

Weekly LWC Update 7-21-16

Interested reader: each week, I gather general information for Legislative Water Commission members to help keep them apprised about water issues in Minnesota. It contains a roundup of easily attainable MN water news, as well as articles from beyond MN that may inform member thinking. It also includes summaries of meetings I have attended and reports I have read, as well as info about upcoming events. During the Legislative Session, it includes updates on water-related legislation. Any errors or omissions are inadvertent.

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MN NEWS

WATER ACTIONS

- Ecolab: [Ecolab Makes Equity Investment in Aquatech International](#)
- Walker Pilot Independent: [‘Love Water, Not Oil’ fundraiser July 22 in Pine River](#)

WATER SUPPLY

- The Fergus Falls Daily Journal: [Minnesota health officials advise private drinking well testing after flooding](#)
- Strib: [For Ecolab, supplying small brewers pays off big](#)
- The Caledonia Argus: [City passes emergency water ordinance](#)
- Pioneer Press: [Lake Elmo to sue 3M for pollution-related costs](#)
- DNR: [Groundwater sampling planned for Meeker County](#)

SURFACE WATER/STORMWATER

- MPR: [Stormwater cleanup goes high tech in St. Anthony Village](#); check out this 4 min [video](#) that will help you visualize the treatment processes
- Pioneer Press: [A \\$1.76M grant to improve Como and McCarrons lakes](#)
- MinnPost: [DNR's interactive map of buffer sites offers a fascinating view of a key resource](#)
- Strib: [State official takes questions about buffering waterways](#)
- WDAY 6: [According to the Minnesota Pollution Control Agency 40 percent of waterways are polluted](#)
- Redwood Falls Gazette: [Buffer law a complex issue](#)
- Owatonna People's Press: [One day of buffer meetings planned for 5 counties](#)
- Strib: [State briefs: Feds, Fargo, Moorhead sign off on Red River partnership](#)
- Faribault.com: [Minnesota Department of Natural Resources releases buffer map](#)
- Whapeton Daily News: [DNR releases buffer protection map](#)
- Gustavus Adolphus College: [Summer Research Students Study Water Pollution Solutions in the Minnesota River Basin](#)
- MPCA: [MPCA refines its proposed standard for protecting wild rice from excess sulfate](#); in response to more than 600 comments, MPCA made the following changes:

- Revised the definition of a “wild rice water” to include a documented history (since 11/28/17) of wild rice harvest or contained a natural bed of wild rice of at least 0.25 acres, with a stem density of at least 8 stems per square meter OR 0.5 acres, with a stem density of at least 4 stems per square meter
- Graphed the study data and revised the concentration of sulfide in the sediment that wild rice can tolerate, as detailed in the MPCA draft technical support document
- Calculated sulfide levels using a new statistical approach (multiple binary logistic regression) that has a lower error rate than the structural equation modeling approach originally proposed
- Proposed collection of 5 composite sediment samples consisting of 5 cores each be collected in wild rice beds to more accurately represent iron and carbon levels; the sulfate standard derived from these samples would apply as a 12-month average

Feedback on the proposed changes should be submitted to MPCA by 9/6. Read more in the media coverage by Strib: [MPCA issues latest revisions to proposed wild rice standards](#), Duluth News Tribune: [PCA refines wild rice sulfate rules](#), and MinnPost: [Minnesota revises proposed standards to protect wild rice from sulfate pollution](#)

MINING

- Strib: [EPA warns Minnesota over laws exempting taconite firms from wild rice rules](#) and [EPA presses Minnesota over laws exempting taconite firms from wild rice rules](#)
- MPR: [Ely residents sharply divided over mining near BWCA](#) and Pioneer Press: [Northern Minnesotans split on copper-nickel mining near Boundary Waters](#)
- Northland News Center: [Environmental groups petition to stop mining in Iron Range](#)
- Strib: [Nolan asks feds to renew mineral leases near Boundary Waters](#)
- MPR: [Enbridge agrees to \\$177M settlement for 2010 oil pipeline spills](#); the settlement agreement requires Enbridge to replace its 50 yr old Line 3 through northern MN; Strib: [Enbridge reaches \\$176M agreement for 2010 Michigan oil spill](#) and [Federal Enbridge settlement could affect timelines of Minnesota pipelines](#)

AG & WATER

- Environmental Science and Technology: [Regional Effects of Agricultural Conservation Practices on Nutrient Transport in the Upper Mississippi River Basin](#); USDA/USGS study found farmers reduced nitrogen levels up to 34% and phosphorus levels up to 10% through conservation practices (using data since 2000)
- PR Newswire: [Winfield US and The Climate Corporation Join Forces to Seamlessly Integrate Technology Tools for Ag Retailers](#); the Phase 2 roll out of precision ag tools next March will address nitrogen management
- AgWired: [#FoodDialogues to Celebrate MN #Water](#)

OPINIONS

- Mother Jones: [New York Could Be the First State to Make Its Public Schools Test for Lead](#)

NEWS BEYOND MINNESOTA

- The Water Council: [Milwaukee Gets \\$1 Million Loan for Lead Pipe Replacement](#); the state money will first be used to eliminate lead pipes to 385 state-licensed day care centers
- New York Times: [Miles of Algae and a Multitude of Hazards](#)
- New York Times: [A Dreaded Forecast for Our Times: Algae, and Lots of It](#)

- Strib: [Curing Florida's algae crisis will take time, money, science](#)
- Wisconsin Academy of Sciences, Arts, and Letters: [On the Waukesha Diversion: Two Opinions](#); an interesting counterpoint between Marc Smith with the National Wildlife Federation who says the approved plan is sound and in accordance with the Compact vs Katharine Odell of the Sierra Club who warns that the approval sets a dangerous precedent by failing to meet the conditions set by the Compact
- WPR: [Judge: DNR Must Regulate Large-Scale Dairy Farm](#) and Strib: [Judge: Wisconsin must levy environmental protections on farm](#)
- Strib: [California beaches closed after massive sewage spill](#) and [The Latest: Ocean sample tests clean after LA sewage spill](#)
- Strib: [Clashes over water in southern Iran kill 1, injure 30](#)

MEETINGS

LCCMR – MISSED ONE

Last week, when I summarized the water-related projects recommended for funding by the Legislative Commission on Minnesota Resources, I inadvertently missed this one:

	Mapping Groundwater Contamination:	MPCA	\$400,000
012-A	Accessible Data to Protect Resources		

If you'd like to see all the LCCMR recommendations, look at this document: [M.L. 2017 Environment and Natural Resources Trust Fund \(ENRTF\) Recommendations \(FY 2018\)](#)

CLEAN WATER COUNCIL

At this month's CWC meeting, U of MN staff presented conclusions from their [Review of the Minnesota Department of Health Contaminants of Emerging Concern Program Process for Selecting Chemicals](#), a task directed by the Legislature this past year. Here is a summary of their recommendations:

1. Continue employing the program's strengths
2. Retain the public nomination process, but increase awareness of it within citizen organizations and other stakeholder groups
3. Develop a systematic nominations process that anticipates stakeholder needs
4. Increase the transparency of the screening and scoring system
5. Include an evaluation of the cumulative effects of multiple chemicals and the chemical's reaction products in the screening documents
6. Describe the process used to identify cumulative effects and reaction products
7. Have more regular consultations with risk exposure experts outside of MDH
8. Consider using the hazard quotient to rank chemicals
9. Consider adopting the weight-of-evidence approach
10. Replace "usefulness" criteria with quantifiable exposure criteria
11. Work with stakeholders more broadly, including those who can provide input on social and psychological elements

MDH intends to consider and utilize these recommendations. A CWC member was concerned that risk be evaluated based on chemical exposures as both a primary factor and mitigating factor. The legislative scope of this project did not include evaluating mortality, co-morbidity and other personal factors to assess risk, but MDH is required to look at several factors when developing guidance values (e.g., age, gender, reproductive effects, etc.).

The CWC has been working with the U of MN Natural Capital Project staff to develop a tool that estimates **Return on Investment from Clean Water Fund appropriations**. The U of MN staff explained

the scope of a project to accomplish this goal that will be considered for CWF support with the next round of appropriation recommendations. If funded, their project would include evaluating social values, integrating monetary and non-monetary models to assess changes where investments have been made, and developing ROI metrics and visualizations. Their work will also include using a value of information approach to determine the relative value of CWF investments in monitoring vs planning to determine how they affect implementation.

Thus far, the **Policy Ad Hoc Committee** has focused on drinking water as their focus area and have drafted a resolution and 2 policies that will now be shared with stakeholder process to get feedback.

The **CWC has proposed 4 new programs for funding** this year and is also soliciting feedback from stakeholders on these. The proposals include the Return on Investment project, more funding for drinking water protection, funds to implement One Watershed One Plan activities, and establishing a Water Legacy Grants program that make non-governmental organizations eligible to receive CWF grants (similar to the Conservation Partners Grants funding by the Outdoor Heritage Fund).

Two new programs are being proposed by state agencies, as well. MDH wants to create a centralized **Statewide Recreational Water Portal** that consolidates beach monitoring results and beach closures. At this time, about 90% of beaches are not monitored and this portal may encourage others to do monitoring or publish their data, plus this site could also be an educational resource for education about water borne illnesses and factors. MDA is proposing to a **Vegetative Cover and Soil Health program** that will assess the potential to develop sustainable markets for traditional forage and cover crops that can be grown in MN, particularly in environmentally vulnerable areas. (This doesn't overlap with Forever Green, which is focusing on markets for new cropping systems.). MDA can leverage their financial assistance programs that can help farmers convert to these crops (e.g., purchase equipment, conduct profit feasibility studies, etc.), plus their technical assistance to develop manufacturing processes through the AURI program.

The **Budget and Outcomes Committee shared their preliminary recommendations** on whether to increase, decrease, maintain or eliminate funding for programs funded with CWF dollars and accepted input from CWC members. They also noted the inclusion of the Interagency Coordination Team's spreadsheet listed their desired CWF funding levels, but these were not discussed.

MDH staff explained the **City of Fairmont's Notice of Violation for nitrate-nitrogen in their drinking water**. Twenty percent of Minnesotan's drink surface water that is extracted from rivers, lakes, and mine pits. Fairmont has been using surface water from Budd Lake for the last half century. In the past, they have observed annual peaks in nitrate concentrations, but they have always been below the regulatory limit of 10 ppm. In 2008, they completed a feasibility study to plan for their new water treatment plant, which cost \$31M. Because they did not anticipate a nitrate problem, the 2013 plant was not built to treat nitrate. (Including reverse osmosis or ion exchange to treat nitrate would have cost about another \$10M). In January 2016, they had an unexplained exceedence of the nitrate standard in their finished drinking water, which triggered a required health advisory notice for their customers. Fairmont has a backup well, so they have been able to blend groundwater with surface water, plus they flushed the entire distribution system (a 10 day effort) to meet the standard. (Note that the well had not been used to address peaks in the past because it costs \$1K/day to soften well water.) Fairmont has signed a compliance agreement with MDH that includes: weekly monitoring, continued blending with groundwater as needed, and developing and implementing a surface water source water protection plan. The Budd Lake watershed is about 9% urban and 91% agricultural.

MDH explained that there are several approaches to treating nitrate: ion exchange or reverse osmosis system or blending multiple water sources. At this time, MN has 8 water treatment plants designed specifically for nitrate removal from groundwater. In lieu of or in addition to treatment, water suppliers can also manage drinking water sources. The management approach can provide long term,

comprehensive, and cost-effective approaches, but it can be a challenge to manage land use outside the water suppliers’ jurisdictions and there is a lag time between water protection actions and water quality improvement. MN has 24 community water supply systems and 60 non-community water supply systems that use surface water intakes; only 3 have completed voluntary source water protection plans (water suppliers using groundwater must develop wellhead protection plans). MDH staff expressed that they are not yet well positioned to work with partners (like MPCA, BWSR, MDA, and local partners) on source water protection for surface water users.

If you are interested in more details from the CWC meeting, you can review the meeting packet [here](#).

REPORTS

STATE OF MN WATER

- 7/18 [Stream Flow Report](#); large sections of the state are experiencing flood flows
- 7/19 [Drought Monitor](#)
- DNR’s June [Hydrologic Conditions Report](#)

WATER REUSE

Last week, I reported on the Freshwater Society’s Water Reuse Workshop. They have now published a more detailed [Water Reuse Workshop Proceedings Report](#), which summarizes the presentations and case studies, identifies the common themes, and provides recommendations to advance water reuse in MN. The top 5 barriers for rainwater and wastewater, as identified by the attendees, were:

Rainwater	1. Cost is high, and potable water is inexpensive
	2. Lack of state or national policies/guidelines for oversight and management of decentralized non-potable water systems
	3. Lack of water quality/performance standards for decentralized water systems
	4. Water appropriations permits and reporting processes are discouraging
	5. Not enough public health or risk data
Wastewater	1. Cost is high, and potable water is inexpensive
	2. Treatment requirements are not in line with use
	3. High chlorides in treated wastewaters is a challenge for industrial reuse
	4. Lack of state or national policies/guidelines for oversight and management of decentralized non-potable water systems
	5. Lack of water quality data on alternate water sources

Since the most significant barriers to reuse are more policy related than technology or perception related, the strategies to address them is primarily focused on policy and regulations. The categories of reuse-related challenges (#1-3) and strategies for action (a-d) are shown below:

1. Fill in knowledge gaps on the risks, costs and tradeoffs to to design, operate, and monitor water reuse projects
 - a. Understand how reuse impacts other water bodies and those depending on them
 - b. Quantify the true cost of water, and how to pay for it
 - c. Review the effectiveness of financial incentives and disincentives on promoting reuse

2. Update and streamline regulation with clear standards set at an appropriate scale of governance and that address project-specific nuances and ensure they are met
 - a. Clarify treatment standards relative to varied sources and end uses
 - b. Ensure that authority matches the area of expertise
 - c. Remove redundancies in oversight to streamline the process
 - d. Establish a common regulatory and messaging language across agencies
3. Compel action by providing clearer need/benefit information to appropriate audiences
 - a. Create educational information that actively engages non-technical and non-regulatory audiences
 - b. Encourage local policy-makers to update codes and ordinances to reflect nuance-informed standards, clearing regulatory hurdles at the city and county levels
 - c. Encourage developers to consider water reuse in the early stages of project planning
 - d. Establish a defined process for designing, permitting, and installing reuse systems

2016 NONPOINT PRIORITY FUNDING PLAN

BWSR recently published its [2016 Nonpoint Priority Funding Plan](#) (NPPF), a report mandated by the Clean Water Accountability Act. It establishes a criteria-based process to prioritize Clean Water Fund (CWF) nonpoint implementation investments so that state agencies can ensure CWF implementation allocations are targeted to cost-effective actions with measurable water quality results.

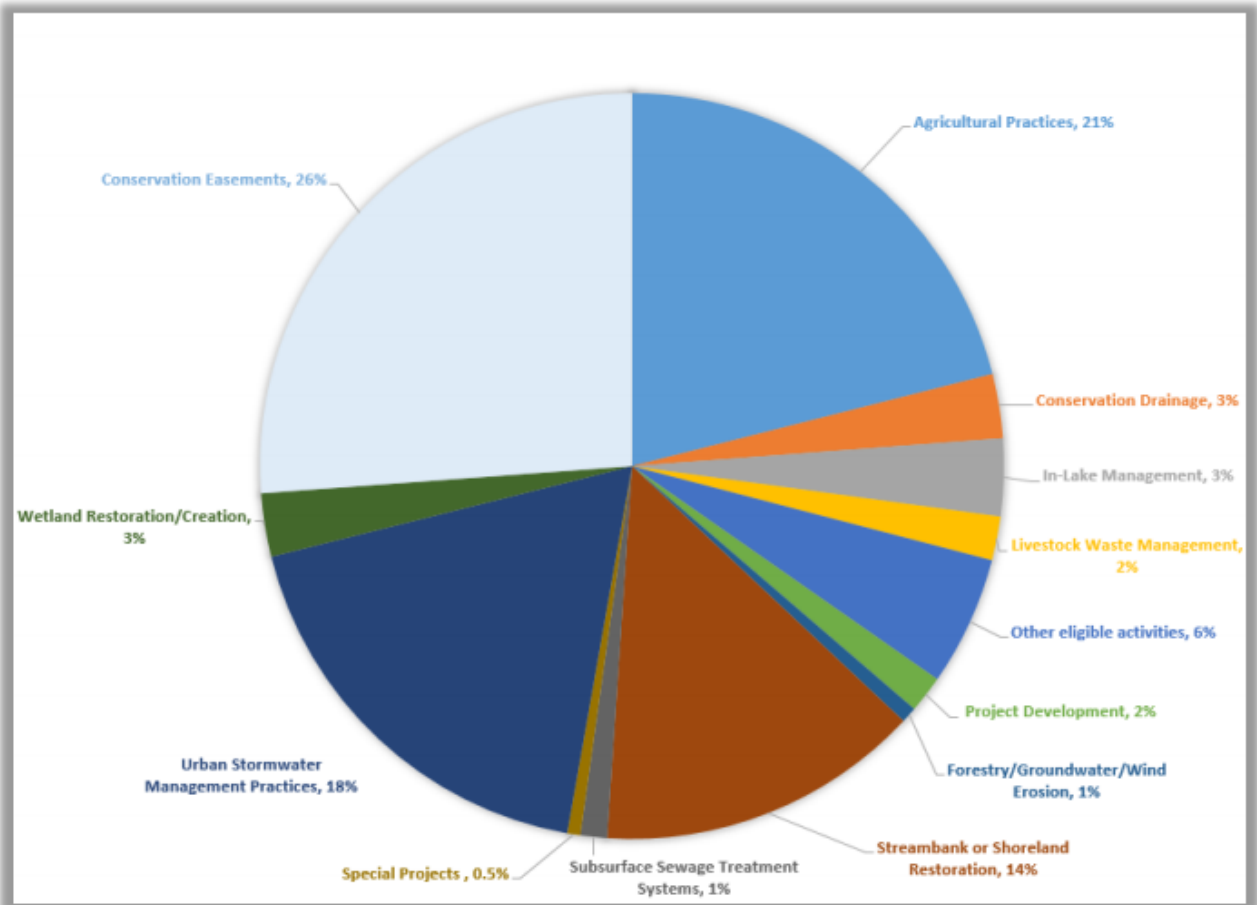
In the [2014 NPPF](#), the agencies agreed on the following 3 State priorities to align their programs and activities as they work toward reducing nonpoint source pollution:

- Restore those impaired waters that are closest to meeting State water quality standards
- Protect those high-quality unimpaired waters at greatest risk of becoming impaired
- Restore and protect water resources for public use and public health, including drinking water

Additionally, the 2014 NPPF established the following 9 criteria to guide program or project evaluations under consideration for CWF. The criteria favors programs and projects that are:

1. Aligned with state priorities
2. Locally prioritized and targeted at the watershed scale
3. Producing measurable results at the watershed scale
4. Providing multiple benefits
5. Long-lasting (with maintenance)
6. Managed locally by ready and able partners
7. Leveraged with non-Clean Water Fund dollars
8. Cost-effective per unit of pollutant load reduced or prevented
9. Landowner Financial Need: Increased financial assistance for low-income landowners.

The law directing the preparation of the NPPF states “the plan shall include an estimated range of costs for the prioritized actions”. The best source of data for estimating nonpoint implementation costs for the State is BWSR’s Biennial Budget Request, which provides the following statewide estimated costs to implement various Clean Water Fund eligible nonpoint activities during FY18/19:



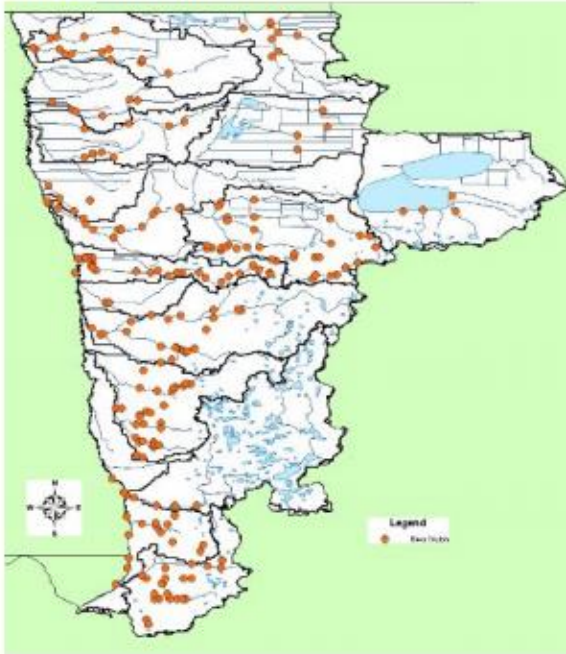
RRB RIVER WATCH

The International Water Institute has released the [Red River Basin River Watch Annual Report 2015](#) that fulfills the final reporting requirements for the Clean Water Legacy River Watch Project from January 2014 through June 2016. The goal of River Watch is to enhance watershed understanding and awareness for tomorrow's decision-makers through direct hands-on, field- and science-based experiential activities. Students from over 40 schools and community members participate in one or more of the following programs:

- Water Quality Monitoring: students collect data and record conditions in local rivers using state-of-the-art scientific methods and equipment
- Biological Monitoring: students monitor macroinvertebrate and mussel populations to provide additional insights on watershed health
- River Explorers: students paddle in guided kayak excursions on local rivers to observe and document watershed conditions
- Ongoing Training: teachers receive access to resources and consult experts on current watershed issues
- Adopt-A-River: citizens practice civic engagement through river and stream clean-up activities
- River Watch Forum: annual opportunity for students to share and learn about emerging watershed issues

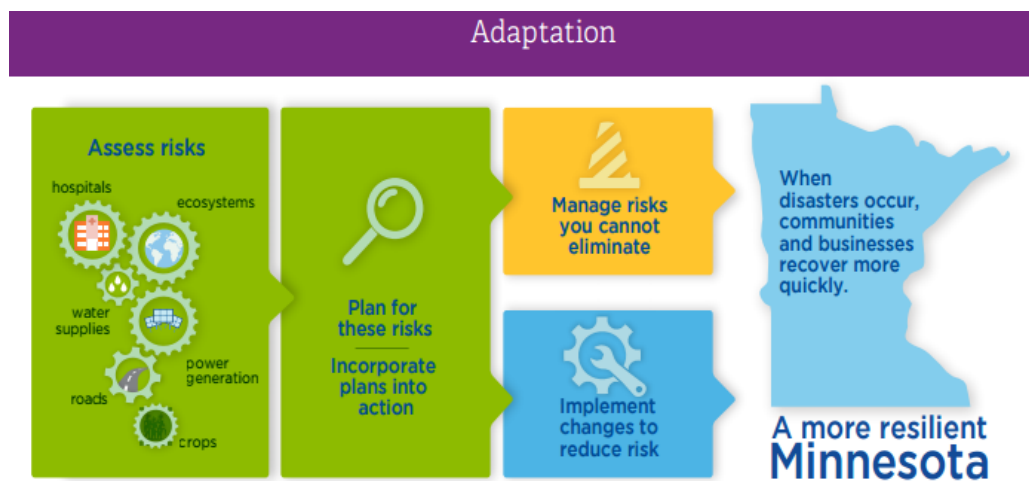
Monitoring sites are dispersed widely throughout the Red River Basin:

River Watch Site Map



CLIMATE

This year, 2016 EQB released *Climate Solutions and Economic Opportunities: A foundation for Minnesota's state climate action planning*, which was an outgrowth of their 2015 report *Minnesota and Climate Change: Our Tomorrow Starts Today* (both reports can be downloaded [here](#)). Climate issues are just about energy use and greenhouse gas emissions; water is also an impact area due to higher intensity storms and more frequent droughts, which can impact wastewater, water supply, and stormwater management systems. Both of these documents use plain language and graphics to provide a quick overview of the issues. The majority of the proposed climate action policies will also have an impact on water.



Read related news from Gov Dayton's Office: [Minnesota Establishes New Office of Enterprise Sustainability to Fight Climate Change](#) and MPR: [Minnesota must do more to cut greenhouse gas linked to climate change](#)

UPCOMING EVENTS

- July 26: **A Celebration of Minnesota's Waters**; hosted by the US Farmers & Ranchers Alliance and the Farm & Food Alliance of MN; 2:00-4:00 pm; @ the Weisman Art Museum (333 E River Parkway, Minneapolis); panel details/registration link [here](#)
- July 28: Forester U Free Webinar **Flood Best Practices: Protecting People & Property with GIS**; register [here](#)
- Aug 2: **GNP Water Reuse Tour**, Cold Spring; by invitation only (which you received directly from GNP; I plan to attend)
- Aug 3: Minnehaha Creek Watershed District's **Nonpoint-source Education for Municipal Officials (NEMO) Workshop on Lake Minnetonka**, focusing on MCWD's comprehensive plan update; \$20; RSVP to www.minnehahacreek.org/boat-tour or contact Larisa Jenrich @ 651/480-7732 or jenri001@umn.edu
- Aug 10: **Faribault County Multipurpose Drainage and Soil Health Field Day**; 9 am to 3 pm; 4-H Building (270 White Oak Rd, Blue Earth); for more information, call the Faribault Co SWCD at 507/526-2388
- **Aug 17: Legislative Water Commission all day field tour (details to come)**
- Aug 23: **MnTAP Intern Symposium**; 1-5 pm: Johnson Great Room and Ski-U-Mah Room @ McNamara Alumni Center, U of MN; reports on projects that include helping companies reduce water use; the agenda can be found [here](#); [register here](#).
- Aug 24-25: **BWSR Tour**, East Grand Forks, more details to come
- Aug 31: **NEMO Workshop on the Lower MN River**, focusing on sediment pollution; no cost, but registration is required before 8/22 at z.umn.edu/nemominnesotariver
- Sept 7-9: **International Drainage Symposium**, \$400, The Commons Hotel (615 Washington Ave SE, Minneapolis), registration [here](#)
- Sept 14: **NEMO on the St. Croix River Workshop**, focusing on the National Scenic Riverway rules and policies and adopting Minimum Impact Design Standards by the riverside communities; registration info to come
- Sept 17: **Buffer Field Trip** (in conjunction with the U of MN Buffer Science and Design Symposium on 9/16); registration link to come [here](#)
- Sept 20: **Water Technology Summit**, focusing on the Agriculture, Food and Beverage Sector; US Bank Stadium; more details to come
- Sept 20-23: **American Water Works Association – Minnesota Section Annual Conference** (their 100th anniversary); Duluth; details [here](#)
- Sept 22: **Clean Water Summit - Green Infrastructure for Clean Water - Rethinking Redevelopment and Retrofits**; MN Landscape Arboretum; \$80; 9 am to 4:30 pm; info & registration [here](#)
- Sept 29: **NEMO Lessons Across the Landscape Workshop**; land-based tour focused on urban stormwater practices in Minneapolis, led by the Mississippi Watershed Management Organization; registration info to come
- Oct 18-19: **MN Water Resources Conference**; agenda to come; cost and registration information [here](#)
- Oct 24-26: **BWSR Training Academy**; Cragun's in Brainerd (registration will begin in August)