

**Upper Mississippi River Basin Association
Water Quality Task Force Meeting
June 15-16, 2011
Dubuque, Iowa**

Meeting Summary

Participants

Gregg Good	Illinois EPA
Matt Short	Illinois EPA
Roy Smogor	Illinois EPA
John Olson	Iowa DNR
Tom Wilton	Iowa DNR
Will Bouchard	Minnesota PCA
Shannon Lotthammer (t)	Minnesota PCA
Mohsen Dkhili	Missouri DNR
Jim Baumann	Wisconsin DNR
John Sullivan	Wisconsin DNR
Peg Donnelly (t)(1)	US EPA, Region 5
Brian Thompson (t)(1)	US EPA, Region 5
Mike Coffey	USFWS
Chris Yoder (1)	Midwest Biodiversity Institute
Susan Heathcote (1)	Iowa Environmental Council
Dave Hokanson	UMRBA
Barb Naramore	UMRBA

(t) *Joined the meeting by phone.*

(1) *Participated the first day only.*

Call to Order and Introductions

The meeting of the UMRBA Water Quality Task Force (WQTF) was called to order on June 15, 2011 at 1:15 p.m. by Chair Gregg Good. Introductions by all participants followed.

604(b) Biological Assessment Project

The WQTF reviewed the outcomes of the June 14-15 work session of the Upper Mississippi River (UMR) Clean Water Act (CWA) Biological Assessment Implementation Guidance Document project. This was the last of three project work sessions. Good said the biological assessment project will inform the WQTF's next project, the creation of a UMR CWA monitoring strategy.

Jim Baumann asked that the project's stakeholder sessions be scheduled as soon as possible to facilitate participation, particularly by fisheries staff and other technical experts. Good suggested that these stakeholder sessions be held in conjunction with the next WQTF meeting. Dave Hokanson said that while holding the two sessions in conjunction with the WQTF meeting is an option, the WQTF meeting itself would likely need to be shortened as a result.

Barb Naramore said current plans call for one in-person and one web-based stakeholder meeting. She asked whether the WQTF would support an approach using two web-based meetings and no in-person

meetings. Good said his preference is for at least one in-person meeting. Shannon Lotthammer observed that web sessions help facilitate participation and broader engagement.

Mike Coffey said diverse participation in the stakeholder webinars is likely, including both technical- and policy-focused individuals. He suggested accounting for this in structuring the session's agenda. Susan Heathcote said a general stakeholder session could be held first followed by a more technically-focused session.

Chris Yoder said it will be important to provide project reports to participants in advance of the stakeholder session, giving ample time for their review of this documentation. Roy Smogor asked whether it is realistic to expect policy-makers to read through technical documentation. Dave Hokanson said the project's scope anticipated engagement beyond technical staff, so providing a venue to engage policy-makers fits with the project's original scope. He also acknowledged Baumann's earlier comments, which point to the need for further conversations with technical staff.

Hokanson said potential format options for the stakeholder sessions include: 1) separate sessions for technical and policy discussions and 2) two sessions with each split into technical and policy segments. Smogor said any policy-focused session would need to be clear about how far the project has been able to advance biological assessment ideas for the UMR and what next steps are likely to be.

Good recommended that one stakeholder meeting be a web conference, with a portion of the session dedicated to technical issues and a portion dedicated to policy discussions. He said the other stakeholder meeting should be in person, in conjunction with the next WQTF meeting.

WQTF Chair Transition

Good said he has served as WQTF Chair for two years and, per earlier WQTF decisions, the position should now rotate to another state. He noted that if the states' rotation is followed, John Olson of Iowa would take over as Chair, with Mohsen Dkhili of Missouri DNR taking the Vice Chair position. Olson indicated his willingness to serve as Chair and Dkhili agreed to serve as Vice Chair. The WQTF approved Olson and Dkhili in these positions, with their terms beginning at the conclusion of the meeting.

Aquatic Life Designated Uses Project

Hokanson summarized the status of the aquatic life designated uses (ALDU) project. The project's report is being reviewed by UMR natural resource managers and scientists through July 1, 2011. He added that the version under review includes some minor modifications from the previous version including: 1) a revised executive summary, 2) discussion regarding the potential need for future refinement of lateral areas, 3) additional biological data, and 4) a number of language changes to address comments made by John Olson and John Sullivan. Hokanson said comments received so far from natural resource managers and scientists have been generally positive. He said anticipated next steps are to address the review comments and present the report to the UMRBA Board for approval in August 2011.

Good asked whether the ALDU report should explicitly address next steps and priorities, including a likely focus on the UMR main channel. Hokanson replied that, in previous WQTF discussions, there had been preference for spelling out next steps/priorities in a separate document. Peg Donnelly concurred that a separate document for this purpose would make sense.

Hokanson asked the WQTF whether they thought the report recommendations, particularly in regard to the classification structure, would likely result in changes to state water quality standards in the near

term. Good replied that standards incorporation seemed a ways off, but that the report recommendations could be used in the near term to help improve UMR assessments.

Baumann said report recommendations could be integrated into Wisconsin's next triennial standards review. Matt Short asked whether the WQTF wants to make a statement that the report recommendations should be put into water quality standards. Good said he did not think action on the UMR ALDU recommendations would be a high priority given the workload for Illinois' water quality standards staff. Olson said incorporation in standards would help establish a framework for continued efforts.

Sullivan asked the WQTF members whether they saw the classification recommendations as potentially applicable to other large rivers beyond the UMR. He added that it may make sense to consider whether this approach is scalable to other rivers. Baumann agreed, noting that this question is likely to be raised for other rivers, so the WQTF may want to consider any opinion it would like to offer in this regard.

Donnelly asked whether the WQTF would prefer that the report use of USACE EMP Long Term Resource Monitoring (LTRM) data for the last five years (2006-2010), rather than the report's current data set, which spans the years of 1994 to 2008. She offered that the more recent, five-year set of data would be both consistent with how states typically look at data for CWA purposes and would allow the data align better with the most recent (2008) LTRMP Status and Trends Report. Donnelly said the newer LTRM data could be substituted for the data summary in Appendix C of the report. Hokanson noted that several figures in the report would need to be changed should a new data set be used.

Short said inclusion of the new data is a good idea, but only if it does not create a significant amount of additional work. Good commented that, if the purpose of the report is to look at classification choices among strata, then the longer data set is probably better. However, since the report is not an assessment, it is not as critical to have the most recent data as it is to have the longer historical perspective.

Sullivan asked Donnelly whether the newer LTRM data is likely to change any of the report's findings or conclusions. Donnelly replied that, while she has not run any new range analyses yet, it is likely that some additional nutrient excursions would be observed. Baumann said it appears unlikely that the new data would change the primary conclusions of the report. Donnelly concurred, but said cluster analyses could be re-run to determine if there were any differences observed. Hokanson noted that, without Donnelly or Nat Kale working for UMRBA any longer, it is very unlikely that cluster analyses could be re-run.

Sullivan suggested the newer information be provided as an addendum. Baumann said the newer LTRM data would likely be helpful going forward, but does not seem necessary to complete the report. As such, he concurred with Sullivan's suggestion to create an addendum to the report, noting that this option would not require re-doing report text and figures. The WQTF agreed that, if this data were to be added, it should be done via an addendum.

Hokanson thanked Donnelly for her work on the report and the project overall.

Nutrient and Nonpoint Source Pollution Issues

US EPA and state representatives each gave an update on nutrient efforts and issues for their states/agencies.

US EPA, Region 5

Brain Thompson said US EPA's November 2010 criteria development document remains the most current resource to aid states in nutrient criteria efforts. US EPA's position regarding numeric nutrient

criteria has remained essentially constant, in that US EPA wants states to develop numeric criteria for nitrogen (N) and phosphorus (P). If response variables are used, Thompson said US EPA wants to see these used in conjunction with N and P criteria (i.e., the expectation is that numeric N and P criteria are established, at minimum, whether or not response variables are used).

Thompson also highlighted the March 2011 “nutrient framework” memo from US EPA Acting Assistant Administrator for Water Nancy Stoner. He described the framework as a broad approach for the states to take as they also develop nutrient criteria. Thompson emphasized that, while following the framework in its entirety is voluntary for states, the development of numeric nutrient criteria is not optional. He said US EPA will be reaching out to states regarding the nutrient framework, though he was not sure whether this has happened yet in Region 5.

Baumann asked how US EPA sees the framework matching up with statewide nutrient development strategies under the Hypoxia Action Plan, and whether this would result in a single plan or two plans. Thompson said this issue has been raised, but he is not aware of how US EPA Headquarters is planning to address it. He said he would pass this question along to his counterparts at Headquarters.

Good asked Thompson if he was involved in US EPA’s response to the 2008 petition from NGOs requesting numeric nutrient criteria nationwide and TMDLs for the Mississippi River. Thompson said he is not directly involved, but is aware that US EPA is planning a response by June 30, 2011. He added that US EPA headquarters has asked Region 5 for information regarding its states’ efforts on nutrients in developing a response to the petition.

Illinois

Good said Illinois EPA held meetings with stakeholders in January, March, and May to follow up on Illinois’ September 2010 nutrient summit. He noted that Matt Short presented information regarding the relationship between dissolved oxygen (DO) and nutrients as part of these discussions. Good said Illinois EPA is also revisiting its narrative “offensive condition” criteria to see whether these might be utilized more effectively in a nutrient context. He explained that options regarding narrative criteria include: 1) leaving the criteria as is, 2) revising the criteria, or 3) adopting criteria similar to Ohio’s. Good added that, in the absence of adopted numeric criteria, one possibility would be to use eco-region values for nutrients as targets if an impairment is otherwise identified.

Good noted that US EPA Region 5 is also seeking to have a permit limit for phosphorus established for the Metropolitan Water Reclamation District of Greater Chicago (MWRD). He said some offensive condition violations have been observed more than 100 miles downstream of MWRD’s discharge, and that US EPA is interested in determining the relative contribution of MWRD to these impairments. He said the role of MWRD in nutrient loading is a significant issue in Illinois.

Iowa

Tom Wilton said Iowa has proposed recreational use standards for lakes which include chlorophyll-a concentrations and Secchi measurements, with N and P targets set on a case-by-case basis. He explained that these standards would be applicable to 159 named lakes used for swimming. Wilton said the public had opportunity to comment on these standards in May and that the standards will likely be considered by the Iowa Environmental Protection Commission in the fall. If approved, they would then be sent on to US EPA.

Wilton said Iowa is examining biological indicators in lakes, including the connection of these indicators to stressors such as nutrients. He said a report on this project is due in 2012, and that work on lake nutrient criteria for aquatic life protection will follow the completion of this report. Wilton said

one of the stronger stress-response relationships appears to be that between nutrient levels, sestonic algae, and dissolved oxygen levels, but that more monitoring data is needed to make conclusions. Overall, Wilton said Iowa's efforts are primarily focused on local quality and not explicitly on addressing Gulf Hypoxia, though they may also provide benefits in a hypoxia context.

Smogor asked whether Iowa's wadeable stream efforts are primarily focused on phosphorus. Wilton replied that this is indeed the case and that Iowa has not looked specifically at organic N, though this is suspected to be the driving parameter in nitrogen-limited situations. Good asked what Iowa's "deep area measurement" means. Wilton explained that this refers to samples collected from the deepest part of a reservoir, but that the sample itself is typically collected at only about ½ meter of depth, so is still a surface water sample. Good asked whether the recreation standards are primarily focused on swimming. Wilton replied that this is the case and that the standards are intended to allow swimmers to see underwater obstructions and to minimize the occurrence of blue-green algae. Good asked whether any direct measurement of microcystin was being performed or is planned. Wilton said no direct microcystin measurement is being done.

Wisconsin

Baumann reported that Wisconsin's phosphorus criteria had become effective December 1, 2010 and was approved by US EPA on December 31, 2010. He added that US EPA is currently reviewing procedures to integrate the criteria into permits. However, Baumann explained, a number of efforts are ongoing within Wisconsin's Legislature to halt or delay the phosphorus rule and criteria. He said that none of the efforts has led to delay yet, though an economic impact analysis for the rule must be completed by the end of 2011. Baumann said one of the leading concerns expressed by industry is that, because neighboring states do not currently have similar numeric nutrient criteria in place, there may not be a level playing field for industry across the states. However, he added that media coverage has resulted in widespread awareness regarding nutrient impacts. Baumann said that there is still uncertainty overall about how implementation of the rule will proceed.

In regard to nitrogen, Baumann said previous studies have not found consistent relationships between nitrogen levels and adverse effects. He reported that Wisconsin is now looking at a subset of 15-20 streams with high nitrogen levels (nitrate in particular) and low phosphorus levels to identify any nitrogen-related effects. Baumann said reports on these analyses are expected in 2012.

Minnesota

Bouchard said Minnesota continues to work on rulemaking for nutrient criteria, which currently is focused on drafting a statement of need and reasonableness (SONAR), with a notice of rulemaking expected in November 2011 and a public comment period expected in January 2012. He estimated that, if this schedule is met, adoption of the rule may occur in January 2013. Bouchard said Minnesota's approach is one of "dependent applicability" where there must be an exceedance of both a causal variable (such as phosphorus) as well as a response variable (such as dissolved oxygen) for a violation to occur.

Baumann asked Bouchard if Minnesota is still looking into nitrate toxicity to aquatic life. Bouchard replied that Minnesota continues to examine the issue and is looking at impacts to organisms such as daphnia. Smogor asked if Minnesota followed the process laid out in the 1985 guidance document for nitrate toxicity determination. Shannon Lotthammer replied that, yes, the 1985 process is being followed, but that efforts also continue to examine total nitrogen loading and nitrate transformation.

Good asked Bouchard to clarify if Minnesota's "dependent applicability" approach meant that both a nutrient and response parameter target need to be exceeded for a violation to occur. Bouchard confirmed this is correct, that in order for an impairment listing to occur, a nutrient criterion and any one

of the response variables must show an exceedance. Smogor asked how this approach deals with heterotrophs. Bouchard replied that this is one reason why biological oxygen demand (BOD) is included as a response variable, that changes in BOD likely reflect heterotrophic activity.

Good asked whether Minnesota received any feedback from US EPA Region 5 on its approach. Bouchard said nothing definitive had come from US EPA Region 5 yet and that, while there is likely to be opposition from US EPA Headquarters, Region 5 appears more inclined to approve the approach. Wilton said US EPA's recent letter to the New England Interstate Water Pollution Control Commission would appear to disapprove the use of response parameters in making nutrient-related impairment decisions. Bouchard says he sees more openness to the use of response variables in Region 5, but that it will still be important to demonstrate to US EPA how this, or any other approach, is protective of downstream uses.

Baumann asked if Minnesota's approach addresses large swings in dissolved oxygen (DO), noting that Wisconsin is observing DO swings in macrophyte-dominated systems. Bouchard said if significant DO swings are observed, Minnesota would consider a water body impaired, even if a system is macrophyte dominated since, at some point, the macrophytes will also die off. In response to a question from Smogor, Bouchard said that Minnesota views DO swings as indicative of systemic problems.

Short asked Bouchard whether Minnesota is examining effects on permits, and if a technology-based or site-specific approach will be used to address nutrient problems. Bouchard said Minnesota is currently working on this issue and will likely be taking a watershed-based approach. Lotthammer added that Minnesota already has established a 1 mg/L effluent limit for phosphorus. Baumann said his impression is that Minnesota is considering TMDLs as a primary way to set effluent limits. Lotthammer said Minnesota's movement toward a watershed-based approach does not necessarily mean that all permits in a watershed are set at the same time, but it does mean that effluent calculations will be done for a watershed as a whole and then applied to permits when they come up. She noted that this approach is still being explored and has not yet been implemented.

In response to a question from Sullivan, Bouchard said Minnesota is addressing diurnal variation in dissolved oxygen levels on a regional basis. Sullivan asked whether this included rivers and Bouchard replied that it does. Sullivan distributed the report, "Continuous Dissolved Oxygen and Water Temperature Monitoring in Pool 8 Backwaters of the Upper Mississippi River, May-September 2010," which includes discussion of both seasonal and daily variation in dissolved oxygen concentrations. Short said the WQTF needs to have a conversation regarding continuous monitoring of parameters such as DO. He noted that most of the WQTF's recent discussions have dealt with geographic variability, but temporal variability is also important, and not fully understood.

Missouri

Dkhili said Missouri has a technical committee working on nutrient criteria for streams, but that this effort does not include the Mississippi or Missouri Rivers. He noted that Missouri's Clean Water Commission has approved nutrient criteria for lakes, but that US EPA approval of these criteria is pending. Dkhili said Missouri is now also working on implementation guidance for permit writers, and that this guidance applies just to select lakes. He explained that current Missouri DNR policy is to not impose limits on dischargers into these lakes, but rather to monitor for five years to determine the relative contribution of point and nonpoint pollution sources, and that nutrient effluent limits are not currently specified in permits. In response to a question from Good, Dkhili said both large lakes and reservoirs were addressed by the guidance document. Good asked whether it had been determined when, based on monitoring data, a permit limit would be triggered. Dkhili said he is unsure how this would be determined but that, in general, his expectation is that point sources will typically be minimal contributors. Good said in Region 5 there is no exemption for *de minimis* contributions, so that US EPA may still want a permit limit even if the contribution is minimal.

Nutrient-Focused Cross-Programmatic Workshops

Hokanson reminded the WQTF of the general scope of the workshops, which are part of UMRBA's CWA 604(b)-funded project. He said there will be two workshops, held in different geographic locations, with the agenda of the workshops being similar. Hokanson said a northern workshop will focus on Iowa, Minnesota, and Wisconsin, while a southern workshop will focus on Illinois and Missouri. He continued by outlining potential goals and key questions for the workshop, as described in a handout he provided to the WQTF. Hokanson noted that the key questions in this handout are a rather comprehensive list and that it is likely that not all of them will actually be addressed in the workshops. He continued by reviewing the draft agenda and list of potential invitees included in the handout.

Short asked if there will be a broad invitation to the workshops or a more targeted invitation. Naramore replied that this is one of the areas where input from the WQTF is helpful. She continued, saying that input on the goals, agenda, and structure of the workshops from the WQTF will also be quite valuable. Olson said the key questions noted in the handout are indeed the pertinent issues, but added that many of these go far beyond the UMR in their scope and applicability. Short said if the scope goes beyond the UMR-specific issues, the workshops may become unmanageable.

The WQTF agreed to consider the workshops further in the next day's discussions. The WQTF meeting adjourned for the day at 5:00 p.m.

Nutrient-Focused Cross-Programmatic Workshops (continued)

Hokanson began the meeting's second day by presenting a recalibrated approach to the cross-programmatic, nutrient-focused workshops discussed the previous day. He said this revised approach reflected the discussions of the WQTF during the previous day's meeting, as well as subsequent WQTF discussions over dinner the previous evening. Hokanson highlighted the major elements of the revised approach as follows:

- Reduce the duration of the workshop to one day to encourage attendance.
- Ask some of the same individuals to present that were listed in the initial draft agenda, but reduce the overall number of presentations.
- Keep the goals of the workshop essentially the same, but organize discussions around a few focus areas, including water quality standards and agricultural conservation.

Good suggested that information from the UMRBA's nutrient report be utilized during a "what do we know" section of the discussion. Hokanson agreed that this would seem to be a good fit. Baumann said a water quality standards discussion could also potentially address drinking water issues. He added that discussion of on-farm agricultural conservation practices should address targeting and drainage water management. Baumann also said point source contributions and reduction efforts should be part of the discussion, as it is important to address both point and nonpoint source issues.

Short said one unique issue for the WQTF to emphasize is consistent nutrient-related UMR water quality standards and suggested this as a topic for the workshops. He added that the workshops would provide a forum to expose others to the benefits of consistent standards and the challenges in reaching consistency. Good noted that US EPA's upcoming response to the NGO petition may also inform how the workshop is structured.

Smogor emphasized that actions to address nutrients can be both regulatory and non-regulatory, so the workshops should address both approaches. Baumann agreed, adding that there are approaches which include both elements. Olson said some farm groups are quite opposed to numeric standards and see the Chesapeake Bay as an example of how they don't want things to play out. Baumann said a successful

approach to the workshop would simply be for programs to discuss what they are doing in regard to nutrients and let participants provide feedback on what they would like to see these programs doing.

Sullivan suggested that one workshop topic could be success stories in nonpoint source control programs. Smogor suggested that a discussion of effluent controls would also be appropriate, as this is where many gains have been made in nutrient reduction. Baumann agreed with the importance of effluent controls, but noted that time constraints may mean that the workshop's focus remains more on ambient water quality standards.

Mike Coffey suggested that the findings and recommendations in the UMR nutrient report would provide a strong starting point for discussion and then participants could react to these ideas and offer suggestions of their own. Lotthammer concurred with Coffey's suggestion, adding that a starting point for discussion would be to find areas of common agreement.

Baumann said common themes seem to be a focus on the UMR and an emphasis on water quality standards. Lotthammer said she is concerned about an exclusive focus on water quality standards, as the states are at different places in this regard and there may be other areas where collaborative efforts may be more promising. Baumann replied that a broader focus would likely require a longer commitment of time than the one-day format.

Coffey suggested forming a planning committee, involving the agricultural sector, to further scope the workshops. Baumann said the solutions for the mainstem UMR are likely to be similar to solutions for the tributaries, except that the mainstem may require an increased focus on nitrogen.

Good said the group should consider how necessary the workshops are and what would happen if they were not held. He asked Naramore and Hokanson whether, from a staff perspective, it is important to proceed with the workshops. Naramore responded that if the workshops can be reasonably scoped and are seen as valuable by the states, then it still makes sense to hold them. Good noted that an essential piece of the workshop scope would be to allow plenty of time for open discussion.

Short commented that it is easy for nutrient discussions to end up going in many directions and for the purposes of this workshop it may be focus on the education and information sharing component and emphasize issues that are unique to the UMR. As such, he suggested that the workshops be more informative in nature than discussion-focused. Baumann asked whether a more narrow focus might change the invitation list for the workshop. Short replied that a broad and diverse list of invitees would still be appropriate, and that individuals will self-select whether or not they wish to participate.

Smogor suggested that the workshop may be a first step, with other workshops potentially to follow. He added that the focus of the upcoming workshops could include presentations on "here's what we know and here's what we are doing" and then allowing participants to react to this information. Baumann concurred, stating that, at minimum, there is value in the states presenting their current efforts.

Short said one additional consideration for the workshops is US EPA's upcoming response to a petition from environmental groups regarding nutrient criteria and TMDLs. He said US EPA's response is supposed to be made by June 30, 2011.

UMR CWA Monitoring Strategy Project

Goals and Objectives of Monitoring Strategy

Good noted that the three major current WQTF projects –nutrients, aquatic life designated uses, and biological assessment – all point to the need for a UMR CWA monitoring strategy. He said this is the context in which funding under the Illinois supplemental CWA Section 106 proposal was pursued.

Good added that the contract is now in place between Illinois EPA and UMRBA for the monitoring strategy project.

Good suggested that the ten elements recommended by US EPA for state monitoring assessment programs could serve as a guide for the UMR CWA monitoring strategy project. He noted that an excerpt from US EPA's 2003 document is included meeting packet and describes these elements as follows:

- Monitoring Program Strategy
- Monitoring Objectives
- Monitoring Design
- Core and Supplemental Water Quality Indicators
- Quality Assurance
- Data Management
- Data Analysis/Assessment
- Reporting
- Programmatic Evaluation
- General Support and Infrastructure Planning

Good said Illinois EPA's 2007-2012 strategy followed the ten elements, adding that Illinois' strategy includes a great river component addressing Mississippi, Ohio, and Wabash River monitoring. He then asked the other WQTF members whether their respective states have followed these elements in developing their own monitoring and assessment programs.

Lotthammer said Minnesota PCA's strategy followed the ten elements and is a ten-year strategy. She added that the strategy is currently undergoing an update and will focus on probabilistic, watershed-based monitoring. She said the strategy does not specifically address the UMR, but that a large rivers strategy would be developed later, with Minnesota PCA working in collaboration with Minnesota DNR and Wisconsin DNR.

Dkhili said Missouri's current monitoring strategy was created in 2009 and updated in 2010. The monitoring strategy incorporates US EPA's recommended ten elements. He said the strategy identifies a gap in Mississippi River monitoring and recommends additional monitoring sites on both the Mississippi and Missouri Rivers.

Olson said Iowa's 2006 monitoring strategy followed the ten recommended elements. He said the only mention of the Mississippi River in this strategy was as a gap. Olson added that he is not aware of any plans to update the Iowa monitoring strategy.

Sullivan said he feels the time is right to move forward in developing a UMR CWA monitoring strategy. He said this could be done via the WQTF or, alternatively by gathering together state monitoring staff to develop a strategy. Baumann suggested the effort be done via the WQTF, and bring in monitoring staff as well. Hokanson said one piece for the WQTF to consider is the scope and goals of the monitoring strategy, and then any specific design would then fall in line with the scope and goals.

Good said his assumptions regarding a monitoring strategy are as follows:

- It follows the US EPA ten recommended elements.
- It provides for 305(b) assessment as primary goal.
- It addresses all four major UMR designated uses (aquatic life, drinking water, primary contact recreation, and drinking water).
- It allows for the detection of trends over time.

Smogor said ORSANCO's approach matches the goals and objective he sees for the UMR, and that this potentially provides a closer starting point for a strategy than either EMAP-GRE or EMP- LTRM.

Good said it is important that the WQTF nail down the goals of the monitoring strategy, then look at implementation issues. He added that one goal of the monitoring strategy should be a unified UMR CWA assessment.

Smogor asked whether the WQTF's intent is to design an ideal monitoring strategy or to be constrained by resource limitations at the outset. Good replied that, in his opinion, the WQTF is "starting from scratch" and should therefore scope how, ideally, monitoring and assessment should be done, at least initially.

Short said the project should include a review of what the states are currently doing in terms of monitoring and assessment. Good asked if the Upper Mississippi River Conservation Committee (UMRCC) might be able to assist the WQTF in this effort. Sullivan replied that members of the UMRCC-Water Quality Tech Section (WQTS) would likely be interested in providing technical input to the strategy. Baumann suggested that the project's contractor discuss the project with the UMRCC-WQTS and other key groups. Short said the monitoring strategy discussion should draw out the distinctions between the EMP-LTRM program provides and the states' CWA needs.

Good asked the group if the strategy should be primarily for 305(b) assessment or whether, for example, 303(d) listing would be derived from the monitoring results. Olson and Smogor said they would like to see the monitoring strategy used to support both 305(b) and 303(d) processes.

Good then asked the WQTF members if the monitoring strategy should address all four of the major designated uses. Baumann said the strategy should address all the major uses, but added that Wisconsin and Minnesota have defined recreational use more broadly than contact recreation, and that this should be reflected in the strategy. Good asked whether addressing all the details in a case such as this might result in the project taking on more than can be accomplished. Baumann replied that this is certainly a concern, though he suggested that it is important to look at what each state is doing first to capture the full breadth of what might be needed, and then focus efforts.

Hokanson asked the WQTF whether their states design their monitoring strategies to assess all designated uses. The WQTF members replied that, in general, state monitoring strategies are designed to address all uses though there may be less emphasis on certain uses.

Good asked the WQTF whether the 13 minimum interstate assessment reaches are a framework from which the monitoring should be built. Smogor responded that the monitoring strategy project should explore this question further, to determine what the appropriate base of spatial scale should be. Naramore agreed that spatial scale should be investigated, but advised that the 13 reaches are a helpful starting point for the monitoring strategy work.

Good asked whether the strategy should address chemical, physical, and biological parameters. The WQTF responded that this should be the case, though some parameters, such as a physical habitat index, may need to be integrated later.

Good asked whether the strategy should attempt to address all the "boxes" recommended for a classification structure in the aquatic life use report. Olson said the strategy should address all of these. Short concurred that the strategy's goals could include addressing all of the classes, but that it may not be possible to create a specific monitoring plan for each of the "boxes." Sullivan said it is likely that choices will have to be made in terms of which classes to prioritize for monitoring.

Good asked whether the strategy should also seek to identify trends. Lotthammer said trends should definitely be discussed as part of strategy development. Smogor said any monitoring done over time will have some ability to detect trends. Baumann noted that the desire to detect trends can affect monitoring design.

Baumann emphasized that the monitoring strategy is being developed for the UMR mainstem, not the basin, and that this will be important to communicate. He said it is important that the strategy does not duplicate what is already addressed in current state monitoring strategies, and therefore some of the potential functions of a monitoring strategy (per Yoder's slide regarding multiple management functions) may not be needed for the UMR strategy.

Short said that the multiple management functions should at minimum be considered in UMR strategy development, even if some of them are ultimately address only indirectly or through other existing strategies. Smogor said a goal will be to maximize the usefulness of the monitoring strategy. Lotthammer suggested that the 305(b) assessment function be emphasized, but that other uses of the monitoring strategy be discussed. Dkhili observed that all the comments so far simply show agreement that monitoring should support multiple management uses. Baumann agreed, but said some applications, such as criteria development, may require more monitoring than others, such as use attainment assessment.

Sullivan asked whether most states use a concept of baseline monitoring plus additional monitoring. Short said this is the case in Illinois. Sullivan suggested that perhaps the UMR strategy should then concentrate on baseline efforts. Smogor asked what is meant by "baseline" monitoring. Sullivan replied that he understands this as basically monitoring to support 305(b) assessment, though it might support other functions. Good said his view of baseline monitoring in the UMR context is monitoring that supports 305(b) assessment of the four major designated uses in the 13 assessment reaches of the River, across the lateral strata. He suggested that ORSANCO might have an example monitoring strategy that could help inform UMR CWA monitoring strategy development. Good added that it is important to craft a mission statement for the UMR CWA monitoring strategy.

Process for Strategy Development

Hokanson said monitoring strategy development was currently envisioned as bearing some similarity to the biological assessment project, in that it would involve a contractor, UMRBA staff support, input from the WQTF and other technical experts (in this case, agency monitoring staff), a series of work sessions, and draft reports. The WQTF members suggested some possibilities regarding contractors who may have the skill set to support the project, emphasizing the need for the contractor to have specific CWA experience.

Short said it is important that the process include examining what is being done on other large rivers. Smogor agreed, saying that in reviewing other programs, it will be essential to not only look at the strategies per se, but how they have been implemented. Sullivan emphasized the importance of engaging monitoring experts within the states, suggesting that a consultant may not be needed, as these staff persons could likely assemble what is needed. Baumann agreed that this expertise is important, but that there is also a critical need for a contractor to act as a coordinator for logistics, writing, and other tasks. Good agreed, saying staff are limited in the amount of time they can dedicate to such a project, so a contractor will be essential.

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

Hokanson displayed UMRBA's current comparison of the states' listings for the UMR. Each state provided comments on its assessment and listings as follows:

Illinois

Good said US EPA has only partially approved Illinois' 2008 303(d) list and no action has been taken by US EPA on the draft 2010 list. He explained that a handful of outstanding issues are preventing progress on these lists and associated integrated reports, including sediment and total nitrogen listings. Good said he is hopeful that US EPA will soon provide clear answers so that Illinois can begin its 2012 listing process in the next four to five months. In particular, he indicated he would like US EPA to address issues of independent applicability and weight of evidence.

Good asked the WQTF members if they send a copy of their assessment methodology to US EPA in advance of submitting impairment listings. Dkhili replied that this is the case for Missouri, and that a US EPA staff person also typically participates in a stakeholder meeting.

Short said the information contained in the chart presented by Hokanson correctly reflects the current status of Illinois' impairment listings. He added that Illinois EPA and Illinois DNR collected fish tissue from eight sites on the Mississippi in 2010, ranging from East Dubuque to south of St. Louis, and that the tissue is being analyzed for perfluorochemicals (PFCs). Short said fish tissue samples will be collected in the area near Cordova in the upcoming year as part of PFC monitoring efforts and that samples will be sent to US EPA's National Exposure Research Laboratory for analysis. He said he anticipates that there will be some coordination challenges, but that data will be ready to share in 2012. Good commented that PFC sampling of fish and water is part of Illinois' 106 supplemental project, as is the UMR CWA monitoring strategy effort.

Wisconsin

Baumann said submission of Wisconsin's 2012 list is scheduled for April 1, 2012, and that a draft for public review should be available in October 2011. He said Wisconsin DNR is currently considering changes to be made between the 2010 and 2012 lists, and that he would likely be able to provide further information at the WQTF's next meeting. Baumann said he did not believe that US EPA had yet approved Wisconsin's 2010 list.

Sullivan said Wisconsin DNR is considering listing two reaches of the UMR for impairment due to elevated phosphorus levels. He explained that these listings would result from both an exceedance of Wisconsin's 0.1 mg/L total phosphorus criteria and the demonstration of a biological response. In the case of the Lake Pepin reach, Sullivan said that both the phosphorus criteria and chlorophyll-a target have been exceeded. For the reach from Lake Pepin to the Wisconsin River, the listing would result from both an exceedance of the phosphorus criteria and the presence of filamentous algae (as and exceedance of the narrative criteria).

Hokanson asked Sullivan to clarify whether interstate assessment reaches 2 through 4 (Chippewa River through the Wisconsin River) have met Wisconsin's total phosphorus criteria. Sullivan said that in these reaches, phosphorus concentrations have been over the criteria, but there is not enough data to show a biological impact to fish. Therefore, in this case, filamentous algae is biological issue identified, though this is primarily an off-channel issue.

Baumann said he is not sure what US EPA will say about this methodology but noted that Wisconsin, like other states, is generally becoming more rigorous and demanding greater certainty before making a listing. Historically, Wisconsin had listed impairments much more readily, but then found it very difficult to remove listings that had been made in error. Baumann added that waters with obvious impairments are still readily listed. Short said that Illinois has faced similar issues, though one of its primary challenges has been related to removing a parameter associated with an impairment listing, even without removing the listing altogether. In regard to the listings on the chart displayed by

Hokanson, Bauman said he would need to double-check on the perfluorooctane sulfonate (PFOS)-related impairments and would then provide information to Hokanson.

Iowa

Olson said Iowa's 2010 impairment list has been submitted to US EPA Region 7, and that Iowa hopes that approval will be fairly quick. He said that no changes are needed on the chart of impairment listings as displayed by Hokanson.

Olson explained that Iowa plans to de-list the mercury impairment for Pool 12 in the 2012 cycle, as new fish tissue data has demonstrated levels below 0.3 mg/L for a second consecutive round of monitoring. He added that Iowa DNR has lost its staff person for lake listings, and that the 2012 list may be delayed as a result.

Missouri

Dkhili said the chart displayed by Hokanson correctly reflects impairment listings in Missouri and that no changes are anticipated for 2012. He added that Missouri's Clean Water Commission has approved the 2012 assessment methodology.

Minnesota

Bouchard said Minnesota PCA is still waiting to hear back from US EPA Region 5 regarding Minnesota's 2010 list. He said Minnesota PCA has begun work on the 2012 list and that this includes a comprehensive assessment incorporating a weight of evidence approach. Bouchard explained that the 2012 submittal may be delayed due to issues with stream classification, as some streams are not fitting well into a warm water/cold water system.

Bouchard said changes in fish consumption advisories may affect the PFOS-related listing on the first interstate assessment reach. Sullivan asked whether information is available regarding the 3M Chemolite facility remediation taking place in Pool 2. Bouchard said he would follow up on this question and get back to Sullivan.

Other Listing Issues Discussion

Olson asked why some of the Region 5 states seemed to be recently encountering difficulty in gaining approval of their 303(d) lists. Good said the issues Region 5 has raised with the Illinois' list are related to sedimentation/siltation and nitrogen. Baumann said questions regarding invasive species have been raised in regard to Wisconsin's list. Bouchard said in Minnesota's case, the issues have been in regard to nutrient-related listings.

Good asked Olson whether Iowa has received pressure from Region 7 to list for phosphorus. Olson said Iowa has a lakes index related to nutrients and Region 7 has looked into outfall-related issues. Sullivan asked Olson if Iowa would follow Wisconsin's lead in a phosphorus-related listing. He noted, as previously mentioned, that a biological issue (filamentous algae) also had to be identified in order for him to recommend this listing. Olson responded that Iowa would not list based on phosphorus alone, but might follow a biologically-based impairment.

Other Agency and Organization Updates

Olson said several proposals have been made regarding potential reorganization affecting Iowa's water programs, including a possible move of the 319 program, monitoring, listing, and TMDLs from Iowa DNR to Iowa's Department of Agriculture and Land Stewardship. He said budget issues have caused these proposals to be tabled, at least temporarily, and it is unclear whether any of them will move forward.

Good said Illinois EPA continues to be challenged with reductions. He also said that much staff time is currently spent addressing nutrient issues, including work to explore the application of Illinois' narrative criteria. Good said lakes monitoring has been reduced by about 20% statewide, though there has been an increase in Lake Michigan monitoring and there is also a new dissolved oxygen monitoring effort being done jointly by Illinois EPA and the Illinois State Water Survey.

Bauman noted that Bruce Baker has retired, and Ken Johnson replaced him as the Water Division Administrator at Wisconsin DNR. He said Wisconsin DNR also faces staffing shortages, with an approximately 30% current vacancy rate of an already reduced number of authorized positions. Baumann also said there is an effort to make Wisconsin DNR a "charter agency" which may provide some flexibility in hiring.

Baumann said Wisconsin DNR staff soon be meeting with US EPA staff regarding nutrients and the March 2011 "nutrient framework" memo and the development of statewide nutrient reduction strategies in particular.

Dkhili said Missouri has moved forward in implementation of 12 projects under the Mississippi River Basin Health Watersheds Initiative (MRBI), and is hopeful to move forward on an additional seven projects in the near future. He said this work includes the implementation of best management practices, edge of field monitoring, and at least one project incorporating drainage water management.

Dkhili said Missouri is also seeking to complete its triennial standards review by December 2012, noting that this includes changes to chloride and sulfate criteria, with some of the changes based on what has been done in Iowa and Illinois. He explained that the standards update will also include expanded descriptions of the magnitude, duration, and frequency components of comparing water quality values to a criterion, specifically in regard to dissolved oxygen.

Dkhili said Missouri DNR has not been experiencing significant staffing issues and said the fees that help support the agency's water programs were recently approved.

Approval of Previous Meeting Summary

Hokanson asked whether the WQTF had any changes or corrections to the January 2011 meeting summary. None were offered and the summary was considered final.

Confirming Priorities and Next Steps

Hokanson summarized the action items emerging from the WQTF meeting, noting the following in particular:

- The aquatic life designated use report will be completed following the current round of review by UMR natural resource managers and scientists.
- The biological assessment guidance will be revised per the discussions at the work session immediately preceding the WQTF meeting, and web-based stakeholder sessions will take place in August and/or September. The guidance document and summary flyer will be completed by September 30, 2011.
- The nutrient report will be sent to the UMRBA Board and Water Quality Executive Committee for review. The report and summary flyer will be completed by September 30, 2011.

- UMRBA staff will revise the cross-programmatic workshops agendas per the WQTF discussion, reducing the duration to one day. Staff will then proceed, in consultation with WQTF, in identifying speakers and making meeting arrangements.
- UMRBA staff will develop a request for proposals (RFP) for work on the monitoring strategy project and identify candidate contractors to receive the RFP.
- Staff will work on scheduling the next WQTF meeting, which will likely take place in October 2011.

With no further business, the meeting adjourned at noon on June 16.