DRAFT
Minutes of the
Upper Mississippi River Restoration Program
Coordinating Committee

May 24, 2017
Quarterly Meeting

Hampton Inn-Gateway Arch
St. Louis, Missouri

Tim Yager of the U.S. Fish and Wildlife Service, on behalf of Sabrina Chandler, called the meeting to order at 8:00 a.m. on May 24, 2017. Other UMRR Coordinating Committee representatives present were Don Balch (USACE), Mark Gaikowski (USGS), Rob Maher (IL DNR) on behalf of Dan Stephenson, Randy Schultz (IA DNR), Megan Moore (MN DNR), Matt Vitello (MO DoC), Jim Fischer (WI DNR), and Ken Westlake (USEPA) via phone. A complete list of attendees follows these minutes.

Thank You to Kevin Stauffer

Tim Yager announced that Kevin Stauffer is ending his tenure as Minnesota's delegate to the UMRR Coordinating Committee and that Megan Moore is now assuming that role. Yager recognized Stauffer's tremendous contributions to UMRR and the Mississippi River. Hubbell expressed his appreciation for Stauffer's partnership and, in particular, his strategic leadership related to external collaboration and public outreach in the 2015-2025 Strategic Plan. Jim Fischer echoed appreciation to Stauffer and said the Stauffer will be missed by the Committee. Randy Shultz thanked Stauffer for his mentorship and friendship.

Minutes of the February 8, 2017 Meeting

Jim Fischer moved and Randy Shultz second to approve the draft minutes of the February 8, 2017 UMRR Coordinating Committee meeting as prepared. The motion carried unanimously.

Regional Management and Partnership Collaboration

Fiscal Update: FY 2017 Report, FY 2018 President's Budget

Marv Hubbell reported that the FY 2017 Consolidated Act was enacted on May 4, 2017 that included $20 million for UMRR and an additional $25 million for the Corps to allocate to its environmental restoration or compliance programs and projects, including UMRR. It is unknown whether the Corps would allocate any of the additional monies to UMRR. Hubbell said the FY 2018 budget for the federal government has not yet been released.

Assuming that UMRR's FY 2017 funding level remains at $20 million, the internal allocations would be as follows:

- Regional Administration and Programmatic Efforts — $761,000
- Regional Science and Monitoring — $6,714,000
  - Long term resource monitoring — $4,610,000
  - Regional science in support of restoration — $1,000,000
  - Regional science staff support — $129,000
  - Habitat project evaluations — $975,000

- Habitat Restoration — $12,525,000
  - Regional project sequencing — $150,000
  - MVP — $4,005,700
  - MVR — $4,363,000
  - MVS — $4,005,700

Given the high degree of uncertainty surrounding the federal appropriations process and potential cuts to ecosystem funding, Mickelsen asked how the Corps intends to coordinate with partners in developing scopes of work given various high and low budget scenarios. Hubbell and Col. Craig Baumgartner cautioned that they cannot provide advance information about the Administration's budget development and will avoid any assurances about any out-year budget scenarios. But, District staff have developed both three-year and six-year plans assuming up to full federal funding and full capacity to execute. Dennis Hamilton added that the Corps also provides plans based on historical funding levels and ensure flexibility in advancing projects. Hamilton said it is important to continuously reiterate that out-year planning is always subject to appropriations. He said the UMRR's strongest asset is its ability to execute at nearly 100 percent every year. Flexibility in spending and the interagency partnership is critical to execution, and helps UMRR to compete nationally for funding. In response to a question from Fischer, Hubbell said he will provide the UMRR Coordinating Committee with the current six-year plan for UMRR. Mickelsen recalled that UMRR facilitated planning efforts among implementing partners a few years ago when there was also high uncertainty and offered a similar mechanism if that seems appropriate.

[Note: Immediately following the UMRR Coordinating Committee meeting on May 24, the Corps released its FY 2017 work plan that includes an additional $13.17 million for UMRR, bringing its total allocation to $331.7 million. That is the program's full annual authorized amount. The President's budget was also published on May 24 and includes $33.17 million for UMRR.]

2016 UMRR Report to Congress

Hubbell reported that, on May 24, 2017, the Office of the Assistant Secretary of the Army for Civil Works [ASA(CW)] approved the 2016 UMRR Report to Congress. Next steps include printing hard copies of the full report and CDs (which include the full report and brochure) and formal submission of printed materials to the Office of Management and Budget. Hard copies will be made available upon request to Marv Hubbell. Electronic copies of the full report and brochure are available on UMRR's web page.

Hubbell said ASA(CW) staff were very impressed with the final report. He expressed appreciation to Mickelsen, Karen Hagerty, and Jeff Houser for their work in developing the report.

External Communications and Outreach

Hubbell invited individuals interested in being involved in UMRR's *ad hoc* external communications group to contact Angie Freyermuth (angela.m.freyermuth@usace.army.mil). Hagerty reported that the group is working to design a UMRR outreach folder with a two-page fact sheet that best reflect the program's purpose and strategic goals as well as other relevant materials. A longer term initiative is to incorporate UMRR signage at HREP sites and LTRM field stations that could eventually be integrated into the National GeoTourism website.

Marty Atkins and Neal Jackson expressed their interest in participating on the communications group.

In response to a question from Gretchen Benjamin, Hubbell said he will make updated one-page fact sheets for individual states available to partners upon request.

UMRR Showcase Presentations

Ecosystem Metabolism

Molly Sobotka presented research using UMRR long term resource monitoring to examine habitat availability between the main channel and side channels in the Middle Mississippi River during flood events. That area of the river is extensively leveed, disconnecting the main channel to its floodplain and reducing the ability of habitat to serve as refuge and food sources during floods. It is important to understand the effectiveness of wing dams in the main channel to provide such habitat and examine the quality difference with side channel areas. Sobotka noted that a) wing dam habitat is essentially fragmented as any movement between them during floods would be met with harsh conditions and b) connection to the floodplain occurs only during major flood events after the river overtops the levee banks.

Sobotka explained how the monitoring results lead to the conclusions that:

- Open river off-channel habitats are capable of high productivity during low and high water periods
- Connectivity and habitat quantity are threshold factors for getting productivity into the food web
- Highly productive areas are a moving target and it is important that these habitats are available at all river stages

Sobotka said the question remains as to whether food sources "move to the consumers" or the consumers must travel to the food. Sobotka added that disconnected side channels during low water cannot contribute to the riverine ecosystem as well as smaller floodplains where floods are constricted and velocity is too high.

Marty Adkins observed that wing dikes do not seem to offer a viable substitute to off-channel areas and asked whether tributary habitat up-and-down river is sufficient to maintain the aquatic ecosystem or if there needs to be a longer term strategy to restore these areas. Kat McCain discussed UMRR's potential habitat projects in the Middle Mississippi River that would restore side channels areas.

Brian Johnson emphasized an observation by Sobotka that wing dams are reclaiming banklines and therefore reducing habitat refuge options there.

Brad Walker mentioned that the New Madrid floodplain is an area that can offer important habitat during flood events. Sobotka said any inundation events there would offer a great opportunity for research.

Jeff Houser expressed appreciation to Sobotka for her research efforts and presentation. Houser recognized that the logistics required to do this monitoring is very challenging and is very rare. The research lends essential insights about fundamental ecological characteristics. Collecting information in these fine temporal scales compliments the broad spatial extent of UMRR's long term resource monitoring to enable scientific conclusions.

Sobotka said future research could examine whether food sources get "flushed" downriver during flood events or if the food simply transfers to the main channel where it can be accessible. In response to a question from Matt Vitello, Sobotka said research is now focused on the functions of floodplain lakes and how connectivity is affecting a broad range of characteristics.

Ted Shanks Habitat Project

Brian Markert acknowledged that UMRR's habitat projects are not just about the ecological resources, but also about the people living there. It is important to consider what can UMRR do in the project area that makes sense and provides value.

Markert said the Ted Shanks project construction is nearing completion. He explained that the 1993 flood is a primary driver for this project as it resulted in substantial loss of the floodplain forest. The 2,900-acre area located in Pool 24 is challenged with an elevated groundwater table, inability to manage water levels, a decline of forest and lack of regeneration, loss of aquatic habitat diversity, and sedimentation into Deadman's Slough.

Markert showed a suite of photographs and other illustrations of the project features that collectively are intended to:

a) Improve water drainage, management, and supply

b) Improve aquatic habitat

c) Increase bottomland and floodplain forest

d) Restore ecosystem functions by reconnecting the floodplain to the river through levee setbacks

Markert shared statistics of public use that demonstrate the importance of these restoration sites to the local public:

- In 2016-2017, 2,900 waterfowl hunters utilized Ted Shanks
- 91.1 million U.S. residents fished, hunted, or wildlife-watched in 2011 spending $145 billion

Markert concluded that UMRR's ecosystem restoration work helps to conserve, maintain, and restore important resource functions.

In response to a question from Rob Maher, McCain said the Corps conducted pre-monitoring of the site and will implement a 10-year post-project monitoring plan that will evaluate the success in advancing each project objective. This includes forestry and fish.

Habitat Needs Assessment

Marv Hubbell reported that the UMRR held a joint workshop on May 16-18, 2017 of the ecosystem resilience and habitat needs assessment (HNA) II efforts. Hubbell acknowledged that the process of developing the HNA II has been challenging and has resulted in confusion among partners. He said this was visible during the latter portion of the workshop. However, Hubbell said that the discussions are exciting for the program. The long term resource monitoring, collected for 30 years, is lending incredible insights at various spatial scales. The program's restoration experience and knowledge of habitat and ecological processes are being integrated with many scientific investigations to generate an enormous amount of information. While this allows for UMRR's future selection and implementation of habitat projects to be science-driven, determining how that is best done is challenging. Hubbell said that this workshop was the first time that many of the habitat practitioners had seen the science synthesizing multiple ecological components in various maps and models.

Jeff Houser summarized the workshop agenda, including the various presentations and facilitation approach. Houser said the workshop's first day focused mostly on the ecological resilience conceptual models including potential thresholds for shifting between ecological states, key drivers, and semi-quantifiable metrics for measuring resilience. On the second day, various USGS staff gave

presentations about the variety of products that could be used to support the HNA II development and results. The latter half of the workshop involved open discussions about how to use the information available. Houser recalled that the discussion about use was complicated. He noted that the resilience metrics are meant to keep the focus on the fundamental ecological principles and a more systemic, larger-spatial scale focus.

Megan Moore applauded the scientists for their presentations. Moore said she was very impressed with the capabilities, and is eager to see how the science can be applied to habitat projects. Jim Fischer acknowledged that he was not at the workshop, but that Wisconsin DNR staff would echo Moore's comments.

Nate De Jager said the workshop's discussion validated the direction and work done so far for the HNA II. De Jager explained that the HNA II's goal is to conduct a broad-scale, system-wide assessment of the UMRS and determine how restoration of various habitats could improve its health and resilience. Work that is being done to support that includes:

1. Developing new data for aquatic and floodplain habitats (ongoing)
2. Developing new models for future scenarios of backwater sedimentation, flooding regime, and floodplain forest succession
3. Integrating resilience concepts into HNA II to assess "current conditions" (ongoing)
4. Identifying habitat types or metrics of ecosystem structure, function, resilience for inclusion in the HNA II (starting)
5. Providing data summaries and scientific interpretation of "current and projected future conditions" using metrics identified in the two previous steps

De Jager detailed the work that has been accomplished in the steps listed above as well as the feedback from the restoration practitioners at the workshop. De Jager offered the proposed next steps as follows:

1. Develop a suite of general resilience metrics for inclusion in the HNA II
2. Identify a series of additional queries or metrics to define general habitat characteristics across the UMRS
3. Complete the aquatic and floodplain data by September 30, 2017
4. Complete modeling work by September 30, 2017
5. Provide data summaries and scientific interpretation of current and projected future conditions using the suite of metrics identified in steps 1-2
6. Complete the HNA II in February 2018

In response to a question from Moore about whether new bathymetric data is necessary, De Jager said that is a common issue throughout riverine systems because of their dynamic nature and with frequent erosion and deposition. He said that updated bathymetric is a system-wide need that is also expensive. Workshop participants identified the bathymetric data as a weakness, but it would require a partnership discussion about the investment balancing other resource needs.

Hubbell provided an overview of the more challenging discussion during the second half of the workshop. Hubbell said that participants struggled with some fundamental ideas, such as how to define desired future condition and even the ultimate purpose of the HNA II's and what it would accomplish. He said participants commented that the HNA II lacks a vision and that communications among partners about the anticipated schedule, ongoing work, and agreed-upon decisions needs to be improved. According to Hubbell, the question remains about how best to move forward. He said the HNA II

tri-team chairs will work with the HNA Steering Committee to develop a more detailed scope of work for going forward that includes various reviews and consultations with the District-based river teams.

In response to a question from Marty Adkins, Hubbell explained that Corps policy does not allow for UMRR to specifically design projects solely for the purpose of creating habitat for T&E species. It may be considered by partners when prioritizing projects after the standard process of considering projects based on their ability to advance broader ecological goals and habitat needs. Brian Markert recalled MVD's 2010 statement that called for Districts to bring project proposals forward that would provide context in making policy decisions such as forming projects to benefit T&E species.

Hubbell emphasized the importance of the ecological resilience work and HNA II to provide accountability to Congress and the public that UMRR is accomplishing restoration work in the most effective ways. There is a lot of latitude and flexibility in how that is done.

Hubbell said participants' feedback included support for 1) resilience framework with interest in using the spider diagrams to frame HNA II results, 2) aquatic and floodplain classifications at the appropriate scale for HNA II, and 3) the conceptual idea that the floodplain objectives, essential ecosystem characteristics, resilience metrics, and habitats are intertwined although the actual connection is unclear. In addition, participants sought a roadmap for how to utilize the resilience and HNA data to develop the HNA II report and outcomes.

In response to a question from Marty Adkin's about NRCS's potential data contribution, De Jager noted the challenge in classifying wetlands that are under NRCS easements or otherwise privately controlled. The management of floodplain areas dictates the type and quality of that area.

Fischer expressed appreciation to those working on the ecosystem resilience and HNA II project, noting that partnership challenges are inevitable as we are moving towards a toolbox of science-based to inform management that augments professional judgement.

Habitat Restoration

District Reports

St. Paul District

Marv Hubbell reported that Conway Lake is MVP's highest priority, with a fairly strict schedule to complete plans and specs and award a construction contract this fiscal year. Hubbell emphasized that the construction contract is critical if the UMRR program is to maintain a high level of execution in FY 2017. . Chris Erickson reported that the feasibility report was published for public comment on May 16, 2017. Erickson said the Division was helpful in getting the necessary documents finalized in time.

Jim Fischer recognized that there are timing challenges for constructing habitat projects at bald eagle habitat areas and asked how that might affect execution capabilities. Tim Yager explained that bald eagles are protected under federal law. Yager said a solution was found at Harper's Slough that allowed for working around the nest. In response to a question from Fischer about whether exceptions would be allowed noting that eagles are acclimating to disturbance, Yager explained that USFWS does not have such flexibility. Aaron Snyder added that the conflicts with bald eagles will become more frequent but that Harper's Slough and future projects can hopefully lead to better plans and coordination for avoiding disturbance. Erickson acknowledged that this is a real issue and that constructing projects takes at least six to eight weeks to build. Harper's Slough is ahead of schedule and the Corps will be able to fully execute on that project. Col. Craig Baumgartner encouraged partners to continue working towards an agreed upon solution. Neal Jackson expressed optimism that there was a successful, active attempt at

Harper's Slough to work through the constraints. Jackson said it triggered great partnership conversation and cooperation.

Hubbell mentioned that it is much easier when any constraints to project implementation are raised early in the planning process. However, he acknowledged that some issues are very hard to predict.

St. Louis District

Brian Markert said MVS continues planning on Rip Rap Landing, Piasa and Eagles Nest Islands, Crains Island, and Harlow Island habitat projects. The District recently held a site visit at Oakwood Bottoms. Markert reported that construction is underway for Ted Shanks, Clarence Cannon, and Pools 25 and 26 Islands.

Rock Island District

Hubbell reported that MVR is finalizing the draft feasibility report for Beaver Island and Keithsburg. The District's construction effort is fairly aggressive with construction ongoing on the Lake Odessa flood damages; Pool 12 Overwintering Stages I, II, and III; Huron Islands Stages I and II; and Rice Lake Stage I.

Kirsten Mickelsen asked if the Corps is considering proposing one of these habitat projects for consideration under Section 1112 of the Water Infrastructure Investment for the Nation (WIIN) Act. Hubbell said Snyder Slough in Pool 11 may be a good candidate.

Long Term Resource Monitoring and Science

FY 2017 3rd Quarter Highlights

Jeff Houser reported that accomplishments of the third quarter of FY 2017 include the publication of:

- Four manuscripts:
    1) Crustacean zooplankton dynamics in a natural riverine lake, Upper Mississippi River
    2) Spatial and temporal relationships between the invasive snail *Bithynia tentaculata* and submersed aquatic vegetation in Pool 8 of the Upper Mississippi River
    3) Long-term fish monitoring in large rivers: utility of "benchmarking" across basins
    4) Widespread and enduring demographic collapse of invasive common carp (*Cyprinus carpio*) in the Upper Mississippi River System
- A technical report of the fish indicators of UMRS ecosystem health
- A fact sheet describing the UMRS topobathy dataset
- A summary of the LTRM sampling highlights in Pools 12 and 13

USACE LTRM Report

Karen Hagerty explained that a similar scope of work process that occurred in FY 17 will occur again in FY 18, with a SOW developed for LTRM base monitoring and a second SOW developed for science in support of restoration and management.

A-Team Report

Shawn Giblin reported that the A-Team's April 26, 2017 meeting focused included a discussion on ecosystem resilience conceptual models and research presentations on standardized HREP fish monitoring protocols, Pettibone Lagoon water quality protocol, Maquoketa River floodplain connectivity study. In addition, the A-Team discussed its future goals and direction. Giblin said Matt Vitello is assuming the chairing position for the next two years.

Other Business

Col. Baumgartner Remarks

Col. Craig Baumgartner recognized that UMRR is the Rock Island District's most strategic effort. Col. Baumgartner stressed the importance of delivering the full obligation authority in FY 2017. He challenged the UMRR Coordinating Committee to be prepared for what may lie ahead in FY 2018. And, he asked the UMRR Coordinating Committee to help establish the necessary conditions to strategically implement the program in FYs 2019 to 2022.

Future Meetings

The upcoming quarterly meetings are as follows:

- **August 2017 — Onalaska/UMESC**
  - UMRBA quarterly meeting —August 8
  - **UMRR Coordinating Committee quarterly meeting — August 9**
- **November 2017 — Twin Cities**
  - UMRBA quarterly meeting — November 7
  - **UMRR Coordinating Committee quarterly meeting — November 8**
- **February 2018 — Quad Cities**
  - UMRBA quarterly meeting — February 6
  - **UMRR Coordinating Committee quarterly meeting — February 7**

With no further business, the meeting adjourned at 11:57 a.m.

UMRR Coordinating Committee Attendance List
May 24, 2017

UMRR Coordinating Committee Members

Don Balch	U.S. Army Corps of Engineers, MVD
Tim Yager	U.S. Fish and Wildlife Service, UMR Refuges [On behalf of Sabrina Chandler]
Mark Gaikowski	U.S. Geological Survey, UMESC
Rob Maher	Illinois Department of Natural Resources [On behalf of Dan Stephenson]
Randy Shultz	Iowa Department of Natural Resources
Kevin Stauffer	Minnesota Department of Natural Resources
Matt Vitello	Missouri Department of Conservation
Jim Fischer	Wisconsin Department of Natural Resources
Ken Westlake	U.S. Environmental Protection Agency, Region 5 [On the phone]
Marty Adkins	Natural Resources Conservation Service

Others In Attendance

Thatch Shepard	U.S. Army Corps of Engineers, MVD
Chris Erickson	U.S. Army Corps of Engineers, MVP
Aaron Snyder	U.S. Army Corps of Engineers, MVP
Col. Craig Baumgartner	U.S. Army Corps of Engineers, MVR
Dennis Hamilton	U.S. Army Corps of Engineers, MVR
Marvin Hubbell	U.S. Army Corps of Engineers, MVR
Karen Hagerty	U.S. Army Corps of Engineers, MVR
Brian Markert	U.S. Army Corps of Engineers, MVS
Kat McCain	U.S. Army Corps of Engineers, MVS
Megan O'Brien	U.S. Army Corps of Engineers, MVS
Deanne Strausser	U.S. Army Corps of Engineers, MVS
Jason Wilson	U.S. Fish and Wildlife Service, UMR Refuges
Neal Jackson	U.S. Fish and Wildlife Service, UMRCC
Kelly Warner	U.S. Geological Survey, Illinois-Iowa Water Science Center
Amy Beussink	U.S. Geological Survey, Missouri Water Science Center
Paul Rydlund	U.S. Geological Survey, Missouri Water Science Center
Jim Stefanor	U.S. Geological Survey, Southwest Region
Nate De Jager	U.S. Geological Survey, UMESC [On the phone]
Jeff Houser	U.S. Geological Survey, UMESC
Kevin Stauffer	Minnesota Department of Natural Resources
Molly Sobotka	Missouri Department of Conservation
Robert Stout	Missouri Department of Natural Resources
Bryan Hopkins	Missouri Department of Natural Resources
John Petty	Wisconsin Department of Agriculture, Trade and Consumer Protections
Shawn Giblin	Wisconsin Department of Natural Resources [On the phone]
Olivia Dorothy	American Rivers
Brad Walker	Missouri Coalition for the Environment
Gretchen Benjamin	The Nature Conservancy
Dave Hokanson	Upper Mississippi River Basin Association
Kirsten Mickelsen	Upper Mississippi River Basin Association