

**Minutes of the 124th Quarterly Meeting
of the
Upper Mississippi River Basin Association**

**November 28, 2012
St. Paul, Minnesota**

UMRBA Chair Diane Ford called the meeting to order at 12:35 p.m. Participants were as follows:

UMRBA Representatives, Alternates, and State Members of the Water Quality Executive Committee:

Arlan Juhl	Illinois Department of Natural Resources
Dan Stephenson	Illinois Department of Natural Resources
Marcia Willhite	Illinois Environmental Protection Agency
Diane Ford	Iowa Department of Natural Resources
Shelli Grapp	Iowa Department of Natural Resources
Harold Hommes	Iowa Department of Agriculture and Land Stewardship (by phone)
Dave Frederickson	Minnesota Department of Agriculture
Dave Schad	Minnesota Department of Natural Resources
Rebecca Flood	Minnesota Pollution Control Agency
Robert Stout	Missouri Department of Natural Resources
John Madras	Missouri Department of Natural Resources
Dan Baumann	Wisconsin Department of Natural Resources
Jim Fischer	Wisconsin Department of Natural Resources
Russ Rasmussen	Wisconsin Department of Natural Resources

Federal UMRBA Liaisons and Federal Members of the Water Quality Executive Committee:

Renee Turner	U.S. Army Corps of Engineers, MVD
Ken Westlake	U.S. Environmental Protection Agency, Region 5
Tim Henry	U.S. Environmental Protection Agency, Region 5
Charlie Wooley	U.S. Fish and Wildlife Service, Region 3
Dave Bornholdt	U.S. Geological Survey, MWA

Others in Attendance:

Ellen Anderson	Minnesota Environmental Quality Board
Tim Schlagenhaft	Minnesota Department of Natural Resources
Janet Sternburg	Missouri Department of Conservation
Bryan Hopkins	Missouri Department of Natural Resources
Sheri Walz	Wisconsin Department of Transportation (by phone)
Steve Buan	National Oceanic and Atmospheric Administration, NWS
Pedro Restrepo	National Oceanic and Atmospheric Administration, NWS
Lark Weller	National Park Service, Mississippi National River and Recreation Area
Sean DeCataldo	U.S. Coast Guard, MSD St. Paul
Brian Zekus	U.S. Coast Guard, MSD St. Paul
COL Michael Price	U.S. Army Corps of Engineers, MVP
Jon Hendrickson	U.S. Army Corps of Engineers, MVP
Tom Novak	U.S. Army Corps of Engineers, MVP
Dave Potter	U.S. Army Corps of Engineers, MVP
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
Gary Meden	U.S. Army Corps of Engineers, MVR
COL Michael Price	U.S. Army Corps of Engineers, MVP
Hal Graef	U.S. Army Corps of Engineers, MVS
Brian Markert	U.S. Army Corps of Engineers, MVS
Kat McCain	U.S. Army Corps of Engineers, MVS
Rafael J. Guerrero	U.S. Department of Agriculture, NRCS
Don Baloun	U.S. Department of Agriculture, NRCS, Minnesota
Tim Yager	U.S. Fish and Wildlife Service, Region 3 Refuges
Bob Clevensine	U.S. Fish and Wildlife Service, Region 3 Refuges
Scott Yess	U.S. Fish and Wildlife Service/UMRCC
Barry Johnson	U.S. Geological Survey, UMESC
Lisa Hanni	Goodhue County (Minnesota)
Tom Boland	AMEC
Steve Sletten	Atkins
Greg Graska	EOR, Inc.
Trevor Russell	Friends of the Mississippi River
Olivia Dorothy	Izaak Walton League
Cecily Smith	Prairie Rivers Network
Don Powell	SEH, Inc.
Gretchen Benjamin	The Nature Conservancy, Great Rivers Partnership
Greg Genz	Upper Mississippi Waterway Association
Barb Naramore	Upper Mississippi River Basin Association
Dave Hokanson	Upper Mississippi River Basin Association
Kirsten Mickelsen	Upper Mississippi River Basin Association
Mark Ellis	Upper Mississippi River Basin Association
Megan Carlson	Upper Mississippi River Basin Association
Katherine Stearns	Upper Mississippi River Basin Association

Minutes

No changes to the draft minutes of the August 29, 2012 meeting were requested. Robert Stout moved and Arlan Juhl seconded a motion to approve the draft minutes of the August meeting. The motion carried unanimously.

Recognitions

Diane Ford announced that Tim Schlagenhaft will be taking a new position with Audubon. She expressed sincere appreciation to Schlagenhaft for his tremendous contributions to the Upper Mississippi River Basin, particularly in advancing important habitat and water quality projects. She thanked Schlagenhaft for his recent efforts related to the electric barriers in northeast Iowa to prevent Asian carp spread. Barb Naramore recognized Schlagenhaft's dedication and passion for the Upper Mississippi River. She said Schlagenhaft has always been a model for interagency, collaborative approaches to river management and problem solving. Schlagenhaft said he is grateful for the acknowledgements and expressed his appreciation to all those he worked with over the years.

Executive Director's Report

Barb Naramore said UMRBA staff prepared its customary election results survey, which is included on pages B-4 to B-8 of the agenda packet.

Naramore explained that, in an effort to streamline the annual contracting process, USACE included four additional option years in the FY 10 UMRB-EMP support services contract. However, USACE can no longer utilize the contract because of new Department of Defense meeting policies. Naramore expects that the FY 13 contract will be fundamentally similar to the existing UMRBA/USACE contract in terms of scope and payment amounts. The contract will likely include a base year and up to four additional options years. Dave Fredrickson moved and Dan Baumann seconded a motion to authorize Naramore to execute a new USACE contract for UMRB-EMP support services. The motion was approved unanimously.

Robert Stout moved and Arlan Juhl seconded a motion to authorize Naramore to execute a contract with Weston Solutions to support UMRBA's continued spills contingency planning and inland sensitivity mapping work, with a maximum duration of two years and a cap on reimbursements to UMRBA of \$150,000. The motion was approved unanimously.

Naramore said the America's Great Watershed Initiative's (AGWI's) September 26-27, 2012 watershed-wide summit was successful. AGWI's Steering Committee developed an FY 13 work plan that includes three major focus areas: indicators, communication, and shared leadership — i.e., a framework to support collaboration. The Committee recently hired an interim Director and is in the process of posting the long term position, which will be funded by the Caterpillar Foundation through The Nature Conservancy.

Naramore reported that the independent accounting firm of Mahoney, Ulbrich, Christensen, and Russ (MUCR) recently completed its audit of UMRBA's financial statements for fiscal years 2011 and 2012. MUCR concluded that UMRBA's financial statements accurately represent the organization's financial status. MUCR's lead staff person on the audit presented the findings to the Board earlier this morning.

Naramore directed the Board's attention to pages B-13 to B-16 of the agenda packet for the current Treasurer's Statement and UMRBA's FY 13 financial statements. Baumann moved and Stout seconded a motion to accept the Profit and Loss Statement and Balance Sheet dated November 14, 2012. The motion was carried unanimously.

Navigation

Low Water Conditions

Gary Meden provided a status update on the severe drought conditions facing the Mississippi and Missouri Rivers and USACE's actions to maintain channel depth and width. Through a collective "common operating picture," Meden said five USACE Divisions (i.e., Mississippi Valley, Great Lakes and Ohio River, Northwestern, Southwest, and South Atlantic) are coordinating closely with other federal agencies to monitor water levels and ensure the navigation system continues to be fully functional. Meden reported that three groundings have occurred between November 1-10, 2012, including two on the Middle Mississippi River (RM 0 to 195) and one on the Missouri River. Increased dredging on the impounded UMR is not required since there has been less sediment loading due to lower flows. Currently, USACE is employing two dredging operations on the UMR and three on the Lower Mississippi River. USACE is also managing reservoir releases to augment river flows, within the limits identified in each reservoir's water management plan. Meden said releases from Gavins Point Dam have the most capability to increase water levels on the Middle Mississippi River. Most of the other reservoirs USACE operates for drought mitigation only affect areas below the Ohio River. Meden explained that USACE is working to maintain reservoir levels to 10 feet above their respective authorized levels; however, there has been very little water coming into the reservoirs, limiting USACE's capacity to make a meaningful difference on the Middle Mississippi River. Throughout the 2012 drought crisis, USACE has routinely communicated to key stakeholders through various river-related coordinating groups along the Mississippi, Missouri, and Ohio Rivers.

Meden described USACE's major drought-related actions and issues, including:

- Water management — USACE is striving to increase reservoir levels to 5 to 10 percent above their respective authorized levels in order to secure water for emergency releases to support navigation. However, USACE has had little success since there has been relatively little precipitation. Thus, there is limited capacity to impact the Middle Mississippi River. Mississippi River navigation is not an authorized purpose of the Missouri River. However, the states of Iowa, Illinois, and Missouri and 15 House and Senate Congressional members have called for USACE to deviate from the Missouri River Master Manual and release water from Missouri reservoirs to support to Mississippi River flows.
- Thebes pinnacle rock removal — rock pinnacles in the Thebes Reach (RM 41 to 48) control river depth and are potential hazards to vessels transiting the river during extreme low water conditions. USACE plans to remove 850 cubic yards of the rock formations in early 2013. An environmental assessment and biological assessment for the project are complete. [Note: Following the quarterly meeting, USACE advanced its schedule to begin rock removal to December 15, 2012.]
- L&D 27 improvements — replacement of a ruptured alignment cell in the main chamber of Lock 27 is scheduled for December 10, 2012 to March 1, 2013. The main chamber will be closed, but the smaller auxiliary chamber will remain open.
- 2013 forecast — drought conditions are expected to continue into 2013. Recent rainfall in the Ohio River Basin will improve conditions on the Lower Mississippi River. However, with below average precipitation forecasted through the fall, water levels on the Middle Mississippi River remain a major concern.

Meden acknowledged that low water conditions are likely to continue for the foreseeable future. Therefore, water levels need to be managed in a long term context, rather than solely individual emergency situations. Without substantial precipitation, USACE cannot guarantee that the authorized navigation channel will be maintained on the Middle Mississippi. Meden added that USACE is continually balancing several demands on the Mississippi, Missouri, and Ohio Rivers.

COL Michael Price reported that USACE is releasing water from six headwater reservoirs in Minnesota before they ice over. This should increase river stage by three to four feet over the next one to two weeks. COL Price said MVP's navigation season is scheduled to end on December 6, 2012, after which L&D 6 will be dewatered for rehabilitation.

Cecily Smith asked whether the current Thebes pinnacle rock removal is operating under the 2009 environmental assessment for similar work, and if so, whether the priority areas remain the same. Meden said he believes USACE completed a new environmental assessment for the current effort, but said he will confirm with MVS staff. In response to a question from Arlan Juhl, Meden said a Presidential declaration of emergency would be the most appropriate avenue for seeking Missouri Reservoir releases specifically for Mississippi River navigation. He explained that USACE would be liable for damages to the beneficiaries of Missouri River's eight other authorized purposes. In response to a question from Barb Naramore, Meden said those seeking a deviation from Missouri River's authorized purposes would also be liable for damages.

Asset Management

Hal Graef said the Maritime Administration's (MARAD's) America's Marine Highway Program is a US Department of Transportation initiative to expand the nation's waterborne transportation capacity. The initiative designates 18 marine highway corridors, identifies opportunities for enhancing intermodal transportation, and offers a vision for a reliable and efficient inland marine transportation system. Graef

said a recent study by the Soy Transportation Coalition found that the major transportation routes for soybean exports are 1) via rail to the Pacific Northwest (PNW) ports and 2) via barge on the Mississippi River to the Gulf of Mexico. While transporting soybeans to the PNW via rail is more expensive than to the Gulf of Mexico via barge, transiting through the Panama Canal makes the total shipment cost to Asia higher through the Gulf than the PNW. According to Graef, the Panama Canal expansion in 2014 and upgrades to the UMR locks will make shipment through the Gulf more competitive with the PNW transportation route. He added that U.S. soybean exports are still at a competitive advantage compared to Brazil. Further, the Soy Transportation Coalition's study projects a 55 percent increase in barge transportation of soybeans by 2020-2021 in response to simultaneous increases in the nation's grain yields and global demand over the same time. The nation's corn exports are also expected to increase over the next decade.

Graef said USACE has established four goals for achieving an effective and competitive inland navigation system in the 21st century: reliability, resilience, efficiency, and increased capacity. These goals are central to the USACE's O&M, rehabilitation, and capacity expansion efforts. Graef said lock outages for maintenance and repair has been steadily increasing over the past 20 years, with most of the increase in unscheduled outages. This has substantially decreased the inland waterways' reliability. Graef said the recent outage at L&D 27 clearly illustrates the economic importance of having a reliable and resilient system.

Going forward, possible strategies for making the UMRS inland waterways system more effective and efficient could include demand-based budgeting, systemic asset management, strategic rehabilitation, public-private partnerships, implementing small scale navigation improvements, and reevaluating lock expansion. Graef explained that, rather than USACE's project-based funding approach, an operational condition assessment (OCA) management approach would target funding to components with the greatest probability and consequence of failure. Graef compared the UMRS major rehabilitation priorities under the OCA approach, MVD's schedule, and the Inland Marine Transportation System's (IMTS's) Capital Investment Plan, as follows:

- Operational Condition Assessment: 1) La Grange, 2) L&D 18, 3) L&D 21, and 4) Peoria
- MVD's Schedule: 1) L&D 22, 2) L&D 21, and 3) L&D 20 on the UMR; and 1) La Grange, 2) Starved Rock, and 3) T.J. O'Brien on the Illinois River.
- IMTS Capital Investment Plan: 1) Lockport, 2) L&D 25, and 3) T.J. O'Brien. [Note: The IMTS Plan selected La Grange as a high priority construction project. It indicated that major rehabilitation on La Grange would be a prioritized before O'Brien, if construction is not advanced.]

Graef said that, given current fiscal and policy issues facing navigation, it is estimated that the first increment of lock capacity expansion on the UMRS would be completed as early as 2047. In the interim, there are immediate opportunities to implement small scale measures that are authorized in the Navigation Ecosystem Sustainability Program (NESP) that could effectively enhance the system's efficiency. Graef explained that USACE programs and projects are subject to deauthorization if they do not receive an appropriation over five consecutive years. Since NESP was last allocated funds in FY 11, the program would be considered for deauthorization in FY 17 if it does not receive an appropriation by the end of FY 16.

Graef said USACE's near term goals related to inland navigation include the following:

- prioritizing O&M based on metrics and levels of service
- employing asset management to determine major rehabilitation priorities
- implementing small scale measures to improve efficiency

- updating the economic justification for UMRS capacity expansion based on the Administration's questions
- maintaining NESP's authorization
- developing tools for implementing public-private partnerships.

USACE's long term goals include developing a navigation strategy for the entire Mississippi River Basin, ensuring sustainability of the Mississippi River Basin's multiple uses, incorporating navigation into multimodal transportation systems, and developing public-private partnerships.

Barb Naramore asked how the risk rating would be calculated under OCA approach. Graef explained that each component would be individually rated based on the financial consequence of its failure. This would include a number of economic factors, including the cost of repair and the benefits lost over the time it would take to restore/repair the component. In response to a question from Naramore, Graef said he will report back to the Board regarding how USACE would determine risk. Naramore observed that priorities listed under the OCA approach were all categorized by project, rather than individual components. Graef explained that a component can be rolled up at the project scale and include other rehabilitation needs at the project site.

In response to a question from Naramore, COL Price explained that NESP would be subject to deauthorization in FY 17 if it does not receive a funding allocation in FY 16. At that point, NESP would have gone unfunded for five consecutive years. Since appropriations are determined prior to the fiscal year, Congress would have all of FY 16 to act. If Congress takes no action to fund by then, NESP will be placed on USACE's deauthorization list in FY 17. Meden explained that District staff previously did not count FY 11 as a funded year since NESP did not receive a Congressional appropriation, but rather an allocation from USACE to pay for work completed under a continuing resolution authority at the beginning of the year. However, USACE is now considering FY 11 to be a funded year for NESP.

In response to a question from Robert Stout, Graef said he anticipates that the development of a navigation strategy for the entire Mississippi River Basin would occur in a number of different venues, but would ultimately be USACE-driven with strong collaboration with the states and other interests. Ken Westlake asked about USACE's plans regarding an updated economic justification of UMRS's capacity expansion, and whether this would include a reevaluation of NESP. Graef explained that USACE is currently reconsidering the economics based on the OCA approach. The analysis is not a NESP reevaluation. Westlake asked if NESP's National Environmental Policy Act (NEPA) analysis would still apply to the construction of small scale navigation improvements. Brian Johnson said NEPA analyses are valid for five years following completion. Thus, it may need to be revisited prior to construction.

Juhl observed that MARAD did not designate the UMR north of the Illinois River as a priority marine highway corridor. He asked if that might influence USACE's inland waterways priorities and whether there might be funding implications for the "undesigned" portion of the UMR. Meden said the fact that the Illinois River is a MARAD designated marine corridor may raise La Grange's construction priority regionally. Meden explained that MARAD's priority marine highway corridors are located in areas where land-based transportation is saturated and thus where the transition to waterways is more critical.

Industry Perspectives on Reduced Traffic Levels at Low Traffic Locks

Greg Genz reported that, starting with the 2013 navigation season, the Upper and Lower Saint Anthony Falls L&Ds and L&D 1 will operate at reduced levels of service. Hours of operation will include 7 a.m. to 2 a.m. every day throughout the navigation season. However, MVP staff have indicated a willingness to

accommodate operators upon request. Currently, the L&Ds are operating 24 hours a day, seven days a week. Genz said this reduced level of service is part of USACE's national effort to lower O&M costs in light of increasingly constrained budgets. He expressed appreciation to USACE for applying traffic-based guidelines nationwide to fairly assess where reductions would occur and for coordinating with industry to determine the reduced service hours. The operating hours may be restored if lockages increase above 1,000 per year. According to Genz, intermittent levels of service will likely create inefficiencies by delaying movement. However, there will not be much impact at the Twin Cities L&Ds since they are origin/destination points and not a transfer points. Genz expressed concern that further reductions might occur in levels of service and other O&M activities. He stressed the need for a federal intermodal transportation plan.

Recent Congressional Developments

Naramore briefly summarized three proposed navigation-related legislative measures, including:

- *Waterways are Vital for the Economy, Energy, Efficiency, and Environment Act (WAVE 4)* — introduced on March 2012 by Representatives Ed Whitfield (R-KY) and Jerry Costello (D-IL), WAVE 4 would authorize many of the 2010 Inland Marine Transportation System Capital Investment Plan's recommendations, including:
 1. Increase the fuel tax by \$0.06 per gallon
 2. Require the Administration to work with the IWUB to develop a 20-year capital development plan
 3. Eliminate industry cost share for dams and for major rehabilitation projects costing less than \$100 million
 4. Reform the project delivery process
 5. Insulate industry from overruns on cost shared projects
- *American Waterworks Act* — Senator Lamar Alexander (R-TN) announced plans in October 2012 to introduce legislation that would modernize U.S. ports and inland waterways, known as the American Waterworks Act. The measure would also include the following provisions:
 1. Increase the Olmsted cost authorization to \$2.9 billion, and exempt the project from further IWTF cost sharing
 2. Accelerate USACE's construction permit process and allow states to appeal delayed decision making
 3. Increase the IWTF tax to \$0.23 per gallon in 2013, \$0.27 per gallon in 2014, and \$0.31 per gallon in 2014, with inflation adjustments each calendar year thereafter
 4. Implement the 2010 IMTS Capital Investment Plan's project prioritization and schedule
 5. Accelerate harbor spending
- *Water Resources Development Act (WRDA) of 2012* — In November 2012, Senate Environment and Public Works Committee Chair Barbara Boxer (D-CA) released a WRDA discussion draft. Because of the current earmark ban, the WRDA discussion draft does not include provisions for new projects. Major provisions related to inland waterways include:
 1. Enhance USACE's project delivery process — e.g., include a minimum 80 percent confidence interval for cost estimates
 2. Authorize pilot projects to test project delivery innovations, such as early contractor involvement

3. Enhance the IWUB's role advising the Administration and Congress regarding capital needs, project development, and funding priorities
4. Require the Secretary of the Army to coordinate with the IWUB in developing a 20-year capital investment program for the inland and intracoastal waterways, with ensuing updates every five years — specifically directs the Secretary to consider the 2010 IMTS Capital Investment Plan and to ensure investment in all segments of the inland system to the extent practicable
5. Develop standard accounting methods for determining what constitutes major rehabilitation
6. Evaluate the efficiency of revenue collection in the IWTF

Naramore said UMRBA staff will continue to monitor and keep the Board informed of legislative action related to inland navigation. Olivia Dorothy suggested that a future agenda item include the 2012 National Research Council's (NRC's) report on the nation's waterway infrastructure. Naramore agreed.

Asian Carp

GLMRIS Update

Jack Drolet said USACE's aquatic nuisance species (ANS) strategy includes four lines of operation: electric barriers; Asian carp monitoring, including eDNA monitoring and calibration; efficacy studies to implement various solutions as funding and authority permit; and the Great Lakes and Mississippi River Interbasin Study (GLMRIS). Drolet said GLMRIS was authorized in WRDA 2007 to study available options and technologies to prevent ANS spread between the Great Lakes and Mississippi River Basins. The study will analyze the Chicago Area Waterway System (CAWS) and 18 other possible pathways for ANS spread.

Through the Moving Ahead for Progress in the 21st Century Act (MAP-21, P.L. 112-141) enacted on July 6, 2012, Congress directed USACE to expedite the completion of GLMRIS, with an interim report due on October 5, 2012 and the final report due on January 3, 2014. GLMRIS has been a robust collaborate effort involving a broad range of stakeholders in both the Great Lakes and Mississippi River Basins. Drolet briefly summarized GLMRIS's interim products published in 2012. Under the accelerated schedule, USACE will no longer be able to complete the Array of Alternatives Report that was previously planned. He said time constraints do not allow for GLMRIS to include the full analysis required for a complete feasibility study. Before implementing any control methods, UASCE will be required to complete a recommended plan that would include site specific investigations and analyses, optimized designs for controls and any mitigation factors, detailed cost estimates, and impact evaluations. The recommended plan would then need to undergo independent external peer review, model certification, and NEPA review. Drolet said GLMRIS's 2007 authorization will remain effective following the final report, allowing USACE to advance remaining work.

In response to a question from Renee Turner, Drolet said a public meeting regarding Eagle Marsh ANS controls is scheduled for December 4, 2012 and will be accessible via webinar. John Goss, the federal Asian Carp Director, will moderate the meeting. In response to a question from Arlan Juhl, Drolet confirmed that MAP-21 allows a promising control method to move directly to preconstruction, engineering, and design (PED) without requiring an approved feasibility study. Drolet said some requirements leading up to PED that he mentioned earlier would still need to be completed prior to construction. Further, authorization, funding, and a nonfederal cost share sponsor would be needed to implement a control method.

Barb Naramore expressed appreciation to USACE for its November 14-16, 2012 meeting in Chicago. Drolet said the three day meeting series focused on refining the control methods specific to the priority ANS of concern. The meeting series very successfully advanced substantial work related to control

methods that would have otherwise taken months. Drolet said hydrologic separation will be included as an option in the final report.

Minnesota Update

Tim Schlangehaft said Minnesota has made substantial progress in advancing its November 2011 Asian Carp Action Plan over the past year. Schlangehaft summarized the state's current status and perspectives related to Asian carp monitoring, research, and control efforts:

- *Monitoring* — through commercial fishing, fisheries surveys, water sampling (i.e., eDNA testing), active monitoring is ongoing to determine the distribution and relative abundance of Asian carp. Minnesota DNR recently hired 2 fisheries specialists to collect information on Asian carp, including how to maintain native species where Asian carp are present. On November 21, 2012, a commercial fisherman reported catching a bighead carp in Lake Pepin. This was the third bighead carp caught in Lake Pepin. In September 2012, USFWS and the National Park Service collected eDNA samples on the Mississippi, Minnesota, and St. Croix Rivers. Results will likely be released this winter. UMESC is analyzing the eDNA samples, and will use positive and negative controls to confirm the analytical results and methods.
- *Research* — the 2012 Minnesota legislature appropriated funds to the University of Minnesota to establish an Aquatic Invasive Species Research Center, which will research and develop tools to monitor and control Asian carp populations and other aquatic invasive species.
- *Barriers* — Minnesota DNR is exploring options for physical barriers at several sites on the Mississippi, St. Croix, and Minnesota River, as well as areas in southern Minnesota. This includes sound, bubble, and light barriers at L&D 1. An electric barrier was considered at the site, but would involve significant safety risks. Five sites in southern Minnesota are considered potential pathways for Asian carp transfer between the Missouri and Upper Mississippi River Basins, particularly from Iowa's Great Lakes and the Missouri River Basin in Worthington. Minnesota DNR is evaluating barrier options in these areas and at the mouth of St. Croix, on the Minnesota River in Mankato, and at L&D 2. Closure of Upper Saint Anthony Falls remains a top priority for Minnesota since it is the only 100 percent effective barrier. Minnesota DNR and the Metropolitan Council recently completed a study estimating the economic and recreational impacts of closing the lock. Recreational boat operators and citizens have been voluntarily reducing their lockages in an effort to impede potential Asian carp movement. Minnesota strongly supports a barrier at L&D 19, but said Illinois, Iowa, or a federal agency would need to lead that effort.
- *Restoration* — Minnesota DNR will submit grant proposals to the state's Lessard-Sams Outdoor Heritage Council to fund a restoration project in Pool 3 involving pool scale water level management in conjunction with island building. Improving habitat and water quality conditions on the UMR will enhance the ability of native species to compete with Asian carp.

Schlangehaft expressed his support for legislation recently introduced by Representative Betty McCollum (D-MN) that would place USFWS in charge of coordinating a new federal interagency effort to address Asian carp. He emphasized that the state is making great progress in understanding and taking proactive measures to prevent and control Asian carp introduction and spread. The issue is a top priority for Governor Mark Dayton and the Minnesota legislature. The state also has strong public support for Asian carp control. Thus, he anticipates a smooth transition while the Minnesota DNR hires a new Asian carp leader.

Bryan Hopkins asked how habitat improvements might be used as an Asian carp control measure in areas where the fish are already present. Schlangehaft explained that native species are better equipped to compete in healthier habitat conditions — e.g., sufficient food sources, abundant reproductive and nursery habitat, etc. Increasing the resilience of native predator fish such as bluegill (which eat Asian

carp eggs) can have a notable effect on limiting the spread and abundance of invasive species. He emphasized that there needs to be an appropriate mix of control methods and that habitat improvements alone would not be sufficient.

Jim Fischer asked if the L&D 1 barrier study examined the potential safety and other impacts associated with electric barriers, including hazards to recreation. Schlagenhaft said the project contractor will need to explore those issues, including options to avoid and mitigate impacts. He recognized that the potential hazards at L&D 1 would likely be more significant than the issues experienced in the CAWS. COL Michael Price observed that an electronic barrier at L&D 1 would be much more complex than at CAWS because it would involve buildings and other structures (e.g., Minneapolis Veterans Affairs Hospital) in close proximity, staff working at the site, and recreation users. Schlagenhaft also mentioned potential underground transmission. Dan Stephenson said there were unforeseen impacts to nearby rail at the CAWS barrier. Schlagenhaft agreed that some impacts will be hard to predict. In response to a question from Greg Genz, Schlagenhaft said Minnesota DNR is also considering sound and bubble barriers at L&D 1. In response to a question from Scott Yess, Schlagenhaft said there has not been an electric barrier constructed at a L&D or other large-scale site.

Water Quality

Water Quality Executive Committee Report

Marcia Willhite, chair of the UMRBA Water Quality Executive Committee (WQEC), highlighted achievements in UMRBA's water quality program over the past year. She noted that it has been a productive year as the WQEC and Water Quality Task Force (WQTF) continue to put basic pieces in place to support the states' Clean Water Act (CWA) programs on the UMR. In particular, she noted that the completion of the aquatic life designated uses (ALDU) report was a key accomplishment and the development of a CWA monitoring strategy for the river is currently underway. Willhite identified the following as priorities for UMRBA's water quality efforts in 2013:

- complete the UMR CWA monitoring strategy
- draft a UMR CWA assessment methodology
- engage collaboratively in regional nutrient and non-point source pollution issues
- revisit organizational options to support water quality collaboration on the UMR
- build a constituency to help bring attention and resources to the UMR
- continue to seek long-term, stable funding support for UMR water quality efforts

Willhite emphasized the importance of ongoing collaboration in implementing UMR water quality efforts, as various stakeholders (e.g., cities, recreationists, industry, water suppliers, and others) bring important perspectives to the discussion.

Monitoring Strategy Update

Dave Hokanson gave an update on the CWA monitoring strategy project being led by the WQTF. He reviewed the purpose, scope, and goals of the project – noting that its primary purpose is to support improved assessment of the UMR under the CWA, while also aiding other key CWA program functions. Hokanson said the project has primarily focused on monitoring design options thus far, though it has also addressed core and supplemental indicators, the relationship to an eventual UMR assessment methodology, connections to existing monitoring programs, and cost estimates for various designs approaches. The monitoring strategy itself will be comprised of two components: 1) an *Options and Considerations* document created by the project's contractor, and 2) a *Recommended Monitoring Plan* authored by the WQTF and informed by the contractor's document. Hokanson

explained that all products will be completed by September 2013, with an opportunity for review by a broader audience likely in spring 2013.

Sand Mining

Perspectives from Local Government

Lisa Hanni, Land Use Management Director for Goodhue County, explained that concerned citizens requested a moratorium on the issuance of any conditional use permit for new silica/frac sand mining operation within Goodhue County, following the purchase of 155 acres for such mining in 2011. Goodhue County approved the one-year moratorium on September 6, 2011 in order to allow the County to study the potential implications of frac sand mining on air quality, water quality and quantity, economic and social benefits, and transportation. The moratorium also allowed the County to evaluate possible regulations governing sand mining, including zoning modifications. The County Board established a nine member committee to study the issues.

The committee met monthly in an open forum to discuss the issues and hear from experts on specific topics. The committee hired consultants to document and compare existing frac sand mining operations, including the chemicals used in processing; compare the County's ordinance to state and federal regulations; define best practices for blasting, noise, and material processing and washing; and identify typical transportation needs. In addition, the consultants were asked to describe typical land reclamation plans and costs and financial assurances for open pit, underground, and contour mining operations. The committee's meeting agendas and presentations, studies and reports, and other related documents are available on its website:

<http://www.co.goodhue.mn.us/countygovernment/committees/MiningCommittee/Miningcomm.aspx>.

The committee published a July 2012 report that reviews various implications of frac sand mining, proposes changes to Goodhue County's ordinances, and provides a summary of the current mining operations in the county. In July 2012, the County Board approved the committee's proposed ordinance changes with a few minor modifications and extended the moratorium for second year to study 18 additional items, including quantity limits on mining, hours of operation, reclamation, etc. Hanni described how the proposed setbacks from residential areas could substantially limit the areas available for sand mining.

In response to a question from Diane Ford, Hanni said the study efforts have cost about \$100,000 thus far. In response to a question from Robert Stout, Hanni explained that the purchasers of the property which spurred the moratorium had not requested a mining permit before the moratorium took effect. She added that the additional setbacks from residential areas leave little space for a mine on this particular property. Stout asked how continuous monitoring would be implemented — e.g., weekly, daily, or continual. Hanni said that has yet to be defined and Goodhue County is hoping to get input from the state on this matter.

Generic Environmental Impact Statement Petition in Minnesota

Ellen Anderson briefly explained the composition, history, and mission of Minnesota's Environmental Quality Board (EQB). Anderson said the Board is composed of 14 Governor-appointed members, including nine of the states' agency commissioners and five citizens. The EQB considers key environmental issues affecting the state, provides review and coordination on issues, and serves as a public forum. The EQB was defunded in recent years, but was re-funded and staffed last year by Governor Dayton.

This summer, the Board received a petition to conduct a generic environmental impact statement (GEIS) regarding industrial silica sand mining for the purposes of hydraulic fracturing. Anderson said the

petition is driven from concerns related to the magnitude and operations associated with mining frac sand in southeastern Minnesota. She said potential implications from frac sand mining are wide-ranging, including economic development, transportation, water quality (surface and groundwater), habitat, and recreation. Several Minnesota counties and cities have issued moratoria in order to further study the issues and their permit requirements. Citizens have looked to the state for more assistance. She explained that local governments have the primary responsibility for regulating mining in Minnesota, while the state issues air and water quality permits. She noted that while there has been a lot of activity at the local level, thus far frac sand mining proposals have not yet reached the state level.

Anderson explained that the petition calls for a generic assessment of impacts to the region; it is not project-specific. Individual projects could proceed while the GEIS is underway. The EQB has heard testimony from stakeholders, and has now requested that its staff report on the issues and areas they think need investigation. Anderson anticipates that the EQB will decide whether and how to act on the petition this year. There have been requests for a statewide moratorium, however it is unclear whether the authority exists for the state to implement one.

In response to a question from Bryan Hopkins, Anderson said an economic analysis is not required since the GEIS would only research frac sand mining and would not propose changes to current regulations. Marcia Willhite suggested that the EQB reference the Illinois' recent permitted projects. In response to a question from Diane Ford, Anderson said the state's previous two GEIS examined timber harvesting and forest management practices and agricultural feedlots. She said the feedlots issue was already well in play when the GEIS was completed, so that it did not have much of an impact. Dave Schad said the forestry GEIS was very helpful in informing policy decisions. Anderson recalled that the forestry industry backed the GEIS. Anderson said there is some concern that the GEIS process may take too long to be useful.

In response to a question from Hanni, Anderson explained that the state's law allows the Governor to issue a moratorium to suspend development in a critical area. However, the process is very complicated and has rarely been done.

State of the River Report — Metro Twin Cities

Trevor Russell of the Friends of the Mississippi River and Lark Weller of the National Park Service presented their organizations' joint report on the Mississippi River's water quality and ecosystem condition in the Twin Cities metro area. With funding support from the McKnight Foundation, the Minnehaha Creek Watershed District, and the Capital Region Watershed District, the *State of the River Report: Water Quality and River Health in the Metro Mississippi River* was recently published to provide non-technical answers to citizens' questions about the river's health. The report explains in layman terms what 13 indicators, individually and collectively, reveal about the river's health in five major areas: flow, swimming and recreation, fish and fishing, ecological health, and contaminants of concern. The analysis focuses on the 72-mile stretch of the river between the Crow River (northeast of the Twin Cities) and the St. Croix River confluences and uses data collected by the Met Council Environmental Services at six locations, including one on the Minnesota River. Russell and Weller described the status and trends, as well as strategies for improving, four key indicators, as follows:

1. Bacteria — significant portions of the metro river are impaired due to excessive bacteria, which come from human (e.g., septic systems, leaking sanitary sewers) and animal (e.g., feedlots, pets, wildlife) sources. It is recommended that swimming in the impaired areas is limited, and completely avoided within 48 hours following a rainstorm. Modernized wastewater treatment systems and separated sanitary and stormwater sewers have reduced raw sewage entering the river. The Minnesota Pollution Control Agency is developing a clean-up plan to monitor bacteria in the river and identify potential bacteria sources and options for reducing bacteria levels.

2. Bald Eagles — the river's bald eagle population has dramatically increased since the 1960s and is now thriving in the metro area. This is attributable to habitat restoration and chemical bans. The National Park Service continues to monitor bald eagle populations and a number of contaminants that have affected their health. Today, there are approximately 36 active nesting sites in the study area and the eagles' reproductive rate is high, indicating a positive outlook for the species. However, certain areas of the river remain concerns because of high contaminant levels. Going forward, the report recommends continued monitoring of the bald eagle population and key contaminants, addressing areas where there are elevated contaminant levels, and protecting and restoring priority habitat areas.
3. Sediment — excessive sediment impairments occur below the Minnesota River, which contributes about 75 percent of the sediment loading into Lake Pepin. Between 1930 and 1960, sediment loads into the Lake Pepin doubled due to loss of wetlands and increased agriculture and urban development, and now occur at 10 times the natural rate. High sedimentation hinders healthy aquatic plant growth and diminishes habitat quality for fish and wildlife. The Minnesota Pollution Control Agency is currently developing a plan to reduce sediment loadings from the Minnesota River into the Mississippi River. Solutions will include agricultural conservation and water retention measures, urban runoff controls, and in-river restoration such as island building.
4. Triclosan — an antimicrobial agent found in liquid soap, toothpaste, and deodorant, triclosan enters the Mississippi River through wastewater treatment systems and septic systems. The chemical can degrade into potentially harmful dioxins when exposed to sunlight and other chemicals, such as chlorine. Triclosan can have harmful effects to human health and can enhance the resilience of bacteria.

Weller said increasing populations of bald eagles, mussels, and fish indicate the river is again able to support healthy and abundant fish and wildlife. However, excessive levels of sediment, bacteria, phosphorus, and other contaminants on the metro Mississippi River remain concerns. These challenges can be addressed, but will require much more work. Other issues (e.g., river flow, nitrate concentrations, Asian carp, and other contaminants such as triclosan) will require new tools and strong public advocacy to address. Weller said the river is a highly valuable recreational, economic, and ecological resource. Minnesota has always viewed water resources as important. Friends of the Mississippi River and the National Park Service have also created the *State of the River Report Stewardship Guide* to inform and promote citizen action at home and in the community. In addition, they developed a policy guide that recommends priority policy actions for local, state, and federal agencies. More information on the *State of the River* effort, including the full report, can be found at <http://stateoftheriver.com/>.

In response to a question from COL Michael Price, Weller said the sources of sedimentation, nitrate, and other contaminants are all identified in the report, unless it notes that more information is needed. There are some upstream improvements that should be made, including land use modifications to reduce river flows.

Joint Meeting with ORSANCO

Diane Ford explained that UMRBA will be meeting jointly with the Ohio River Valley Sanitation Commission (ORSANCO) June 4-6 in St. Louis. She noted that the meeting will include both a water quality-focused technical session and a joint session of the ORSANCO and UMRBA Boards. Ford highlighted the proposed discussion topics as described in Section H of the meeting packet and Barb Naramore said the meeting planning group is open to suggestions from the states and federal partners regarding agenda items.

Administrative Issues

FY 11-12 UMRBA Audit

Diane Ford expressed thanks to UMRBA staff for the outstanding audit report. Naramore said she would gladly share the audit report upon request.

UMRBA 2013-2017 Strategic Plan

Ford said the Board has reviewed the final UMRBA 2013-2017 Strategic Plan and confirmed that it is ready for publication in early 2013. Arlan Juhl moved and Robert Stout seconded a motion to approve the Strategic Plan as drafted and to direct staff to proceed with final design and publication. The motion was approved unanimously.

Future Meetings

Naramore announced that the next quarterly meeting series will be February 26-28, 2013 in the Quad Cities, with February 26 reserved for a possible Board session, the UMRBA quarterly meeting on February 27, and the UMRR-EMP CC on February 28. Naramore said the spring meeting will be held on June 4-6, 2013 in St. Louis. The Board will meet jointly with the Ohio River Valley Sanitation Commission (ORSANCO). The planning team has identified St. Louis as the preferred meeting location. The August quarterly meeting series will be held on August 27-29, 2013 in La Crosse.

With no further business, the meeting adjourned at 4:40 p.m.