**Upper Mississippi River Restoration**

**Program Workshop**

**May 7-9, 2024**

**Day 1 ⎯ May 7, 2024**

Opening Remarks

Marshall Plumley provided a welcome and introduction to seventh UMRR workshop. This workshop will focus on the overall program structure, its functioning, factors influencing the health and resilience of the river ecosystem, improvements to habitat implementation techniques, and enhancements in integrating knowledge associated with long term resource monitoring and on-the-ground habitat restoration and management. Plumley remarked that the workshop demonstrates the strength of the partnership by its willingness to convene, collaborate, share experience and knowledge, and learn together.

UMRR Overview

Plumley provided an overview of the UMRR program’s structure and function as well as partner agency leaders’ perspectives on the program’s future. Highlights are as follows:

* UMRR maintains a healthy portfolio of habitat rehabilitation and enhancement projects (HREPs). UMRR has implemented 62 projects over the program’s life. The projects are implemented through an interdisciplinary and interagency collaborative partnership.
* UMRR’s long term resource monitoring (LTRM) gives us knowledge of the river’s ecological status and trends. UMRR’s monitoring of water quality, aquatic vegetation, and fisheries over the program’s history and has generated the longest, continuous and most comprehensive large riverine dataset in the world.
* UMRR published a third, 30-year review of the river’s ecological status and trends as analyzed via the long-term resource monitoring datasets. The scientific report and associated summary handouts are available on the Corps’ and USGS’ s UMRR websites. High level conclusions are that the river’s shape and size is changing mostly as a reflection of changing hydrology and sediment movement through the river. The river has shown ecological resilience, while also exhibiting ecological degradation.
* UMRR agency partners have successfully completed implementation planning for long term resource monitoring. In particular, the effort illuminated priority information needs to improve knowledge for restoring and managing the river ecosystem. The final set of nine priority information needs is as follows:
  + Geomorphic changes and gradients in river conditions from Pool 14 to Pool 25
  + Floodplain vegetation change throughout the Upper Mississippi River System
  + Terrestrial and aquatic amphibians and reptiles
  + Aquatic vegetation changes across the Upper Mississippi River System
  + Native freshwater mussels
  + Macroinvertebrates
  + Lower tropic level contributions (phytoplankton and zooplankton)
  + Learning from restoration and management
* The District-based river teams are working with resource managers to describe the ecosystem restoration need and to identify a suite of UMRR HREPs.
* UMRR has improved its risk-informed planning for HREPs, including by hosting planning charettes and a risk register. As a result, project feasibility is now more efficient.
* UMRR has created a common framework for planning terminology, referencing the USACE planning guidance, NEPA terminology, and historical and common UMRR HREP practices.
* In response to partners’ request for consistency, and acknowledging the independence of the three Corps Districts, UMRR created a standardized feasibility report template and review process. The template provides common language for programmatic content, flexibility for project-specific needs, clear instructions for new staff, and a more expedited and efficient review process.
* A programmatic agreement related to the National Historic Preservation Act Section 106 requirements has been executed for use in UMRR and the Navigation and Ecosystem Sustainability Program (NESP).
* UMRR remains consistently and strongly supported by the Administration as indicative of its inclusion in the President’s budget every year as well as by Congress as indicative of the continued appropriations to the program.

Partner Comments

UMRR Coordinating Committee members or delegates from implementing agency partners provided their respective agency’s perspectives and comments regarding the UMRR authority and program implementation. Highlights are as follows:

* The partnership is strong and valued, and it is often a primary reason for agency leadership support. UMRR generates consensus-building that result in durable, effective outcomes. [Note: This comment was widely stated and clearly articulated in each partner remark.]
* UMRR aligns with and advances partners’ missions.
  + USFWS values of stewardship, integrity, respect, collaboration, and innovation as well as conservation that focuses on a broad, functioning ecosystem while recognizing societal values and connecting people to nature.
* UMRR is imperative for maintaining a dual-purpose authority for river management – i.e., navigation and ecosystem integrity.
* Partners acknowledge the important work for UMRR related to climate resilience, public participation, and environmental justice.
* Resolving the impasse to non-federal cost-share project partnership agreements is imperative to future implementation of UMRR HREPs.
* Nonprofit organizations are leveraging their expertise and capabilities with UMRR investments –   
  e.g., tracking process through avian monitoring, connecting UMRR communications with broader organizations and individuals.

Strategic Planning

Marshall Plumley and Chrissa Waite, project facilitator, provided an overview of the multi-phase strategic planning process as follows:

|  |  |
| --- | --- |
| *Phase* | *Anticipated Schedule* |
| 1. Understanding the strategic issues | February 2024 to May 2024 |
| 1. Developing strategic goals and objectives | June 2024 to August 2024 |
| 1. Developing the strategies and actions | September 2024 to November 2024 |
| 1. Employing public review | December 2024 to February 2025 |
| 1. Finalizing the strategic plan | March 2025 to August 2025 |

Participants convened small groups to employ a SWOT analysis – i.e., naming and evaluating strengths, weaknesses, opportunities, and threats. Participants shared their analyses with the full group. The various groups coalesced around the following critical issues that participants are anticipating UMRR will face in the next 10 years:

* Limited personnel capacity in partner organizations (including the Corps) and contractors to implement UMRR as its appropriations continue to increase, and in the growing financial environment, to effectively address environmental needs and maintain quality and retention.
* Increasing resiliency of projects to better combat threats resulting from a changing climate, invasives species, and other degrading watershed influences.
* Employ pre-project monitoring and scientific analyses (and/or use existing long term resource monitoring data and scientific investigations) to inform project selection, planning, and design.

Climate Change

*Climate Change Analysis for HREPs*

Lucie Sawyer explained the requirements and processes for HREP planning teams – i.e., project delivery teams (PDTs) – to assess climate change factors (e.g., temperature, streamflow) related to ecological outcomes and transfer the insights into project objective statements and project formulation/design.

In response to a question from Bryan Hopkins, Kara Mitvalsky explained that UMRR reviews the performance of constructed HREPs on a routine basis. These evaluations allow for UMRR partners to make assumptions about how hydrology and other climate factors have affected project performance. Hopkins encouraged UMRR to consider focused research on how climate change is affecting UMRR’s completed HREPs over time.

In response to a question from the audience, Sawyer encouraged that climate factors be considered early in project planning to inform project outcomes and associated project designs and alternatives. Sawyer acknowledged that a limited number of project reviewers are trained to employ the more technical climate risk vulnerabilities assessments.

*Future Hydrology on the Upper Mississippi River System*

Molly Van Appledorn and John Delaney shared the most recent research on methodological approaches to forecasting future hydrology on the Upper Mississippi River System, particularly in ways that inform UMRR’s HREPs. Van Appledorn and Delay explained the recent results of a modeling research project to forecast future hydrologic conditions on the Upper Mississippi River System. The more significant insights of the project are:

* Regionally tailored modeling might be more effective until basin-wide effects and downscale climate forecasts can be better estimated.
* Error associated with downscaling climate modeling or forecasting is limiting future hydrology estimates on the Upper Mississippi River System.
* Robust evaluation of long-term datasets is important.

The National Center for Atmospheric Research (NCAR) continues to research and develop downscale climate methodologies and other capabilities. The future hydrology of the Upper Mississippi River System will remain uncertain even with model improvements. Some models might be useful and fulfill Corps planning requirements to make certain assumptions about trends. Other in-depth assessments might be necessary to answer specific questions or characteristics.

*Building Knowledge to Support Equitable Climate Resilience in the Upper Mississippi River Basin*

Zach McEachran shared NOAA’s ongoing work to create eight models with three scenarios of downscale climate hydrology. McEachran anticipates that this work will be completed by the end of the 2024 calendar year. Initial results show that the models generally conform with observed data and that the models suggest increasing peak flows on the Upper Mississippi River mainstem while uncertainty remains. McEachran explained that, except at local scales, the results of comparing the relative influence of climate and landscape imperviousness on the potential for flood conditions clearly indicated that climate is the more influential driving factor. McEachran suggested that future research focus on the management actions and locations of those actions that have the greatest effect on floodplain resilience.

**Day 2 ⎯ May 8, 2024**

Climate Change (Continued)

*Risk-Accept-Direct (RAD) Framework*

While habitat managers and restoration practitioners have been considering transformations in ecological conditions, the “Risk-Accept-Direct (RAD) Framework” provides a relatively new tool for guiding deliberations about management and restoration goals considering resilience concepts and the factors influencing resilience such as climate change. Kristen Bouska explained the RAD framework and its use in decision making. Bouska drew similarities to existing HREP planning – i.e., to assess future conditions and evaluate various alternatives given future scenarios.

Recognizing the policy limitation of revisiting completed HREPs, Bryan Hopkins suggested that the state leaders consider seeking an amendment to UMRR’s authorizing language allowing for UMRR to do additional work at an existing HREP.

HREP Design and Construction: Lessons Learned

Corps HREP planners provided four case studies, pointing to lessons learned from implementing innovative restoration techniques. The insights gained from the case studies are as follows:

* *Beaver Island HREP:* Dan Kelner explained that an objective for the Beaver Island HREP is to improve habitat for mussels. The results of a three-year focused monitoring project suggest that water depth and rounded stones are important for creating mussel habitat. Hydrology should be designed in ways that eliminate the potential for scouring under high flow conditions and for excessive siltation under low flow conditions. Additionally, habitat specialists (as opposed to generalists) are helpful to consider when designing specifications necessary to provide the habitat for desired species.
* *Harpers Slough HREP:* Kacie Grupa said Harpers Slough HREP lends insights that islands are more durable and resilient to high flows when islands are placed to align with high flows (i.e., not placed perpendicular to high flows), are surrounded by rock, and have established vegetation.
* *Huron Island HREP:* Colin Moratz explained that an objective of the Huron Island HREP is to restore submerged aquatic vegetation in Pool 18, where such vegetation is sparse. Moratz explained the factors such as planting depth, the use of enclosures, and improvements to localized water quality conditions (i.e., turbidity) have led to success of SAV establishment and growth.
* *Crains Island HREP*: Jasen Brown said the Crains Island HREP sought to enhance floodplain forest, including by placing forest trees on the ridges and berms to serve as a continuous source of seed. The project’s use of a deflection berm and shallow slopes that mimic natural ridges has improved conditions under high water, including by protecting the area from debris and course material and instead encouraging fine sediment deposition.

*HREP Design Handbook: Breakout Small Group Discussions*

Kara Mitvalsky provided a briefing of the Corps’ efforts to update the 2024 UMRR Environmental Design Handbook. UMRR first created the Handbook in 2005 to coalesce and transfer programmatic knowledge and experience in designing HREPs. The Handbook was updated in 2012 with information on adaptive management and additional insights gained from completed projects. The Handbook has proved a valuable reference for veteran and new program participants as well as for informing the NESP Ecosystem Design Handbook. Mitvalsky mentioned that a NESP Toolkit was shared with partners in 2024 and made available electronically on the Rock Island District’s website in 2024.

Steve Gustafson organized small group discussions centered on six themes: dredging, islands, shoreline and riverbank protections and aquatic structures for habitat, training structures for channel modifications, forestry and floodplain restoration, and localized water level management. Each group was instructed to consider the following questions:

* What was the dominant feedback about the feature?
* What information about the features do we have (or lack) to better target design details?
* What new features, since the 2012 Design Handbook, have we either implemented or proposed to meet specific habitat objectives? How well did they meet objectives?
* What is the overwhelming sense of feature resiliency, either in flood or drought conditions?
* What are the main lessons learned about the feature?
* What other discussion items should be noted for the Design Handbook update?

Resilience Framework and Applicability to HREPs

Jeff Janvrin put forward his observation that resilience-based HREP goals and objectives can increase planning efficiency and enhance communication. Janvrin shared the emphasis on resilience concepts in the 2015-2025 UMRR Strategic Planning. Janvrin commented on the progression of UMRR scientists and restoration practitioners working collaboratively to utilize long term resource monitoring, Habitat Needs Assessments, and other information to build conceptual models for ecological resilience and incorporate those models into decision making frameworks. Janvrin provided advice for communicating with the public – e.g., using pictures to illustrate the application of a resilience concept, describe habitat objectives rather than project design techniques.

Looking forward, Janvrin recommends using focused research to refine resilience-based goals and objectives and develop associated metrics, standardize project goals and objectives to allow for more systemic analyses, and increase analyses associated with biological responses to restoration techniques.

Linking Restoration Actions to Biotic Responses

Kristen Bouska described the ongoing work to build knowledge of biotic responses to management actions across the Upper Mississippi River System. UMRR’s focus now is primarily on resolving uncertainties regarding the ecological role of management actions. UMRR is working through an advisory team to develop a research framework. The anticipated schedule is to use input from this workshop to inform the organization and prioritize research needs, to seek partners input on a research draft framework in fall 2024, and then to revise and finalize the framework in winter 2024.

Bouska organized small group discussions focused on specifying and establishing certainty of relationships between major resources, habitat requirements, and controlling variables, identifying HREP measures to address habitat requirements, and documenting supporting literature and references.

Modeling for Decision Making

*Habitat Modeling Applied to HREPs*

Colin Moratz discussed the Corps’ requirements for, and models used to, determine an HREP’s estimated economic and environmental benefits. District staff must use a model certified by the Corps to generate an estimate of average annual habitat units that benefit from the restoration. Using the Pool 12 Floodplain Forestry HREP for context, Moratz suggested applying the modeling at smaller spatial scales to get a better representation of local conditions and to provide more refined information for model parameters. Moratz also suggested involving experts to help specify the local habitat conditions and model parameters and to ultimately generate a more efficient modeling process.

In response to a participant question, Moratz explained the inherent limitations in the information generated for the Pool 12 Floodplain Forestry HREP model to other locations. In part, there would be concern about missing key factors or misrepresenting conditions. Moratz again stressed the value of local foresters reviewing the model parameters.

Marshall Plumley mentioned that this forestry model and a mussel model were designed as a result of a similar programmatic workshop in 2019. These models and other Corps models that can be used to generate estimates of habitat benefit are available online. There are a total of 295 approved riverine models available. Matt Mangan suggested adding an appendix to the UMRR Environmental Design Handbook with a list of the most used models and their respective location and applications.

*Large Scale and System Model Applications*

Nate De Jager explained that the UMRR Habitat Needs Assessment II includes an assessment and comparison of river conditions that were existing in the 2010s with the desired river conditions as described by UMRR partner agencies with management responsibilities. De Jager illustrated the capabilities available in the Upper Mississippi River System Systemic Spatial Data Viewer, available at <https://www.umesc.usgs.gov/management/dss/umrs_land_cover_viewer.html>. As examples, the Viewer can help to:

* Generate forecasts of changes in water depth and depth regimes and how the changes might affect aquatic habitat.
* Illuminate vulnerabilities of lotic, lentic, and floodplain habitat types.
* Inform strategic planning and decision making with respect to allocating UMRR resources.

HREP Monitoring

*The Future of HREP Monitoring*

Marshall Plumley discussed the origins and authority that has guided UMRR’s habitat monitoring to-date, and described the challenges to project monitoring as: lack of consistent approach, staff turnover, no central repository for data and reports, long response times, large number of HREPs to monitor, connecting monitoring to objectives and success criteria, changes to project design that affect the pre-monitoring effectiveness, and delays due to natural events.sdfsadf

Plumley called on the partnership to create a framework for HREP monitoring that can provide consistency, commonality, and flexibility. Plumley suggested that an interagency and interdisciplinary team be formed and tasked with developing the framework.

*Environmental Monitoring and Management Application (EMMA)*

Michael Dougherty provided a briefing on the Environmental Monitoring and Management Application (EMMA), a cloud-based, public-facing application to record, schedule, and budget for monitoring tasks. Dougherty reported on the development of EMMA over the past years and announced that UMRR will begin to regularly use EMMA for HREP monitoring in FY 2025. Dougherty said UMRR anticipates various partnership discussions in the future to evolve and refine the program’s use of EMMA.

Dougherty organized small group discussions centered on developing a framework for UMRR HREP monitoring. Each group was instructed to consider the following questions:

* What do you think is the purpose of HREP monitoring?
* What types of things should we monitor – e.g., features, habitats, populations?
* What HREP monitoring gaps exist?
* What are your organization’s greatest obstacles to HREP monitoring?
* How should we best manage HREP monitoring data?

**Day 3 ⎯ May 9, 2024**

Science and Restoration Integration Panel

*Evaluations of Aquatic Vegetation Response at Pool 8 Islands Using LTRM Simple Random Sampling (SRS)*

Jeff Janvrin explained that UMRR long term resource monitoring simple random sampling has been the basis for evaluating responses in submersed aquatic vegetation to island construction. Results have concluded that islands have a positive indirect effect on the frequency of submersed aquatic vegetation (i.e., more than 400 meters downstream), but not a direct effect (i.e., less than 400 meters downstream). UMRR has observed high levels of diversity and abundance in submersed aquatic vegetation in the “direct effect areas” similar to levels near Goose Island. Until the Upper Mississippi River ecosystem experiences a widespread decline in submersed aquatic vegetation, UMRR may not be able to fully evaluate the long-term effects associated with presence of restored islands.

*Spatial and Temporal Changes in Species Composition of Submersed Aquatic Vegetation*

Alicia Carhart and Nate De Jager explained that improvements to water quality throughout the Upper Mississippi River Basin have improved conditions for submersed aquatic vegetation, namely water clarity and velocity. Monitoring in Pool 8 has shown that open water areas maintained a relatively consistent species composition over time and that areas protected by HREP islands had increased species composition and diversity. The islands created habitat similar to backwater areas. The islands were also shown to increase the resilience of submersed aquatic vegetation in high water conditions.

*Lower Pool 13 HREP*

Ed Britton described the work of the Lower Pool 13 HREP planning team to define project objectives and develop the project plan formulation. Because long term resource monitoring occurs in Pool 13, there was extensive information for the project delivery team to use in decision making. Britton described the objectives for the project, which are as follows:

* Reduce re-suspension of sediments and improve water clarity
* Increase abundance and coverage of SAV and emergent vegetation
* Increase coverage and quality of habitat for wildlife
* Reduce sediment input into backwater habitats
* Improve depth diversity.

Britton also described the public interest and involvement in the project planning, and the positive response from the public for the ultimate tentatively selected plan.

*Lower Pool 13 HREP-Association Research Project (HARP)*

Jeff Houser said the purpose of the Lower Pool 13 HREP-Associated Research Project (HARP) is to improve knowledge of the interactions among wind, wave, turbidity, and aquatic vegetation interactions in large open water areas as well as the relationships between native freshwater mussels and substrate stability.

Houser explained the data collection and analyses related to the research project’s following four objectives:

* Wave monitoring to measure existing (pre-project) wave conditions in Lower Pool 13
* Assess a) relationships among wind and waves and turbidity and b) relative contributions of upstream sources and local resuspension to turbidity
* Better understand relationships among wild celery, turbidity, and wave dynamics
* Assess population size, density, and species richness of mussels and association with substrate stability

Houser added historical context to the UMRR program’s evolution to better integrate its habitat rehabilitation projects with its science arm.

*Pool 4 Big Lake Project Design Team*

Elliot Stefanik shared the experience of using long term resource monitoring information to design the Big Lake HREP. The project is in Pool 4, which is also a long-term resource monitoring trend pool. Stefanik used visualizations of the data visualizer to explain how the project team was able to incorporate the monitoring information to develop and refine project objective and alternatives. Stefanik advised that project delivery teams prepare a set of questions for which long term resource monitoring can help before attempting to use the data visualizer. The wealth of information available can be overwhelming without a defined focus. Stefanik also underscored that information needs are different when in feasibility than in design. When in feasibility, teams need sufficient information to make informed decisions among alternatives and, when in design, teams need more detailed analyses to design engineering approaches – e.g., refining dredging depths and forest elevations and adjusting flow structures. Stefanik recommended further discussion about how project monitoring can integrate or better related to long term resource monitoring and to create more opportunities to involve scientists in project delivery teams.

Program Areas of Focus

*UMRR Communications and Outreach*

Rachel Perrine shared the goal of the UMRR’s Communications and Outreach Team (COT) to “develop, organize, and implement clear and updated communication materials to support the success of the UMRR program.” The UMRR Coordinating Committee has established the COT, which consists of representatives from UMRR’s partnership. The team works collaboratively to support the implementation of Goal 3 of the 2015-2025 UMRR Strategic and Operational Plan. The team meets virtually once per month. Perrine showcased examples of the Team’s products and previewed some of the team’s planned work. Perrine drew attention to the forthcoming photo contest.

Jeff Janvrin noted the extensive participation in UMRR in the 1980s and 1990s from individuals and other local communities as well as Congressional offices. Over time, that participation has declined and now is largely disconnected from local interests. Ed Britton echoed Janvrin’s observation and acknowledged the absence of public awareness. Britton called on UMRR to continue to articulate the program’s value and investment and connect to people. Britton encouraged partners to work collaboratively as a network of communicators. Jeff Houser acknowledged the success of the communications effort associated with the long-term resource monitoring status and trends information. Houser suggested creating a concise message about the regional partnership.

Marshall Plumley said that, in lieu of a programmatic social media presence, the Rock Island District uses its social media to share information about UMRR and uses a hashtag #umrr.

*Comprehensive Benefits of Habitat Rehabilitation and Enhancement Projects (HREPs)*

Marshall Plumley characterized UMRR feasibility reports as storytelling documents. Through feasibility reports, UMRR articulates the reason for the project objectives and the design of project features as well as the benefits of the project to the river ecosystem.

Plumley provided a briefing on the new policy regarding accounting for comprehensive benefits in decision documents. Adding comprehensive benefits will help UMRR tell a story about how its habitat projects relate to people, communities, and other societal aspects. On January 5, 2021, the ASA(CW) Michael Connor issued a memo outlining the new policy, directing that the Corps:

* Identify and analyze benefits in total and equally across a full array of benefit categories
* Include a plan that maximizes net total benefits across all benefit categories in the final array
* Include a locally preferred plan if requested by the sponsor

Plumley said the new guidance directs the Corps to account for “other social effects,” which covers a broad range of urban and community impacts and effects on life, health, and safety factors. Plumley explained how the UMRR HREPs will expand the assessment of comprehensive benefits at different stages in the project planning process, as follows:

1. Scoping problems and opportunities: i) identify opportunities to improve ecosystem goods and services and ii) build conceptual models connecting project measures to potential impacts to ecosystem goods and services.
2. Inventory and forecasting (evidence gathering and risk management): i) identify available data associated with potential ecosystem goods and services and ii) forecast future conditions.
3. Plan formulation: use estimated impacts to ecosystem goods and services to inform plan formulation by impact and relevance.
4. Decision evaluation: i) evaluate plans by measuring changes to ecosystem goods and services and ii) describe and quantify benefits and harms to ecosystem goods and services.
5. Comparison of alternatives: same as number 4 above.
6. Selection of alternative: provide summary of the benefits and/or harms of the selected plan to ecosystem goods and services.

Plumley said UMRR is further integrating social impacts into project planning. The USEPA Environmental Justice Screening Tool will be used to identify environmental justice communities as well as the challenges that the specific communities are facing and how impacts from projects might be measured by a given metric. Plumley expects that UMRR will develop opportunities and objectives to mitigate adverse impacts from projects or maximize positive effects from projects. And, that project teams will narrate the story of the nearby local community’s experiences related to the river ecosystem and how a subject project might affect the community.

*UMRR Quincy Bay HREP Comprehensive Benefits Example*

Rachel Perrine provided an overview of the Quincy Bay HREP and the Corps coordination with the local community. The project gives UMRR an opportunity to implement the process of estimating and articulating comprehensive benefits of habitat projects. The project is being sponsored locally by the Quincy Bay Area Enhancement and Restoration Association (QBAERA) and has drawn attention from residents and Congressional offices. The Corps received around 4,000 letters of support and an open house for the project was attended by almost 400 people.

Perrine explained that comprehensive benefits associated with the Quincy Bay HREP are focused on the economic development benefits, particularly given that the project is located adjacent to i) four census tracks that indicate residents are burdened by lack of sufficient housing, health, and workforce development and ii) two census tracks that indicate residents have low access to and availability of food.

The Quincy Bay HREP’s recommended plan cites the following comprehensive benefits:

* Regional economic development benefits
  + Support tourism, recreation, and connection to regional corridors
  + Improve economic conditions near downtown Quincy by increasing local use and visitation of restaurants, parks, and walkways
  + Contribute to city health and enjoyment of the Mississippi River, the habitat project, and natural resources more generally
* Environmental justice benefits
  + Provide new opportunities for recreational and subsistence fishing, including through ‘unburdened public access’ for shoreline fishing
* Other social benefits
  + Provide opportunities for fishing and recreation, education, handicap accessible fishing, safety in access and pathways for boaters
  + Increase (indirectly) use of nearby recreation areas

**Participants**

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Amanda Goldstein (USACE MVP)

Andrew Stephenson (UMRBA)

Andy Fowler (Iowa DNR)

Andy Meier (USACE MVP)

Angela Deen (USACE MVP)

Anne Wurtenberger (USACE MVR)

Anshu Singh (Corn Belt Ports)

Ben Nelson (USACE MVP)

Ben Vandermyde (USACE MVR)

Bob Sinkler (Corn Belt Ports)

Bradd Simms (Wisconsin DNR)

Brenda Kelly (Wisconsin DNR)

Brendan Killarney (USACE MVR)

Brent Newman (National Audubon Society)

Brenton Barkley (USACE MVS)

Brian Markert (USACE MVS)

Bruce Henry (USFWS)

Bryan Hopkins (The Nature Conservancy)

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