

**Minutes of the Spring 2008 meeting of the
UMRCC Water Quality Technical Section**

June 4, 2008

Chair: Cindy DiStefano, Missouri Department of Conservation
Phone: (573)882-9909 ext. 3297; FAX (573)882-4517
Cindy.DiStefano@mdc.mo.gov

The spring meeting of the UMRCC Water Quality Technical Section (WQTS) was held on March 18, 2008 at the Holiday Inn in Collinsville, IL. The meeting was attended by:

Dave Bierl	U.S. COE, Rock Island, IL
Dave Bierman	Iowa Department of Natural Resources, LTRMP
Jason Crites	Missouri Department of Conservation
Cindy DiStefano	Missouri Department of Conservation
Bill Franz	U.S. EPA, Chicago, IL
Dave Hokanson	UMRBA
Travis Kueter	Iowa Department of Natural Resources
Ben Lubinski	Illinois Natural History Survey
Dan McBride	U.S. COE, Rock Island, IL
Nicole McVay	U.S. COE, CEMUR, Rock Island, IL
John Olson	Iowa Department of Natural Resources
Dave Ostendorf	Missouri Department of Conservation
Mark Pearson	U.S. EPA, Duluth
Doug Schnoebelen	University of Iowa, LACMRERS
Matt Short	Illinois Environmental Protection Agency
John Sullivan	Wisconsin Department of Natural Resources
Scott Yess	U.S. Fish and Wildlife Service, Onalaska, WI

Four of five Upper Mississippi River (UMR) states were represented at the meeting (MN was absent due to travel restrictions). Water quality agencies with Clean Water Act reporting responsibilities were represented by three of the five states (IA, IL, and WI).

State/Agency updates:

Iowa - John Olson, Iowa DNR

Iowa's 2006 Section 303(d) list: Iowa's 2006 Section 303(d) list has not yet been finalized. A final list was submitted to EPA Region 7 for approval in October 2007. Due to several concerns on the part of EPA, Iowa DNR was asked to revise and re-submit its list for EPA approval. This re-submittal was made just recently (March 13, 2008). Iowa DNR's re-submitted final list contains 279 waterbodies with a total of 359 impairments. Impairments on the Iowa reach of the UMR remain basically the same as in the past with arsenic/DW impacts at Ft. Madison, Keokuk, and Davenport and the bacterial slime problem downriver from Clinton. New impairments include aquatic life impairments for aluminum upriver from Keokuk and from Burlington (based on IL-EPA data) and the addition of primary contact recreation impairments for segments identified by IL-EPA as impaired (covers most of the Iowa reach of the UMR

except upriver from Guttenberg to the IA/MN state line). The most interesting IDNR/EPA discussion since last October has centered on the issue of exotic species (e.g., common carp) being identified as a “pollutant” that would justify a Section 303(d) listing [Integrated Report Category 5] and development of a TMDL.

Iowa’s 2008 Section 303(d) list & Integrated Report: Iowa DNR will not meet the April 1st deadline but plans to have a draft IR ready by late summer. On a more positive note, IDNR now has its Section 305(b) assessments on-line at <http://programs.iowadnr.gov/adbnet/index.aspx>; this database is called the “Iowa DNR ADBNet.”

Fish Tissue Monitoring: As part of the U.S. EPA’s Regional Ambient Fish Tissue (RAFT) monitoring program, fish samples were taken from three locations on the Iowa reach of the UMR in 2007: Guttenberg, Montrose, and Keokuk. Due to the slow turn-around time for analysis of RAFT samples by the EPA Region 7 lab, IDNR only recently received all data from the 2006 RAFT sampling in Iowa. Based on these data, and based on implementation of Iowa’s new risk-based advisory protocol, several new consumption advisories (all at the one-meal/week level) were recently issued for Iowa waters. These data resulted in Iowa’s first consumption advisory for the UMR in eight years: a one-meal/week advisory now exists for Pool 12 of the UMR (from Bellevue upriver to Dubuque) due to high levels of mercury in predator fish (see <http://www.iowadnr.com/fish/news/consump.html>). RAFT monitoring will continue at several sites along Iowa’s reach of the UMR in 2008.

Upper Mississippi River Basin Association WQ Task Force: Iowa DNR continues to participate in the WQ Task Force. The Task Force’s most recent project involves developing habitat-specific designated uses for the UMR. The Task Force has also been a focal point for conducting water quality monitoring for perfluorochemicals on the UMR. Monitoring was conducted in 2007 and will be again conducted in spring 2008.

Nutrient Criteria Development: Iowa DNR continues to work toward development of nutrient criteria for lakes and rivers/streams. The U.S. EPA Region 7 nutrient RTAG (regional technical assistance group) has proposed the following “benchmark” values as a starting point for states in their efforts to develop nutrient criteria:

EPA Region 7 nutrient benchmarks. Lake benchmarks were established by the Region 7 RTAG in October 2001; river/stream benchmarks were set by the RTAG in December 2006.

Waterbody Type:	Total Phosphorus	Total nitrogen	Chlorophyll-a	Turbidity / Transparency
Lakes	35 ug/l	700 ug/l	8 ug/l	Not established
Rivers/streams	75 ug/l	900 ug/l	8 ug/l, sestonic; 40 mg/m2, benthic	Not established

Working through an in-state technical advisory committee, Iowa DNR has tentatively completed work on nutrient criteria recommendations to protect primary contact recreation in lakes. Recommendations for aquatic life in lakes and for these uses in rivers/streams, will follow. Also, U.S. EPA Regions 7 (Kansas City) and 8 (Denver) recently convened a Missouri River nutrient workgroup to identify nutrient benchmark values for the Missouri River. This workgroup—which includes state representative from IA, MO, KS, NE, SD, ND, and MT—had its first meeting (conference call) on March 10th. The workgroup is currently in the data gathering phase.

Missouri - Cindy DiStefano, MDC

MDC will have limited fish contaminant sampling in the upper Mississippi River this year. We will be sampling Sauger in the Hannibal area to assess mostly mercury concentrations.

The 2008 Missouri Fish Advisory was released March 1st. The press release and other information can be found at: <http://www.dhss.mo.gov/NewsAndPublicNotices/FishAdvisory2-28-08.html>. The only change from 2007 was for an urban lake in the St. Louis area (Simpson Park Lake).

DNR is in the midst of their biannual 303(d) assessments, and they hope to get the 2008 303(d) list completed, approved, and submitted to EPA by the end of the calendar year. They have not yet received complete approval of the 2006 list. Although assessments of the upper Mississippi are not entirely complete, it does not appear that we will be recommending an assessment of impairment.

Nutrient Criteria (total phosphorous, total nitrogen and total chlorophyll) for 134 reservoirs for which we have data was presented to the MO Clean Water Commission on March 12th. The reservoirs were divided into ecoregions (Plains, Ozark Border and Ozark Highlands)

Illinois – Matt Short, IL EPA

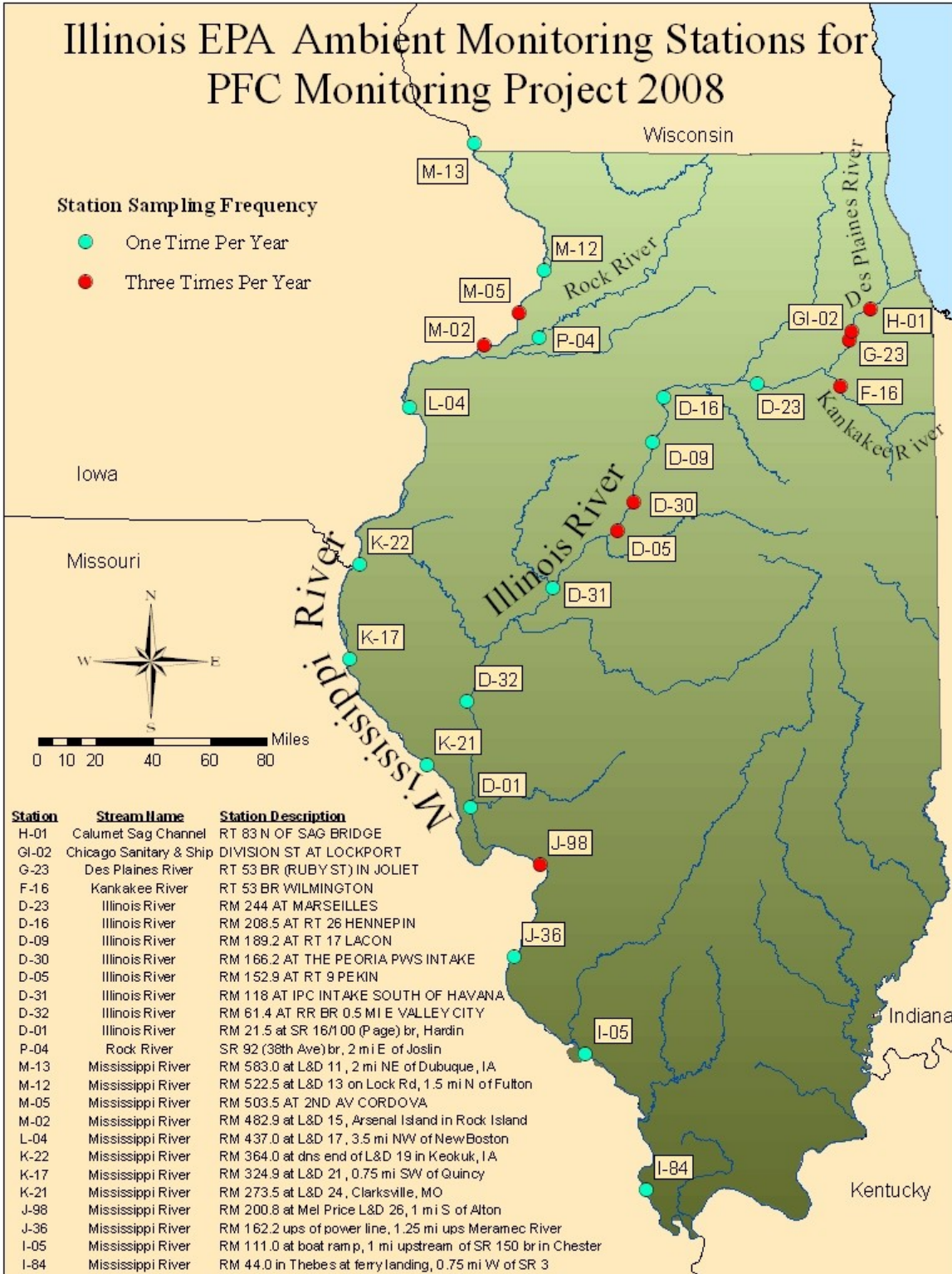
In October 2007 the Illinois EPA shut down its statewide ambient water quality monitoring network to facilitate the consolidation of the two IEPA laboratories. Eleven of the 213 active stations were located on the Mississippi River. A reduced network (86 stations) will be restarted in May 2008 and include all 11 Mississippi River stations.

In March, the Illinois EPA was directed to begin sampling for pharmaceuticals in public water supplies. This is a pilot project and includes five facilities statewide, two of which are located on the Mississippi River: Rock Island and East St. Louis.

On January 24, 2008 the Illinois Pollution Control Board released its final order on a proposed new dissolved oxygen standard for Illinois. The standard is modeled after the USEPA 1986 criteria document and includes a narrative statement, seasonal variations, daily minima and long term (i.e., 7-day) averages (Table 1). These standards will apply to the Mississippi River.

The Illinois EPA will also be participating in additional sampling for perfluorinated organic compounds (PFCs) at 25 sites statewide including 12 sites on the Mississippi River. Nine of the total sites, including 3 Mississippi River sites, will receive 3 samples in March, April and May. The remaining 14 sites will be sampled only in May. This is a cooperative project between the Upper Mississippi River states (sample collection) and the USEPA National Exposure Research Laboratory (analysis), in Research Triangle Park, North Carolina.

Illinois EPA Ambient Monitoring Stations for PFC Monitoring Project 2008



Wisconsin - John Sullivan, Wisconsin DNR

Wisconsin's 2008 Impaired Waters List is out for public review. The comment period ends March 19th. Two new listings have been added for the Mississippi River. Sediment has been added for the reach extending from the mouth of the St. Croix to upper Lake Pepin with the primary impairment on submersed aquatic vegetation. This is within the same reach that Minnesota lists for a turbidity impairment. Wisconsin also plans to include Perfluorooctane sulfonates (PFOS) due to contaminated fish tissue (fish consumption) in the reach from Pool 3 to Pool 6. This listing will also be consistent with Minnesota.

Proposed rules for phosphorus criteria for lakes, reservoirs, streams and river have been drafted and are being reviewed by an advisory committee. The proposed P criteria for streams would be 0.075 ug/L and for large rivers would be 0.105 ug/L. Sullivan mentioned that he is completing a report on identifying nutrient impairment in backwaters and wetlands on UMR bordering Wisconsin and has also drafted potential P & N criteria for these waters.

Wisconsin is participating in the next round of PFC sampling with USEPA and the UMR states. We will be sampling the Mississippi River near LD 4 and LD 9 and the Chippewa, Black and Wisconsin tributary mouths with monthly collections planned for March, April and May. Wisconsin (Heidi Langrehr) is participating with Minnesota DNR to assess aquatic vegetation in the river from Pool 1 to 11 following a modified EMAP design and is in the process of developing vegetation criteria that could be used for future vegetation assessments on the river.

Andy Bartels and Terry Dukerschein are working with Mark Pearson of EPA and Brian Ickes of UMESC variously on several fish assessment studies. These entail an exploratory analysis of EMAP, LTRMP and WDNR datasets using Lyons IBI metrics, an electrofishing methods comparison study (EMAP, Wisconsin DNR, and MPCA methods), and a study to evaluate how distance sampled with electrofishing affects catches, and thus, IBI scores generated with the resultant data. These studies should provide insight towards the development of a standardized fish sampling protocol and assessment methodology.

US EPA, Region V – Bill Franz

The SPARROW model is being developed by USGS and will be a tool available to the states and EPA in identifying watersheds with excessive nutrient loadings. The SPARROW model was recently calibrated and peer reviewed for use at the Mississippi River basin scale. This work was published in the February issue of Environmental Science and Technology. It was the article in this publication that indicated that 75% of the nutrient loading that reaches the Gulf of Mexico is from nine states, Illinois, Iowa, Indiana, Ohio, Missouri, Kentucky, Tennessee, Arkansas, and Mississippi. Work is continuing on the ranking of 8 digit HUCs within the Mississippi River basin based upon the nutrient loads that reach the Gulf. Rankings will be made for both nitrogen and phosphorus. This rankings work will also provide each state with the capability of determining the nutrient load that remains within each of these 8 digit HUCs. The rankings of the 8 digit HUCs will be available to the EPA and the states by the end of September 2008.

The early warning monitoring network has its first monitor in place, at the City of Minneapolis' water intake. Two additional monitors will be in place by the end of June, at the St. Cloud water intake and the SHERCO coal fired power plant. Both these monitors are in Minnesota. Two additional monitors are targeted for installation by the end of July 2008. These monitors will be located at Lock and Dam 14, near LeClair, Iowa and at the University of Iowa's center at Fairport, Iowa. The biomonitor, Fat Mucket mussel, is paired with a YSI probe which measures: pH, Temperature, Dissolved Oxygen, Specific Conductance, Turbidity, Chlorophyll a, and a S-Can Spectrolyser (UV-Vis Spec) – Hydrocarbons, Nitrate/Nitrite, and TOC. Once all of the monitors are in place a network will be created that will be accessible via the web. The YSI probe is continuously monitoring and the measures are being captured and stored.

USACE, Rock Island, - Dave Bierl

EMP HREP Monitoring

Performance evaluation monitoring is being performed at the following HREPs: McCartney Lake, Pool 11 Islands (Sunfish Lake and Mud Lake), Brown's Lake and Andalusia Refuge.

Baseline monitoring is being performed at the Lake Odessa and Huron Island projects.

Transparency Tube Measurements at District Locks

Transparency tube measurements continue to be taken at District L/Ds. The frequency of measurements is dependant on lock personnel availability to take the samples. Ideally, measurements will be taken daily (Monday through Friday) from April through October and less frequently during the remainder of the year. The data are available to the public and can be viewed on the rivergages.com website.

Starved Rock Section 519 Restoration Project

The primary goal of the Starved Rock project is to restore island and associated aquatic habitat in lower Starved Rock pool. One of the objectives associated with this goal is to provide suitable conditions for the growth of submerged aquatic vegetation. Continuous monitors (light penetration, wind speed and direction, etc.) will be deployed in the lower pool this summer in an effort to measure baseline conditions. Water samples will be collected for herbicide analysis in support of a mesocosm enclosure study being performed by the Illinois Natural History Survey.

Coordinator's report: Scott Yess, USFWS, Onalaska

Newsletter

The newsletter is published quarterly and sent electronically to approximately 600 e-mail addresses. Continue to send calendar items, staffing changes, accomplishments, issues, new releases or other pertinent information for the newsletter.

Library

All or the UMRCC library holdings are listed in the UMRCC library database located on the UMRCC webpage <Mississippi-River.com/UMRCC>. The library is now located at the Fish & Wildlife Service Office at 555 Lester Ave. in Onalaska, WI. Heidi Keuler has agreed to perform library tasks as needed. Send in publications and reports to Heidi to keep the library current.

Web Page

Heidi and Gerry Bade are working together to create a new web page. The Newsletter, UMRCC publications, the directory of river resource managers and updated information from the Tech Sections will continue to be posted on it. They are working toward placing the Library database on the new site also.

Outreach

Scott participated in Great Lakes Day in Washington DC. This is an annual event the Great Lakes Commission holds to gain exposure to the resource issues on the Great Lakes. This is something that could work for the Upper Mississippi River. Hilary Harp Falk who represents the UMR for the Northeast Midwest Institute has been very supportive of the effort and will be a key partner in developing this project.

New informational displays were developed last spring and can be used at conferences and workshops as a means to educate the general public on UMRCC activities. They were displayed at the meeting.

Publications/Reports

The UMRCC 2007 Annual Proceedings were completed by Tom Boland. The Proceedings will be added to the web page and approximately 50 copies will be sent to libraries along the UMR. The Distribution and Relative Abundance of Upper Mississippi River Fishes is in the process of being updated. The written portion of the document is near completion and is being worked on by Mike Steuck.

Issues

Harvest of shovelnose sturgeon is increasing in every state it is allowed, due to the demand for sturgeon roe. Many states have tightened or are recommending additional restrictions to harvest. These new regulations will be evaluated to determine their effectiveness.

Invasive species continue to increase as does the time spent on managing and educating the public on these exotics. Letters were drafted and sent to federal agencies and political representatives on the need to repair, operate and fund the electronic barriers on the Chicago Sanitary and Ship Canal. Currently this is our best option for slowing the spread of exotic species. The UMRCC believes the long term solution is to permanently sever the connection between the basins. A letter was also drafted and sent to the Aquatic Nuisance Species Task Force, chaired by FWS and NOAA, supporting the **Management and Control Plan for Asian Carps in the United States** and the funding to carry out the plan.

Fishers and Farmers Fish Habitat Initiative is still moving forward. Ken Lubinski will be the Coordinator for the Partnership. A Candidacy letter was sent to the Board in September by Iowa DNR. Our first Steering Committee meeting will be held April 3-4 in Dubuque. We are working with TNC to apply for funds to support a demonstration project.

Tex Hawkins introduced the idea of designating the Upper Mississippi River National Wildlife and Fish Refuge as a Wetland of International Importance under the Ramsar Convention. Refuge designation at this time can provide consistent federal management jurisdiction, following the recently completed EIS/CCP public review process, which included the proposed designation. This designation can enhance future management by increasing international visibility and participation in research collaboration and adaptive management consultations. The refuge would like to obtain UMRCC endorsement, as the organization of river professionals. This designation would complement current refuge designation as a Globally Important Bird Area (IBA) which in turn complements newer state-designated IBAs encompassing the bluffs and lower tributary floodplains that border the refuge.

On our June conference call the state reps requested the FWS send a letter to their agencies identifying the proposal and asking the states for adjacent lands that would like to have included in the proposal. To date

four of the five states have responded favorable. Iowa and Wisconsin requested additional areas to be included in the proposal. We are still waiting on a Minnesota response.

Resolutions

At the fall meeting the Wildlife Section discussed the connectivity issue. The group still believes there remains a need for the UMRCC to develop a resolution regarding its definition and use of connectivity as a river management tool. Mike Griffin will work with Mike Steuck to finalize a draft proposal.

A Climate Change Statement has been drafted by Tim Schlagenhaft and reviewed by the Executive Board. Several comments were incorporated into a draft that will go to the Executive Board for approval.

Update of the EMAP-GRE Assessment “Draft” Great River Fish Index (GRFI_n)

Mark S. Pearson, Ted Angradi, and David Bolgrien

US EPA/ORD/ Mid-Continent Ecology Division, Duluth, MN

An update of the EMAP-GRE program was presented at a Joint Meeting of the Upper and Lower Mississippi River Conservation Committees in Collinsville, IL, March 11-12, 2008. I presented the results of a draft multi-metric index, the **Great River Fish Index (GRFI_n)**. My talk focused on the development and results of the GRFI_n, stressor gradient development, and tools for assessments such as cumulative distribution functions (CDF's) for the Upper Mississippi River.

UMRBA Designated Uses Project – Dave Hokanson, UMRBA, St. Paul

The UMRBA Water Quality Task Force and the Water Quality Executive Committee are evaluating the “designated uses” assigned by the UMR states (focusing on aquatic life uses) to improve and protect the UMR’s water quality. The group found the following issues in consistency:

- The “Big Three” uses are all there (aquatic life, recreation, and drinking water), but not very intuitive. Differing language used.
- Protection for fish consumption present, but not often explicit.
- Drinking water use fully applied in two states, location-specific in one state, not applied in two states.
- Discrepancy in contact recreation use south of St. Louis
- Criteria applied to protect uses are diverse, and the diversity in use descriptions may contribute to this.
- It may be largely about communication, but that’s not insignificant.

The rationale for investigating UMR “designated uses” and the potential benefits of refining those uses are:

Uses in General	Aquatic Life/ Habitat-Specific Subcategories
<ul style="list-style-type: none"> ▪ An opportunity to jointly revisit projection goals for the UMR under the CWA. Allowing the states speak with a unified voice on protection goals. ▪ An opportunity to start with a “blank slate” and look at the system as a whole at the most basic level of the CWA. ▪ Improved consistency in the characterization of the river (uses), goals for water quality (criteria), assessment (monitoring), and evaluation (305(b) & 303(d)). ▪ Adapting standards to the unique nature and diversity of the river, leading to better protection of the resource. ▪ May build base for comprehensive monitoring efforts. Helps facilitate data sharing. ▪ Better ability to address off-main channels such as backwaters. 	<ul style="list-style-type: none"> ▪ Better ability to communicate to the public about natural resources being protected by the CWA. ▪ Better ability to communicate among states about protection goals for aquatic life. ▪ Identifying key species and key criteria, including explicit criteria to protect key species. ▪ Facilitate geographic and seasonal applicability of criteria (such as for SAV protection). ▪ Refine and target monitoring and assessment by focusing on key criteria at key times in key places. ▪ Build connections to ecosystem restoration efforts and data collected under these efforts. ▪ Improved understanding of the River’s habitats and its diversity among CWA program staff.

They have proposed creating habitat-specific aquatic life use sub-categories, modeled after an approach used on the Chesapeake Bay.

Current status, challenges, and implications (primary focus on aquatic life use):

- Examining UMR habitats/potential aquatic life use subcategories
- Still plan to address other uses (drinking water, recreation, etc.)

Aquatic Life: Challenges/Questions:

- What is the right “conceptual framework” to apply in more habitat-specific implementation of the Clean Water Act.. how many boxes?
- How to integrate information and approaches from River programs (LTRMP, EMAP, state monitoring, etc.)/sampling proposal from EMAP
- Relationship between data and decisions
- Can main channel criteria protect off-channel?

Implications:

- More work ahead, still need to sharpen work plan
- Need to continue collaboration efforts
- Bioassessment/IBI development

WQTS webpage

Heidi Keuler is updating the UMRCC website. If you have any ideas for the WQTS webpage, please contact Cindy DiStefano.

Announcements

Matt Short has volunteered to take over as chair of the WQTS.