

**Minutes of the 127th Quarterly Meeting
of the
Upper Mississippi River Basin Association**

**August 27, 2013
La Crosse, Wisconsin**

UMRBA Chair Dave Frederickson called the meeting to order at 9:32 a.m. Participants were as follows:

UMRBA Representatives and Alternates:

Arlan Juhl	Illinois Department of Natural Resources
Dan Stephenson	Illinois Department of Natural Resources
Diane Ford	Iowa Department of Natural Resources
Dave Frederickson	Minnesota Department of Agriculture
Robert Stout	Missouri Department of Natural Resources
Bryan Hopkins	Missouri Department of Natural Resources
Dan Baumann	Wisconsin Department of Natural Resources
Jim Fischer	Wisconsin Department of Natural Resources

Federal UMRBA Liaisons:

Jimmy Bramblett	U.S. Department of Agriculture, NRCS
Mark Moore	U.S. Army Corps of Engineers, MVD
Ken Westlake	U.S. Environmental Protection Agency, Region 5
Charlie Wooley	U.S. Fish and Wildlife Service
Mike Jawson	U.S. Geological Survey, UMESC
Bill Paape	U.S. Maritime Administration

Others in Attendance:

John Medinger	Office of U.S. Senator Tammy Baldwin
Diana Robertson	Office of U.S. Senator Ron Johnson
Andrea Fetherston	Minnesota Department of Agriculture
Kevin Stauffer	Minnesota Department of Natural Resources
Chris Klenklen	Missouri Department of Agriculture
Karen Rouse	Missouri Department of Natural Resources
Jim Baumann	Wisconsin Department of Natural Resources
Sara Strassman	Wisconsin Department of Natural Resources
Sheri Walz	Wisconsin Department of Transportation
Renee Turner	U.S. Army Corps of Engineers, MVD
Tom Novak	U.S. Army Corps of Engineers, MVP
Gary Meden	U.S. Army Corps of Engineers, MVR
Roger Perk	U.S. Army Corps of Engineers, MVR
Ken Barr	U.S. Army Corps of Engineers, MVR
Mike Cox	U.S. Army Corps of Engineers, MVR
Marv Hubbell	U.S. Army Corps of Engineers, MVR
Karen Hagerty	U.S. Army Corps of Engineers, MVR

Kevin Foerster	U.S. Fish and Wildlife Service
Bob Clevensine	U.S. Fish and Wildlife Service
Scott Yess	U.S. Fish and Wildlife Service
Linda Leake	U.S. Geological Survey
Barry Johnson	U.S. Geological Survey
Steve Buan	National Weather Service
Pedro Restrepo	National Weather Service
Mike Welvaert	National Weather Service
Kevin Connors	Dane County Land and Water Resources Department
Tom Boland	AMEC
Olivia Dorothy	Izaak Walton League
Gary Loss	Missman, Inc.
Brad Walker	Missouri Coalition for the Environment
Dru Buntin	Upper Mississippi River Basin Association
Dave Hokanson	Upper Mississippi River Basin Association
Kirsten Mickelsen	Upper Mississippi River Basin Association

Minutes

Dan Baumann moved and Robert Stout seconded a motion to approve the draft minutes of the June 6, 2013 meeting. The motion carried unanimously.

Executive Director’s Report

Dru Buntin presented the Executive Director’s Report and noted that the report is organized according to the focus areas in the 2013-17 UMRBA Strategic Plan. Among the items in the report, he highlighted UMRBA’s endorsement of H.R. 358, the Strategic Response to Asian Carp Invasion Act. Buntin indicated that UMRBA’s support was requested by staff of the bill’s sponsor Congresswoman Betty McCollum (D-MN) and that the bill was consistent with discussion at the recent Midwestern Governors Association Aquatic Invasive Species Summit. Buntin directed the Board’s attention to the August agenda packet for a copy of UMRBA’s letter of support for the bill. He indicated that the bill had received a hearing in the House Natural Resources Committee Subcommittee on Fisheries, Wildlife, Oceans and Insular Affairs on July 25, but that the House had taken no further action since that time.

Buntin directed the Board’s attention to the August agenda packet for the UMRBA position paper on commercial navigation which was released on June 25. He indicated that UMRBA staff will be working with Minnesota Department of Agriculture staff on a more concise communication of the content of the position paper for the Board’s consideration. Buntin also said that UMRBA staff will be working with the Corps’ UMR districts to arrange on-site visits to some of the more egregious examples of deferred maintenance due to lack of sufficient funding.

Buntin informed the Board of UMRBA’s proposal submitted to USEPA for UMRBA staff to continue performing spills contingency planning and mapping under the Oil Pollution Act of 1990 (OPA). He indicated that the Executive Director would need authority from the Board to enter into the contract if USEPA accepted UMRBA’s proposal. Arlan Juhl offered and Diane Ford seconded a motion to authorize the Executive Director to enter into such a contract. The motion was approved by voice vote. Buntin indicated that UMRBA’s OPA work would be covered more fully later in the meeting.

Buntin informed the Board that he attended the June Mississippi River Cities and Towns Initiative (MRCTI) meeting held in St. Cloud, Minnesota. He stated that one of the more noteworthy developments at the meeting was the Memorandum of Agreement between leaders of MRCTI and the Corps of Engineers Mississippi Valley Division outlining their intent to collaborate on issues of

common interest. Buntin said he and MRCTI Executive Director Colin Wellenkamp had discussed the potential of a similar agreement between MRCTI and UMRBA. Wellenkamp also indicated that MRCTI leaders are interested in convening a meeting of governors of Mississippi River states in Washington DC in early 2014 and asked if UMRBA would be willing to help facilitate the attendance of governors from Upper Mississippi River states. Also at the St. Cloud meeting, the mayors expressed an interest in navigation, water quality, and riverfront development. As such, Buntin indicated that there are similarities between the interests of MRCTI and UMRBA and that staff would continue to explore opportunities for collaboration.

Buntin informed the Board that UMRBA staff attended a hearing of the Mississippi River Commission (MRC) in La Crosse, Wisconsin on August 12. Buntin provided testimony to the MRC in which he highlighted the value of the diverse partnerships within the Upper Mississippi River Basin in furthering the improvement of navigation infrastructure as well as in implementing ecosystem restoration efforts. At the invitation of the MRC, UMRBA staff also participated in a stakeholders' discussion following the hearing.

Buntin also directed the Board to the August agenda packet for a copy of UMRBA's comments to the Administration on the Draft Interagency Guidelines proposed to guide implementation of the Principles and Requirements (P&R) for federal investments in water resources.

Charlie Wooley pointed out that USFWS is also supportive of H.R. 358, the Strategic Response to Asian Carp Invasion Act. He said USFWS testified in support of the legislation.

Olivia Dorothy asked if UMRBA considered how the P&R would apply to ecosystem restoration projects when preparing comments. Dave Hokanson stated that, while the UMRBA comments were supportive of consideration of factors beyond the National Economic Development (NED) account, the Board had not explicitly discussed how the P&R would apply to ecosystem restoration projects. Bob Clevenstine said it would be a positive development if analyses consider the value of ecosystem goods and services. Dorothy said consideration should be given as to whether ecosystem restoration projects should be evaluated under the same model as navigation projects, for example.

Conservation Programs and Water Quality

Wisconsin Nutrient Reduction Strategy

Jim Baumann presented background to the Board on Wisconsin's preparation of a nutrient reduction strategy. An executive summary of the strategy was included in the August agenda packet. Baumann said a stakeholder meeting on the strategy is scheduled the following week and his agency hopes to have the strategy completed by the end of the year. He said Wisconsin anticipates making updates to the strategy as needed. Baumann said the 2011 memo from USEPA Acting Assistant Administrator for Water Nancy Stoner (commonly referred to as the "Stoner Memo") outlined the essential elements which should be included in state reduction strategies. Because of nutrient-related water quality problems in Wisconsin's lakes, streams, and groundwater, the state had already initiated a number of actions. In 2010, Wisconsin developed new surface water standards for phosphorus. Baumann said Wisconsin adopted phosphorus discharge limits for point sources in 1993. He stated that many ongoing activities in Wisconsin formed the foundation of the strategy and so there was no need to start from scratch. Wisconsin's intent is to identify and fill program gaps.

Baumann said the first task in preparing the strategy was evaluating areas contributing the largest amount of nutrient concentrations. He said they used the SPARROW model to analyze contributing areas, focusing first on nitrogen. Baumann said modeling showed that southwest Wisconsin contributed a relatively high level of nitrates. This finding was somewhat surprising since this area does not have

a significant amount of drainage tiling. In response to Bryan Hopkins' question regarding what level of hydrologic unit code (HUC) Wisconsin is analyzing, Baumann said they are looking at the 10-digit HUC level.

Baumann stated that, relative to other states in the UMR, Wisconsin may not have a large portion of nutrient contributions. However, his agency is trying to determine why some areas show higher nitrogen levels. Dave Frederickson asked if Wisconsin is attributing such levels to agricultural activities. Baumann said agriculture was the primary land use in the areas with higher nutrient levels, but urban areas were largely not being examined. He said phosphorus was generally trending down while nitrogen is trending towards higher concentrations. He indicated the cause of this trend is not fully understood, but his agency plans further investigation.

Baumann noted the Gulf Hypoxia Task Force goal of a 45 percent reduction in nutrient loading and said Wisconsin has seen a 23 percent reduction in phosphorus loading since 1995. He said his agency did not yet have a firm grasp on the loading trend for nitrogen. Baumann stated his belief that the 45 percent goal for phosphorus loading reduction is achievable through the continued implementation of existing programs. A portion of this would be achieved by continuing reductions required by the discharge limits for point sources. He said they estimate a 10 percent reduction to date from nonpoint sources. Baumann said an additional 30 percent reduction would be required for agricultural lands and that this is consistent with their Pleasant Valley pilot project plans. To meet the goal, a 10 percent additional reduction would be required from urban areas. He indicated again that they are unsure about what would be necessary to achieve the goal as it relates to nitrogen.

Frederickson asked what the Pleasant Valley pilot project entailed. Baumann said it is a small project in Dane County and that Kevin Connors from the Dane County Land and Water Resources Department will likely be providing more information in his presentation later in the meeting.

Baumann said there are numerous federal, state, and local programs in place to address agricultural nonpoint sources. All told, there is approximately \$50 million available per year in Wisconsin for this purpose with NRCS providing a large portion of this funding. He said Wisconsin is planning to hold a nitrogen science summit in 2014 to assist with gaining a better understanding of the nitrogen dynamics. More of Wisconsin's focus will be on livestock operations, since they do not have as much drainage tiling as other areas of the basin.

Baumann said that, as Wisconsin considers how to integrate nonpoint and point source controls, the state now has an economic driver towards nutrient trading. Dru Buntin asked for clarification as to what Baumann meant by an "economic driver." Baumann said with the new phosphorus limits of 0.1 milligrams per liter, the cost per unit of phosphorus removal goes up and creates an economic driver that may make trading viable. He discussed a number of areas in which Wisconsin is attempting to integrate nonpoint and point source reduction efforts, including preparation of TMDLs; a Pollutant Load Ratio Estimation Tool (PRESTO) analysis of point and nonpoint source contributions at 652 sites; watershed adaptive management; urban stormwater performance standards; an initiative to improve private on-site wastewater treatment systems; lawn fertilizer phosphate restrictions; and detergent phosphate restrictions. Robert Stout asked Baumann to further describe the on-site wastewater treatment system program. Baumann said it is executed at the county level and that it is largely focused on the point of sale of property. He said the program has resulted in improvements, but there are still issues with many of these systems.

Baumann said in the tracking and accountability of reduction efforts, it is difficult to determine the baseline. Wisconsin tracks the phosphorus contribution from wastewater discharges. However, the state does not yet track phosphorus contributions from agricultural nonpoint sources. It is also hard to quantify the specific impact of various conservation practices. All states face this challenge, but

Wisconsin is building a tracking system that will use existing county-based systems aggregate information at the HUC 12 small watershed level to help address confidentiality concerns. In addition, the system will incorporate point source information at the HUC 12 level.

Baumann indicated Wisconsin is proposing to hold an annual nutrient summit for reporting purposes and the state is also planning to offer electronic reporting through a website. Wisconsin plans to monitor at the major basin, HUC 10, HUC 12, small watershed levels, as well as including edge-of-field monitoring. Baumann stated that it might be appropriate to incorporate some of these monitoring sites into Mississippi River and Lake Michigan monitoring networks.

Robert Stout asked if Wisconsin planned to prioritize specific watersheds for monitoring. Baumann said they would prefer to look at the HUC 12 level, so they plan to monitor in the identified HUC 10 watersheds to determine the dynamics occurring in the smaller HUC 12 watersheds. He said Wisconsin does not have the resources to blanket the entire state with monitoring, so they plan to target monitoring efforts.

Frederickson asked how information from the Discovery Farms initiative helped inform Wisconsin's strategy and if there was a way to integrate those efforts into the strategy. Baumann said information from both the Discovery Farms and Pioneer Farms initiatives has informed development of Wisconsin's strategy and, along with information from NRCS, will continue to be utilized.

Stout recalled that Baumann integrated numerous examples of how data from many agencies was being used and asked if Wisconsin's attempt to coordinate and share information was proving successful and how the effort was structured. Baumann said the historic level of coordination was good and cited examples of USGS assisting with TMDL development and local input on project development.

Pedro Restrepo said Wisconsin is using a National Weather Service product that analyzes runoff from manure spreading in order to advise producers on the appropriate timing from a water quality perspective. He said some other states are also exploring the use of the product. Steve Buan said data from the Discovery Farms initiative had been helpful in developing this tool.

NRCS Programs and Initiatives

Jimmy Bramblett, the Wisconsin State Conservationist for NRCS, provided an overview of his agency's initiatives and priorities. Bramblett indicated that he was relatively new to his position in Wisconsin, having been appointed in February of 2013. He provided background information on the history of conservation programs in the country and in Wisconsin and explained the value of those efforts to water quality given that nearly 80 percent of land in the lower 48 states is privately owned. He then shared information from NRCS surveys and focus groups identifying the following highest priority natural resource concerns: soil erosion, sediment and nutrients, insufficient water, invasive plant species, and fish and wildlife habitat condition.

Bramblett highlighted specific NRCS programs. The Environmental Quality Incentives Program (EQIP) provides producers with a flat rate payment for farm conservation practices in the form of one to ten-year contracts. NRCS awarded more than \$31 million in EQIP funds for 1,523 contracts with producers in Wisconsin in FY13. The Conservation Stewardship Program (CSP) is designed to provide incentives to producers that have been good stewards of the land. Bramblett said NRCS is still working on implementation of this year's CSP application process. However, in 2012 the agency executed 477 five-year contracts including \$15 million in incentive payments to producers. The Farm and Ranch Lands Protection Program provides matching funds to land trusts, state programs, or other entities for permanent agricultural easements and includes a payment for the development rights of the owner. The Wetlands Reserve Program (WRP) funds easements designed to restore wetlands for wildlife habitat and

water quality. To date, WRP has funded 558 easements covering 54,000 acres in Wisconsin. Bramblett said that WRP is causing NRCS to consider how best to become a land management agency as the land covered by the program is still in private ownership, but contains a government easement prescribing long term management.

Bramblett then covered some current NRCS initiatives related to soil health and water quality. He said the agency has initiated a significant staff training effort emphasizing the physical, chemical, and biological properties of healthy soil as well as promoting its role in improving water quality, combatting drought, mitigating flooding and improving productivity. NRCS is integrating soil health management system planning and implementation into its conservation programs and service delivery. The ultimate goal is to increase the number of producers implementing soil health management systems.

Bramblett said NRCS is increasing its commitment to a systems-based approach to addressing water quality issues. He said the agency is increasing its technical assistance and focusing on educational efforts highlighting the difference between maximum yield versus maximum profit margin. Robert Stout asked what a systems-based approach meant in this context. Bramblett offered the example of a dairy where, instead of just funding a lagoon, the agency would work with a producer to implement a comprehensive plan for waste management. He said NRCS is refining its efforts to target funding in prioritized areas where it is likely to have the greatest benefit to water quality. NRCS is also working with partners to achieve a greater collaborative commitment to monitoring, modeling, and assessment of environmental outcomes on a long-term basis. NRCS is also working with states to develop water quality certification programs to support voluntary approaches to adoption of best management practices.

Bramblett then highlighted an NRCS Demonstration Farm initiative that is identifying producers that can integrate a systems-based approach in their operations and serve as a model for other farmers. He said conservation can be better marketed through farmers sharing information with each other, rather than solely relying upon the outreach of NRCS and other government agencies. NRCS has identified two demonstration farms in Wisconsin where new technology in areas such as energy conservation will be highlighted.

In the National Water Quality Initiative, Bramblett said the goal is to remove streams and other water bodies from impaired waters lists, from threatened status, or from contributing to impairments, or to adequately address a TMDL plan. To accomplish this, NRCS is focusing on agricultural sources of pollution such as nutrients or sediment that it can effectively address through the voluntary action of producers. Of the 157 small (12-digit HUC) watersheds in the program, 128 have water quality monitoring stations; 82 have 319 projects; 68 are within landscape conservation initiatives such as the Mississippi River Basin Initiative (MRBI); and 27 have all three of these elements.

Bramblett discussed NRCS efforts to facilitate water quality trading in Wisconsin. The agency has been looking for a watershed with the right geographic scale, the appropriate number of point sources relative to nonpoint sources, and enough critical mass to make trading work. The current focus is on the 403,657 acre Lower Fox River watershed. The land use in this watershed is 50 percent agricultural, 35 percent urban, and 15 percent natural forest areas and wetlands. It is made up of nine 12-digit HUC watersheds and has a TMDL that was approved in 2012. The watershed contains 27 segments that are impaired due to phosphorus and/or sediment. Bramblett said a 2013 contribution agreement between NRCS, the Great Lakes Commission, and other partners seeks to facilitate water quality trading in this area. He said some of this focus is being driven by a required upgrade to Green Bay's wastewater treatment plant.

Bramblett described the NRCS Water Quality Index for Agriculture. He said that, due to limitations on the amount of monitoring that can be done, other tools are needed to augment monitoring. The index is

a web-based tool that analyzes conservation practices and their likely impact. He discussed his agency's efforts to establish a standard for edge-of-field monitoring. He said that to assess environmental benefit from the adoption of practices, MRBI uses a three-tiered monitoring and evaluation approach including edge-of-field, in-stream, and watershed level monitoring. NRCS can cost-share with producers on edge-of-field monitoring but needs partners to assist producers with managing monitoring stations and covering the producers' share of the cost. Bramblett said NRCS has targeted specific watersheds for edge-of-field monitoring emphasis, but the Farm Bill restricts the agency's ability to share data tied to an individual producer. Bryan Hopkins pointed out that edge-of-field monitoring data had been collected for three years through MRBI while NRCS was developing the monitoring standard. Hopkins asked if data collected prior to the adoption of the standard would be used. Bramblett said the pre-standard data is valuable and will be used. Hopkins replied that, given the investment made in collecting the data, it would be preferable to find a way to use it.

Local Perspective on Implementing MRBI

Kevin Connors provided the perspective of a local agency working with producers to implement conservation practices. He listed some of the project partners the Dane County Land and Water Resources Department is working with in implementing three MRBI projects and said that partnerships are fundamental to a successful effort. In particular, he highlighted the Clean Lakes Alliance. This new nonprofit was originally developed as a ski club, but has evolved into a marketing effort for clean water. He said the alliance is working to develop good relationships with agricultural producers. The group has also provided funding to producers for cover crops and last year saw more than 1,000 acres utilize winter cover crops.

Connors said Dane County started Soil and Water Assessment Tool (SWAT) modeling in 2005 on sources of phosphorus runoff and the results informed the selection of MRBI sub-watersheds. He said goals for MRBI are to assist producers technically and financially through local, state, and federal funding sources; identify fields at the highest risk for sediment and nutrient runoff; encourage producers to focus conservation efforts on those identified areas; and document and verify sediment and nutrient reductions. On the three MRBI projects, Connors said to date his agency has executed 77 contracts for \$1.3 million, not including local contribution. He detailed each of their goals in conservation practice areas such as cover crops and grass buffer strips as well as how close they were to meeting these goals with the existing contracts executed. As an aside, Connors noted cover crops have not seen the level of adoption in Dane County as in other areas. He then shared information covering 2008 to 2012 on the number of parcels with conservation practice implementation in the MRBI project areas.

Connors said Dane County is focusing on monitoring and documenting the implementation of its MRBI projects. He said monitoring should be seen as an educational process. As an example, he pointed to high runoff experienced in the area this past spring which led to full lagoons. He said the county's monitoring data shows producers the impact from runoff and this has led to greater participation in conservation practice implementation. He said one of the county's first efforts was to establish a baseline condition in the project areas through monitoring. Connors pointed to the importance of record keeping and documentation for a thorough understanding of long term trends and not just extremes.

Connors highlighted some of the lessons his agency has learned in implementing the MRBI projects. He said getting producers to understand and support the effort prior to implementation was essential. He also suggested involving all potential partners early and said having experienced staff who know how to ensure appropriate use of public and private funds is critical. Connors also stressed the benefit of being open to new ideas as well as being willing to adapt in response to circumstances and partner input. Ken Westlake asked what Dane County has found to be the barriers to obtaining producer participation. Connors indicated there had been some previous mistakes made by delivery staff and this had proved to be problematic. He again stressed the importance of the early involvement of producers,

and not only those in areas being targeted. Bob Clevestine asked how Dane County is targeting areas without alienating those not in the target areas. Connors replied their targeting is not at the individual producer level, but they are attempting to get all producers involved and communicating on where there was the most need.

USFWS Gulf Initiative

Bob Clevestine gave background on the Deepwater Horizon oil spill and the Resources and Ecosystems Sustainability, Tourist Opportunity, and Revived Economies of the Gulf States Act of 2011 (RESTORE Act) passed by Congress which directed 80 percent of the civil penalties received from the event into the Gulf Coast Restoration Trust Fund. The Fund will support a variety of projects aimed at helping the Gulf recover from environmental and economic injuries experienced. In response, the USFWS developed the Vision for a Healthy Gulf of Mexico Watershed to guide distribution of the funding. He said distribution is focused on the five-state gulf coast region, but the role of the Mississippi River watershed in the health of the Gulf of Mexico was recognized. Consequently, USFWS Director Dan Ashe tasked staff with developing a document highlighting the agency's restoration priorities both along the Gulf coast and in the Mississippi River watershed.

The vision is built around eight broad strategies. They include the use of sound science; restoration of resources impacted by the spill; creation of a network of public and private conservation lands; restoration of wetlands and aquatic ecosystems; restoration and conservation of prairies and forests; protection and restoration of coastal strand, barrier island, and estuarine island habitats; conservation of working lands; and management of lands and waters for sustainable populations of fish and wildlife and their habitats. Clevestine said all USFWS Regions along the Gulf coast or within the Mississippi River watershed have a role in this effort and as such all were asked to provide their broad programmatic priorities for restoration and conservation. The vision document was completed and released in July 2013.

Clevestine said USFWS Region 3 focused on key factors in the larger Mississippi River watershed. For example, grasslands, prairies, and associated wetlands are the watershed's most imperiled habitats. Staff then looked at areas where this habitat loss is located in areas with the greatest artificial drainage and highest nutrient runoff. Staff then considered how USFWS conservation programs such as the Partners for Fish and Wildlife and the National Fish Habitat programs could compliment the work of other agency's programs. Region 3's goal is to work in targeted watersheds with farmers and other private landowners to restore native grasses and prairie hydrology to reverse declines in grassland birds and reduce the amount of nutrients transported to the mainstem Mississippi River. To accomplish this, the USFWS is interested in increasing conservation lands both within and outside of the refuge system that would provide a complex of wetland, wet prairie and prairie habitats, while also reducing nutrient loss. Region 3 is also working with USEPA, the State of Missouri, the Corps, and local interests in the St. Johns Bayou/New Madrid Floodway project to more appropriately balance flood risk reduction and the maintenance of floodplain ecosystem services.

Clevestine reiterated the linkage between the spill and the Mississippi River watershed and said not all of the funding would be limited to the Gulf coast area. He stated that migratory bird impact seemed to be the most logical link in this regard. The next step in this process is already underway with the development of a blueprint based upon specific projects identified by the USFWS Regions. To date, more than 190 project proposals have been submitted. Robert Stout asked how much of the funding would be available for projects in the Mississippi River watershed. Clevestine replied that the portion of funding likely available outside of the Gulf coast would be a fraction of a very large amount of funding and that the Treasury Department was currently developing regulations to govern distribution.

Flow Support for the Middle Mississippi River

Karen Rouse provided information on the management of the Missouri River reservoir system and its importance in providing flow support to the Mississippi River – especially to the reach between the confluences of the Missouri and Ohio rivers also known as the bottleneck reach. She said the port at St. Louis is the third largest port in the nation with an average of 30 million tons passing through the port each year. More than 60 percent of domestic tonnage travels on the inland waterways system and the majority of this is on the Mississippi River. Rouse highlighted the six large reservoirs that comprise the Missouri River system making it the largest reservoir system in the country with storage capacity of 73 million acre-feet. She then pointed to two key documents that govern the Corps operation of the Missouri River system – the Missouri River Mainstem Reservoir System Master Water Control Manual and the Missouri River Biological Opinion. She said the Missouri Department of Natural Resources represented the State of Missouri in the development of these two documents.

Rouse discussed the storage zones and allocations behind the Corps operations of the Missouri River reservoirs, highlighting in particular the “Carryover Multiple Use Zone” which includes 53 percent of system storage. This zone includes the storage supporting uses such as drinking water, power generation cooling, recreation, navigation, and other downstream needs. She said the Corps adjusts these storage zones periodically to account for sediment entering the system. Rouse said, in developing the Missouri River master manual, the Corps indicated benefits to the Mississippi River from the operations of the Missouri River system are incidental. However, she noted that, on average, 40 percent of the flow in the Mississippi River at the two rivers’ confluence comes from the Missouri River system. During the drought of 2012, she said flow support from the Missouri River equated to an additional 4.7 feet in stage on average in the Mississippi River during the months of September, October, and November. Rouse said there have been efforts to eliminate navigation as a project purpose of the Missouri River system, but noted that navigation releases support many downstream uses and a system of intakes and other infrastructure has developed around the presumption of navigation releases.

Rouse then provided background on the Missouri River Recovery Implementation Committee (MRRIC) created by Congress in the Water Resources Development Act of 2007 to guide the federal agencies’ implementation of the Missouri River Recovery and Mitigation Program. Rouse is one of the State of Missouri’s representatives on MRRIC. The charter for MRRIC was signed in July of 2008. The committee is composed of 70 members who must achieve consensus on any recommendations offered. As such, Rouse indicated progress through MRRIC is typically slow especially given that it is attempting to overcome a history of mistrust among different stakeholders in the basin. She said the Corps and the USFWS lead the effort, though it also includes representatives from basin states, Native American tribes, and other stakeholder areas such as recreation, water quality and power generation. Given the complexity of the issues involved and the large number of diverse participants, Rouse said MRRIC uses the U.S. Institute for Environmental Conflict Resolution for neutral facilitation.

One of the areas of focus for MRRIC is the creation of shallow water habitat dictated by the Missouri River Biological Opinion on three endangered or threatened species in the basin. Rouse provided information on the shallow water habitat creation goal targets contained in the Biological Opinion as well as the progress to date in meeting these acreage targets. She then highlighted one shallow water habitat creation project in the State of Missouri which has become somewhat controversial. This project, known as the Jameson Island shallow water habitat project, entailed the creation of a chute on property owned by the USFWS in the Big Muddy National Fish and Wildlife Refuge. Rouse said, after construction began, opponents objected to the discharge of sediment from the project into the Missouri River given all of the resources devoted to reducing soil loss particularly in the agricultural sector. She said communication had also been an issue as some stakeholders claimed that they had not been adequately notified of the Corps plans on the project. Conversely, she said project supporters pointed to both the habitat creation benefits and the fact that the historic sediment load of the Missouri River prior

to the construction of the reservoir system and bank stabilization measure was far higher than current loading.

Rouse said that, in response to opponents' objections to sediment discharge from the project, the Missouri Clean Water Commission issued an order that effectively blocked the Corps' ability to complete the project. Since the order was issued, high flows on the Missouri River resulted in the chute being essentially completed, but there is still work to be done at the site to realign the chute's exit in response to concerns expressed by an adjacent levee district. Rouse said similar concerns had been raised recently on a project in the State of Iowa.

Navigation

System Vulnerabilities

Gary Meden provided information on the current state of Mississippi River navigation infrastructure on behalf of the three UMR Corps districts. He explained the categories of operations and maintenance, major rehabilitation and construction in which the Corps receives funding as well as the recent trends in this funding. The nine-foot channel project was authorized in 1930 and includes the upper Mississippi River and Illinois River. Most of the locks and dams on the Mississippi were built in the 1930s with a 50 year design life, with most of the gates, and mechanical and electrical systems still being original. Meden highlighted the fact that 37 lock sites on 1,200 miles of the Upper Mississippi were largely constructed between 1930 and 1945. He lauded the work of lock and dam crews in keeping the locks and dams operating, especially considering the limited resources.

Meden presented photos showing examples of the deteriorating steel and concrete at lock and dam sites throughout the system. He provided more detail regarding the funding provided to the Corps to address such issues. The Corps of Engineers receives three main types of funding that can be used for navigation infrastructure, and Meden said all are important. The first, and only type that the Corps has continued to receive in the last few years, is operations and maintenance funding. About 65 percent of this funding goes to pay the lock and dam operators and Corps maintenance crews. The remainder goes to keep the system operating and to fix things when they break or are in imminent danger of breaking. He equated this work to money spent on changing the oil or tires on a car, and for fixing something when a car stops running. Major rehabilitation is designed to bring the lock or dam back to almost new condition and is designed to add about 25 years to its life. These projects could be compared to rebuilding the engine or transmission on a car. Typically, major rehabilitation projects are designed to replace lock or dam gates, deteriorating concrete, or other mechanical or electrical systems that have become unreliable or in danger of failing. The Corps last received funding for major rehabilitation in the 2009 Recovery Act, when major rehabilitation funding was allocated to all Corps districts. Meden said the last type of funding is for projects or improvements that provide something the original system did not have, but that increase efficiency or capacity of the system to carry barge traffic.

Meden said the Corps' operations and maintenance funding has remained steady at approximately \$200 million for the Upper Mississippi River over the past five years. He indicated additional Recovery Act funding in 2009 is expended, and now the trend has evened out. In the past few years, the Corps' backlog of maintenance and repair has grown to \$1.2 billion. Consequently, unplanned and planned outages at lock sites as well as associated traffic delays have increased. Meden then highlighted the major rehabilitation needs in the system and said the Corps has not had the resources to accomplish this work. He stated that this deficit has already started to affect the reliability of the system. Every year, the Corps has more components nearing a breaking point. He said, in the Rock Island District alone, there are currently almost a billion dollars in prioritized maintenance the Corps does not have the funding to accomplish.

Meden pointed out that the Navigation and Ecosystem Sustainability Program (NESP) was authorized at over \$4 billion in 2007, but the Corps has not received construction appropriations. He said for the last two years (FY 12 and 13), The Corps has received no funding at all for NESP. He indicated NESP is the program that would allow for adding mooring cells and other items to allow river traffic to be more efficient. Meden stated that in 2009, the Corps and industry partners developed the Capital Development Plan, to help guide funding for navigation projects. Currently, all major rehabilitation and navigation improvement projects such as NESP require the towing industry to fund 50 percent of costs through the Inland Waterway Trust Fund and the federal government to fund the remaining 50 percent. He indicated that almost all of the Trust Fund resources have been used for the Olmsted Lock and Dam on the Ohio River over the last 10 years. Meden said industry proposed raising the diesel tax from 20 to 29 cents a gallon to help fund much needed work at locations other than Olmsted. He said there has been some progress in recent months moving toward a resolution to increase revenue sources for the trust fund, but there is still a general reluctance in Congress to raise a tax, even an increase supported by those who pay it.

Meden then provided information on the current status and work remaining to be done at the Marseilles Dam on the Illinois Waterway which was damaged when it was struck by 7 barges that broke lose during high flows this past spring. Dru Buntin asked what the Corps expects the total repair costs to be. Meden said the Corps does not yet know, but he indicated the likely final cost would be between \$20 and \$70 million. Olivia Dorothy asked if accidents such as the one at this site cause most of the issues, or if structural failures are the primary cause. Mike Cox said the majority of closures are due to structural failures and not accidents.

Meden highlighted some of the benefits of the inland waterways. He said they provide the least expensive, greenest, safest form of transport for many commodities, especially grains and other bulk goods. He indicated this keeps the United States competitive in world markets and reduces road congestion and road maintenance costs. He said the inland waterways provide an alternative to rail, which helps to keep rail rates low. Meden also pointed to the investments other countries such as Brazil are making in waterways and other transportation infrastructure and noted the importance to the United States' global competitiveness in keeping transport costs relatively low. He covered a number of factors such as the completion of the Panama Canal expansion which could lead to increases in tonnage shipped on the Mississippi River. However, there are concerns with the performance of the existing system if this occurs.

District Priorities

Mike Cox provided information on the operations and maintenance needs of the three UMR Corps districts. He showed pictures of many examples of sites with degraded concrete and/or steel. He said, in some of these cases, the damage looked worse than it actually was. However, in other cases, Cox indicated what appears minor can prove to be the most problematic after core samples are analyzed. He then showed a video of the collapse of a wall at the Lockport Lock on the Illinois Waterway that occurred on October 7, 2011. He said Recovery Act funds allowed the Corps to address some of the needs at the Lockport site.

Cox indicated there was deterioration of structures across the three UMR Corps districts. He said the maintenance crews respond well, but they often find themselves chasing crises with little time left for proactive maintenance. Cox again highlighted the work on the Marseilles site and said the collaboration between the Corps, Coast Guard and others made the response a successful regional effort.

Cox said MVD is taking an asset management to infrastructure needs in which they prioritize needs based upon the highest risk. He indicated that this approach standardizes the evaluation system nationwide; rates locks and dams based on risks; helps to focus limited funding for infrastructure in

worst shape; and addresses sustainment, restoration, modernization, and disposition. Implementation of this new approach is in the preliminary stages. Cox said tonnage is a good measure of the value of the navigation system, but consideration of closure costs is a better way to prioritize needed projects. He stated that one way the Corps has freed up funding for maintenance was to reduce levels of service at some sites.

Cox then highlighted some of the highest priority navigation infrastructure work planned for FY 2013 through FY 2014. He indicated in some areas of the system, narrowing of the channel is preventing some 6 barge tows from being able to transit and this is something the Corps is working to address. He said the individual Corps districts are no longer able to serve as full service districts and insufficient funding has caused them to divide expertise among districts. He said the Corps' focus had historically been on major rehabilitation, but the current focus is on operations and maintenance by necessity. He said the Corps and partners need to seriously consider what sites the Corps may not be able to address given funding constraints. Brad Walker cited previous planning document estimates of \$20 to \$30 million for major rehabilitation on lock and dam sites and asked if this was a reasonable number. Cox said it depends on the dam type and construction materials. He said the figures cited are a good starting point, but that repairs could be higher. Walker said some of the costs at the Mel Price Lock and Dam were much higher. Arlan Juhl asked if the Corps has a rating program for their navigation infrastructure. Cox responded that it does. He said the Corps conducts periodic inspections as well as conditional assessments. Dru Buntin said UMRBA staff is interested in working with Corps to visit some of the navigation sites with the highest identified need. Cox said the Corps would be happy to work with UMRBA to facilitate such visits.

Aquatic Nuisance Species

Dan Baumann, Diane Ford, and Dave Hokanson provided background information on a Midwestern Governors Association Aquatic Invasive Species Summit they attended in Minneapolis in June 2013. Baumann said seven states were represented at the summit and, while there were no governors in attendance, there were governors' staff and state agency officials at the meeting. He indicated that aquatic nuisance species (ANS) is the current focus of MGA Chair and Minnesota Governor Mark Dayton. He said the summit was held over the course of two days, with the first day focusing on information sharing. On the second day, the states discussed their shared priorities and discussed actions they could take individually and collectively to better respond to ANS issues. Baumann said attendees agreed states could do more on educational efforts for example. He indicated that an MGA letter to the President on the priority issues identified during the summit was in development. Baumann said he found value in hearing about the comparison in approaches taken by the states on ANS issues as well as understanding the resources states have to respond. Ford said the meeting was very helpful and indicated that staff from the Iowa Governor's Office attended. She said the meeting's emphasis was on using limited resources most effectively as well as how to measure success. Hokanson indicated those in attendance also spent time covering the ANS-related regulations in their states and it was helpful to get a comparison of those regulatory programs. Hokanson said attendees also discussed the value of having one federal agency serve as the lead federal agency on ANS issues. He said UMRBA has been assisting MGA on the draft letter to the President to advocate for USFWS taking that role. He also indicated that MGA staff was preparing a summary of the meeting. Baumann said state ANS coordinators and technical staff are meeting regularly and coordinating with each other well.

Nicollet Island Coalition Report on WRDA

Olivia Dorothy shared information regarding the groups that make up the Nicollet Island Coalition and gave highlights of its recently-released report on the Water Resources Development Act (WRDA). Dorothy said the goal of the coalition is to support the ecological health of the Upper Mississippi River and the social and economic vitality of the entire Mississippi River basin and region. She stated that

coalition members work to support state and federal policies and appropriations that further this goal, while also challenging policies that compromise these efforts. In addition to their views on WRDA, she said the coalition's report gives some history of the development of the navigation system and what they view as its inherent impacts to fish and wildlife. Dorothy said the Senate passed its WRDA bill in May of this year and said this bill has many detrimental provisions from the coalition's perspective. She indicated that House leaders have stated their intention to bring up their version of the bill this fall.

Dorothy said from the coalition's perspective, the Inland Waterways Trust Fund is essentially bankrupt with average annual revenues of \$83 million and average annual expenses of \$107 million. She said if the fuel tax had been adjusted for inflation, it would be at 30 cents per gallon today. Further, she indicated the tax would need to be at 50 cents per gallon if it was to fund the identified needs, but this was not the coalition's recommendation. Dorothy said analysis shows the navigation industry provides only 10 percent industry contribution towards infrastructure costs, while the trucking industry provides 70 percent and the rail industry 100 percent. However, she further stated the coalition's view that since industry does not contribute towards the majority of operations and maintenance expenses, their contribution is effectively 10 percent. Dorothy then highlighted the reasons the coalition opposes provisions of WAVE4 and the RIVER Act which have been incorporated into WRDA, largely focusing on the elimination of industry cost share for categories of infrastructure rehabilitation.

Dorothy then described what the coalition views as limitations of the UMRR-EMP, such as the program's inability to undertake restoration work on bluff lands and tributary deltas. She also said, although they support funding EMP at its fully authorized level which the President's budget proposed, even the fully authorized funding level is not enough and they would like to see the program expanded. EMP partners are currently developing a new strategic plan, and Dorothy shared the coalition's recommendations for items to be considered in that process. She indicated they support continued work on program branding to increase public awareness. She also said they suggest continued evaluation of the program to insure the construction and monitoring components are being implemented effectively. Dorothy said they also recommend that program partners lobby for additional resources, although she recognized not all program partners can do this.

Dorothy said the 2007 WRDA directed the Corps to update the 1983 "Principles and Guidelines," which defines the federal objectives in water resource planning. She indicated that, while the Administration published drafts of the new document in 2009 and finalized portions of it this year, Congress has blocked implementation of the new guidelines. However, once this process is resolved, she said there is a need to account for realistic budget situations when looking at these projects. Dorothy said all Corps projects are experiencing cost overruns and that funding for projects is often delayed or stopped during project implementation. She said there is a need to account for operations and maintenance costs as well as for project decommissioning. Dorothy closed with the coalition's overarching messages from the report: navigation subsidies are harmful for the environment and unfair to taxpayers; restoration programs are underfunded and inefficient; and the Corps planning process is outdated. Bryan Hopkins asked what the coalition views as the benefit of expanding UMRR-EMP beyond the floodplain into bluff lands. Dorothy said this would address other habitat concerns such as forest impacts. Arlan Juhl said Dorothy referred to navigation subsidies as opposed to rail and other sectors and asked where one could go to get accurate information on this subject. Dorothy said she believed the information had come from the Office of Management and Budget, and she could provide the information cited.

Spills Contingency Planning and Mapping

Dave Hokanson provided information on UMRBA's work on spills contingency planning and mapping. He stressed the value of not only the significant funding UMRBA had received for this effort over the years, but also the facilitation of communication among spill responders which occurs through the Upper Mississippi River Spills Work Group. In order to demonstrate the actual work products, he then

inserted a DVD in the computer to demonstrate to attendees the maps for Wisconsin which UMRBA staff just recently completed updating. He pointed out that these maps contain both potential sources of pollution as well as sensitive areas from both a human health and ecological perspective.

Hokanson stated that, while the inland sensitivity atlases are a useful tool, the Spills Group had recommended the further development of specific response strategies. Using the DVD, he then highlighted a site-specific response strategy for Pool 10 and indicated UMRBA staff was presenting this strategy to local responders that day. He then showed examples of habitat specific fact sheets which UMRBA had developed. Hokanson said such fact sheets had been developed because some historic information provided to responders was focused on coastal areas and it was not appropriate for responding to spills in inland river habitat.

Water Quality

Hokanson reported that the UMR Clean Water Act Monitoring Strategy had been distributed to a wide audience for comment. He indicated the Water Quality Task Force and staff would be considering comments received and the strategy would be finalized later this year.

Administrative Issues

Future Meeting Schedule

Buntin said the next meeting series will be held November 18-20, 2013 in St. Paul, with a Water Quality Executive Committee meeting on the 18th, a joint UMRBA Board and Water Quality Executive Committee meeting and UMRBA Quarterly meeting on 19th and UMRR-EMP CC on the 20th. The February meetings will be held February 25-26, 2014 in the Quad Cities with the UMRBA meeting on the 25th and UMRR-EMP CC on the 26th. The May quarterly meetings will be held May 13-14, 2014 in St. Louis.

With no further business, Arlan Juhl made and Dan Baumann seconded a motion to adjourn. The motion passed unanimously and the meeting ended at 2:55 p.m.