Upper Mississippi River Basin Association
Water Quality Task Force Meeting
January 20-21, 2010
Davenport, Iowa

Meeting Summary

Participants

Gregg Good	Illinois EPA
Matt Short	Illinois EPA
John Olson	Iowa DNR
Marvin Hora	Minnesota PCA
Mohsen Dkhili	Missouri DNR
Jim Baumann *(2)*	Wisconsin DNR
John Sullivan	Wisconsin DNR
Bill Franz	US EPA, Region 5
Brian Thompson *(3)*	US EPA, Region 5
Larry Shepard	US EPA, Region 7
Ted Angradi	US EPA, Office of Research and Development
Dave Bolgrien	US EPA, Office of Research and Development
Ken Barr	USACE, Rock Island District
Dave Bierl	USACE, Rock Island District
Karen Hagerty *(1)*	USACE, Rock Island District
Marvin Hubbell *(1)*	USACE, Rock Island District
Chuck Theiling (*1)*	USACE, Rock Island District
Jeff Houser *(1)*	USGS, Upper Midwest Environmental Sciences Center
George Hunt	HDR, Inc.
Peg Donnelly	UMRBA/US EPA Region 5
Dave Hokanson	UMRBA
Barb Naramore	UMRBA

(1) Attended first day only.
(2) Participated by phone first and second day.
(3) Participated by phone second day only.

Call to Order and Introductions

The meeting of the Water Quality Task Force (WQTF) was called to order at 8:15 a.m. by Gregg Good. Introductions of all in attendance followed.

Corrections to Previous Meeting Summary

Dave Hokanson asked whether there were any corrections to the summary of the September 2009 WQTF meeting. No corrections were requested.

UMRBA Water Quality Activities Update and Meeting Preview

Hokanson provided a summary of the water quality-related discussions engaged in by the UMRBA Board and Water Quality Executive Committee (WQEC) during their November 2009 meetings in Rock Island, Illinois. He noted that the following topics were among those addressed: the Board's direction on next steps emerging from the May 2009 UMR Biological Indicators workshop, UMR reach crosswalk document, the UMR designated use project, US EPA Region7's decision on whole body contact recreation for the Mississippi River in the St. Louis area, nutrient issues including the USDA's

Mississippi River Basin Healthy Watersheds Initiative (MRBI), potential future funding options, and conversations with stakeholders (NGOs and water suppliers). In summary, Hokanson observed that the November meeting confirmed the priorities for UMRBA's water quality work remain largely the same (i.e., more consistent and improved CWA water quality programs on the UMR), with increasing focus on nutrient and non-point source pollution issues.

Hokanson next gave a brief overview of the WQTF meeting agenda and offered to address any questions regarding the agenda. No questions were raised.

Interstate 305(b) Assessment and 303(d) Listing Consultation

Illinois

Good noted that Illinois EPA produces an integrated 305(b) assessment and 303(d) listing report. He said that Illinois' 2008 list has been partially approved by US EPA, but that some nutrient-related issues are currently preventing full approval, though these issues do not affect any UMR listings. Good indicated that Illinois EPA is targeting June 2010 for completion of its 2010 list. He also commented on discussions taking place between US EPA and ASIWPCA about the possibility of moving to a five year assessment cycle, while retaining the two-year listing cycle. Good noted that Illinois EPA is not necessarily enthusiastic about this and wants further information about such a change.

Missouri

Mohsen Dkhili reported that Missouri's 2008 303(d) list has been approved by US EPA, and that this approval included adding back zinc and lead impairments for the UMR between the Missouri and Ohio Rivers. He also commented on US EPA Region 7's decision letter rejecting Missouri's decision to exclude an approximately 28-mile segment of the UMR in the St. Louis area from full body contact recreation use. Dkhili said it was likely that full body contact would be applied for this area in Missouri's next assessment and listing cycle.

Larry Shepard observed that US EPA's recent action may have reflected, in part, direction from the new Administration. Good asked whether the driving issue regarding the use designation was bacteria levels. Dkhili replied that bacteria levels, and the relationship to disinfection requirements for the St. Louis Metropolitan Sewer District (MSD), were primary issues.

Bill Franz highlighted two points made in the US EPA decision letter: 1) recreation does take place in this segment of the UMR and 2) MSD has not been able to demonstrate that disinfection is not economically feasible. Matt Short noted that a disinfection exemption is in place for one mile in the Sauget area on the Illinois side of the UMR, but that this was not addressed in the US EPA decision letter. Franz commented that it was not apparent whether US EPA Headquarters was aware of this exemption when the decision letter was written, and that US EPA may look into this and other disinfection exemptions.

Shepard added that hydrokinetics could be a related issue, as US EPA has asked the Federal Energy Regulatory Commission (FERC) to consider the relationship between hydrokinetic installations and recreation uses.

Franz asked Dkhili about the status of Missouri's 2010 303(d) report. Dkhili replied that the methodology for the 2010 cycle was in place and that work on the list itself will follow.

Iowa

John Olson said that US EPA Region 7 is currently reviewing Iowa's 2008 impairment list. He noted that the Region had not agreed with Iowa's proposal to de-list a border water with Nebraska, where de-

listing was proposed because Nebraska had developed a TMDL for the water body. While not a UMR-specific issue, Olson observed that this is both an interstate issue potentially relevant for future decisions and an example of the challenges raised when a de-listing is proposed.

Regarding Iowa's 2010 reporting, Olson said that Iowa DNR is in the process of doing assessments, but it was not clear if the report would be completed within the 2010 calendar year. He noted a change in assessment methodology in regard to E. coli, where the geometric mean, rather than a single sample maximum, would be used. Olson also indicated that Iowa will likely re-list the UMR between the Wisconsin River and Lock & Dam 11 for aluminum, which had been removed from the 2008 list. The change is due to the state's adoption of new metals criteria.

Minnesota

Marvin Hora reported that US EPA has approved Minnesota's 2008 303(d) list. He also said Minnesota's 2010 list has been through public comment, and the agency has responded to these comments. Hora noted that 3M contested the PFOS listing for Pool 2. He explained that extensive PFC sampling in the summer of 2009 indicated that PFOS levels in Pool 2 may be declining and that freshwater drum is the only fish species to demonstrate tissue concentrations above the advisory level. Hora said that the Minnesota Department of Health has wanted to maintain the fish consumption advisory for Pool 2 – which triggers an automatic listing, while 3M has argued that the advisory should be removed. MPCA will need to respond to the request for a contested case hearing, unless 3M drops its challenge. Hora commented that, in any event, this issue was likely to delay completion of Minnesota's 2010 list. But Hora said he still thinks MPCA will have its list ready to submit to US EPA in April 2010.

Ken Barr asked whether the Pool 2 PFOS issue would have any relevance for walleye. Hora responded that walleye are "put and take" in this area of the river and that it is therefore unlikely that walleye would trigger any fish consumption advisories or resulting impairment determinations.

Sullivan asked whether Minnesota's 2008 PFOS impairment goes downstream beyond the Chippewa River. Hora replied that the impairment does not currently go any further downstream, but that this may need to be revisited in the future. He added that changes to the 2010 list, if any, resulting from the contested Pool 2 listing would result in re-noticing of the 2010 list.

Hora also commented that MPCA is revising its approach to assessment to align with the state's watershed monitoring design.

Wisconsin

Jim Baumann reported that Wisconsin's 2008 impairment list is pending before US EPA, and that the state expects to hear back soon. He also said public comment on the 2010 list was just completed and he anticipates Wisconsin DNR will submit its 2010 list to US EPA in April 2010. Franz commented that he expects US EPA will approve Wisconsin's 2008 list soon, but that he could not provide a specific date or timeline.

Baumann next addressed Wisconsin's proposed UMR listings for 2010 in detail, providing this information via a spreadsheet. He noted that the UMR as a whole falls under Wisconsin DNR's general fish advice for mercury. Therefore, even though Wisconsin may not put all the segments on its list for mercury in fish tissue as Minnesota had done, at least some level of fish consumption advice applies to the entire UMR. In addition, some UMR reaches are listed individually for site-specific impairments related to mercury in fish tissue. Dkhili asked whether Wisconsin had any plans for mercury or PCB TMDLs for the UMR. Baumann and Sullivan replied that there were no specific plans at this time.

US EPA

No further comments or reports regarding assessment and listing were provided by US EPA staff.

Upcoming Issues for UMR Assessment and Listing

Sullivan asked Hora about Minnesota's approach to a PFOS listing below the Chippewa River. Hora concurred that there is a potential inconsistency between Minnesota and Wisconsin's listings, in that Wisconsin is proposing a PFOS listing below the Chippewa River, while Minnesota's PFOS listing ends at the Chippewa River. Sullivan noted that this is an issue that needs to be considered and cleared up between the states.

Hora observed that the issue may be tied to how Minnesota issues fish consumption advisories (i.e., by pool) vs. how impairment listings are done (i.e., by reach). In Minnesota, contamination in any pool of a reach would result in the entire reach being listed. Dkhili noted that the minimum assessment reach MOU does not prevent the subdivision of reaches as appropriate. Barr commented that this type of consideration is one of the reasons USACE has used dams as dividing points in its planning work. Sullivan observed that the pool vs. reach problem would still be present even if geomorphic reaches were used, as these also span across multiple pools. Good suggested that this issue also be considered in the context of the reach planning discussion taking place later in the morning.

Other Agency and Organization Updates

Lake Pepin TMDL Update

Hora distributed a handout summarizing the status of the Lake Pepin TMDL and related efforts, noting in particular that a site-specific TSS criterion for the south metro Mississippi River (32 parts per million summer average for stations at Lock and Dams No. 2 and No. 3) is being proposed at this time. Site-specific criteria for nutrients are not being proposed currently. Instead, nutrients for this reach will be addressed in conjunction with the development of nutrient criteria for Minnesota streams as whole and for other portions of the UMR in particular. He noted that linking Lake Pepin/south metro nutrient criteria development with development of other nutrient criteria will provide a better understanding of nutrient dynamics and an improved ability to account for upstream contributions of nutrients to Lake Pepin. The overall schedule is thus for site-specific TSS criteria to move forward in 2010 and site-specific nutrient criteria to be deferred until 2011, when other nutrient criteria will also be developed.

Dkhili asked how Minnesota is approaching nitrate. Hora replied that MPCA expects that toxicity, rather than eutrophication, will be the driver in setting nitrate criteria. Olson asked if Hora had any sense of what the final criterion for nitrogen might be. Hora replied that no specific determination has been made, but it was possible the criterion would be in the 2-3 mg/l range. He indicated that wide-ranging toxicity testing, funded by US EPA, is ongoing. Sullivan asked whether both acute and chronic criteria are being developed and if impacts on mussels are being assessed. Hora replied that he was not familiar with these details, but that these items are likely being addressed.

Illinois

Good said reductions in staff and funding continue to have a substantial impact on programs at Illinois EPA, as well as at Illinois DNR. He noted that Illinois DNR may not be able to sustain its fish collection program.

Missouri

Dkhili said staffing reductions are also a challenge for Missouri DNR, though impacts on monitoring and assessment programs have not been as great as in some other areas of the department. He added that Scott Totten is now the Acting Director of Missouri DNR's Water Protection Program and that Totten will also be serving on the UMRBA WQEC.

Iowa

Olson said Chris Yoder has completed a review of Iowa DNR's biological assessment program and has just submitted a technical memo on the review, recommending that the program work further on tiered aquatic life uses (TALU). Olson added that budget and staffing reductions have not impacted Iowa DNR's water program yet, but said staffing in the program was fairly minimal to start with.

Minnesota

Hora commented that program funding within MPCA is varied, depending on whether a particular program is receiving funds from the Clean Water Legacy Act or not. He added that even when Legacy Act funds are available, they are intended for use on new projects only. Hora observed that Legacy Act funds have allowed for some staff to be retained by shifting them to Legacy projects. He added funding limitations are generally impacting the ability of staff to travel.

Wisconsin

Baumann said he would provide his report during dedicated discussion time on nutrient issues the following day, as the majority of his comments would focus on Wisconsin's nutrient standards and the Notice of Intent to Sue that was delivered to US EPA in November 2009 regarding Wisconsin's nutrient standard development. Hora commented that US EPA has also received a petition (from the Minnesota Center for Environmental Advocacy) requesting the revocation of MPCA's permitting authority.

US EPA Region 7

Shepard said Karl Brooks has been named Regional Administrator for Region 7. Senior staff will now begin the process of briefing the new Administrator. Shepard commented that these briefings may provide an opportunity to bring large river issues to the Brooks' attention. Shepard suggested that UMRBA may wish to use this time to reintroduce itself to the Region and revisit the question of the Region's participation in the WQTF.

US EPA Region 5

Franz said that there has not been any news regarding the appointment of a new Regional Administrator. Bharat Mathur continues as Acting Regional Administrator. Franz observed that the US EPA decision letter regarding Missouri's use designation for the UMR in the St. Louis area may have an impact on the disinfection exemption in place in the Sauget, Illinois area and other disinfection exemptions. Franz also reported on recent POTW workshops Region 5 conducted with ORSANCO on the Ohio River. The workshops addressed nutrients, combined sewer overflow (CSO), energy efficiency, and other issues. He indicated that there may be efforts to replicate these workshops in other locations, including on the UMR. Franz also commented that treatment wetlands appear to be a viable option to deal with CSO discharges for small and mid-size communities.

UMRCC Water Quality Tech Section

Matt Short gave a brief report on the November 2009 meeting of the UMRCC Water Quality Tech Section. He noted that items discussed at the Tech Section included fish management/Asian carp on the Illinois River and Chicago waterways, the Upper Mississippi River PFC sampling project, and the need for a UMR data sharing clearinghouse.

Other Updates

Hokanson reported that Andy Lindstrom of US EPA will soon be submitting a manuscript to *Environmental Science & Technology* regarding the UMR PFC sampling project. If the WQTF members have any additional comments, they should submit them to Andy as soon as possible. [Note: The manuscript was submitted on February 3, 2010.] Hokanson also highlighted an upcoming public meeting of the "Mississippi Makeover" effort and a recently published edition of the journal *Hydrobiologia* that included several articles focusing on the UMR.

CWA Programs and the Long Term Resource Monitoring Program

Current Use of LTRMP Data by CWA Programs

Hokanson provided an overview of the current use of LTRMP data by UMR CWA programs and distributed a summary document on this topic. He indicated that the discussion was at least in part being driven by the question of "Why don't CWA programs make more use of LTRMP data?" He offered the following initial observations in answer to this question:

- It's not a question of *if* CWA programs use LTRMP data, but rather *how* and *how much*.
- Use of LTRMP data has been growing over time in CWA programs.
- LTRMP is not the only external data set that CWA programs use.
- Applications of LTRMP data are emerging beyond just 305(b) assessments and 303(d) listings (e.g., Lake Pepin TMDL).
- There are several parameters (e.g., DO, pH, ammonia) from the LTRMP water quality component that appear to be most immediately useful to CWA programs.
- Fixed site data is used most widely by CWA programs. Stratified random sampling data is less frequently used.
- The states do not have numeric criteria for many of the LTRMP water quality parameters, and LTRMP does not monitor for many of the parameters for which there are numeric criteria (e.g., metals and toxics).
- Currently, CWA programs do not have standards that can make use of LTRMP's biological data – i.e., its vegetation, fish, and macroinvertebrate components.
- Data access and availability may not present as great a challenge as previously thought, and may not be unique to LTRMP.
- Work on designated uses and biological assessment may provide additional opportunities to make use of LTRMP data in CWA programs.
- Other emerging applications in CWA programs may also provide opportunities for continuing or increased use of data.
- Adding location information to LTRMP data sets available via the web may be very helpful.
- There may be a role for greater cross-program involvement and training
- Each program area might consider the other in future activities (e.g., in standards development, sampling design, outpool sampling, strategic planning, etc.).

Hokanson emphasized that these were just initial observations and that the document distributed is very much a draft. He said that the purpose of this session's other presentations and discussion is to further explore these issues.

LTRMP Overview, Data Sets, and Data Availability

Jeff Houser said his presentation would focus on what information LTRMP collects and where/how that data can be accessed. He next gave an overview of the LTRMP's components [i.e., water quality, fisheries, vegetation, macroinvertebrates (no longer monitored)] and affiliated data sets and tools (e.g., bathymetry, land use/land cover, GIS, and decision support systems). Houser also described the five study reaches on the UMR where the LTRMP base monitoring is done, the water quality parameters for which LTRMP samples, and the two parts of LTRMP's monitoring design [i.e., stratified random sampling (SRS) and fixed site sampling (FSS)].

In response to a question from Short, Houser said that SRS locations for water quality sampling are randomly chosen for each sampling event each year. Sullivan noted that SRS site selection is based on land use/land cover information. He asked if any SRS sites have actually changed their strata classification due to river dynamics. Karen Hagerty noted that this issue had also been raised in the context of LTRMP fish sampling. Houser replied that not many sites have been affected in this way. He said that, while some adjustment in site classification might ultimately be needed, it is not a significant issue in considering LTRMP data.

Dkhili asked how randomization is accomplished for SRS sites. Houser said a grid is applied over a strata and sites are randomly selected from intersects on the grid. Chuck Theiling asked whether site selection was area-weighted. Houser replied that this is not the case. He added that backwaters are sampled more intensively for water quality than the main channel because they are expected to be more diverse.

Houser continued his presentation by describing LTRMP vegetation sampling. Vegetation monitoring was not initiated as early in the program as water quality monitoring. Sampling for vegetation is currently conducted once per year via rake sampling.

In response to a question from Marvin Hubbell, Houser said the vegetation component also incorporates some observational data. Dave Bierl asked whether any FSS is conducted for vegetation or whether it was all SRS. Houser and Hagerty replied that there is no FSS for vegetation.

Houser also described LTRMP fish monitoring, noting that five gears are currently used, with 7-9 strata for SRS, and three sampling periods per year.

Houser next demonstrated how to access data through the LTRMP website (www.umesc.usgs.gov/ltrmp.html). He showed how to access raw data sets and how to use LTRMP's graphical browsers to view SRS and FSS data.

Short asked what "station 7" was in some of the LTRMP data. Houser replied that data for this "station" was collected using LTRMP equipment, but did not take place in one of the LTRMP study reaches.

Dkhili asked whether LTRMP reviews its monitoring protocols in light of what is being observed in the data. Houser replied that LTRMP does consider this, but also noted that LTRMP is a generalist program and that no major changes to monitoring are currently anticipated. Dkhili next asked whether there is a standard depth at which water samples are collected. Houser replied that water quality samples are usually taken at 0.2 meters, unless there is a reason to believe that stratification may be taking place, such as may occur with dissolved oxygen.

Hubbell reminded the group that the LTRMP is part of USACE's Environmental Management Program (EMP) and therefore is intended primarily to support and inform EMP's habitat restoration programs

and related river management effort. It was not developed with CWA purposes in mind. Bierl added that LTRMP data can be particularly valuable for habitat restoration enhancement projects (HREPs).

John Olson commented that he has trouble determining the locations of fixed sites. In response, Houser demonstrated how to get this information from the LTRMP graphical browser.

Good asked whether the decision to discontinue macroinvertebrate monitoring was strictly financial in nature. Hubbell responded that this was the case, and Hagerty added that LTRMP's strategic plan does address the reinstatement of macroinvertebrate monitoring should funding permit. Sullivan noted that there are a number of questions surrounding macroinvertebrate monitoring. Hagerty said obtaining meaningful macroinvertebrate information proved particularly challenging on the lower reaches of the UMR.

Hubbell asked whether FSS were the data sets most commonly used by the state CWA programs. Illinois, Missouri, and Iowa WQTF members indicated that their states only use FSS data. Sullivan indicated that Wisconsin DNR used both FSS and SRS data.

Hubbell asked whether LTRMP fish sampling could provide the information needed for CWA bioassessment. Short replied that this was not clear yet as the methodology for doing UMR CWA bioassessments had not yet been agreed to. Theiling observed that one challenge is that most multimetric indices are only applicable to wadeable streams. Houser observed that if a selected metric is based on relative abundance, then LTRMP data should be helpful, depending on what exactly is needed. Sullivan noted that a publication comparing various IBIs (including those from WI DNR and EMAP) is forthcoming.
Theiling suggested that the lack of an agreed-upon reference condition will also be a challenge. Dave Bolgrien noted that EMAP has already done some work on UMR reference conditions.

Bolgrien asked whether LTRMP also collects discharge information along with its samples. Houser replied that LTRMP does not directly collect discharge information but he explained that discharges are available from USGS and can be matched up with LTMRP data. Dkhili commented that this information may be needed in determining compliance with water quality standards. Theiling also suggested it may be important to look at river stage, as well as flow.

User Perspectives on Applying LTRMP data for CWA Purposes

Sullivan provided a detailed example of how Minnesota and Wisconsin have used LTRMP data in their water quality work from the Twin Cities metro area down to Lake Pepin. He described the application of LTRMP data in the following contexts: 1) identification of a sediment-related impairment for Wisconsin's 303(d) list, 2) development of a water quality model for the Lake Pepin TMDL, and 3) identification of site-specific TSS and SAV water quality criteria for Pool 2 to Lake Pepin. He also noted that EMAP sampling methods informed how sampling for vegetation should be conducted in relation to the SAV criterion. Sullivan emphasized that identifying a sediment-related impairment and developing site-specific criteria were only possible because of the monitoring and research conducted by LTRMP.

Dkhili asked how monitoring is going to be conducted to determine if the 32 mg/l site-specific TSS criterion is being met. Sullivan responded that the criterion will be compared to monitoring data collected at Lock & Dam 2 and Lock & Dam 3. Bolgrien asked what the scope of monitoring will be to measure whether the SAV criterion is being achieved. Sullivan replied that approximately 100 sites will be sampled on annual basis, at least until more information is gathered, which might trigger modifications in the sampling protocol.

Short described IL EPA's ambient water quality monitoring program for the UMR. He also compared IL EPA's sampling sites to LTRMP's sampling sites and the parameters monitored by IL EPA versus those monitored by LTRMP. Short also noted that IL EPA utilizes LTRMP FSS data currently, but does not use SRS data.

Theiling asked whether data are only examined for a single season or whether data from throughout the year are utilized. Short replied that data are used from throughout the year. He further explained that IL EPA issues a formal solicitation for data to be used in its assessments. Typically, water chemistry data needs to come from at least 3 years of routine sampling for the state to use it. Short then described the process by which he typically extracts LTRMP data for use in IL EPA's assessments, noting that IL EPA has not determined how it might incorporate SRS data into assessments.

Short commented that IL EPA's own data typically is the driving data source for assessments, but that he has observed good concurrence between IL EPA's data and data received from other sources, including LTRMP. He noted, however, that field-quantified data, such as pH and dissolved oxygen, has showed more variation due to factors such as the time of the day at which the data was collected.

Houser asked whether the primary issue with the states' use of SRS data is that it does not provide data from the same site every year. Short replied that this is indeed a primary issue and that it is difficult for the states to integrate this type of data into their assessment methodologies. Houser asked whether a pool could be considered a "site" in this context and if a pool-wide mean could be used for determining compliance with criteria. Short replied that the states would need to develop a way to account for this type of data alongside single site-based data sets. He added that IL EPA's lake assessments do combine data from multiple points into a trophic state index, but that similar approaches are not yet developed for rivers.

Hubbell asked whether all the states use LTRMP in a fashion similar to what Short had described. Sullivan and Hora indicated that Minnesota and Wisconsin's approaches are similar. Hokanson noted that Illinois, Iowa, and Missouri previously indicated that they use only FSS data in their CWA assessments. Sullivan added that both Minnesota and Wisconsin also use SRS data.

Hora asked whether LTRMP considers data collected by states and others to "fill the gaps" in its data. Houser replied that this was not done and would be a very substantial amount of work.

Challenges and Opportunities Regarding Enhanced Collaboration and Use of Data

Good asked the WQTF members whether there are any water quality parameters for which LTRMP does not currently sample that would be particularly valuable for CWA programs. Houser noted that the marginal cost of adding additional parameters to LTRMP sampling may be relatively small. Sullivan commented that most of the impairments current listed are not associated with parameters sampled by the LTRMP.

Hubbell commented that the LTRMP has recently completed a strategic plan that specifically identifies the possibility of building on LTRMP's base monitoring platform using resources from other programs to better meet those programs' needs. He added that looking for partnership opportunities may allow for both more data to be available and more stable funding for LTRMP. Sullivan noted that EMAP work may also help inform LTRMP's biological component.

Hokanson observed that possible areas for future discussion and potential collaboration appear to include: 1) greater use of SRS data by state CWA programs, 2) exploring ways to better integrate biological data into state CWA programs, and 3) considering possible future monitoring partnerships.

UMR Reach Planning

Theiling gave an overview of the UMR reach planning process being led by USACE. He explained that future restoration projects, whether under EMP or the Navigation and Ecosystem Sustainability Program (NESP), will be derived from and will contribute to the objectives identified in this process. Theiling then described the four floodplain reaches and 12 geomorphic reaches that are being utilized in the reach planning process. Good asked what areas were covered by geomorphic reaches 11 and 12. Theiling replied that these were Illinois River reaches.

In describing the status of the reach planning effort, Theiling stated that objectives, unique characteristics, and stressors for the four floodplain reaches have been identified and published. He said that reach planning groups in the floodplain reaches met approximately three times each through the course of the fall and that a report is now in draft describing reach planning outcomes on a system-wide basis.

Theiling observed that the objective setting process has cross-discipline, cross-program value, noting that some of the objectives are affected by conditions outside of the floodplain. These may well require actions by other programs to be achieved.

Theiling said that the reach planning process is now moving into a phase of seeking to identify areas at the sub-geomorphic reach scale where restoration projects could help achieve identified goals. He noted that in some cases these projects will address water quality goals.

Dkhili asked what is meant by "restore sediment regimes" in the reach objectives. Theiling replied that depends on the specific reach. Hubbell concurred and emphasized that this was part of the value of planning by distinct reaches, which allows objectives to reflect the specific desired conditions for those reaches.

Theiling noted that GIS can be employed to illustrate the impacts of potential projects and identify areas where there may be efficiencies achieved in coordinating work on projects. Ken Barr said that the number of subareas being examined is approximately 10 per pool, but that the exact number depends on the complexity of the pool.

Hokanson asked Theiling what he sees as needs for input from the WQTF as the reach planning process moves forward and what he thinks about the different reach designations being employed by the CWA and restoration programs. Theiling responded that GIS allows for easy cross-matching of different reaches and that he therefore does not necessarily see a need to harmonize the reaches.

Sullivan stated that it is important to articulate any criteria that will be associated with reach planning efforts (e.g., numeric criteria for supporting habitat objectives, such as for dissolved oxygen) and to be explicit regarding where these apply. Theiling replied that the reach planning process has the ability to accommodate spatial distinctions. Franz emphasized the importance of this. As an example, Franz noted that desired sediment levels may be very different for upper and lower UMR reaches.

Theiling noted that the aquatic areas being employed in reach planning are different than LTRMP strata. Houser commented that LTRMP strata are groupings of the more specific strata being used in reach planning. Barr asked what aquatic areas were being used in reach planning. Theiling replied that the areas being used were those documented in Dan Wilcox's 1993 paper, plus some additional digitization.

Barr thanked the WQTF members for their participation in the reach planning process thus far. He asked members whether they view their participation as having been useful and whether they had any suggestions regarding their engagement going forward. Barr emphasized that he wants to maintain a connection to the WQTF as reach planning proceeds. Short replied that the WQTF would like to stay engaged, while acknowledging that some of the reach planning discussions extend beyond water quality staff's areas of expertise. Sullivan expressed an interest in any monitoring that is done to assess project outcomes.

Designated Use Project Update

Year 1 Project Report

Peg Donnelly reviewed the contents of the Year 1 report for UMR designated uses project. She noted that she is looking for feedback both regarding the content and the format of the report, and commented that this report may provide a template for the project's final report. Donnelly also said that while this report is intended for the use of the WQTF and WQEC, the final project report will potentially be provided to a wider audience.

Good and Short commented that the number of uses assessed by Illinois is greater than the two listed as designated (general use and public & food processing water supply). Dkhili indicated that assessment is only done for uses that occur in a waterbody and that, therefore, there may be a difference between the uses that are designated and the uses that are assessed.

Good suggested that the discussion of impairment listings should be integrated into the state-by-state program descriptions.

Hora commented that some waterbody-specific approaches have evolved over time, such as those for the Great Lakes, and that this indicates a recognition of the differences among water bodies. He also emphasized the importance of using common terminology, and suggested that a potential product from the project would be a generic description of UMR designated uses that the states could consider adopting. Hora observed that, from his perspective, the lack of a common terminology was a primary driver behind the initiation of the designated uses project. Shepard concurred that the issue of common terminology is important, adding that common terminology will also be key as the WQTF considers biological assessment approaches.

Sullivan asked whether it would be helpful in Table 1 to also list uses that are <u>not</u> applied to the UMR. Dkhili commented that recreation, aquatic life, and drinking water are the only uses Missouri DNR assesses for the UMR. He added that Missouri is trying to make its list of designated use more closely match what is assessed. Short said it is important to keep the focus on what is being done for the UMR, and therefore suggested that only uses assigned to the UMR should be reflected in Table 1.

Good said that the focus of the report and the project should be most specifically on the aquatic life use component. He suggested that the text currently contained on pages 18-19 under "Designated Uses on the UMR" should be the lead text for the report. Bolgrien proposed that Table 1 be made more specific to address designated aquatic life uses only. Olson stated that he concurred with Good's recommendation to move the text on pages 18-19 to the front of the report, and also cautioned the WQTF not to be become too concerned with perfecting the background information as it was more important to move forward in considering new ways to approach aquatic life use designations. He also indicated that Iowa is open to the idea of new uses in its standards that could be applied both to the UMR and to other water bodies as appropriate.

Hokanson suggested that perhaps the project should really be referred to as the "aquatic life designated use project," rather than the "designated uses project," in order to convey the project's focus. He also

reiterated his understanding that the WQTF wants to pursue the application of specific metrics in the main channel, while the designated use project further defines meaningful lateral distinctions among UMR strata. Olson and Sullivan affirmed this understanding.

Sullivan suggested that a methodology description might be helpful in understanding currently designated aquatic life uses, as the meanings of use designations are often captured within the methodologies.

Next Steps/Year 2 Work Plan

Hokanson emphasized that it is important for the WQTF to articulate priorities and direction to guide Donnelly's work. Good agreed, but stated that the WQTF needed to be clear on where it was before it could consider next steps. Barb Naramore suggested that the WQTF members should take another look at the project work plan before deciding on next steps.

Donnelly stated that the water chemistry data she has reviewed to date do not by themselves suggest aquatic life classifications and that, depending on season, the parameter ranges can overlap significantly between strata. She emphasized that water chemistry data alone are not going to "draw a map" of potential aquatic life use designations.

Sullivan stated that biological data should really be what drives distinctions in aquatic life use designations. Dkhili concurred that ideally biology would be the driver, but said chemistry data is more commonly available and can be relatively easily shared among states.

Good asked the WQTF members if they wanted to see biological data in the next report from Donnelly. Hora said this would be appropriate. Donnelly asked what the group had in mind for biological data beyond fish. Sullivan replied that fish and macroinvertebrate might be the first place to start. He added that recent Ramsar designation for the UMR floodplain wetlands should also be considered in the context of the project.

EMAP-GRE Update

Availability of EMAP-GRE Data

Bolgrien said that EMAP-GRE data is available upon request, and that anyone interested in obtaining data should contact him or contact Ted Angradi. He said the data will eventually be available via the web. Angradi added that, while the data can certainly be shared, EMAP-GRE was primarily intended to develop tools rather than acquire and serve data.

EMAP-GRE Findings: Thresholds, Condition Extent, and Relative Risk Estimates

Angradi gave a brief overview of the EMAP-GRE program and then described the concepts of condition class threshold (CCT) and relative risk (RR). He described the CCT as a number that separates most disturbed condition (MDC) from an intermediate condition or that separates an intermediate condition from a least disturbed condition (LDC). Angradi emphasized that CCTs are not general reference conditions for great rivers, but are context specific. He also noted that they are an integration of available information and professional judgment. Angradi next described RR as the probability that a biological indicator is in poor condition when stress is high relative to the probability that a biological indicator is in poor condition when stress is low.

Angradi displayed extent estimates for a variety of biotic indicators (e.g., fish assemblage, benthos, mercury toxicity to various species, macrophyte cover) on the UMR, Missouri River, and Ohio River. These estimates gave the percentage of river length which fell into LDC, intermediate, or MDC for each

of the biotic indicators. In these extent estimates, a majority of the UMR was in MDC for fish assemblage, benthos, trophic state, and macrophyte cover.

Angradi next showed RR estimates for several biotic indicators (specifically, fish assemblage, benthos, aquatic vegetation, toxicity to kingfisher) in terms of their response to various stressors (e.g., channel complexity, urbanization, floodplain agriculture). He noted that the highest RRs were for those stressors affecting toxicity to wildlife and that, across rivers, the most significant RRs were those resulting from urbanization, followed by water quality stressors. However, Angradi noted that there were several "implausible" RR estimates. Additionally, he cautioned that a correlation between a stressor and biotic indicator in an RR does not necessarily imply causation. In summary, Angradi said that RRs can be a powerful tool, but they need to be used carefully.

Sullivan asked whether any states are using RR in their CWA assessments. Bolgrien replied that no states appear to be using RRs this time, and that the approach emerged from work in medical literature. Angradi noted that there are currently some limits to the applicability of RRs in the CWA setting.

US EPA Region 7 Nutrient Survey of UMR, Missouri River, and Tributaries

Shepard described Region 7's recent nutrient sampling as an attempt to "ground truth" modeling and other ongoing efforts to estimate nutrient contributions. He said that Region 7 has completed spring, summer, and fall sampling on the mainstems of the Mississippi and Missouri Rivers (4 sites each), as well as tributaries (16 sites on Mississippi River tributaries and 18 sites on Missouri River tributaries). Shepard described the sampling approach as grab samples collected at one meter depth and at a distance of two meters from shore.

Shepard next displayed charts with the results of the monitoring, noting that there were large differences in spring results relative to summer and fall results. He explained that higher flows in spring very likely contribute to higher concentrations of nutrients. Shepard also noted that, for Mississippi River sites, fairly uniform levels of nitrogen were observed.

Angradi asked what was thought to be the cause of relatively high levels of phosphorous in the Kansas City area. Shepard replied that this was likely resulting from point source wastewater discharges. Angradi said that EMAP-GRE has also detected these types of patterns in the Kansas City area.

The meeting adjourned for the day at 5 p.m. and reconvened the following day at 8 a.m.

Day 1 Reflection/Day 2 Overview

The meeting's second day began with the WQTF revisiting a number of items from the first day, as described below.

Designated Use Project – Next Steps/Data Analysis

Good noted that, based on the preceding day's discussions, there appears to be a need to further shape the data analysis component of the designated use project. He presented a proposal for moving forward as follows:

- Continue to focus on examining LTRMP data in the program's study pools.
- Elements of this work will include: 1) all five study pools on the UMR; 2) previously identified chemical parameters; 3) biological data; 4) examining at least five years of data (SRS and fixed site); 5) focusing on spring (high flow) and summer (low flow), as distinct analyses; and 6) looking at measures of central tendency, but also ranges.

- Goal of the data analyses continues to be to determine where differences between LTRMP strata are demonstrated that would potentially justify separate consideration for use designation in a CWA context.
- To expedite the process and make it most effective, the WQTF will first share questions/areas of inquiry with LTRMP principle investigators (PIs) for water quality (Jeff Houser) and fish (Brian Ickes), and seek their assistance and guidance. The process for this will be: 1) Donnelly will draft information for transmittal to PIs within one week; 2) one week will be allowed for WQTF review, then the request will be transmitted to PIs; and 3) the WQTF will hold a conference call in 6-8 weeks and Donnelly will present the outcomes of her initial data review.

Franz asked if the work proposed appeared to be doable within the time frame suggested. Donnelly replied that this did not appear to be a problem, at least in terms of providing initial results within 6-8 weeks. Naramore said that the conference call would provide for a "check-in" point to assess status and progress.

Sullivan suggested that tests for significant differences be done for the parameters by strata and by season. He also suggested that only SRS data be used in this examination, as the FSS sample size is limited and it may be challenging to integrate FSS and SRS data. All agreed that FSS data should not be included in this phase of the data analysis.

Olson raised the question of whether there is a distinction that needs to be made between strata and habitat. Sullivan replied that the best starting point is to use the LTRMP strata.

Good also reminded the WQTF members that they should provide any comments on the Year 1 Report to Donnelly.

CWA Program Use of LTRMP Data

Hokanson asked WQTF members for any suggested follow up to the preceding day's discussion on the use of LTRMP data by CWA programs. He asked specifically whether he should update the draft summary document shared the previous day.

Olson replied that he did not see any near-term requests to be made of LTRMP. He added that, eventually, he would like to be better able to integrate SRS into CWA assessments and that it is important for the WQTF to maintain communication with LTRMP staff. Short supported updating the summary document, and Franz suggested that this document then be shared with LTRMP staff. Short agreed, and observed that eventually there may be opportunities to facilitate cooperative monitoring efforts.

Olson said that it may be worth noting the gap in LTRMP data collection between Pools 13 and 26 as part of the summary. Sullivan asked if this would be expressed as a specific need and, if so, what kind of monitoring would be sought. Bolgrien commented that the addition of another study pool seemed unlikely, but that some "outpool" sampling might be possible. Naramore suggested that, for the purposes of the summary document, it would be best simply to identify the gap and leave related discussion for other venues.

UMR Reach Planning

Hora commented that the differing reach segmentation schemes among programs continue to be a source of potential confusion. Shepard said that the reach planning effort continues to be important, but

asked whether there may be a more efficient and effective way for the WQTF to engage. He suggested that a possible alternate approach would be to assign a "lead" from the WQTF to attend the meetings and/or to request regular updates on reach planning at WQTF meetings.

Hokanson asked how much effort should be put into pursuing harmonization of reaches. Good said that he didn't recommend putting a lot of energy into this at the current time, and the WQTF members expressed general agreement with this view. Sullivan suggested that it is more important to focus on consistency within the CWA context, and on fish consumption advisories' effect on impairment listings in particular.

Nutrient Criteria Issues

State Development of Nutrient Criteria

Good said that Tetra Tech and other researchers have been working with Illinois EPA and so far they have observed only weak responses to elevated nutrient levels. Olson commented that Iowa DNR has been focused on nutrient criteria for lakes. He said recommendations for criteria on rivers and streams may be available in about three years. He noted that Tom Wilton is Iowa DNR's lead for nutrient criteria development.

Dkhili said that Missouri has nutrient criteria for lakes. These were not designed to protect a specific use, but rather are based on reference lakes. He explained that this criterion is not applicable for floodplain lakes, oxbow lakes or lakes less than 10 acres in size. Dkhili noted that Missouri DNR now has a technical committee looking at stream criteria, though a specific approach (e.g., protection of designated use, reference stream, etc.) has not yet been determined. He commented that chlorophyll-a appears to be a promising metric in some areas of the state, such as the Ozarks, but did not appear to be appropriate for other areas. Therefore, he continued, it is possible that there may be different applicable parameters for different streams. Dkhili said that criteria for streams may be determined by 2012, but that this work would only be for wadeable streams and therefore will not be applicable to the UMR.

Hora said that Minnesota has nutrient criteria for both deep and shallow lakes in rule. He added that criteria for rivers and streams should be in place in 2011, with likely response variables including biology, chlorophyll, and dissolved oxygen. Hora commented that the new criteria were likely to have significant implications for waste water treatment plants, which may need to meet even lower effluent limits. Additionally, he said US EPA has indicated that downstream uses would need to be protected by criteria. While the implications of this are not fully known, Hora said states may therefore need to consider criteria other than phosphorous limits.

Baumann stated that Wisconsin DNR proposed phosphorous criteria for lakes, reservoirs, wadeable streams and rivers in 2008, with the proposed criterion for rivers and streams being 100 ug/l. He said that there was a strong reaction from point sources, which wanted to better understand the potential permit impacts of these criteria. As result, much of the past two years had been spent examining permit impacts. Baumann said that hearings on the criteria are now anticipated for the May/June 2010 timeframe. He said that Wisconsin DNR would like to get its proposal to the legislature before September 2010. Baumann added that this effort only involves phosphorous criteria. He said nitrate would be addressed separately at a later time.

US EPA Perspectives on Nutrient Criteria/Recent Developments

Shepard said US EPA Region 7 has been reviewing work done by Iowa and Missouri, but observed that developments regarding Florida's nutrient criteria are complicating this review. He also said a National Academy of Sciences panel that will be reviewing the impact of ecosystem restoration activities on water quality in the Missouri River.

Brian Thompson of US EPA Region 5 gave a brief overview of the Region 5 states' development of nutrient criteria, as a supplement to the earlier state reports, as follows:

- Minnesota is working on streams and rivers criteria. US EPA has received a draft methodology document from MPCA and is hoping to get comments back to MPCA by the end of January.

- In addition to the activities described by Baumann and related to phosphorus criteria development, Wisconsin is also working on a nitrogen criteria plan.

- Illinois has completed one round of data analysis working with Tetra Tech. This did not provide conclusive results, and Illinois is starting a second round of analysis that may incorporate fish and macroinvertebrate data. This second round of analysis is planned for completion in the spring of 2010.

Thompson stated that the issue of downstream impacts seems to be becoming more prevalent. He said that, while it is not apparent how this will end up being addressed nationally, there are some observations that can be made from the ruling in the Florida standards case. Thompson explained the Florida ruling lays out a "two-pronged" approach, where: 1) criteria are established for streams and rivers, and 2) downstream lakes and rivers are considered, in order to determine what is needed to protect those waterbodies. Under the ruling, the more protective of the two would then determine the final criteria.

Hora emphasized the critical nature of this issue, and said it is very important for the states to be aware of this as they develop nutrient criteria. He expressed concern that an approach governed by downstream impacts could both undo years of work already completed and potentially lead to criteria that are not protective of local uses.

Notice of Intent to Sue Regarding Wisconsin Nutrient Standards

Baumann said a group of seven environmental groups filed a Notice of Intent to Sue with US EPA on November 23, 2009. He explained that the Notice states that US EPA has failed to ensure that numeric nutrient criteria for nitrogen and phosphorous were established for Wisconsin. Baumann said the Notice required a response from US EPA within 60 days, but that the Agency has yet to respond. He indicated that US EPA is trying to better understand what would be needed for it to proceed with criteria development and Assistant Administrator for Water Peter Silva is being briefed on the issue. Baumann added that the Notice has sparked discussion of nitrogen criteria, even though Wisconsin DNR had planned to address nitrogen in a phase following the establishment of phosphorous criteria.

Thompson commented that US EPA's Headquarters is driving the response to the Notice, and that he is hopeful a response will be forthcoming in the next few weeks. Baumann said a consent agreement is one possible outcome, where a suit would not necessarily be filed but a timetable established for the development of criteria. Thompson agreed that this is indeed a possible outcome.

Olson observed that the Florida case will likely ultimately affect Iowa and the other states. Franz commented that environmental groups may be looking at Florida as an example of how to pursue nutrient criteria in other states. He said US EPA is still trying to determine how Florida will affect nutrient criteria development nationwide. Hora commented that, in Minnesota, an environmental group has taken a different approach by filing a petition with US EPA requesting that it revoke Minnesota's delegated CWA authorities.

Perspectives on Basin-Wide Activities Regarding Nutrients and Nonpoint Source Pollution Issues

Hypoxia Task Force/Hypoxia Action Plan

Franz noted that each state has made a commitment to establishing state nutrient reduction plans with the goal of reducing phosphorous and nitrogen loading and thus ultimately the size of the Gulf hypoxic zone. He added that many states are looking to the USDA's Mississippi River Basin Healthy Watersheds Initiative (MRBI) as part of their efforts to reduce nutrient loading.

Franz said that the Hypoxia Task Force will meet next on March 10-11, 2010 in Alexandria, Virginia. Topics to be addressed include: 1) progress being made on the Action Plan and accompanying Operating Plan; 2) governance issues, including state leadership of the Task Force; and 3) the addition of more states and tribes to the Task Force's membership. Franz indicated that he could provide further information about the meeting to the WQTF if needed.

Dkhili asked whether the Action Plan and state nutrient reduction plans would affect the Missouri River. Franz replied that this was the case. Good noted that Illinois is working on its statewide reduction plan. Dennis McKenna of the Illinois Department of Agriculture is leading this effort, which will include a white paper capturing current knowledge about nutrients in Illinois.

Olson and Hora indicated that they were not closely involved with Hypoxia Task Force-related activities in their states. Dkhili noted that Missouri has targeted three watersheds for MRBI projects. Baumann said that Wisconsin is working on a statewide nutrient index, and that the index could be adjusted to lower levels under a TMDL if needed. He stated that enforcement would be related to the availability of cost share assistance.

Mississippi River Basin Healthy Watersheds Initiative (MRBI)

Franz said all the states that are part of the MRBI have selected their target watersheds. He also noted that Mike Sullivan, previously the primary contact for MRBI within USDA is now serving as the State Conservationist for Arkansas.

Good asked how much input the states had in selecting the MRBI target watersheds, noting that he had participated in one meeting in Illinois. Olson said that the state technical committee had input on watershed selection in Iowa. He added that he had talked to Bill Ehm regarding the MRBI, and Ehm indicated that the RFP for projects under the MRBI should be released soon. Olson said there is some concerned that the federal cost share may drop to 50 percent (from 75 percent), which would likely reduce participation. Olson also shared Ehm's perspective that the success of this program is very important, as it represents a new direction for USDA in seeking to target funds to address specific water quality problems in priority watersheds. Franz concurred with this observation, saying the success of this program could greatly affect the prospects for similar programs in the future.

Olson commented that Iowa has selected three target watersheds, which will involve a couple of border rivers. Olson said that there are watershed groups interested in the work. He added that one of the challenges will be to monitor project results effectively. Franz agreed, adding that the lack of baseline data can make it difficult to evaluate success.

NRC Panel: Clean Water Act Implementation Across the Mississippi River Basin

Hokanson reported that the NRC examining CWA implementation in the Mississippi River Basin will next meet in March 2010. This is likely to be a predominantly a closed-door session to allow the panel to work on the project report. Hokanson indicated that the project report is expected to be completed in the summer of 2010. In recent conversations, Hokanson said Jeff Jacobs of the NRC did not reveal much about the panel's likely direction, other than to say it would proceed from the recommendations of

the previous NRC report, while incorporating recent developments such as the MRBI and Florida nutrient standards case. Franz commented that Roger Wolf of the Iowa Soybean Association will be writing at least a portion of the report.

604(b) Project Update and Planning

Hokanson provided an update on the status of the 604(b)-funded project, noting that agreements are in place with four states and Minnesota's agreement is expected to be finalized soon. He indicated that UMRBA is developing a contract and scope of work was being developed with the Midwest Biodiversity Institute (MBI), which will be supporting the biological assessment portion of the project. Hora asked whether Chris Yoder of MBI had expressed any concern about his workload capacity to take on the project. Hokanson replied that UMRBA had explored this issue with Yoder and Yoder had expressed confidence in being able to execute the project.

Hokanson said that the MBI scope of work will be very close to the project's RFP. In discussing the relationship of this project to potential future biological assessment work, such as creating of a biological condition gradient(s) for the UMR, Yoder had expressed comfort with the project scope and observed that this project could potentially set the stage for larger efforts at a later time.

Hokanson asked who the WQTF members would recommend for involvement in the biological assessment and nutrient project components, beyond the regular participants in the WQTF. The following individuals were named for the biological assessment component: Roy Smogor (IL), Tom Wilton (IA), Will Bouchard (MN), Ed Hammer (Region 5), and Gary Welker (Region 7). No specific names were given for the nutrient component.

Sullivan asked what added value the WQTF members anticipate from the nutrient synthesis report. Olson suggested that examining nitrate toxicity could be part of the effort. Hora indicated that a statewide summary of phosphorous levels is available for review, though a bit dated (about 5 years old). Franz suggested that work on other large rivers could be examined. Good emphasized the importance of looking for local impacts on the UMR. Olson said that examining impacts on drinking water treatment would be worthwhile.

Good said that the nutrient effects identified should be categorized into each of the major designated uses assigned by the states to the UMR, i.e., aquatic life, drinking water, and recreation. Shepard stated that it is important for this effort to focus on response to nutrients, as this has been hard to quantify. Hokanson asked if there are recreational impacts resulting from elevated nutrients. Sullivan responded that filamentous algae in low velocity areas have an impact on recreational activities, such as canoeing. Donnelly concurred with this observation.

Short suggested that it will also be important to consider nutrient loading from point sources. Franz indicated that a report is available on this subject that he could share. Short commented that the project should seek out any newly generated nutrient data sets.

Hokanson and Naramore asked whether the WQTF members preferred to have project-specific meetings synchronized with each other and WQTF meetings, or whether these project-specific sessions should be held separately. The consensus of the group was to synchronize to the extent feasible.

Hokanson asked for suggestions on possible topics for the cross-program workshops that fall under "Task 3" of the 604(b) project proposal. Sullivan suggested a session to examine the states' definitions of wetlands and how they distinguish between shallow lakes and wetlands, as well as any water quality criteria applied to wetlands. Hora agreed that this was an issue to potentially examine. Good suggested that hydrokinetics could be a possible workshop topic.

Schedule Next Meeting and Conference Call

Hokanson said that the next meeting of the WQTF will likely take place in April 2010 in conjunction with the first work session of the biological assessment guidance project. He added that a conference call to address the data analyses under the designated uses project will be held in 6-8 weeks. Hokanson indicated that he would be in communication with the WQTF regarding scheduling for these events.

The meeting adjourned at 11:58 a.m.