Minutes of the
Upper Mississippi River System
Environmental Management Program
Coordinating Committee

November 20, 2008
Quarterly Meeting

Radisson Hotel
Davenport, Iowa

Charlie Wooley of the U.S. Fish and Wildlife service called the meeting to order at 8:00 a.m. on November 20, 2008. Other EMP-CC representatives present were Charles Barton (USACE), Mike Jawson (USGS), Rick Mollahan (IL DNR), Martin Konrad (IA DNR), Tim Schlagenhaft (MN DNR), Janet Sternburg (MO DoC), Jim Fischer (WI DNR), and Bill Franz (USEPA). A complete list of attendees follows these minutes.

Minutes from the August 6, 2008 Meeting

Janet Sternburg moved and Martin Konrad seconded a motion to approve the draft minutes of the August 6, 2008 meeting as written. The motion carried unanimously.

Program Management

FY 08 Year-End Report

Marv Hubbell reported that, for FY 08, EMP received an initial appropriation of $16.851 million and additional allocations totaling $7 million for emergency flood damage repairs. Carry-in funds from FY 07 added $12.263 million to the FY 08 scheduled expenditures, which totaled $36.114 million. Flood-related construction delays, as well as receipt of the emergency flood repair funds, significantly reduced the FY 08 expenditure and obligation rates, relative to recent years. The FY 08 rates are as follows:

	Expenditure Rate	Obligation Rate
Overall EMP	56	66
Not accounting for the emergency funds received	66	86
Not accounting for the emergency funds or delays in construction	73	98

Hubbell noted the following EMP highlights from FY 08:

- Adoption of System Ecosystem Goals
- Development and adoption of the FY 10-14 LTRMP Strategic Plan
- Joint Water Quality/ Ecosystem Restoration Workshops
- 2008 floods — overall, projects performed well, though impacts to construction schedules and to some projects under construction were significant
- Meetings with program partners, in conjunction with the LTRMP strategic planning effort
- Status and Trends Report
- Retirements of individuals who had long histories with the EMP
- Restoration Handbook

Rick Frietsche reported that the USFWS has matched funds from USACE to purchase a digital camera, which will be used to obtain the aerial photography necessary to produce a systemic land cover/land use coverage. Frietsche explained that the Service is currently seeking bids on the equipment. The USFWS will furnish the pilot and plane, and will deliver bluff-to-bluff coverage of the navigable UMRS by the end of FY 10, unless the coverage cannot be completed due to weather. Janet Sternburg asked whether the camera would be permanently attached to a plane. Frietsche said he did not know whether the camera will be permanently mounted to the Service's aircraft. However, there is an FAA certification process before the camera may be used on a plane. Thus, the camera will not be readily transferable. However, the Service may be able to provide additional images for EMP-related purposes on a case-by-case basis, depending on available resources.

FY 09 Outlook

Hubbell reported that the Corps is being funded under a continuing resolution authority (CRA), for at least the first portion of FY 09. Under the CRA, the Corps has $18 million in current year obligation authority for EMP. This full amount is available during the CR period, which runs through March 6. Hubbell explained that this is a departure from previous CRs, where the Corps could expend at a pro-rated amount. Hubbell observed that this approach affords the Corps greater flexibility in obligating funds. However, he noted that the EMP's funding for the year could increase or decrease when Congress acts on the balance of FY 09. In response to a question from Jim Fischer, Hubbell said there was no savings and slippage and no recission in the CRA. This is consistent with Congressional practice over the last couple of years, according to Hubbell.

Assuming the EMP's FY 09 appropriation remains at $18 million, Hubbell said the funding would be allocated as follows:

- Total appropriation — $18 million
  - Regional management — $712,000
    - Regional management (EMP & LTRMP) — $350,000
    - Program database — $50,000
    - Independent Technical Review Committee/SET — $75,000
    - Report to Congress — $60,000
    - UMRBA — $67,000
    - HREP/ LTRMP integration — $70,000
    - Public outreach — $40,000
  - LTRMP — $5,428,432
  - HREPs — $11,859,568
    - Program Model Certification — $100,000
    - MVP — $3,527,870
    - MVR — $4,703,828
    - MVS — $3,527,870

Hubbell noted that there is a new Corps requirement for models to be certified. Thus, Hubbell said he is allocating $100,000 in FY 09 to obtain the necessary certifications for the models used in HREP planning and design. In response to a question from Janet Sternburg, Hubbell said that models only need to be certified once, unless they are modified substantially. Jeff Janvrin suggested updating the models currently employed in the EMP prior to initiating the certification process.

Tim Schlagenhaft requested an update on the efforts to enhance the HREP program's access to, and use of, LTRMP data and information. Looking just within MVR, Hubbell said Jason Rohweder has been involved in post-project monitoring for Rice Lake and developing a pre-project monitoring plan for Pool 12. Hubbell also said the Rohweder will be working with MVR's Dave Bierl to analyze water quality data from Pool 13 and assess its applicability to HREP work in Pool 14 Mike Jawson noted that Rohweder has worked on applying wind fetch models to enhance island design. Schlagenhaft emphasized the importance of sharing the insights gained with all PDTs on a regular basis. Jawson added that, although Rohweder is the central point of contact for this effort to enhance HREPs' use of LTRMP information, the intent is to tap all LTRMP capabilities as needed, including both field stations and other UMESC staff.

Fischer asked if the EMP database would be available this year. Hubbell said the Corps is currently working to link the database to GIS and expressed hope that it would be available online this year. Fischer stressed the value of this tool.

Gretchen Benjamin asked if the Corps' priority on restoring levees in New Orleans will affect the EMP's capability to execute HREPs. Charles Barton reported that, while the hurricane repair efforts are indeed a top priority, Brigadier General Michael Walsh has clearly communicated that this is not an acceptable reason for other projects and programs within MVD to slip off schedule. DeZellar added that MVP has been back-filling positions, which has allowed the district to maintain its project execution schedule.

Barb Naramore asked Hubbell about the FY 09 line item for Independent Technical Review Committee/SET. Hubbell explained that this includes funds to transfer the 16 HREPs identified for future planning to NESP for future work and general support for the reach objective setting process.

Draft Bathymetric and LiDAR plans

Karen Hagerty reported that there has been limited progress since the August quarterly meeting on the draft bathymetric and LiDAR plans. For the draft bathymetric plan, cost estimates have been developed using in-house resources, but the Corps also plans to compare those costs with other estimates using outside contracts. A draft LiDAR plan is currently out for review by technical experts with comments due on November 21, 2008. A revised draft plan will then be sent out for a broader review.

Martin Konrad asked Hagerty if she had any indication of whether processing the bathymetry data in-house or through a contractor would be less expensive. Hagerty said the in-house option would likely have a lower associated cost, but observed that using the in-house option could present schedule conflicts due to limited staff availability. Hagerty said she would likely prepare the bathymetry plan assuming more expensive contract labor. Then, if in-house personnel can be used for all or part of the work, that would produce welcome cost savings relative to the plan's estimate.

Janet Sternburg asked how the LiDAR data for Pools 8-24 will be served. Hagerty said this will be a challenge due to the significant size of the datasets, but said she anticipates having the data available in ArcGIS. Mike Jawson added that the LiDAR data are requiring more post-processing than originally anticipated.

Dru Buntin stressed the need to avoid duplication and asked if there is a mechanism for coordinating with states' LiDAR acquisition plans. Hagerty said she is communicating with the USGS Spatial Data Liaison in each state, and is actively seeking potential partners in Illinois and Missouri, similar to the arrangement the Corps has with Iowa DNR.

Hubbell outlined the status of three key data sets:

- Land use/land cover — camera acquisition underway and agreement in place with USFWS to obtain the aerial photography by the end of FY 10.
- LiDAR — in progress, with about one-third of the system coverage complete or underway. The cost estimate to obtain the remainder of the systemic coverage is $700,000-800,000.
- Bathymetry — completing a systemic bathymetric coverage would cost $1 million or more.

Sternburg asked if there are partnership opportunities with other programs that might offset the costs of obtaining any of these data. Hubbell said that EMP has looked for funds within the Corps and elsewhere. So far, only cooperative arrangement with Iowa DNR to obtain LiDAR has proved viable. In response to a question from Sternburg, Hagerty explained that the EMP has used existing bathymetric data from the Corps' channel maintenance program extensively. However, those coverages are restricted to the main channel. For restoration purposes, the EMP needs bathymetric data on side channels, backwaters, etc.; and these are data that the channel maintenance program has no reason to acquire. Thus, Hagerty explained, the bathymetric cost estimate Hubbell cited is to complete those elements of a systemic coverage cannot be obtained from the channel maintenance program.

Jawson cautioned that the longer term issues and costs related to managing and serving LiDAR data must also be examined. He also added that the camera acquired for the land cover/land use photography may be able to do contour-level work as well, offering a possible alternative to LiDAR, depending on the level of resolution needed by managers. Tim Schlagenhaft said he favors further evaluation of the issues Jawson raised.

Jim Fischer said river managers in Wisconsin place a high priority on both bathymetric and topographic coverages. Jeff Janvrin urged focusing first on completing the highest priority coverage, before investing resources in other systemic data. He suggested that this would serve the overall partnership better than multiple, partially completed data sets. Janvrin said he also supports further evaluation of data management issues and different options for data acquisition.

Hubbell said some of the issues in the preceding discussion were being raised for the first time — e.g., might the digital camera might be able to capture topography? He agreed that it was important to get clarity on some of these issues before proceeding, and said the Corps would do so and report back to the partnership.

Schlagenhaft asked if the A-Team has been engaged in discussions about prioritizing data needs. He suggested A-Team members' input be requested in determining the LiDAR resolution needed for managers and the relative priorities of LiDAR and other data needs. Sternburg said Hank DeHaan gave a presentation at an A-Team meeting related to LiDAR, but the A-Team has not been asked to provide input. Sternburg also emphasized that Corps project design staff have important insights regarding data needs that should be included in identifying priorities and developing acquisition plans. Brian Markert emphasized the value of systemic LiDAR in project planning, and noted that LiDAR data will have a longer shelf life than bathymetry. Jeff DeZellar said he shares Markert's perspectives on the utility of systemic LiDAR.

Given LiDAR's applications in project planning, Jawson asked if the HREP program should share in the cost of acquiring the data. Brian Markert said the HREP program does fund LiDAR and other data acquisition at a project scale, and said this is quite distinct from the broad utility of systemic LiDAR. Hubbell said systemic LiDAR is well within LTRMP's sphere of responsibility, given LTRMP's legislative mandate. Specifically, Hubbell noted:

1. Data acquisition in general is an LTRMP responsibility under the LTRMP.
2. LTRMP just hired a landscape ecologist, who will need these kinds of systemic coverages to support his analyses.
3. LiDAR has broad applications on both the project and science sides of EMP.

Schlagenhaft proposed asking both the A-Team and project planners to identify LiDAR's major applications, as well as their relative priority for LiDAR and bathymetry and the desired resolution for LiDAR data. Hubbell said the Corps also would like input from other UMRS scientists and managers. He asked partners to direct their input to Hagerty, and said the Corps will report further on the LiDAR and bathymetry proposals at the EMP-CC's February 2009 meeting.

Habitat Rehabilitation and Enhancement Projects

District HREP Reports

Marv Hubbell reported that there will be 16 projects in planning and design and 7 projects in construction during FY 09. He emphasized that the House Appropriations Committee's FY 08 language prohibiting new project starts under the EMP will begin to constrain the program's capability if it is extended.

Brian Markert reported that MVS is continuing its planning efforts on the Ted Shanks and Rip Rap Landing HREPs. The Pools 25 and 26 Islands project is ready for construction, but is restricted because of the "no new starts" clause. Batchtown is the District's primary construction effort in FY 09, including about 50 acres of reforestation. MVS will also conduct routine project evaluation efforts in FY 09. Mike Griffin asked about the status of the new projects previously prioritized by the RRAT and SET for planning. Markert said that several fact sheets are ready, but MVS cannot move forward any further with planning on these projects because of the Congressional restriction on new starts.

Hubbell announced that Jeff DeZellar is temporarily assuming duties as MVP's HREP Manager, since Tom Novak is on detail in New Orleans. DeZellar reported that Capoli and Harpers Sloughs continue to be MVP's planning priorities, with the goal of completing DPRs for each project by the end of FY 09. He noted that a biological assessment for Capoli Slough is nearing completion, and Higgins eye mussels will be issues for both projects. Completing design for Pool 8 Islands Phase III Stage 3A is a priority. Stage 3B is MVP's next design priority, but it is not yet clear how much funding will be available for this. Construction will continue for Pool 8 Islands Phase III Stage 2B; and, if funds permit, construction will be initiated on Stage 3A. MVP also plans on completing the construction of Finger Lake/Clear Lake by September 2009. DeZellar reported that MVP will also continue to transfer funds to the Fish and Wildlife Service to support the Service's involvement in HREP planning and execution. In response to a question from Tim Schlagenhaft, DeZellar confirmed that Dan Wilcox is working on several project completion reports and hopes to complete these reports by the end of FY 09. Schlagenhaft urged all districts to increase the priority placed on project evaluation, stressing his concern with the lack of evaluation information currently available.

Marv Hubbell highlighted MVR's four FY 09 planning priorities: Fox Island, Pool 12 Overwintering, Rice Lake, and Huron Island. He reported that Fox Island and Pool 12 Overwintering are very near completion, and said planning work on Rice Lake should also be completed in FY 09. Huron Island will receive approximately $100,000 this year to support modeling work. Design work for the Lake Odessa flood repairs will also be a priority; and the Lake Odessa repairs, which are estimated at $7 million, are MVR's highest FY 09 construction priority. Hubbell emphasized that the project functioned as designed, but said the floods hit the project area while it was at a very vulnerable point in

its construction, resulting in significant damages. The sand-topped levees also suffered extensive damage. MVR anticipates awarding a construction contract for Fox Island toward the end of FY 09.

Charlie Wooley said the coordination effort between personnel from Iowa DNR, USACE, and USFWS has been tremendous in addressing the damage at Lake Odessa and identifying options for handling future flood events. Wooley expressed his appreciation to all involved.

Schlagenhaft asked that the EMP-CC consider having a future agenda item about ways that climate change-related considerations, such as carbon sequestration and energy consumption, might be addressed in the context of HREP planning and prioritization. Hubbell said he would be pleased to discuss these issues at an upcoming meeting.

HREP Showcase — Pool 11 Islands

Jeff Janvrin, Mike Griffin, Mike Steuck, and Rick Frietsche showcased the Pool 11 Islands project, with a planning area of approximately 10 miles and 10,500 acres in the lower pool. Janvrin explained that, historically, lower Pool 11 had several islands and side channels. But, as a result of impoundment, many of the islands were inundated and the diversity of off-channel habitat was significantly reduced over time. The drainage of four tributary streams from agriculture-intensive basins also contributed to the problems of high sediment and turbidity. Janvrin outlined the project goals and objectives, including reducing sediment resuspension, increasing flow and depth diversity, increasing abundance and diversity of aquatic vegetation, reducing backwater sedimentation, improving habitat and food resources for migratory waterfowl, and reducing island erosion. Janvrin said lessons learned from other projects helped to improve the design of the Pool 11 Islands project, including the placement of islands and dredge cuts.

Mike Griffin described the construction designs at Sunfish and Mud Lakes. He observed that it is the cost to place dredged material, not the cost of the actual dredging, that contributes substantially to the expense of many HREPs. Design of Sunfish Lake was modified mid-project to construct a rock deflection levee to protect an embankment from erosion. A littoral zone then formed between the rock and the embankment, functioning as a perched wetland and producing added project benefits. Griffin noted that, at Mud Lake, the levee was designed with the same slope as the river, allowing it to overtop uniformly in high water. He also reminded the EMP partners that the wind fetch Janvrin described is real and dangerous in the project area. During construction, a worker drowned in an accident on a windy day, despite the fact that he was wearing a personal floatation device.

Mike Steuck described a special multi-pool study that included an opportunity to evaluate the fisheries response to the Pool 11 Islands project. The initial objectives for the study included determining spatial, temporal, physical, and chemical aspects of winter habitat selection in several species of panfish. The study also sought to provide background data for the Habitat Needs Assessment and for use in designing future HREPs with fish habitat objectives. Steuck said that the fish were tracked using radio telemetry; and at each location, dissolved oxygen, temperature, flow, and depth data were collected to help determine the fishes' preferred habitat characteristics. The results showed that characteristics of preferred habitat include: no current velocity, water that is 3-5 degrees warmer than in the main or side channels, greater than 3 feet in water depth, and area of about 0.5 to 30 acres. Information from this study led to modification of flow management at Brown's Lake, after it was demonstrated that relatively modest flow satisfied the overwintering needs of the target fish species. This insight was then used in designing subsequent projects, including Pool 11 Islands, resulting in the construction of smaller water control structures.

Steuck reported that post-monitoring results on Mud Lake showed a positive vegetation response to decreased flows and wind fetch, and a greater utilization of the project area by fish over time. Fish

responded slowly to improved overwintering conditions at Sunfish Lake, leading Steuck to posit that fish have homing instincts and it may take a successful overwintering experience to convince a fish that an area is suitable. Thus, it may take several years for an area with no prior suitable habitat to attract and maintain an overwintering population. Steuck noted that although the habitat focus has been on centrarchid populations, the same overwintering improvements also benefit orangespots, pumpkinseeds, spotted suckers, and other backwater species.

Tim Schlagenhaft asked if any conclusions could be drawn from the monitoring results about the Pool 11 HREP's impacts on overall pan fish populations in lower Pool 11. Steuck and Janvrin said cost considerations precluded gathering true population data. Janvrin noted that catch per unit effort has been used as an indicator of pan fish populations. Steuck said increases in size structure and age class will provide additional insight. Dave Bierl added that an increase in angler use of lower Pool 11 is another indicator of improved pan fish populations. Schlagenhaft emphasized the importance of determining whether HREPs increase fish populations, or simply redistributed them, even though this may require increased funding for monitoring. Steuck said pre-monitoring would be needed to answer this question.

Rick Frietsche said the Pool 11 Islands project has been quite successful in restoring both fish and waterfowl habitat in Sunfish and Mud Lakes. He noted that the project's use of rock weirs to manage water flows offered important insight that can be incorporated into future projects. The rock weirs are easier to manage than other methods and are relatively low cost. Frietsche observed that Pool 11 was quite consistent with overall EMP goals, including improving water quality and enhancing habitat management for a range of species.

Martin Konrad asked if there is a summary of the successes at Pool 11 Islands. He emphasized the importance of documenting the results of all HREPs so they can be shared with partners and others. Hubbell said such summaries are not currently available, but will be an important part of the message in the 2010 Report to Congress.

Jim Fischer said Steuck's presentation illustrates that the EMP partner agencies do considerable work in the areas of project development, evaluation, permitting, etc. He suggested that the value of this work should be documented, not for the purpose of seeking reimbursement, but rather to demonstrate the partners' contributions to the program. Hubbell agreed that the partners' in-kind contributions are essential to the EMP's success.

Charlie Wooley said he was particularly pleased to see the use of Sportfish Restoration funding to support the overwintering study. He expressed thanks to all of the presenters for their excellent overview of the Pool 11 Islands project.

Long Term Resource Monitoring Program

Program Update

Mike Jawson described the following LTRMP 4th quarter product highlights:

- A manuscript on the habitat use of breeding Great Blue Herons (*Ardea herodias*) on the Upper Mississippi River.
- Three completion reports: 1) Indirect Evidence of Fish Migration to Upper Mississippi Backwaters in Late Fall, 2) Estimating Temporal Trends Using Data Derived from LTRMP's Submersed Aquatic Vegetation Rake Sampling Method, and 3) Fish Assemblages in Off-Channel Areas of the Upper Mississippi and Illinois Rivers.
- The 2008 Status and Trends Report, which is at the printer.

Jawson reported that a list of current LTRMP completion reports can now be found through the A-Team corner link on the LTRMP home page, or by going directly to http://www.umesc.usgs.gov/ltrmp/ateam/ltrmp_completion_rep_list.html. The full completion reports are available upon request by contacting Jennie Sauer or Karen Hagerty. Recent visitors to UMESC have included a collaborative group of agencies from Pennsylvania, and a group from the Department of Forestry from Jiangxi Province of China and the International Crane Foundation.

Jawson announced that the following FY 09 APE proposals have been selected for funding:

- The effects of river nutrient concentrations on metaphyton, submersed aquatic vegetation, and dissolved oxygen across a connectivity gradient.
- Developing LTRMP landscape metrics.
- Movement of unionids over sloped and un-sloped areas in the Upper Mississippi River and their response to planned water level drawdown.
- Have the recent increases in aquatic vegetation in Pools 5 and 8 been the result of water level management drawdowns, HREPs, or natural fluctuations?

All four of these APE proposals had been ranked as "high" by the Corps, USGS, and A-Team. If additional funding becomes available, Jawson said it may be possible to fund some additional top quality proposals.

Jawson noted that the Status and Trends Report is currently at the printer and should be available soon.

Martin Konrad thanked Sauer, Hagerty, and others for their efforts to make the project completion reports more readily available. In response to a question from Janet Sternburg, Jawson explained that the completion report titles and abstracts will be available online. There will also be instructions on how to request full reports. As discussed at previous EMP-CC meetings, the full completion reports will not be directly accessible online in order to avoid conflicts with the journal publication process.

Marv Hubbell reports that the Corps has received 35 applicants for the LTRMP Manager position. Final interviews are scheduled for this afternoon. Hubbell said he expects that a decision will be announced in the near future.

A-Team Report

Sternburg reported that the A-Team meeting previously scheduled in October has been rescheduled to December 4, 2008. The meeting will include presentations and discussions on developing biological indicators to evaluate ecosystem health. She contrasted this with the use of indicators to measure project performance.

FY 10-14 Operating Plan

Hubbell reported that the Operational Planning Team had its first meeting on October 8-9, 2008. According to Hubbell, participants clarified language in the FY 10-14 Strategic Plan, and component specialists provided valuable additional insight. The second meeting is scheduled for December 8-10, 2008, at which the focus will be on identifying the resources needed for various elements of the Strategic Plan and determining communication strategies. Hubbell anticipates the Operational Planning Team will have four meetings, including a meeting to report back to the Strategic Planning Team, and will have a draft Operating Plan for the EMP-CC's consideration at the May 2009 quarterly meeting. In response to a question from Sternburg, Marv said the discussion with component specialists addressed the design and operating objectives of their work, and their role in coordinating with field

stations. Sternburg encouraged the Operational Planning Team to hold a conference call with the Strategic Planning Team, rather than relying exclusively on emails and other written communication.

Martin Konrad asked Hubbell to summarize feedback received and insights gained from field visits with partners. Hubbell indicated that a written summary is pending, and described the main messages he took from the meetings as follows: 1) communication and engagement between field stations, USFWS, and USACE needs to be enhanced; 2) many valuable things are being done at field stations that should be captured in future scopes of work; 3) full cost accounting may be artificially increasing the cost of the restored monitoring, and there appear to be ways of doing this work at minimal incremental cost; and 4) the LTRMP needs to better met the information needs of the USFWS.

Jawson expressed appreciation to all the field stations and Service personnel for their time in attending the field meetings. He said he found the meetings quite helpful, and concurred with Hubbell's summary of the major messages. Jawson added that the uniqueness of each field station was demonstrated at the different meetings, and that every field station has shown a strong commitment to doing the highest quality work. He said there is a challenge in meeting program needs while also accommodating individual station/center needs, but expressed optimism that improved dialog among the partners will help in this regard.

Hagerty said she found the visits to be tremendously helpful, and expressed her hope that they would be repeated again in the future. Konrad stressed the importance of reflecting the insights gained in the forthcoming Operating Plan.

Status and Trends Report

Hubbell reported that the Status and Trends Report is at the printer and will be distributed to the partnership in the near future. A follow-on After Action Report will address the following issues: 1) communication differences; 2) the lack of goals and objectives for the system and reaches, as well as identified indicators; 3) the use of all available data; 4) adding more detail to the statements of work; 5) better defining target audiences; 6) providing opportunities for review and comment throughout the process; and 7) developing a "report card" format. Jawson added that USGS and USACE will seek input on how to improve future Status and Trends Reports.

APE Project Showcase — Off-Channel Fish Assemblages and Implications for Restoration

Brent Knights presented an APE project that evaluated relationships between fish assemblages and various environmental factors, with the goal of better understanding what drives production and how to enhance management and restoration efforts. LTRMP fisheries, vegetation, water quality, and GIS data were used in multivariate and single-factor models. Findings from the project include:

- Fish assemblages can be used to indicate local environmental conditions.
- Off-channel areas enhance fish production and diversity in large river systems, and they are degrading on the UMRS.
- Pool 8 had the most balanced centrarchid populations and other like-habitat species, suggesting that similar conditions [low total suspended solids (TSS) and total nitrogen (TN), moderate amounts of moderately deep water, high dissolved oxygen, low connectivity, and aquatic vegetation] should be sought in other pools if this is the desired fishery.
- Watershed programs may be most effective at reducing high TSS and TN levels and enhancing fish assemblages.
- Current management efforts to enhance physiochemical conditions and vegetation in off-channel areas have the greatest potential for success in areas less affected by TSS.

Jeff Janvrin noted that these results are evident in non-LTRMP pools and findings from other related studies. Jim Fischer lauded the study, saying it reflected top quality, creative work. He said it demonstrates the utility of the LTRMP monitoring design and data.

Other Business

Charlie Wooley welcomed Jim Fischer to the EMP-CC, and thanked Gretchen Benjamin for her many contributions, passion, and dedication while representing Wisconsin on the EMP-CC. Wooley said he is pleased that Benjamin will continue to be actively involved on the UMRS in her new role with The Nature Conservancy.

Karen Hagerty announced that the third annual National Conference on Ecosystem Restoration will be held on July 20-24, 2009 in Los Angeles. The conference will include a day long session on the Mississippi River System.

Barb Naramore outlined the upcoming quarterly meetings schedule as follows:

- **February 2009 – St. Louis**
  - UMRBA **—** February 17
  - **EMP-CC — February 18**
  - **Joint EMP-CC and NECC — afternoon of February 18** (if needed) [not scheduled]
  - NECC/ECC **—** February 19

- **May 2009 – St. Paul**
  - UMRBA **—** May 19
  - NECC/ECC **—** May 20
  - **Joint EMP-CC and NECC/ECC — afternoon of May 20** (if needed)
  - **EMP-CC — May 21**

- **August 2009 – Peoria**
  - UMRBA **—** August 4
  - **EMP-CC** — August 5
  - **Joint EMP-CC and NECC/ECC — afternoon of August 5** (if needed)
  - NECC/ECC **—** August 6

With no further business, the meeting adjourned at 11:55 a.m.

EMP-CC Attendance List
November 20, 2008

EMP-CC Members

Charles Barton	U.S. Army Corps of Engineers, MVD
Charlie Wooley	U.S. Fish and Wildlife Service, Region 3
Mike Jawson	U.S. Geological Survey, UMESC
Rick Mollahan	Illinois Department of Natural Resources
Martin Konrad	Iowa Department of Natural Resources
Tim Schlagenhaft	Minnesota Department of Natural Resources
Janet Sternburg	Missouri Department of Conservation
Jim Fischer	Wisconsin Department of Natural Resources
Bill Franz	U.S. Environmental Protection Agency

Others in Attendance

Terry Smith	U.S. Army Corps of Engineers, MVD
Jeff DeZellar	U.S. Army Corps of Engineers, MVP
Marvin Hubbell	U.S. Army Corps of Engineers, MVR
Karen Hagerty	U.S. Army Corps of Engineers, MVR
Jan Hodges	U.S. Army Corps of Engineers, MVR
Darron Niles	U.S. Army Corps of Engineers, MVR
David Bierl	U.S. Army Corps of Engineers, MVR
Brian Markert	U.S. Army Corps of Engineers, MVS
Rick Nelson	U.S. Fish and Wildlife Service, RIFO
Jon Duyvejonck	U.S. Fish and Wildlife Service, RIFO
Rick Frietsche	U.S. Fish and Wildlife Service, UMR Refuge
Rob Middlemis-Brown	U.S. Geological Survey, Iowa Water Center
Kirk Hansen	Iowa Department of Natural Resources
Mike Griffin	Iowa Department of Natural Resources
Mike Steuck	Iowa Department of Natural Resources
John Fleig	Iowa Department of Transportation
Dru Buntin	Missouri Department of Natural Resources
Jeff Janvrin	Wisconsin Department of Natural Resources
Tom Boland	MACTEC
Garry Loss	CDM
Gretchen Benjamin	The Nature Conservancy
Doug Blodgett	The Nature Conservancy
Brad Walker	Izaak Walton League
Barb Naramore	Upper Mississippi River Basin Association
Dave Hokanson	Upper Mississippi River Basin Association
Kirsten Mickelsen	Upper Mississippi River Basin Association