Minutes of the
Upper Mississippi River Restoration Program
Coordinating Committee

November 18, 2015
Quarterly Meeting

InterContinental St. Paul Riverfront
St. Paul, Minnesota

Sabrina Chandler of the U.S. Fish and Wildlife Service called the meeting to order at 8:02 a.m. on November 18, 2015. Other UMRR Coordinating Committee representatives present were Don Balch (USACE), Mark Gaikowski (USGS), Dan Stephenson (IL DNR), Randy Schultz (IA DNR), Kevin Stauffer (MN DNR), Janet Sternburg (MO DoC), Jim Fischer (WI DNR), Ken Westlake (USEPA) via phone, and Marty Adkins (NRCS). A complete list of attendees follows these minutes.

Minutes of the August 5, 2015 Meeting

Randy Schultz moved and Dan Stephenson seconded a motion to approve the draft minutes of the August 5, 2015 UMRR Coordinating Committee meeting as provided. The motion carried unanimously.

External Communications and Outreach

Marv Hubbell recalled that Goal 3 of the FY 2015-2025 UMRR Strategic Plan is to "engage and collaborate with other organizations and individuals to help accomplish the UMRR vision." An overarching need to help advance the Goal's objectives and strategies is a standing communications committee to develop and implement an external engagement and outreach plan. An immediate need is a brand and imaging (logo) that will provide consistency and effectiveness in how UMRR is portrayed externally. According to Hubbell, a weakness of UMRR has been its ability to adequately tell the story of its accomplishments over time and highlight the continued need for investment to restore the river to a healthier and more resilient state. UMRR is working with partners to form the standing communications team, which would involve a mix of communications/marketing experts and UMRR experts. B-1 of the agenda packet also includes a written explanation from Hubbell to set up today's discussion.

Kevin Bluhm reported that USACE awarded a contract to the Gulf South Research Corporation and Schneider Communications in September 2015 for the development of UMRR branding and imaging. Bluhm introduced the contracting team, including Bill Wittland of VoxStrategic, Kim Schneider of Schneider Communications, and Ann Guissinger of Gulf South Research Corporation. Bluhm said the team began conducting interviews with UMRR stakeholders in October and estimates they are about 75 percent finished. The questionnaire includes leading questions about connections to the river and how UMRR partners want external audiences to think and feel about the program. Bluhm anticipates having a suite of branding options for the UMRR Coordinating Committee to consider at its February 24, 2016 meeting.

Branding and Logo Development

Bill Wittland provided an overview of branding, its definition, value, and how to use it effectively. Wittland explained that a brand is not a name, logo, geographic presentation, slogan or tag line, nor a newsletter or report. Rather, a brand is an essence, promise, expectation, and loyalty that expresses a name, logo, geographic presentation, and so forth. By definition, a brand is "the convergence of a lived essence and the experience of that essence in and by the marketplace." Wittland explained that UMRR

must consider "its marketplace." The monetary value of a brand alone shows its importance. For example, Coca Cola's brand is valued at $50 billion. In addition, brands trigger values and other emotions simply by their imaging, such as Apple and Nike. Wittland described how brands are built on impressions. UMRR partners will eventually become "brand ambassadors" that will represent UMRR. The brand and images should illicit the desired values for getting various audiences to rally around UMRR's endeavors.

Wittland, Schneider, and Guissinger led a facilitated discussion, where meeting participants broke into small groups to brainstorm how to describe UMRR in various scenarios. Today's discussion is meant to generate ideas about how UMRR is perceived and how partners want to project the program externally. The results will be used to generate UMRR branding tag line and images. The small groups reported their results to the larger group. The list of questions and answers is as follows:

- Question: If the UMRR were a car, what car would it be and why?

  Answers:

  - Honda: Reliable, inexpensive, trendy, green
  - GMC: "Home grown," proven, reliable, excellence, initiative
  - Ford: High quality customer service, reliable, inexpensive, trendy, green, domestic, proven, excellence, number one American-made truck ("UMRS is the most American river"), dependable, hardworking, durable, tough
  - Chevy: "Heartbeat of America," available range includes economy cars to SUVs and trucks, reliable, "like a rock" – solid and steady, high value, high utility
  - Prius: Efficient, reliable, cost-effective, eco-friendly
  - Lincoln: High quality, innovative, quintessentially Midwestern, captures essence of President Lincoln as it honest and hard working, local but with worldwide recognition, long-enduring
  - Jeep/Truck: Dependable, "carries the load," continuously produces expected results, color is green and blue, goes everywhere, not overboard, versatile
  - Other: Color would be silver as it does not show dirt but is also the hardest car color to see on the road

- Question: If you went to the grocery store, in what aisle would you find UMRR and why?

  Answers:

  - Chips: Diversity of types
  - Baking: None of the ingredients are worth anything alone, but together they make great things
  - Produce: Healthy, fresh, vibrant colors (colorful), organic, natural, diverse, needs water and other inputs, direct contact/touch, raw, real (not synthetic)
  - Books: Knowledge
  - Meat: Fishing, recreational, heard-working, real, sustentative, need input and "management" by people
  - Clearance: Efficient, effective
  - Bakery/bread: Staple, innovation, reliable
  - Beverage/water: Water-based, important resource
  - Utensils: Uses tools to achieve goals, always there

- Question: If the UMRR were a hotel chain, what would it be and why?

  Answers:

  - Blackhawk in Iowa: Innovative, surprisingly elegant and sophisticated (televisions in bathroom mirrors like UMRR's science), historic, unique
  - Holiday Inn: High quality/value, cost-effective, innovative, fresh ideas, "smart people stay there," rewards program, high customer loyalty, consistency in outcomes
  - Stoney Creek: Woods-y, natural, rustic, stone fireplace, room variety, cozy/"feels like home," room variety, somewhat unknown
  - "Choice hotels" (Radisson, Marriott): Range of options, diversity, "association with successful UMRR meetings that led to achievements"
  - Bed and Breakfast: Individually customized and personalized and place-based
  - Hyatt: Upscale and sophisticated, high quality service, high value for the money invested (like UMRR's sophisticated, high quality science and engineering

- Question: What do you hope people are saying in 18 months about the UMRR?

  Answers:

  - Healthy river supporting our multiple uses (i.e., UMRR's vision)
  - Progressive, new technologies
  - Long-term vision
  - This is the most important thing we can invest in; we need this!
  - I never knew!
  - It's amazing what we can do when we work together; it's energizing when that happens
  - What a partnership!
  - Good program; I support it
  - How did they get all our money?
  - Wow, I did not even know this program existed!
  - Better understanding of 30 years of accomplishments
  - Understanding of what was present before current system (historical conditions)
  - Cohesive partnership; how well parties work together
  - These accomplishments were achieved through collaboration, not conflict
  - UMRR helps restore fish and wildlife
  - UMRR uses science to inform habitat projects
  - UMRR should be a model for all other programs; they are doing it right!
  - Restoration has begun, but there is a long way to go.
  - UMRS is a tremendous resource
  - I feel drawn into river magic!
  - UMRR needs support, how can I help?
  - UMRR is a good investment

- I recognize UMRR/I know this program; I know the new acronym, UMRR!
- Research has led to projects
- I have heard about it (in a positive context)
- Ecological conditions on the system are improving
- Comprehensive integrated science and restoration program
- It is well-funded!
- The UMRS state Governors know about it
- UMRR is connected with cities and towns on the river, and k-12 schools using STEM
- UMRR is recognized as a world leader in applied river science and restoration
- UMRR is nationally recognized among similar programs like the Everglades
- There is transparency and accountability in using resources

Janet Sternburg asked if other government programs that have brands. Barb Kleiss said the Mississippi River Geomorphology and Potamology Program (MRG&P) uses consistent fonts, imagery, and formatting on all of its documents. Chris Erickson observed the success of the "Smokey the Bear" campaign. Wittland said Chesapeake Bay has developed an effective brand. Gretchen Benjamin said UMRR did some branding for its 20th and 25th Anniversaries. Kleiss said USACE's Engineering Research and Development Center (ERDC) is currently exploring its own branding.

Olivia Dorothy asked if UMRR needs to reconsider its name. Wittland observed that Everglades has a more specific geographic identity, but not necessary a programmatic identity. Benjamin said the Everglades restoration project has a different name in the Administration's and Congress' budgets. Karen Hagerty said UMRR's name provides both a place-based and activity-based association. Wittland explained that a name cannot say everything. Rather, a name is a hook to build an understanding. Bluhm said Everglades uses an egret and Chesapeake uses a serpent. The images and tag lines are consistent on all public documents. The programs' actual names are rarely highlighted.

Wittland said the contracting team plans to schedule a web-based meeting in January 2016 to discuss initial draft logos and taglines, based on today's discussions and the personal interviews.

Regional Management and Partnership Collaboration

FY 2015 Report-Out

Marv Hubbell reviewed UMRR's FY 2015 work plan under its $33.17 million appropriation, as follows:

- Regional Administration and Programmatic Efforts — $861,000
- Regional Science and Monitoring — $8,126,000
  - Long term resource monitoring — $5,495,000
  - Regional science in support of restoration — $1,907,000
  - Regional science staff support — $69,000
  - Habitat project evaluations — $655,000
- Habitat Restoration — $24,183,000
  - Regional project sequencing — $70,000
  - MVP — $7,234,000
  - MVR — $9,645,000
  - MVS — $7,234,000

Hubbell reported that cost savings in FY 2015 provided $50,000 to $60,000 for the UMRR branding and logo effort. In response to a question from Sabrina Chandler, Hubbell said Pool 12 Overwintering Stage II's construction award was much less than estimated and resulted in the significant cost savings.

In response to a question from Olivia Dorothy, Hubbell said NESP's FY 2014-16 funds have been used on programmatic efforts and are not targeted specifically to either the program's navigation or ecosystem restoration components.

Hubbell reported that UMRR's FY 2015 obligation rate is 99.6 percent. According to Hubbell, this achievement underscores the incredible value of the program's collaborative, interagency partnership and the partnership's ability to quickly advance projects and activities that align with the program's strategic goals and objectives. Hubbell expressed appreciation to Division and District staff, UMESC, USFWS, and the state field stations for their contributions to FY 2015's effective implementation. Hubbell emphasized the necessity of having contingency plans to ensure cost savings are spent on high priority efforts. UMRR's ability to continually obligate at nearly 100 percent is an advantage for the program at a national scale when competing for federal funds.

FY 2016 Appropriations Report

Hubbell reported that, on September 30, 2015, Congress enacted a continuing resolution authority (CRA) for FY 2016 that is set to expire on December 11, 2015. District staff are directed to plan at the President's FY 2016 request for UMRR, which is $19.787 million and is $13.383 million less than the program received in FY 2015. This funding level was matched by the House in its FY 2016 energy and water appropriations bill. The Senate did not pass a FY 2016 energy and water appropriations measure.

Hubbell outlined UMRR's internal allocations under the $19.787 million planning scenario, as follows:

- Regional Administration and Programmatic Efforts — $741,000
- Regional Science and Monitoring — $6,567,000
  - Long term resource monitoring — $4,500,000
  - Regional science in support of restoration — $963,000
  - Regional science staff support — $129,000
  - Habitat project evaluations — $975,000
- Habitat Restoration — $12,479,000
  - Regional project sequencing — $100,000
  - MVP — $3,425,000
  - MVR — $4,745,000
  - MVS — $4,209,000

[Note: The District habitat restoration funds are not reflective of the historical split based on river mileage, and instead are reflective of the project priorities as identified in the budget process.]

FY 2017 Funding

Hubbell said the Corps is currently developing a proposed FY 2017 budget for its Civil Works programs and projects. MVD provided a budget request for UMRR in August. OMB is currently evaluating the Corps' proposed budget and is scheduled to provide a pass back to the Corps for input in December. The President typically releases budget requests in February for the following fiscal year. Hubbell explained that UMRR's budget is developed internally and cannot be shared externally until the President formally releases the budget request.

Principles of Efficient Execution

In response to budget discussions with Headquarters, Hubbell said District staff are developing draft principles of efficient funding for UMRR's execution of its habitat projects. [Note: The request for efficient execution principles does not include the program's science efforts.] Hubbell recalled that, at the August 5, 2015 UMRR Coordinating Committee quarterly meeting, Dru Buntin and Gretchen Benjamin reported that Headquarters' requested that UMRR's non-federal partners describe the program's plans for efficient execution of its habitat projects when communicating the rational for funding needs.

Buntin said that, during visits in summer 2015, ASA(CW) Jo-Ellen Darcy's staff and Headquarters' staff emphasized the need for UMRR's non-federal partners to more actively communicate the funding levels needed to efficiently execute habitat projects, given contracts, availability of resources, and other considerations. ASA(CW) staff suggested that this would require working directly with District staff to define efficient funding. Buntin said the prohibition of earmarks (as currently defined) and the significant cut to UMRR in the President's FY 2016 budget clearly demonstrate the need to communicate directly to the Administration regarding funding needs.

Buntin reported that UMRBA and the UMRR Coordinating Committee's state members jointly sent an August 24, 2015 letter to OMB and ASA(CW) explaining the need to fund UMRR at $33.17 million in FY 2017 and $28.6 million in FY 2016, requiring an additional allocation to UMRR of $8.813 million in the FY 2016 work plan. In addition, Buntin said he and Benjamin met with UMR delegates and the Administration in Washington, D.C. on November 3-4, 2015. Buntin and Benjamin met with Congressional members and Headquarters' staff on November 3. In the morning of November 4, they met with OMB staff. That afternoon, Representative Ron Kind hosted a meeting in his office with Buntin, Benjamin, ASA(CW) Jo-Ellen Darcy, and Let Mon Lee. Buntin said OMB staff were very interested in discussing UMRR's history, including events that led to its inception, and how the program is thinking strategically about restoring the ecosystem to a healthier and more resilient state. The meetings with OMB and ASA(CW) included an overview of how UMRR served as a compromise arising from conflicts regarding lock replacement and expansion at L&D 26. These events and the associated compromise resulted in multi-purpose management of the UMRS that has become a strong asset of the region. The program's upcoming 30th Anniversary celebration in 2016 was also discussed. According to Buntin, the meetings were productive in highlighting the value of UMRR to the nation and underscoring the importance of funding the program at productive levels.

Hubbell reported that District staff are developing principles to efficient execution. Those discussions have concluded that efficient funding requires that each District has two to four habitat projects in each phase (feasibility, planning, and construction) at all times. This balance is important for managing risk and ensuring a continuous flow of work. Efficient funding would support completing feasibility studies in an average of three years, planning that would immediately follow completion of feasibility, and construction that would immediately follow planning. In addition, efficient funding minimizes breaking projects into phases or stages. Funding construction through a single contract results in significant cost savings in comparison to several smaller contracts. In addition, efficient funding would allow for completing O&M manuals within a maximum of one year following project construction.
Brian Johnson said optimal funding currently the greatest consideration in the Corps' budget decisions. The Administration is asking that the proposed funding level reflect most efficient implementation. For UMRR, optimal funding will not always amount to its full authorized level. Buntin recalled that partners discussed the principles of efficient funding throughout the development of the FY 2015-2025 UMRR Strategic Plan. He recognized that non-federal partners' attempt to insert themselves in the budget development process is challenging given Corps' internal policies, but that the ASA(CW)'s staff directed that non-federal partners work with District staff to obtain the efficient funding levels and associated planned work. Hubbell said Headquarters' guidance is that District staff can share information regarding capabilities, but not proposed budget information.

Mickelsen expressed appreciation to Olivia Dorothy for her efforts in engaging Upper Mississippi River public stakeholders and facilitating their advocacy efforts in support of UMRR. Dorothy worked through the Mississippi River Network to obtain over 10 agency letters to the Administration expressing the value of UMRR and their support for funding the program at its full annual authorized level of $33.17 million in FY 2017. In addition, 112 "River Citizens" submitted funding requests to the Administration via the One Mississippi online action center. Mickelsen said DNR Directors from Illinois, Minnesota, and Wisconsin also sent letters to the Administration seeking $33.17 million for UMRR in FY 2017.

Colonel Craig Baumgartner Remarks

Col. Craig Baumgartner reported that he recently spent a week in Washington D.C. visiting with several Congressional members, who asked many questions about UMRR's historical context, its implementation thus far, and its strategic direction going forward. Col. Baumgartner acknowledged that answering questions about "where we [UMRR] are going" is sometimes challenging. He agreed with Buntin's earlier comments that the Corps needs to frame its budget requests in the context of achieving efficient execution of habitat projects. He stressed the need to also frame UMRR's budget in a long-term, strategic context, rather than solely on single-year execution capabilities, and defining implementation priorities based on that visionary context. Col. Baumgartner recognized that UMRR, along with other USACE's programs and projects, is under increased scrutiny and challenges given the increasingly competitive budget environment. Col. Baumgartner suggested articulating the risks to the UMRS ecosystem associated with a "no action" alternative as well as how the program's habitat projects are minimizing risk. Col. Baumgartner said he is asking District staff to expedite completion of project evaluation reports in order to analyze project performance and to have meaningful, measureable examples of benefits received from UMRR's habitat projects that can be communicated in future budget justifications. The evaluations can be used to answer questions regarding where we [UMRR] have been, and estimates of "no action" risk can be used to answer questions regarding where we [UMRR] are going and why. Col. Baumgartner said the Corps' environmental engineers elsewhere in the nation use UMRR as a model.

Sabrina Chandler expressed appreciation to Col. Baumgartner for his articulation of the need to develop a strategy based on risk to the ecosystem, and using that assessment to prioritize future habitat projects. Given that USFWS is a significant land owner along the UMRS, Chandler said the agency has a significant stake in the Corps' ecosystem restoration strategy on the river. Col. Baumgartner recognized that defining long term strategies and priorities is not an easy task, but will be very important to justify UMRR's budgets going forward.

Olivia Dorothy asked what information the Corps can share externally prior to the President's budget release so that UMRR's non-federal partners are communicating these strategic priorities and optimal funding needs relatively consistently to the Administration and Congress. Marv Hubbell said the Administration's request to Buntin and Benjamin to articulate optimal funding needs is a new approach for District staff, who have not been able to share any information externally prior to the President's budget formal publication. While District staff are prohibited from releasing any budget information externally, there may be allowances to share capability information based on the status of ongoing projects and assumptions regarding optimal execution. Hubbell committed to working with District and Division leadership to understand what type of information is shareable.

Mark Gaikowski asked how efficient execution of UMRR's long term resource monitoring and science is being considered. Hubbell said District staff communicate the funding levels needed to maintain the field station infrastructure and capabilities for long term resource monitoring database management, as well as analysis and research for restoration purposes. He said District staff included increased funding for science relative to increased total budget increments.

FY 2015-2025 UMRR Strategic and Operational Planning Update

Hubbell explained that, since the August 5, 2015 UMRR Coordinating Committee meeting, the FY 2015-2025 UMRR Operational Planning Team has been exploring a recommendation to create a new interagency habitat team that would be similar to the UMRR Analysis Team and would discuss systemic ecological restoration needs and implementation issues. Some proposed actions for the habitat team include identifying and recommending habitat projects, considering how to best integrate ecological goals and objectives into habitat projects, defining questions for scientific investigation, and providing a discussion forum for UMRR scientists and restoration practitioners. On an October 23, 2015 conference call, team members ultimately resolved to instead utilize existing interagency forums to consider systemic issues and facilitate dialogue and information exchange, including the UMRR Coordinating Committee and District-based river teams. In addition, UMRR has recently begun holding biennial in-person meetings to facilitate discussion and strategic planning among scientists and restoration practitioners and hosting joint conference calls among the Corps' UMR District river teams.

Kirsten Mickelsen recalled that the UMRR Coordinating Committee had agreed to the operational planning team's request to hold a partnership webinar to "roll out" the draft operational plan prior to the Committee's consideration of endorsement of the draft plan. The planning team's desire for this approach is to communicate consistent messages about the operational plan's direction and facilitate dialogue among all program implementation contributors about how they will collectively work towards achieving the Strategic Plan's goals and objectives. Mickelsen said she will send the UMRR Coordinating Committee a request for schedule information for that partnership call within the next week along with a revised draft operational plan for review prior to the call.

Hubbell expressed appreciation to the individuals who contributed time and resources in participating in the FY 2015-2025 UMRR strategic and operational planning efforts.

2016 UMRR Report to Congress

Mickelsen provided an overview of the first round of partnership review on the working draft 2016 UMRR Report to Congress (RTC), dated September 11, 2015. Mickelsen provided a brief overview of the authorization requirements regarding UMRR's reports to Congress that occur on a six-year cycle. She said the draft 2016 report's overall outline and messages relate directly to the FY 2015-2025 UMRR Strategic Plan, and how the program's previous implementation and future strategies relate to the vision of "a healthier and more resilient UMR ecosystem that sustains multiple uses." Mickelsen said seven individuals submitted comments on the draft report. However, she anticipates this is largely because many partners were involved in developing messages and reviewing text respective to their contributions to program implementation.

Mickelsen said there were a few questions related to the definition of resilience; however, she said an interagency partnership led by USGS is currently examining the definition and application of resilience concepts to the UMR ecosystem. The report will be updated as that group fleshes out the concepts. One commenter noted that the various uses of "partners," "implementing partners," and "program partners" is confusing and should be differentiated and explicitly defined in the report. Mickelsen agreed with this comment and said it would be helpful to define these terms for consistency beyond just the 2016 RTC, noting that partnership is used in different contexts with different meanings. While the Corps intends to be as inclusive as possible and includes the interested public and others in references to UMRR partners, sometimes "implementing" or "program" partners are used to include only potential non-federal cost share sponsors or partners included UMRR's authorization and that have specific responsibilities to implement components of the program.

Mickelsen explained that she also agreed with another commenter who suggested that report should include a more accurate depiction of the science involved in selecting UMRR's earliest habitat projects, many of which were based on the scientific evaluation of the UMRS ecosystem and restoration needs in the series of GREAT reports. Many of UMRR's historical documents describe the program's earliest habitat projects as being selected based on land managers' knowledge of site-specific needs. However, there was also scientific justification for those projects that also related them to larger systemic ecosystem restoration needs. Over time, UMRR's scientific insights and tools have become more sophisticated and so too have the scientific applications and justifications in UMRR's habitat projects.

Mickelsen said a commenter asked about the ability and process for nonprofits to participate in identifying and selecting UMRR's habitat projects. Mickelsen said WRRDA 2007 expanded the definition of non-federal sponsors to include nonprofits and, in 2012, Headquarters issued guidance confirming that the provision applies to UMRR. Subsequently, the UMRR Coordinating Committee agreed in the 2013 UMRR Implementation Issues Assessment that it supports advancing habitat projects with nonprofits as cost share sponsors, subject to prioritization based on ecological considerations. Mickelsen said a commenter suggested that UMRR change its reference of Asian carp to invasive carp or some other term, noting that the current reference may be offensive. Mickelsen noted that Minnesota and other governmental entities have changed their reference to the species. In response to a question from Mickelsen, the UMRR Coordinating Committee agreed to continue referring to the fish as Asian carp.

Mickelsen said comments regarding specific asks to Congress were to 1) increase UMRR's annual authorized appropriation level and 2) restart monitoring components that have been terminated since the program's inception, such as navigation traffic and macroinvertebrates. Mickelsen observed that the current UMRR's annual authorized level is not a constraint to the program's implementation. Hubbell agreed and said the report lays a foundation for describing the program's resource needs in the future. Hubbell said the Corps monitors navigation traffic through other authorities and he does not see the rationale for allocating resources away from ecosystem restoration and monitoring. He said monitoring for macroinvertebrates is an internal program issue that can be addressed within the region. It does not need to be articulated to Congress. Olivia Dorothy said she provided the comments regarding restarting monitoring components and clarified that the purpose was to trigger thinking about what opportunities could be pursued with increased funding.

Fischer expressed appreciation to Mickelsen on her work developing the first draft of the 2016 UMRR RTC. He emphasized the importance of explaining the benefits associated with UMRR's recent science and restoration integration efforts while not minimizing the program's earlier habitat projects and scientific learning. Fischer asked if the inclusion of the UMRR-NESP Transition Plan is something that the partnership wants to describe as the future plan. Mickelsen said the Corps submitted the Transition Plan to Congress in 2012, as directed, and it includes the main themes as described in that Plan. It also describes communications regarding the Plan from most of the program's non-federal sponsors. The UMRR Coordinating Committee agreed to include the Transition Plan in the draft report.

Mickelsen said a revised draft 2016 UMRR Report to Congress will be distributed to the partnership in mid to late December. Headquarters and Division staff are included on the report's distributions and thus have access to review the report throughout its development. A formal review request will be sent to Headquarters in spring 2016, prior to incorporation of professional graphics.

Habitat Rehabilitation and Enhancement Projects

Habitat Needs Assessment

Marv Hubbell explained that, over the past few years, UMRR partners have repeatedly raised the need for a new habitat needs assessment (HNA) that incorporates the knowledge gained since 2000 and to inform the next generation of habitat projects. At its August 5, 2015 quarterly meeting, the UMRR

Coordinating Committee asked for a presentation at today's meeting about the content and process of developing the 2000 HNA as well as for a more detailed recommendation for developing the "HNA II," including the knowledge gained since 2000 that will expand and inform the next assessment's analyses.

Hubbell said he anticipates that the HNA II will build from the 2000 HNA and incorporate new analytical tools, updated and new data, other knowledge gained since 2000, and lessons learned in developing the 2000 HNA. Hubbell proposed forming a partnership-based, interagency team to develop the HNA II. The 2003 HREP Sequencing Framework would still be utilized to ultimately select and sequence future habitat projects. Hubbell said the HNA II would directly link the UMRR's vision and mission statements to the program's ongoing work to define the UMRS's ecological resilience. The HNA II would also be intended to strike an appropriate balance between the use of new tools and data within the context of policy and management sideboards.

Hubbell proposed that the HNA II team be tri-chaired by Tim Eagan (USACE), Sara Schmuecker (USFWS), and Nate De Jager (USGS). The tri-chairs said they intend to seek input from the UMRR Coordinating Committee today in order to formulate a draft scope of work for the HNA II that they plan to present to the Committee at its February 24, 2016 meeting for consideration. Hubbell said he anticipates that the HNA II team will include representatives from the UMRR Coordinating Committee's agencies as well as experts in areas of particular interest, and that the planning effort will evolve over 18 to 24 months. In response to a question from Randy Shultz, Hubbell said he plans to also ask the UMRR Coordinating Committee to identify the HNA II group composition at its February 2016 quarterly meeting. Sabrina Chandler requested that the draft scope of work be provided to the Committee's members well in advance of the February quarterly meeting so that members have adequate time to coordinate internally within their respective agencies in selecting the staff person that is most appropriate to participate in the effort.

Overview of 2000 Habitat Needs Assessment

Bob Clevenstine provided an overview of the 2000 HNA, including the historical context and development process. Clevenstine recalled that the UMRR partnership had long recognized the merits of having an eco-regional assessment for the UMRS to formulate and select habitat projects, integrating monitoring information gathered since the program's inception. That led to a recommendation in the UMRR's 1994 Report to Congress for the development of an HNA. Ultimately, Congress accepted this recommendation by including a provision in Section 509 of the 1999 WRDA that required the Corps to develop an HNA by September 30, 2000. The legislation also extended UMRR's authorization to a continuing program authority. Given that the 1999 WRDA was enacted on August 17, 1999, this gave the UMRR partnership one year to complete the first HNA. And, the Corps was provided $1 million to complete this effort.

The Corps and USFWS developed the 2000 HNA's project management plan and used an interagency team to create the scope of work, which estimated the assessment's cost at $935,000 to complete. The scope of work included plans for model development, forecasting future conditions, involving interested public, identifying desired future conditions and habitat needs, and creating a website for information sharing. Clevenstine explained that challenges facing the 2000 HNA included time and fiscal constraints, simultaneous development of the UMRS Navigation Study, conflicting thoughts among partners about using information from the Navigation Study to supplement long term resource monitoring data (given that there was no time to obtain new data), and disagreements regarding public engagement strategies.

In anticipation of the 1999 WRDA passage with the HNA provision, USGS staff essentially completed a query tool in August 1999 that the technical team was able to utilize substantially throughout the HNA 2000's development. Clevenstine said the draft HNA was completed in September 2000 and subsequently approved by MVD in December 2000, following final input from the UMRR Coordinating

Committee. The HNA was distributed in January 2000 and included a summary report, a technical report with appendices, a public information report, and a users' manual for the query tool.

Clevenstine recalled that partners stressed the need for various sources of new information when developing the 2000 HNA. Ultimately, the Assessment's summary report identified 13 information needs. The UMRR held 12 open meetings and 10 focus group meetings during the single year of the HNA's development. However, partners had strongly recognized the need to engage the public to an even greater extent than what had occurred.

2000 HNA Query Tool

Tim Fox gave an overview of the 2000 HNA query tool, including its structure and application. Fox said the query tool provided analytical support and content for the 2000 HNA, and has been used since then in other applications as it is essentially a decision support system that assesses habitat needs of various federal, state, and other partners. The query tool for the 2000 HNA was delivered in an ArcView 3.1 extension. The tool uses several habitat suitability models to generate bi-directional queries – i.e., users may query a specific or suite of species to obtain habitat information, or they may query a habitat to obtain species information. The models used were driven by suitability matrices that were based on expert opinion. The base layer included land cover from 1989, 1991, 1994, and 1998, as well as aquatic area maps from 1989 and 1991. The tool produced several useful outputs, including tables, charts, and layouts describing potential species occurrence, richness, and habitat. It generates zonal analyses by pool and provides suitability matrices for mammals, birds, amphibians and reptiles, fish, mussels, and invertebrates. Results from specific queries are presented in tables and figures embedded throughout the 2000 HNA report and appendices. Visualizations of queried information were used to create a common reference and communications tool throughout the public outreach efforts. Beyond the HNA, Fox said the query tool is used by various resource agencies to explore habitat needs and investigate alternative restoration scenarios.

Fox explained that the query tool has since evolved into LINK, which is a decision support system that incorporates a suite of ArcGIS tools to analyze habitat patterns across a landscape. LINK was initially created in response to a request for information by the USFWS Region 3. It incorporates data from the 2000 HNA query tool and raster data to model habitat over a much larger spatial extent by using habitat matrices to model potential species habitat and habitat diversity. LINK's main purpose is to make comparisons of conservation potential between management units and the surrounding landscape by summarizing potential species richness, habitat diversity, and habitat composition. Its end products include maps, tables, and graphs of potential species occurrence, potential species richness, Simpson's diversity index, and zonal composition. Fox explained that LINK's matrices contain habitat suitability values, source layers to define habitat types, species abundance maps to restrict and weight analyses, and zonal layers to provide spatial units for summarization and comparison. For example, Fox said a query objective may be to evaluate Minnesota counties for high priority, regularly breeding bird habitat. Fox showcased the various LINK outputs based on that example query.

Fox summarized comparisons between the 2000 HNA query tool and LINK. Both analytical tools are used summarize habitat distribution; however the HNA tool is bi-directional and LINK is unidirectional, meaning it only allows the user to query for species and not for habitat. Fox said both applications identify areas of conservation need, but they only superficially identify restoration need. They also both leverage generalized models for many species rather than using specific models for a few species.

In response to a question from Karen Hagerty, Fox said LINK is available online but requires an ArcGIS 9.0 license to use. Hubbell acknowledged that Fox's presentation shows the evolution of analytical capabilities since 2000 as well as the potential opportunities to advance these capabilities even further.

Recent Products Relevant to HNA II

Nate De Jager summarized several important products that UMRR has developed since 2000 that would enhance analyses and outcomes generated in a next HNA, including by using connectivity and inundation information. De Jager described, as examples, the ability to use the database of discharge rates to get a better understanding of the landscape and habitat types; the user-defined query tools that provide information within a temporal and model value range; and models that use bathymetry, flow velocity, and connectivity as inputs; as well as how to relate species to various conditions.

De Jager said the tri-chair HNA II team would like input from the UMRR Coordinating Committee regarding several foundational questions necessary to begin formulating the framework and process for the HNA II. At a programmatic perspective, partners may want to compare new data to old data to determine the extent to which habitat projects have an impact on habitat or to demonstrate that UMRR is using new knowledge and data to improve the way the river is managed and studied. Researchers may view the HNA as an opportunity to develop or improve the way geomorphic and landscape changes over time are examined and modeled as well as to improve species-habitat relationship models. Resource managers may want to the HNA to generate new data layers that are useful for identifying areas for restoration actions or to provide a longer-term context for diagnosing "problem areas," and to re-evaluate partners' earlier understanding of the UMRS's environmental problems. De Jager recalled that the 2000 HNA examined the differences between a desired future condition against the existing condition to identify habitat needs. That desired future condition involved a social undertaking that was identified by stakeholder groups. The existing condition was identified using a hybrid of land cover and aquatic areas coverage and assigning species preferences for different habitat classes using expert opinion. The query tool (discussed by Fox earlier) was developed to help extract information on the existing condition. Future conditions were also evaluated using best professional judgement. In addition, a simple forest succession model was developed.

De Jager said UMRR has much more detailed information to characterize river habitats since 2000 as well as a better approach to modeling forest succession. He overviewed the 13 information needs that partners identified in developing the 2000 HNA, including:

1. System-wide topographic data (available now)
2. System-wide bathymetric data (available now)
3. Numerical hydraulic models for all pools (not available, but connectivity is available and is a surrogate)
4. Substrate-type characterization (not available, but have aquatic areas identified as a surrogate)
5. Habitat spatial structure metrics (available now)
6. Floodplain inundation models (able to create)
7. Floodplain geomorphic classification and study (able to create)
8. Surveys of existing floodplain plant communities (able to create)
9. Characterization of existing and pre-impoundment hydrologic regime
10. Confirmation/validation of species using SRS LTRM data (available for fish)
11. Development of refined life history information (available for some)
12. Development of refined species-habitat models (available for some)
13. Analysis of seasonal habitat availability (available, such as overwintering for fish)

De Jager noted that, not only has UMRR obtained first two information needs (topographic and bathymetric data), the program has also integrated the two datasets into a seamless elevation layer, referred to as topobathy. De Jager explained that, even though many of the datasets are now available, it will take staff time and resources to apply the data in a meaningful way. In additions, partners will need to consider and make decisions regarding applications of the datasets.

De Jager said partners will need to consider several fundamental questions to set a framework for the next HNA, including:

1. Should the UMRR define a desired future condition, and if so, how should that process unfold?
2. How should we define the existing condition (spatial extent, etc.) and what information should be used to do so – e.g., land cover, topobathy?
3. How should we model relationships among species and habitat – e.g., what types of species classes are of interest? Are there species information models that should be improved? De Jager noted that there have been substantial improvements to the dabbling duck model, the fish AHAG, pool-wide mussels information, and bird information related to forest and landscape features.
4. How should the projected future conditions be defined? What information should be utilized and how – e.g., expert opinion, state-transition modeling, process-based models? De Jager said that, however this is done, projected future conditions provide a broad-scale picture of the distribution of habitats that are important to a broad array of species under different management or climate scenarios. He noted that this information is directly relevant to spatial and temporal resilience of the ecosystem.
5. What decision support tools are needed to generate the information desired? What do UMRR partners want as outputs? De Jager said that the option exists to compare species abundance data to mapped habitat data that will show areas of conservation verses restoration.

Specifically, De Jager asked that the UMRR Coordinating Committee members to provide answers to the following five questions:

1. Do we want an assessment of desired future conditions?
2. Do we want to improve our definitions of aquatic habitats using bathymetry data?
3. Do we want to improve our species-habitat models?
4. How do we want to make future projections?
5. What are the products going to be?

De Jager said he anticipates the tri-chair team's next steps will be to 1) consider feedback received from the UMRR Coordinating Committee on the five questions listed above and 2) draft a scope of work and budget for the HNA II effort to present to the UMRR Coordinating Committee for its consideration at its February 24, 2016 meeting.

Hubbell noted the challenges associated with defining a desired future condition. He said the effort to use long term resource monitoring information to define the status and trends of ecological health and resilience is intended to help to make statements about desired future conditions that are more scientifically based. Marty Adkins noted that there are some advantages to using principle-based statements. For example, increasing resilience also increases habitat diversity. Adkins suggested asking federal and state staff involved in Clean Water Act implementation to help identify principles of a desired future condition given that clean water is fundamental to ecological health as well as quality of life. Karen Hagerty said the UMRR's ecological health indicators may be able to provide a scientific foundation for making interim targets. Janet Sternburg mentioned that page 51 of the 2000 HNA

identifies interim targets. She said interim targets may be more meaningful and attainable than defining a desired future condition. Tim Schlagenhaft suggested defining a future condition without any habitat restoration or conservation actions. UMRR partners could use that condition to determine if that state would be acceptable to the public and, if not, come to some point where a certain level of action results in an acceptable ecological state. Ken Barr suggested that the HNA consider cumulative effects. Sabrina Chandler said modeling could be used to estimate Schlagenhaft's suggestion.

Mark Gaikowski asked whether future conditions should consider the effects of invasive species, including terrestrial species such as reed canary grass, climate change, or even the potential for harmful algal blooms (HABs). De Jager noted that the 2000 HNA did not include species interactions.

Hubbell observed that resource agencies are typically responsible for proposing potential habitat projects. He said it will be important to ensure that the priorities of UMRR's potential cost share sponsors (including potential nonprofit project sponsor candidates) are reflected in the HNA II's outcomes related to habitat restoration goals. Hubbell explained that he will want resource agencies' perspectives on the possibilities for incorporating HNA II outcomes into their respective land management plans. Sternburg said resource agencies will want to consider what land is currently available for restoration and what new land might become available in the future. However, she emphasized that the constraint on lands available should not preclude the HNA II from uncovering the most important areas for restoration.

In response to a question from Dru Buntin, Clevenstine said partners made the conscious decision not to estimate the habitat lost as a result of the construction and operation of the nine-foot navigation channel. De Jager said there are also data limitations to answering that question. Buntin pointed out that establishing a desired future condition is a fairly subjective process that can be contentious. Chandler suggested that the HNA II examine the ecosystem's future trajectory (where it wants to go) and evaluate how UMRR's habitat projects can work within that future trajectory to provide the fish and wildlife habitat requirements, rather than working to restore the river to a state that it might fight against. Fox said process-based models could potentially be developed that incorporate physical properties of water flow and other characteristics. Ken Westlake suggested determining an "achievable future condition," given the current state of the river ecosystem, ongoing and potential future stressors, and the restoration tools available. Westlake also suggested seeking input from river teams at the outset, especially in discussing these types of questions. Jim Fischer expressed agreement with Westlake's suggestions.

In response to a question from De Jager, Hubbell said floodplain reaches rather than District boundaries are a more appropriate division of the system for modeling and analysis purposes. Chandler noted that the HNA 2000 used floodplain reaches as the geographic boundary for defining habitat restoration goals. De Jager said the HNA 2000 used the same data for the entire system. He explained that certain data sets may be available and applicable for one floodplain reach and not the next, and suggested using different datasets and models among the reaches to their individual unique assessment needs. Hubbell said he agreed with De Jager's statement.

In response to a question from Chandler regarding next steps, Sternburg requested a copy of the 2000 HNA's scope of work for reference. Based on the requests of the tri-chair HNA II team and the UMRR Coordinating Committee, Kirsten Mickelsen said she would distribute De Jager's proposed questions to the Committee in the next day or two. The Committee agreed to provide the tri-chair team with their respective agency's perspectives related to those questions in two weeks. This would then provide the tri-chair team with the information needed and enough time to develop a scope of work for the UMRR Coordinating Committee to review at its February 24, 2016 meeting, as well as to select staff to participate on the HNA II development team. [Subsequent to the meeting, the tri-chair team and Hubbell proposed to the UMRR Coordinating Committee to instead first develop a project management plan that will include the questions proposed in the meeting's discussion. The team will seek input on that plan at the February 24, 2016 quarterly meeting before developing a scope of work.]

District Reports

St. Paul District

Tom Novak said North and Sturgeon Lakes is the St. Paul District's current planning priority, which planning is ongoing on Conway Lake and McGregor Lake. Novak said he anticipates that a dedication for Capoli Slough will be held on April 22, 2016 for Earth Day. The event will include a volunteer tree planting activity. Novak reported that nearly thirty percent of the construction on Harpers Slough was completed this summer, noting that river levels were very favorable for completing construction. He said Dave Potter is working on completing performance evaluation reports for Ambrough Slough, Island 42, Polander, Trempealeau, and Pool 8 Phase II.

St. Louis District

Brian Markert expressed appreciation to the non-federal partners involved in MVS's UMRR habitat project execution last year, underscoring their contributions in advancing projects. Markert explained that MVD requested greater clarity on project features and required coordination with NRCS on Rip Rap Landing on the project's future designs due to a wetlands reserve program (WRP) easement on the site. Subsequently, the Division approved Rip Rap Landing's feasibility report. Markert said the District ran hydraulic modeling for Piasa and Eagles Nest Islands as part of its feasibility report, and is currently working with USFWS in evaluating plan alternatives for Harlow and Open River Islands. Markert reported that MVS is allocating $150,000 of FY 2016 funding to completing performance evaluation reports. Clarence Cannon is MVS's primary design effort. Markert explained that prolonged high water this summer delayed construction on Ted Shanks. MVS worked with Missouri Department of Conservation to extend the construction season to take advantage of favorable construction conditions this fall due to a lack of rainfall later in the summer. District staff anticipate closing out Pools 25 and 26 Islands in FY 2017. Markert reported that, while only punch list items remain on Batchtown, the water control structure will need to be de-watered to do repair work.

Rock Island District

Hubbell said MVR is currently planning three habitat projects, including Beaver Island that is schedule for completion in FY 2017, Keithsburg in FY 2018, and Boston Bay in FY 2019. Design work continues on Huron Island and Pool 12 Overwintering Stage III. Hubbell said the District continues to employ a large construction program. Eight different stages involving five different projects are in the construction phase. MVR is also working on completing performance evaluation reports for Bay Island, Analusia, and Brown's Lake. Hubbell reported that $154,000 was allocated to USFWS for support services related to project monitoring, planning, Coordination Act reports, and other programmatic efforts.

Long Term Resource Monitoring and Science

Science Highlight: A New Hypothesis of Submersed Aquatic Vegetation Dynamics in the UMR Based on UMRR Long Term Resource Monitoring

Yao Yin presented on a "working hypothesis" of submersed aquatic vegetation (SAV) dynamics that have been observed in Pools 8 and 13 using UMRR's long term resource monitoring data. Yin explained the historical context of the river's ecological modifications due to the construction of the nine-foot navigation channel, including the progressive loss of islands and SAV abundance in the impounded area of the pools. He cited USFWS's Dr. William Green's observation in 1984 that, for several years after the nine-foot navigation channel's construction, there was tremendous response to impoundment and extensive beds of aquatic vegetation developed. However, once the pools became permanently established, the normal deterioration associated with stabilized water areas gradually began, although for over thirty years conditions remained excellent. Yin referenced Jim Fischer and

Tom Claflin's 1995 publication, which estimated that SAV frequency of occurrence in Pool 8 decreased from 83 percent to 11 percent between 1975 and 1991, and, at the same time, SAV mean biomass decreased from 90 to 1 g/m^2.

Yin also illustrated the vegetation abundance and distribution over time based on interpreted aerial photographs. He showed that the distribution maps indicate that wild celery led the SAV recolonization of lower Pool 8, and that coontail lagged behind by about four years. Yin explained that wild celery have a root system and elongated stem that allow it to establish in moderate steer stress conditions.

With interpreted aerial images, Yin showed that an area sheltered by river flow from a newly construction UMRR habitat project allowed for wild celery to quickly colonize and become the dominate SAV species. However, after other species gradually established, wild celery become only a minor component of the SAV community composition. Following a decadal-scale flood (in 2011), Yin illustrated that wild celery persisted in high sheer stress conditions while other species, such as coontail, were washed away. Through these observations and information about the biology of wild celery and coontail, Yin said the working hypothesis explains that newly restored structures, such as islands, provide ripe conditions for wild celery to establish as it can anchor firmly in sediments and reach up high in the water column by its elongated leaves. Wild celery will remain strong in clear water and moderate flow conditions. Under slower water flows, wild celery will become overshadowed and replaced by macrophytes, filamentous algae, and duckweeds. Yin explains that long term resource monitoring shows extended drought is a bigger trigger for SAV crashes. When a drought is followed by a flood event, as wild celery will no longer be present and SAV communities are washed away. It can take up to ten years for sizable wild celery populations to support a steady SAV community. According to Yin, this research demonstrates the importance of UMRR's restoration work to create sheltered areas for vegetation communities to establish and for water level management to support a diverse, abundant SAV community. Yin also emphasized the value of having long term resource monitoring data that allows for understanding these dynamics.

In response to a question from Jon Hendrickson, Yin said the drought of 1988 was much more intense than the drought-to-flood events that occurred between 2004 and 2009. Jim Fischer said Yin's research is incredibly important to informing restoration and management of the river, and it is dependent on having a continuous long term resource monitoring stream. Sabrina Chandler echoed Fischer's comments, and said this research is incredibly helpful to resource agencies in managing for waterfowl and avoiding a potential future SAV crash.

A-Team Report

Shawn Giblin provided a report of the A-Team since the August 5, 2015 UMRR Coordinating Committee meeting. Giblin reported that the A-Team held a meeting on October 29, 2015 at the Mississippi Riverside Environmental Research Station in Fairport, Iowa. The meeting was held jointly with the UMRCC's Water Quality Tech Section. The morning session included presentations on water quality studies at Rock Creek and Shrickers Slough and overwintering fisheries dynamics within Iowa backwaters, both given by the Iowa Bellevue Field Station staff; and the use of continuous dissolved oxygen and temperature data to optimize connectivity within selected UMR backwaters, given by Wisconsin DNR staff. The afternoon session included programmatic updates and presentations about UMR Refuge inventory and monitoring to assess past restoration efforts and inform planning in the future by USFWS staff, progress in defining and developing ecological resilience concepts to the UMR by USGS staff, and a data-driven process to placing UMR habitat projects on the UMR by Wisconsin DNR staff. Illinois River Biological Field Station staff also updated the A-Team on the fish indicators project.

Giblin provided a brief summary of the connectivity presentation given at the October 2015 A-Team meeting. He said connectivity modification is one of the most effective restoration tools on the UMRS.

Management goals will be to increase connectivity in some areas and to decrease connectivity in other areas. Giblin showed that continuous temperature and dissolved oxygen sensors can provide information about issues and restoration project performance in isolated areas, using Goose Island Complex and Johnson Island as examples. Giblin also provided an overview of research indicating a non-linear relationship between total suspended solids (TSS) and biomass. The research shows the significance of light coefficient related to desired TSS levels and biomass. It indicates that, in the St. Paul District, areas above Lake Pepin and between Pools 9 and 11 would benefit from improvements in light climate.

Giblin overviewed the same-day monitoring response to train derailment that occurred on November 7, 2015 in Alma, Wisconsin and expressed appreciation to Wisconsin DNR staff for mobilizing so quickly. Giblin said over 20,000 gallons of denatured ethanol were spilled, but that there were not found fish kills. Giblin also expressed appreciation to the incredible public volunteer response involved in removing water lettuce (also known as water hyacinth) at Lake Onalaska in Pool 7. Sabrina Chandler expressed her thanks to Wisconsin DNR staff Giblin, Brenda Kelly, and Michelle Marron for their expediency in both the derailment monitoring and water lettuce removal. Chandler said more than 50 volunteers helped on a Sunday afternoon to help eradicate water lettuce. Giblin acknowledged that there may be some remnants and that it remains to be seen whether water lettuce can overwinter.

First Quarter LTRM Highlights

Jennie Sauer reported that first quarter FY 2016 long term resource monitoring highlights include published manuscripts regarding:

- Flood pulse effects on nitrification in a floodplain forest impacted by herbivory, invasion, and restoration
- Flooding effects on ion exchange rates in a UMR floodplain forest impacted by herbivory, invasion, and restoration
- Spatial patterns of flood inundation and associated plant community distributions

Sauer reported that there were upticks in 2015 data for overall submerged aquatic vegetation found in Pools 4 and 8. Wild rice has increased dramatically in both pools since 2010. Sauer said USGS staff converted UMRR's land cover/land use data from GIS to KMZ (or Google Earth) formats and illustrated the associated benefits with the increased technologies. This will enhance public usability of the data, which can be accessed at http://www.umesc.usgs.gov/data_library/land_cover_use/2015_kmz_umesc.html.

Sauer explained that Jeff Houser convened an October 8, 2015 meeting at UMESC involving a small partnership working group to develop a framework process for a larger interagency effort to create a conceptual model of UMRS ecological resilience. This included discussing how to provide and maintain a conduit for information flow, the appropriate composition of an interagency group with the relevant expertise, and how to keep the project focused on the relevant topic and applications. The intention is to keep the process open and inclusive while being manageable. Sauer said current members are Kristen Bouska, Nate De Jager, and Houser (USGS); Jon Hendrickson, Marv Hubbell, and Nate Richards (USACE); Stephen Winter (USFWS); Andy Casper (Illinois Natural History Survey); and Kirsten Mickelsen (UMRBA). [Note: Subsequent to the meeting, Yin (USGS), Bob Clevenstine (USFWS), Dave Herzog (Missouri DoC); and Kevin Stauffer (Minnesota DNR) joined the resilience team.]

The resilience team is scheduled to meet at UMESC on January 5-7, 2016 to draft a conceptual model(s) for partners' consideration and develop an initial framework for assessing the UMRS's ecological resilience. Two external ecological resilience experts will facilitate the January meeting. Sauer directed that any questions or comments be sent to Jeff Houser.

Sauer said the biennial UMRR science meeting is being planned for February 16-18, 2016. Staff are currently seeking schedule availability for the meeting and developing an agenda. Tentative objectives include sharing and discussing results from recent research as well as ideas and priorities for future research; and a presentation and discussion regarding the UMRS ecological resilience conceptual models and assessment framework. Sauer noted that upcoming events this spring include a multivariate statistical workshop and a component field day.

USACE Science Update

Karen Hagerty reported that the total funds available for science in FY 2016 is $5.776 million, including $312,774 in FY 2014 and FY 2015 carry-over mostly due to unfilled vacancies. Hagerty said $5.595 million is currently allocated in FY 2016 SOWS, with $4.5 million for long term resource base monitoring and a $963,000 SOW for science in support of restoration – i.e., analysis under base. This leaves $180,745 unallocated. According to partner-endorsed priorities, Hager reported that she, Marv Hubbell, Mark Gaikowski, Jeff Houser, and Jennie Sauer agreed to allocate $28,386 of that unallocated pool of funds to Pool 12 adaptive management and $52,000 to defining ecological resilience. Hagerty said the HNA II is a priority for Headquarters and its SOW is currently being developed. Hagerty said she will work with the UMRR Coordinating Committee to consider FY 2016 allocations with the additional funding once proposals are more fully developed. She anticipates presenting recommendations for funding to the UMRR Coordinating Committee at its February 24, 2016 meeting.

Hagerty reported that Marv Hubbell distributed UMRR Crediting Guidance Policy, dated September 9, 2015, to the UMRR Coordinating Committee and UMRR partners via email on October 20, 2015. The policy was created to avoid misunderstanding and increase consistency in describing the program. It is provided on pages E-13 to E-15 of the agenda packet.

Mark Gaikowski said USGS received over 70 applications for the long term resource monitoring water quality component leader position, held by Jeff Houser.

Public Outreach and Engagement

Jim Fischer announced Ruth Nissan's recent publication in the October 2015 edition of the Wisconsin Natural Resources magazine. The article describes swans' use of the UMRS in their journey from the tundra to their wintering grounds along the mid-Atlantic coast. Sabrina Chandler said USFWS received many inquiries following the publication about the timing of the swans visit to Brownsville. USFWS held two public events this fall for swan observation. Brownsville has displays that highlight UMRR's habitat restoration projects.

Other Business

Future Meetings

The upcoming quarterly meetings are as follows:

- **February 2016—Rock Island**
  - UMRBA —February 23
  - **UMRR Coordinating Committee — February 24**
- **May 2016 — St. Louis**
  - UMRBA —May 24
  - **UMRR Coordinating Committee — May 25**

- **August 2016 — La Crosse**
  - UMRBA —August 9
  - **UMRR Coordinating Committee — August 10**

With no further business, the meeting adjourned at 3:27 p.m.

UMRR Coordinating Committee Attendance List
August 5, 2015

UMRR Coordinating Committee Members

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

Others In Attendance

Thatch Shepard	U.S. Army Corps of Engineers, MVD
Barb Kleiss	U.S. Army Corps of Engineers, MVD
Chris Erickson	U.S. Army Corps of Engineers, MVP
Terry Birkenstock	U.S. Army Corps of Engineers, MVP
Tom Novak	U.S. Army Corps of Engineers, MVP
Kevin Bluhm	U.S. Army Corps of Engineers, MVP
Jon Hendrickson	U.S. Army Corps of Engineers, MVP
Shahin Khazrajafari	U.S. Army Corps of Engineers, MVP
Nathan Meisgeier	U.S. Army Corps of Engineers, MVP
Dave Potter	U.S. Army Corps of Engineers, MVP
Col. Craig Baumgartner	U.S. Army Corps of Engineers, MVR
Ken Barr	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
Angie Freyermuth	U.S. Army Corps of Engineers, MVR [On the phone]
Deanne Strausser	U.S. Army Corps of Engineers, MVS
Brian Johnson	U.S. Army Corps of Engineers, MVS
Brian Markert	U.S. Army Corps of Engineers, MVS
Tim Eagan	U.S. Army Corps of Engineers, MVS
Kat McCain	U.S. Army Corps of Engineers, MVS
Larry Shepard	U.S. Environmental Protection Agency, Region 7 [On the phone]
Bob Clevenstine	U.S. Fish and Wildlife Service, UMR Refuges
Tim Yager	U.S. Fish and Wildlife Service, UMR Refuges
Sara Schmuecker	U.S. Fish and Wildlife Service, RIFO
Scott Morlock	U.S. Geological Survey, Midwest Region
Nate De Jager	U.S. Geological Survey, UMESC
Tim Fox	U.S. Geological Survey, UMESC
Jennie Sauer	U.S. Geological Survey, UMESC
Randy Hines	U.S. Geological Survey, UMESC [On the phone]
Brian Ickes	U.S. Geological Survey, UMESC
Jim Rogala	U.S. Geological Survey, UMESC
Yao Yin	U.S. Geological Survey, UMESC
Robert Stout	Missouri Department of Natural Resources
Lorisa Smith	Missouri Department of Natural Resources
Shawn Giblin	Wisconsin Department of Natural Resources [On the phone]

Olivia Dorothy	American Rivers
Tim Schlagenhaft	Audubon, Minnesota
Tom Boland	AMEC Foster Wheeler
Ann Guissinger	Gulf South Research Corporation
Kim Schneider	Schneider Communications
Don Powell	SEH Inc.
Gretchen Benjamin	The Nature Conservancy
Bill Wittland	VoxStrategic/Gulf South Research Corporation
Dru Buntin	Upper Mississippi River Basin Association
Dave Hokanson	Upper Mississippi River Basin Association
Kirsten Mickelsen	Upper Mississippi River Basin Association