and ecosystems mission area. Funding has been increasing for HAB and PFAS research monitoring and research. USGS recently selected the Illinois River Basin for Next Generation Water Observing System (NGWOS). The FY 2021 appropriation included continued funding for Asian carp and the Midwest Climate Adaptation Center. President Biden has not yet released the FY 2022 USGS budget.

#### *U.S. Army Corps of Engineers*

Renee Turner explained MVD's overall programmatic efforts and current budget development activities. Turner explained that the Corps is currently executing the FY 2021 program and defending the FY 2022 program. Broader funding trends for MVD since FY 2018 as well as for Upper Mississippi River projects and programs. Turner gave more details on the currently funding projects in the region, including NESP, Brandon Road, UMR, Mel Price, East St. Louis, the Illinois Waterway major rehabilitation, and O&M work for the navigation channel throughout the system.

#### *U.S. Environmental Protection Agency*

Ken Westlake provided the FY 2021 enacted funding levels for CWA Sections 106 and 319 and Safe Drinking Water Act as well as for the Upper Mississippi River states. Overall, funding levels are mostly consistent with FY 2020 allocations. Westlake reported that the Biden Administration's priorities include the integration of climate change and environmental justice across all USEPA programs and projects. Additionally, Westlake said he anticipates major regulatory shifts as the Biden Administration evaluates regulation changes made in the Trump Administration and/or restores measures.

Steve Galarneau said the attention to climate change is of great interest to Upper Mississippi River stakeholders, seeing the significant impacts on landscape and working towards sustainable solutions. Westlake reflected that resilience and adaptation is a top priority for President Biden as well as senior officials nominated for leadership roles at USEPA and other federal agencies. There is urgency to forestall the adverse consequences of climate change.

Galarneau added his hope that, in all periods of transition, federal agencies engage UMRBA, which serves as a convening voice and strives to listen to all perspectives.

#### *U.S. Fish and Wildlife Service*

Sabrina Chandler reported that the Biden Administration has set several priorities for DOI that are being delegated to the bureaus. USFWS is focusing on equity and environmental justice, engaging communities of color, low income, rural and urban, and indigenous communities. USFWS is working with those communities by exposing them to the natural world through the Urban Wildlife Refuge Program and several bird treaty initiatives.

Chandler reported on the specific objective to identify steps to accelerate responsible development of renewable energy on public lands and waters, tying into investments in climate research and environmental innovation. USFWS is also working to advance the 30x30 initiative to intended target biodiversity, slowing extinction, leveraging natural climate solutions, and conserving 30 percent of America's lands and waters by 2030. Will also rely on state, local, tribal, and private led conservation efforts. Chandler said she anticipates that all Upper Mississippi River partners will be heavily involved in that initiative.

Chandler reported that USFWS does not yet have a Congressionally-confirmed director, and that Martha Williams is currently serving as the political appointee exercising the authority of the director. USFWS does not yet have an FY 2022 budget proposal. The enacted FY 2021 appropriation is still trickling down to regions and stations. USFWS's FY 2021 overall funding level is \$1.6 billion, which is about 4 percent less than FY 2020 but 15 percent more than the Administration's FY 2021 request. Within USFWS, the FY 2021 allocation to ecological services is \$270 million. National Wildlife Refuge System is \$503.9 million, and fisheries is \$206.6 million.

Chandler described the benefits of the Great American Outdoors Act. It authorized \$95 million for deferred maintenance to USFWS distributed across the National Wildlife Refuge System and fish hatcheries. USFWS has submitted proposals for Upper Mississippi River sites in the FY 2023 funding cycle. Chandler reported that USFWS received \$112 million Land and Water Conservation Fund allocation through the Great American Outdoors Act, of which \$11.2 million is specifically for cooperative endangered species recovery grants and associated land acquisition. Chandler also mentioned that, in FY 2021, Congress allocated \$12.5 million for USFWS's cooperative landscape conservation (i.e., landscape conservation cooperatives), \$17.3 million for science support in the agency's resource management line item, and \$11 million for continuing state and tribal wildlife grants.

#### *Natural Resources Conservation Service*

Verlon Barnes reported that Tom Vilsack is pending confirmation to be the USDA Secretary under President Biden. An NRCS Chief has not yet been designated. Terry Cosby is the acting Chief, who is the Ohio state conservationist. NRCS continues to work on priorities related to soil health, water quality, wetland restoration, watershed work, and partnerships. NRCS is advancing ongoing programs such as EQIP, CSP, and RCPP and is continuing the 2019 flood emergency recovery work, particularly in Iowa. NRCS is continuing its partnerships with USFS and added a new partnership through its WaterSMRART initiative with the Bureau of Reclamation. Other ongoing efforts in the agency include urban farming, feral swine control, and watershed projects.

### **Resilience Planning and Analytical Tools**

#### *MRCTI Priorities*

La Crosse, Wisconsin Mayor Tim Kabat provided perspectives of the Mississippi River Cities and Towns Initiative (MRCTI), which is a group of 100 mayors representing cities and towns of all sizes within the river corridor. Collectively, the mayors are committed to securing this fresh water resource and ensuring cities and towns are resilient in the face of disasters and weather events.

Mayor Kabat described the enacted resilience revolving loan fund (i.e., STORM Act), which passed as a stand-alone measure. Wisconsin Senator Ron Johnson was the original sponsor. States are tasked with

compiling local governments' resilience projects into a package that they will send to FEMA, which will evaluate all projects based on their individual merits to mitigate disasters and reduce repetitive losses. FEMA will award a state a capitalization grant through which the state can set up a revolving loan fund for local communities to implement their projects. Limits are that no single project can use more than \$5 million in loan funds towards a single project and that interest is capped at 1.25 percent. Localities must repay the respective state, which are able to establish their own repayment schedules. The loan types are intended to be flexible, accounting for unique needs of localities and potential projects as well as the differing types of disasters and weather events. Mayor Kabat said his hope is that the revolving loans become a sustainable source of funds. He described La Crosse's economic reliance on the Mississippi River and discussed the challenges of longer duration floods such as 2019 on the city's infrastructure, which is designed for shorter term floods lasting about one month.

Mayor Kabat said MRCTI is also interested in green infrastructure such as wetlands and reconnected floodplains for flood storage capacity. MRCTI is partnering with Ducks Unlimited to do floodplain restoration on the Mississippi River and in the tributaries. This agreement is scheduled to be announced at MRCTI's March 2021 meeting.

MRCTI's Executive Committee recently endorsed a new legislative proposal to create a Mississippi River Program Office, called the Safeguarding the Mississippi River Together (SMRT) Act, for the purposes of sustaining one of the nation's more important natural resources. MRCTI plans to unveil the measure during its March 3, 2021 Capitol Meeting.

The SMRT Act would create a federal leadership committee that would involve one governor and one mayor to carry out the measures in the Act. Through a new Mississippi River Program Office, the Department of the Interior would develop and implement a 10-state comprehensive ecosystem restoration plan. The SMRT Act would also establish three grants and four studies, which would be developed by the restoration plan. Mayor Kabat said the SMRT Act incorporates many priorities included in UMRBA's Keys to the River Report.

Mayor Kabat said MRCTI understands that there are other plans for major legislation that MRCTI is willing to discuss and to consider changes and other strategies as a way to get national attention to the Mississippi River corridor.

Dru Buntin expressed appreciation for the notion around flexibility in meeting local and landowner needs. Buntin said that flexibility is oftentimes even more important than funding.

Gretchen Benjamin recognized the incredible amount of energy from many sources coming up with different ideas about how we might move forward to take care of the Mississippi River. As we move forward, Benjamin encouraged partners to be cognizant of what has worked well over the years in terms of ecosystem restoration and those things that have not worked well – e.g., there has not been an ecosystem restoration program on the Lower Mississippi River. Benjamin expressed her hope that people will be willing to come together to develop the best strategy for the river and move forward to advance that strategy in collaboration. Mayor Kabat echoed Benjamin's sentiment, adding that the mayors came together and formed MRCTI to raise awareness of the river's importance. Mayors want to coalesce around the best ideas and stand ready to do their part.



## *FLOODS and PRECIP Act*

Bill McCormick said the Flood Level Observation, Operations, and Decision Support (Floods) Act was passed in the Senate in 2020 and was introduced in the House but did not advance. Section 12 of that measure included \$3.5 million appropriation in FYs 2021 through 2030 for updates to the Atlas-14 tools. The Providing Research and Estimates of Changes in Precipitation (PRECIP) Act was drafted last fall by the House Science Committee but was not formally introduced.

McCormick explained the PRECIP Act provisions as follows:

- A National Academy of Sciences study to evaluate the best methodologies for nonstationary (climate change) analyses, including for:
  - Improving precipitation frequency estimates (same language as FLOODs Act)
  - Improving probable maximum precipitation estimates to include nonstationary assumptions
  - Establishing national guidance for developing probable maximum precipitation estimates
- Consistent and regular updates to precipitation frequency estimates at a national level

The existing funding approach has resulted in a piecemeal and regional approach for Atlas-14.

- Renewed probable maximum precipitation (PMP) rainfall estimates that reflect recent storm events

NOAA's probable maximum precipitation (hydrometeorological reports) program, implemented from the 1960s to mid-1990s, used information at that time on large storms that had been recorded. Available reports for Upper Mississippi River states were published between 1973 and 1982 and are largely outdated given the number of significant storm events that have occurred since then.

- A national standard of practice for allowing private contractors to conduct site-specific studies for critical projects in a consistent and repeatable way

Some states across the country have hired private consultants to update the estimates, but without a federal standard, the results are not usable by federal agencies and do not allow for statistically combining estimates among neighboring states.

McCormick said the PRECIP Act estimated cost is about \$83.5 million, with \$1.5 million for the National Academy of Sciences study, \$35 million for the precipitation frequency analysis, and \$47 million for the probable maximum precipitation analysis. Based on recent dam failures alone, McCormick concluded that the return on investment associated with the PRECIP Act would be significant and worth the effort. Supporting organizations to-date include the American Society of Civil Engineers (ASCE), Association of State Dam Safety Officials (ASDSO), Association of State Floodplain Management (ASFPM), and Interstate Council on Water Policy (ICWP). McCormick is scheduled to brief the Western States Water Council (WSWC) on March 24, 2021.

Caroline Sevier said ASCE will be releasing a new infrastructure report card next week and is working on a follow-on "solutions summit." Sevier said the FLOODS Act was passed in the Senate in 2020 by

unanimous consent, but there was not enough remaining time in the calendar year to get it on the House floor and through both chambers. ASCE continues to work with Congress this year on the FLOODS Act as well as the PRECIP Act. Both bills are on track to be introduced within the coming week. Sevier explained the sponsors and planned logistics for moving the measures forward through Congress. ASCE is focusing on educating members of Congress regarding the importance of these measures and building a coalition with other stakeholder groups. It remains unknown whether this bill might move as a stand alone legislation or attached to a broader infrastructure package.

### **NASA Carbon Monitoring System**

Acknowledging the significant agroecosystems in the Upper Mississippi River basin and the nutrient transportation to the Gulf of Mexico, Xuesong (John) Zhang discussed general concepts regarding how climate change (increases in extreme precipitation and storm surge) would likely result in increased runoff and subsequently water contamination in the Mississippi River. Additionally, Zhang described USDA's Soil and Water Assessment Tool (SWAT) to better understand and quantify water quality challenges (e.g., sedimentation, nutrients, and hypoxia) in the Upper Mississippi River basin resulting from climate change.

Zhang explained that the University of Maryland, with funding provided by NASA, is developing a model to quantify the coupled terrestrial and aquatic carbon cycle. Climate science assumes that there is a substantial carbon sink that is not yet known. While it has been assumed that the unidentified sink lies within the terrestrial ecosystem, a more likely explanation is that the sink is within inland waters – i.e., inland waters can emit large amounts of carbon but also can sequester significant carbon. The purpose of the research is to better understand and quantify the magnitude of those fluxes and better integrate terrestrial and inland waters carbon modeling. The results may be able to explain how land and water conservation efforts to mitigate nutrient pollution can also alter the carbon cycle and associated ecological and human health impacts.

Zhang said the research is focused on developing algorithms to simulate carbon cycling and transportation of carbon from land to riverbeds, and leverage existing carbon cycling modeling. The University of Maryland is hoping to have the results finalized in 2023 to support the USFWS Upper Mississippi River National Wildlife and Fish Refuge's Water Resource Inventory and Assessment (WRIA) as well as other ongoing activities in the basin.

Kelly Wickland explained the use of carbon isotopes to evaluate the sources and processes of organic and inorganic carbon. Through this research, USGS found that the mainstem Upper Mississippi River is slightly net heterotrophic (annually across seasonal differences) although dams and reservoirs shift the river system towards autotrophic processes.

Wickland explained that certain types of aquatic carbon maintain a signature of land cover/land use (LC/LU) source while other types of carbon reflect the variable rates of photosynthesis and respiration occurring at different locations. Dissolved organic carbon (DOC) composition is highly correlated with LC/LU, allowing for differentiating species among subbasins. For example, DOC found in the Chippewa River basin dominated by forest cover was distinct from DOC found in the Minnesota River basin dominated by agriculture. The oldest DOC found was from the Minnesota and Upper Mississippi Rivers, likely a signal of influence of wastewater inputs.

Particulate organic carbon composition varied widely across the eastern rivers, transitioning from aged, terrestrial signal linked to soil erosion in the Minnesota River to a modern, instream algal production

signal measured in places like the Mississippi River at Wabasha. Dissolved inorganic carbon composition integrates the influence of both photosynthesis and respiration of organic matter. There is a clear distinction between respiration-dominated signal in the Chippewa and St. Croix Rivers and a photosynthesis-dominated signal in Minnesota River and Mississippi River at Wabasha. This reveals the differences in the relative dominance of these processes across the system.

Ultrahigh-resolution mass spectrometry is a powerful tool that allows to see whether carbon molecular composition in stream varies between watersheds with differing dominant land cover. Three main conclusions included:

- Dissolved organic matter molecular diversity is higher in agriculture and urban watersheds than forested watershed
- Most compounds are associated with a certain land cover
- Small amount of compounds that were unique to one type of land cover

Wickland also explained a laboratory experiment to quantify the spatial and seasonal variability of carbon processing rates. The results concluded that the highest degradation rates occurred in winter and spring and the lowest degradation rates in summer and fall.

Wickland concluded by observing that insights from these types of studies help to constrain and verify carbon cycling models. Because carbon, nitrogen, and phosphorus are coupled, these studies have the potential to improve overall understanding of the system drivers of water quality.

Sabrina Chandler offered her appreciation for the work and the potential that it could bring to river basin management.

### **America's Watershed Initiative**

Kim Lutz provided a brief background on the America's Watershed Initiative, and described its recent efforts to publish a 2020 report card that evaluates the condition of the Mississippi River watershed's sectors. Lutz explained the structure of the report and its findings.

Overall, the report card gave the watershed a grade of C-. The most pressing challenges to the watershed that are described in the report focus on nutrient runoff, flood frequency, aged infrastructure, water supply, and economic diversity. The Upper Mississippi River was rated C, mostly due to a low water quality score as a result of high nutrient runoff, increasing flood frequency, and lower lock delays in comparison to historical data.

Lutz said America's Watershed Initiative is considering additional indicators reflecting the value of the energy sector within the basin. The report card explains the value for natural infrastructure solutions to advance multi-purpose projects, but that more cross-sector coordination is required. America's Watershed Initiative's next steps include communicating shared values across the basin, measuring progress towards shared goals, advancing integrated watershed planning, and elevating basin champions.

## 2021 Spring Flood Outlook

Jessica Brooks said NWS's forecasts for potential flood risk on the Upper Mississippi River in spring 2021 is generally near normal but slightly above normal for minor flooding downstream of the Quad Cities based on the following factors:

- Snowpack is well above normal from Iowa into southern Wisconsin and northern Illinois while areas upstream are averaging below normal snowpack conditions.
- Warm temperatures through January 2021 combined with a deep snowpack to insulate the ground has kept frost depths shallow when compared to normal. Recent cold has caused further freezing.
- Near to below normal soil moisture regionally and shallower than normal frost depth will reduce the flood risk as well as the risk for longer term flooding.
- Watersheds with deep snowpack as well as higher soil moisture will see an increased risk for flooding, but the degree of flooding will depend on the rate of snowmelt in combination with spring rainfall.

## Administrative Issues

### *Election of Officers*

Kirsten Wallace thanked Steve Galarneau for his service as Board Chair over the past year, particularly as the quarterly meetings and other UMRBA partner meetings moved remotely. Steve Galarneau moved and Tim Hall seconded a motion to nominate Dru Buntin to serve as UMRBA Chair, Tim Hall to serve as UMRBA Vice Chair, and Jason Tidemann to serve as UMRBA Treasurer. All three motions carried unanimously by voice vote.

### *Future Meeting Schedule*

May 2021 — Remote

- UMRBA quarterly meeting — May 25
- UMRR Coordinating Committee quarterly meeting — May 26

August 2021 — Remote

- UMRBA quarterly meeting — August 10
- UMRR Coordinating Committee quarterly meeting — August 11

November 2021 — TBD

- UMRBA quarterly meeting — November 16
- UMRR Coordinating Committee quarterly meeting — November 17

With no further business, the meeting adjourned at 3:05 p.m.