

## Weekly LWC Update 8-12-16

*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 also includes updates on water-related legislation. Any errors or omissions are inadvertent.*

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### **MN NEWS**

#### **WATER ACTIONS**

- ABC Newspapers: [Andover celebrates water challenge win](#)
- The Circle: [Mni Wakan: Water is Sacred](#)
- St Peter Herald: [Smithsonian water-themed exhibit to open in St. Peter on Aug. 13](#)
- KARE 11: [Volunteers needed to help keep MN lakes healthy](#)
- MPCA: [High school youth crews help on community projects](#)

#### **WATER SUPPLY**

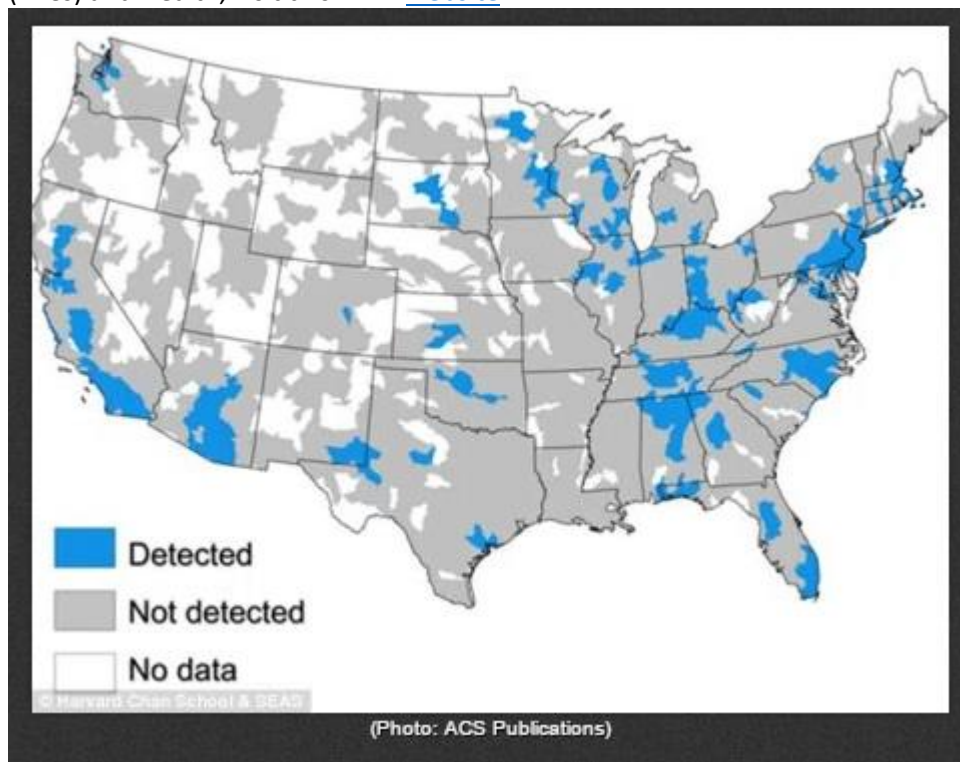
- Pioneer Press: [Formerly polluted TCAAP site gets clean designation](#)
- Osakis Review: [Wellhead protection plan goes forward](#)
- Crow River Media: [From ground to tap](#)
- Crow River Media: [Keeping country water clean](#)
- Fox 9 News: [Groundwater in Minnesota continues to show signs of pollution](#)
- Strib: [The long, toxic history of Burnsville's Freeway Landfill](#)
- CNN: Study: [Public water supply is unsafe for millions of Americans](#); Strib: [Industrial chemicals threaten water supplies for 6 million people](#); WCCO: [Study Finds Unsafe Amounts Of Toxic Chemicals In Minn. Drinking Water \(see the MDH statement in this article\)](#); Grist: [There's a new toxin in your water to worry about, America](#); and Bring Me The News: [Harvard study discovers millions exposed to toxic water, including in MN](#); the chemicals noted in the [study](#) are polyfluoroalkyl and perfluoroalkyl (PFAs), which are found in products such as cleaners, textiles, leather, paper and paints, fire-fighting foams and wire insulation. PFAs are persistent chemicals and can be transported in air.

MDH staff refer to PFAs as perfluorochemicals (PFCs) and MN has had a history of waste disposal issues that led to the appearance of PFCs in groundwater. When first detected in MN, there were no federal guidelines on health limits for PFCs in drinking water, so MDH began the work of developing them. The first 2 Health Risk Limit (HRL) values for PFC compounds were released in 2009 and 2 more were added in 2011:

- 2009 - Perfluorooctanoic Acid (PFOA): 0.3 micrograms per liter ( $\mu\text{g/L}$ ) or parts per billion (ppb)
- 2009 - Perfluorooctane Sulfonate (PFOS): 0.3 micrograms per liter ( $\mu\text{g/L}$ ) or parts per billion (ppb)
- 2011 - Perfluorobutane sulfonate (PFBS): 7 micrograms per liter ( $\mu\text{g/L}$ ) or parts per billion (ppb)

- 2011 - Perfluorobutyrate (PFBA): 7 micrograms per liter (µg/L) or parts per billion (ppb)

In 2012, EPA promulgated requirements to investigate PFCs. With MDH's prior HRL work, they assisted EPA in their study to develop the federal Unregulated Contaminants Rule (UCMR). In May 2016, EPA set a lifetime-exposure health advisory of 0.07 ppb for both PFOA and PFOS in drinking water. As a result of EPA's new Drinking Water Health Advisories for PFOA and PFOS, MDH's HRL values for those 2 compounds are currently under review. MDH is in a better position to react to EPA's new advisories given their history with this class of chemicals. The Harvard study based upon the sampling results collected as part of EPA's UCMR study. To learn more about Perfluorochemicals (PFCs) and Health, visit this MDH [website](#).



## SURFACE WATER/STORMWATER

- DNR: [Trout stream designations would better match habitat, under proposal](#); 48 streams (60 miles) are planned as additions to the list; 41 streams (195 miles) are planned for removal; comments are due 11/7 (neither Cold Spring Creek or Little Rock Creek, which have been associated with groundwater constraints, are planned for delisting); Le Center Leader: [Le Sueur County to gain more trout stream sections under DNR proposal](#)
- WCCO: [Group Files Appeal Over Red River Diversion Permit](#) and Whapeton/Breckinridge Daily News: [Water resource district appeals state engineer's decision](#)
- Mankato Free Press: [Seven Mile Creek deserves attention](#)
- NBC News2: [Authorities say about 5,000 gallons of sewage spilled into a Minnesota lake](#); KAAL 6 TV: [UPDATE: Officials: 3,500 Gallons of Lake Water and Contamination Removed; Lake and Park Still Closed](#); Strib: [Southern Minn. lake reopens after rare outbreak of toxic algae blooms](#)
- Duluth News Tribune: [Lake Superior water level sees average July increase](#)
- International Falls Journal: [Closure of beaches prompts talk of testing](#)
- Woodbury Patch: [Minnesota Pollution Control: Several Woodbury Lakes Are 'Impaired'](#)
- Mankato Free Press: [Zika investigators coming to Mankato](#)

- Austin Herald: Mower [SWCD ready to offer rain-simulation demonstration](#), Soil health demonstration Wednesday with nitrate-water testing, more
- Owatonna.com: [Learn about Minnesota’s new buffer law at CRWP’s “Buffer Field Day”](#)
- DNR: [Zebra mussels confirmed in 5 Minnesota lakes](#); West Central Tribune: [Zebra mussels infest Lake Florida](#); and Valley News: [Zebra mussels confirmed in 5 more Minnesota lakes](#)
- DNR: [Starry stonewort infestation confirmed in Turtle Lake near Bemidji](#); Strib: [Invasive algae found in second spot in Minnesota – in Turtle Lake near Bemidji](#) and MPR: [Invasive algae discovered in second Minnesota lake](#); 3<sup>rd</sup> discovery of starry stonewort
- MPCA: [Test results: Potential for harmful algae in Beaver Lake](#)
- Duluth News Tribune: [Duluth, Ashland get EPA grants for beaches](#)

## EXTRACTIVE INDUSTRIES

- Northland Press: [Enbridge plans to terminate joint venture with Marathon Petroleum for Sandpiper Pipeline](#); “While Enbridge and Marathon plan to terminate their joint venture in the Sandpiper Pipeline Project, Enbridge has announced no plans to stop pursuing its L3R project, which follows much of the same planned route as Sandpiper. L3R, as the name suggests, would replace Enbridge’s current Line 3, which was originally built in the 1960s. Enbridge says that the L3R project is important to maintain pipeline safety and integrity. Part of the L3R route would pass through Cass and Crow Wing Counties.”

## AG & WATER

- Brownfield: [Minnesota Corn Offers Innovation Grants](#)
- Minnesota Farm Guide: [Key Ag Issues discussed at Farmfest 2016](#)
- MPR: [Farmers, scientists seek common ground on going green](#)

## OPINIONS

- Hutchinson Leader: [EDITORIAL: Making sure your tap water is safe](#)

## BEYOND MINNESOTA

- Arcadis: [Sustainable Cities Water Index](#); this study ranks the water sustainability of 50 cities from 31 countries across the world according to how sustainably they manage and maintain water, but also against their natural risk and vulnerability for resiliency, efficiency and quality (the 3 pillars of sustainability). European cities are the overall leaders, while U.S. cities begin appearing at slots 13-18 (no MN cities are listed); however, U.S. cities are near the top in the water quality category. The full report can be seen [here](#).
- Time: [Flint Water Crisis May Cost the City \\$400 Million in Long-Term Social Costs](#); Grist: [Flint’s lead-poisoned water cost the city nearly 100 times as much as it was supposed to save](#); Strib: [Researchers upbeat, say Flint water improving from lead mess](#); and MPR: [Flint mayor: ‘Everybody played a role in this disaster’](#)
- The Guardian: [Waste of resources is biggest threat to planet, warns Scottish environment agency](#); “Scotland’s environment agency has warned the country’s industries and farmers that their waste and inefficiency is now the biggest threat to the environment, overtaking pollution.”
- NOAA: [NOAA and partners cancel Gulf Dead Zone summer cruise](#), due to mechanical problems with the ship
- News Deeply: [Creative Incentives to Boost Groundwater Recharge](#)
- EOS Earth & Space Science News: [AGU Expands into Geohealth, Starting with New Journal](#)

## MEETINGS

### MN RIVER BASIN STUDIES

The U of MN is leading the “Water Sustainability and Climate Project - REsilience under Accelerated Change” in the MN River basin. The “REACH” project is an interdisciplinary study being funded with a \$3.6M National Science Foundation grant. It began in Aug 2012 and will continue until Aug 2017. The collaborators include the U of MN, U of Utah, U of IL Urbana-Champaign, Iowa State, and the U of Washington. As they enter their last year, this group was also awarded \$300K to add the U’s Natural Capital Project group to the team of economists, hydrologists and geomorphologists working on this project. As a WSC project, the group is tasked with evaluating the potential effects of climate change on water sustainability, including looking at the costs/benefits of resilience practices. Principal investigators presented some of their key findings to date, which include:

- Climate and human changes are both accelerating hydrologic changes and increasing flows
- Accelerated flow is now the primary contributor to sediment loading in the MN River basin, along with phosphorus and nitrogen attached to it
- High frequency, low amplitude rainfall events are also changing – not just the extreme events; the # of wet days/yr has increased by 12.2 days
- Interventions, like water retention practices, can help mitigate these changes
- There is a legacy accumulation of N & P, but the lag time between land use changes and water impacts is not known, nor is the recovery time once interventions are added to the landscape
- Suspended algae is ubiquitous in the water bodies, accounting for ~20% of total suspended carbon
- Bluff failures have increased over the last 15-30 years, which corresponds to increased streamflow in the basin; check out this YouTube video that uses time lapse photography to show bank failures along the Le Sueur River over 2.5 yrs:

Watch this short [YouTube video](#) of a bluff failure on the Le Sueur River near Mankato. These 2 video links will show you the life of two bluffs over 2 years using timelapse photography; one of a downstream bluff (<https://www.youtube.com/watch?v=WKZh0XULgrk&feature=youtu.be>) and one of an upstream bluff ([https://www.youtube.com/watch?v=U\\_I2K50bqMM&feature=youtu.be](https://www.youtube.com/watch?v=U_I2K50bqMM&feature=youtu.be)).

Nearly simultaneous with the onset of the REACH project, a related project was started in the Greater Blue Earth River Basin called the Collaborative for Sediment Source Reduction project (CSSR, pronounced “scissor”). This project was funded with Clean Water Funds via the MDA research grant program, the MN Agricultural Water Resource Center, and EPA 319 grant funds (administered by MPCA). The 3 watersheds being studied and their relative total suspended solids yields for each are:

- Watonwan watershed (TSS yield 135 #/acre)
- Blue Earth watershed (TSS yield = 349 #/acre); includes the Elm Creek sub-watershed that had been a pilot MN Ag Water Quality Certification Program
- Le Sueur watershed (TSS yield = 656 #/acre)

The goal of the study is to find which solutions and locations will be the most cost-effective in scaling up from field scale to watershed scale to reduce sediment loads to the MN River. This project was unique in that it utilized a stakeholder group (including farmers) that met twice a year for 4 years. They also developed the reduced complexity Management Options Simulation Model (MOSM), which has been shown to be effective in testing hypotheses, engaging stakeholders and proposing solutions. In less than 10 seconds, an alternative sediment reduction scenario can be evaluated to guide sediment reduction decisions for any of the sediment sources that were identified through sediment fingerprinting (uplands, including ditches; ravines; bluffs higher than 3 meters; and stream banks lower than 3 meters). Preliminary conclusions of the nearly completed study include:

1. Upland water storage is more cost effective than bluff stabilization (with a goal to reduce peak flows below the threshold where most erosion is occurring, ~70th percentile)

2. Ravine best management practices are most cost-effective, but have limited potential, since they are only 8-9% of sediment source, on average
3. Placement of practices matters (e.g., water storage is more effective in headwaters areas)
4. Practices that retire cropland are less cost-effective for sediment reduction (but may have other benefits)

Consensus recommendations will be forthcoming late this year.

## WATER REUSE

The Interagency Reuse Workgroup (IRW) met this week as part of their two-year project to develop state policy recommendations for water reuse. Members of the workgroup reported on their efforts since the last meeting. They also continued the process to identify reuse barriers and actions to address them in the context of their planning for the 1<sup>st</sup> of 4 upcoming stakeholder advisory group meetings (the 1<sup>st</sup> 2 are listed in the Upcoming Events section below). At those meetings stakeholders will be asked to give feedback on the IRW's proposals. On the legislative initiatives item, one possible legislative change next session may be to request authorization for a general appropriation permit for stormwater reuse (more on that next week, after I attend a DNR meeting on this subject). The IRW has passed the six-month mark in their schedule and will be posting a six-month project update on the [project website](#) soon.

## DWG

At this month's Drainage Work Group meeting, the 1<sup>st</sup> agenda item was the continued evolution of a run-off based drainage assessment option, in particular learning about how to address runoff-curve numbers for wetland storage and road rights-of-way. This was followed by a lengthy discussion of the remaining issues in the Drainage Manual Update; all the chapters have been reviewed and the Update should be completed this year. Next up, was a discussion of last year's proposed HF2365/SF2380. Fearing unintended negative consequences, there is reluctance to modify drainage law without a clear need and a careful evaluation of the effect of proposed changes. There was some confusion about whether the redetermination of benefits (ROB) process or the repair process needed to be changed. The redetermination of benefits process determines which property owners are receiving what portion of the benefits so that proportional assessments can be issued; this is a lengthy and complicated process that can be hotly disputed at the local level. The ditch repair process is generally less contentious because a ROB isn't needed and only one approach requires the cost/benefit analysis. Existing drainage law provides three paths to repair ditches:

- If a drainage authority completes an inspection report and the repairs will cost less than \$100,000, they can order the repairs
- If <26% of the benefitted properties petition for a repair, the drainage authority can decide whether to proceed with repairs (most fall into this category)
- If ≥26% of the benefitted properties petition for a repair, a cost-benefit analysis is required to determine whether to process

Some members feel that the issue isn't within the repair process, rather the ROB process needs updating. Others thought more needed to be done to help drainage authorities understand what the existing law requires. Still others expressed that the issue isn't about distribution of payments, rather that the value of the payments is too low to cover the cost of needed repairs because the benefits are 100 years old.

As supporters of HF2365/SF2380, representatives of the Bois des Sioux Watershed District were present to express their concerns. They have a very progressive ditch management program that requires permits for all drain tiles. Plus, if people want to add tiling that flows into an existing system, they must submit a petition and buy their way into it (in essence, adding their share for the original cost of capitalizing it). They are struggling under the weight of a \$1M (and counting) lawsuit against them in a ROB case regarding Judicial Ditch 14. In addition to managing the ROB process, they have found the repair process to be burdensome and are looking for some legislative relief. As one DWB member noted, "drainage authorities are custodians of the



property owner's rights", so when assessments for ditch modifications are for benefits beyond conveyance, controversy can erupt.

The meeting closed with a discussion of whether to establish a standing committee on communications. The general feeling expressed was that communication should be an agency function and not a DWG member function.

## **REPORTS**

### **STATE OF MN WATER**

- 8/8 [Stream Flow Report](#)
- 8/9 [Drought Monitor](#)
- [July Hydrologic Conditions Report](#)

## **UPCOMING EVENTS**

- Aug 13 – Sept 25: **Smithsonian's Water/Ways and We Are Water MN** exhibits and activities in St Peter; grand opening at 9 am on 8/13 at the [Nicollet County Historical Society](#) Treaty Site History Center
- **Aug 17: Legislative Water Commission all day field tour**
- 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 and Board Meeting**, East Grand Forks
- 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](http://z.umn.edu/nemominnesotariver)
- Sept 1: *tentative* - **Buffer Strip Alternative Practices Field Tour in SE MN**; 10 am to 2 pm; itinerary and logistics to come
- 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**; 8 am to 4 pm; highlighting key topics in water technology including water's use in agriculture, food and beverage, national and local perspectives of water, and opportunities to accelerate technology adoption; US Bank Stadium; \$100 before 8/26 & \$135 afterwards; agenda to come; register [here](#)
- Sept 20-23: **American Water Works Association – Minnesota Section Annual Conference** (their 100<sup>th</sup> 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 26: **MN's Water Reuse Stakeholder Meeting** (open to the public); 1:30 – 4:30; MPCA Board Room
- 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 5-6: **Aquatic Invaders Summit II**; River's Edge Convention Center (10 4th Ave. S, St. Cloud); \$165 (early)/\$180 (late) registration; register [here](#)
- Oct 5-6: **Minnesota Coastal Conference 2016**; Two Harbors; registration and agenda to come [here](#)

- Oct 18-19: **MN Water Resources Conference**; agenda [here](#); cost before 9/22 is \$245 2 days/\$170 1 day (\$265/\$190 after 9/22); registration link [here](#)
- Oct 24-26: **BWSR Training Academy**; Cragun's in Brainerd (registration will begin in August)
- Nov 17: **MN's Water Reuse Stakeholder Meeting** (open to the public); 1:30 – 4:30; MPCA Board Room
- Jan 23-24, 2017: **MN Water Well Association's 95th Annual Trade Show and Convention**; Minneapolis Marriott NW; more info to come [here](#)