

Weekly LWC Update 4-28-17

ERRORS? OMISSIONS? If found, please notify barb.huberty@lcc.leg.mn.

Interested reader: each week, I gather general information for Legislative Water Commission members to help keep them apprised about water issues in Minnesota. This update 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 monitored and reports I have read, as well as information about upcoming events. During the Legislative Session, updates on water-related legislation and committee activities are added. Any errors or omissions are inadvertent.

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LEGISLATURE

The Senate passed HF707 this week. Most of the work now is happening in conference committees where conferees are trying to align House and Senate language in omnibus bills.

Here are the water-related bill introductions for this week. The 2017 tally now sits at 343 of 4,994 (7%) bills.

2625	Pierson	2354	Nelson	\$3.5M bond proceeds to PFA for grant to Stewartville to upgrade its wastewater treatment facility
2622	Thisen	None	None	Modifies sewer availability charges so they are based on a formula reflecting the actual reserve capacity used by each type of new connection or expansion
2616	Fabian	None	None	\$2.8M gen fund to Public Safety Comm for grant to Roseau Co to reimburse costs for repairing drainage ditch damage from 1999 & 2002 floods
None	None	2361	Sparks	modifies SWCD provisions to authorize tax levies and charges by SWCDs

The State Government Finance conference committee posted their “Policy Differences for Adoption” document on Wednesday, which includes their intent to adopt House language to repeal Mn Statute 3.886, which will terminate the LWC.

MN NEWS

WATER ACTIONS

- MPR: [How to be less of a jerk to the environment](#)
- Strib: [Could saltwater be the solution to Minnesota's road salt problem?](#) [Note: HF1016 referenced in the article has been introduced, but has not been heard by the Environment Committee; a companion bill has not been introduced in the Senate.]; Strib: [Brine seen as possible solution to winter salt problem](#)
- Mankato Free Press: [Dayton to visit Mankato as part of statewide water quality talks](#)
- Ely Echo: [Ely picked to host water quality meeting](#)

- State Journal Register: [Top Teen 2017 finalist: Joseph Goldstein uses his voice for Boundary Waters](#)
- alphanews: [Minnesota Ranked One of the Nation's Greenest States](#)

Highest Water Quality

1. Connecticut
2. Washington
3. Minnesota
4. Michigan
5. Nevada



- MN Technical Assistance Program: [MnTAP Source](#); the article on water successes is extracted below:



A flood of water savings

Water efficiency scored big in 2016, with support from MCES and MPCA grants. Eleven of 14 intern projects had recommendations to reduce more than 58 million gallons in a variety of industries, with 44.2 million gallons saved to date. This sampling of conservation solutions identified by our interns illustrates how, by reducing water use, companies can also reap associated labor and energy savings.

- Installing automatic shut-off nozzles, reusing weir water, installing load-and-go wash systems, and collecting rainwater for reuse is estimated to save 16.4 million gallons and at least \$322,540 a year at 12 Twin Cities' Cemstone plants, which includes 5,900 hours in reduced labor.
- Updating fixtures, replacing washers, dishwashers and sterilizers, and reusing reverse osmosis reject water has the potential to save 13 million gallons annually at Hennepin County Medical Center. Potential cost savings of \$182,700 include reduced energy use.
- Repairing leaking valves, optimizing rotor air cooler blowdown and water softeners, and reducing auxiliary water use could save Xcel Energy seven million gallons and \$58,730 per year, adding in the savings for reduced energy and salt use. ■

An upcoming opportunity:

Saving water in Washington County

Working under a Washington County Public Health and Environment grant, MnTAP will work with industrial water users to identify water conservation opportunities. In 2017, MnTAP will conduct three onsite assessments and support one intern project for nonresidential water conservation. All Washington County industrial water users are eligible.

To apply, contact Mick Jost: 612-624-4694 or jostx003@umn.edu. ■

WATER BUSINESSES

- Water Online: [Great Water Tech Launches SwiftSource Water Generator](#) and Water World: [Great Water Tech announces public school drinking water initiative](#)

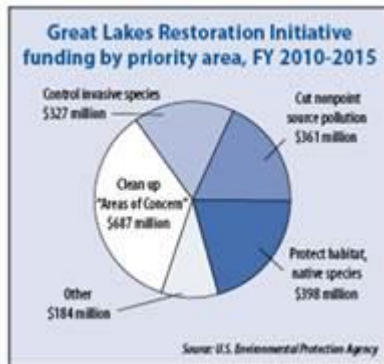
SURFACE WATER/STORMWATER

- MPR: [Minnesota seeks injunction against \\$2.1B Fargo-Moorhead flood plan](#); Pioneer Press: [Minnesota is against it, but corps confident diversion project will be done](#); Strib: [Minnesota briefs: Red River diversion work begins amid protests](#); Whapeton-Breckenridge Daily News: [Defending Richland-Wilkin Counties](#)
- Mankato Free Press: [Ask Us: Everybody paying for drainage fixes](#)
- Albert Lea Tribune: [Guest Column: Lake dredging project enters review period](#)

- Sun Focus: [Protecting local waters: Ramsey Conservation District holds Aquatic Invasive Species public forum](#)
- Strib: [Methodist Hospital joins watershed district to build flood wall in St. Louis Park](#)

GREAT LAKES

- City Pages: [Someday, the country will come for Minnesota's gold mine of fresh water](#)
- Great Lakes Legislative Caucus: [Federal Great Lakes Legislation, 2017](#); tracks federal legislation affecting the Great Lakes
- Great Lakes Legislative Caucus: [77 members of caucus urge continuation of Great Lakes Restoration Initiative](#); including 8 MN legislators



WATER SUPPLY

- Strib: [Blaine's water woes caused by outdated infrastructure](#)
- MPCA: [State Superfund Program delivers Spring Park residents cleaner drinking water](#)

WASTEWATER

- Hibbing Daily Tribune: [Eveleth Council Discusses Sanitary Sewer District with Neighboring Communities](#)
- The Conversation: [There's a new generation of water pollutants in your medicine cabinet](#)
- MPCA: [2016 Wastewater Treatment Facility Operational Awards Recipients](#); was yours 1 of 327 wastewater treatment facilities that MPCA recognized for maintaining outstanding permit compliance from 9/15 through 9/16?

AG & WATER

- Water Resources Research: [Solving water quality problems in agricultural landscapes: New approaches for these nonlinear, multiprocess, multiscale systems](#) [for those who attended our 8/16 field tour, this is a publication co-authored by our Le Sueur River presenter, Dr. Patrick Belmont]
- MN Farmers' Union: [What Do Rural People Think? - Rural Issues Discussions](#); buffers, water quality and groundwater are among the list of issues
- Marshall Independent: [Zoning proposal adds shrimp to ag land uses](#)
- Winona Daily News: [County Planning Commission recommends feedlots for approval](#)
- Chisago County Press: [First Chisago County farm in the Minnesota Ag Water Quality Certification program](#)
- St Peter Herald: [Concerned farmers seek answers, changes to state buffer law](#); New Ulm Journal: [Town hall meeting in Courtland airs concerns about state rules](#); Madelia Times Messenger: [State legislators get an earful about buffer law](#)
- Red Wing Republican Eagle: [Cleaner water, one program at a time](#)

- Pipestone Star: [A field day for the cover-crop curious](#)
- Houston County News: [Alternative practices for the Minnesota buffer law](#); Pipestone County Star: [Alternatives to buffers released](#)
- Pioneer Press: [For Minnesota farmers, changes to water-cleaning land buffers a top issue](#); West Central Tribune: [Minnesota farmers make buffer changes a top issue](#); Brainerd Dispatch: [Minnesota farmers make changes in buffer zones around water a top issue](#); Grand Forks Herald: [Minnesota farmers worried buffer law will cost money, threaten property rights](#); Duluth News Tribune: [Minnesota farmers make changes in buffer zones around water a top issue](#); Faribault Daily News: [Minnesota farmers make buffer changes a top issue](#)

OPINIONS

- St Cloud Times: [Despite Constitution, legislators attack environment](#)
- DL Online: [Other Opinions: It's working, don't give up on effort to clean up Great Lakes](#)
- Lillie News: [Raising water awareness](#)
- Winona Post: [Minnesota cares about clean water, environmental protections](#)
- Mankato Free Press: [My View: GOP House plan undermines Legacy, outdoors funding](#)
- Owatonna People's Press: [Del Rae Williams & Pat Hentges: Common-sense reforms protect your water and your wallet](#); Inforum: [Letter: It's important to protect natural and financial resources](#)
- Duluth News Tribune: [Native view: On metal mining, Minnesota can learn from ... El Salvador?](#)

BEYOND MINNESOTA

REGIONAL

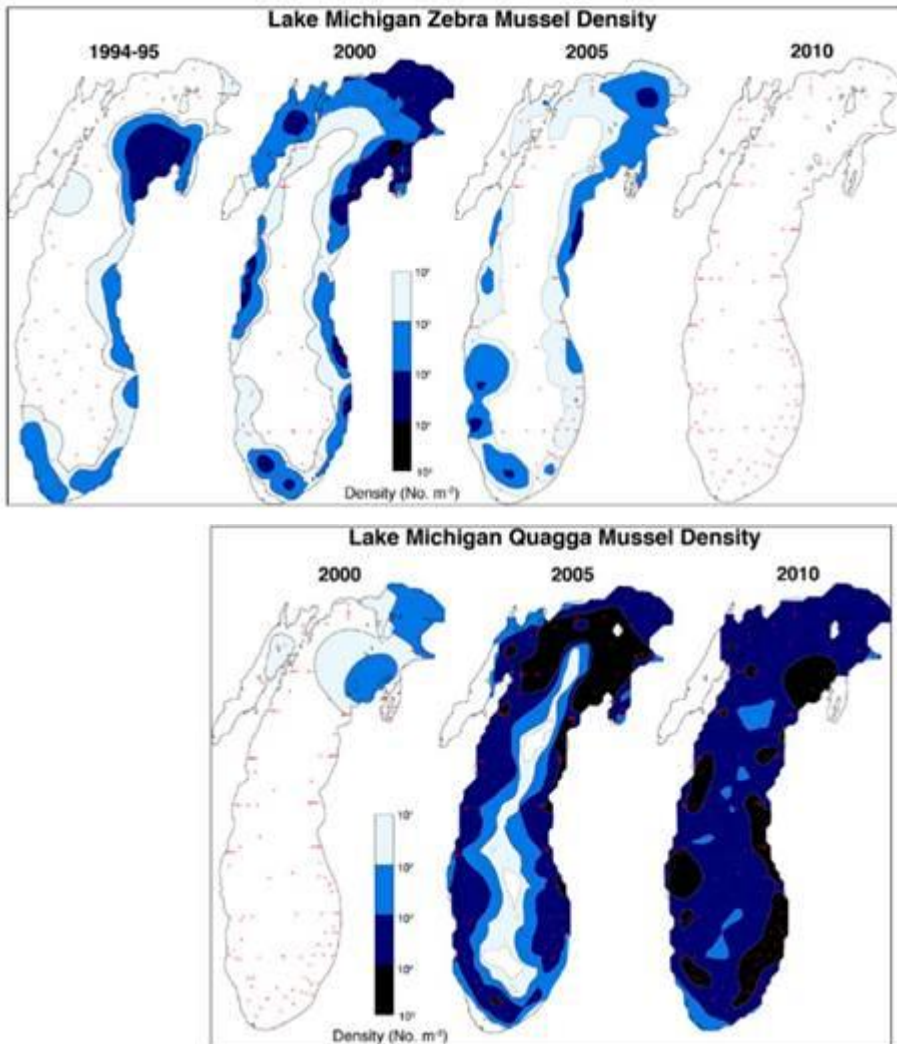
- The Des Moines Register: [The Iowa landowner who brought a creek back to life](#)
- MPR: [Iowa farmers won water pollution court fight; water still polluted](#)
- The Journal Times: [Waukesha diversion appeal denied](#); the 8-member Great Lakes Compact voted unanimously to not reopen or modify last summer's approval; baseline monitoring of the Root River has begun so treated wastewater flows from Waukesha can be assessed; pending the outcome of legal challenges, pipeline construction could begin in 2019
- Strib: [Study: Wisconsin will face water infrastructure problem](#)
- Strib: [Environmentalists sue government for Lake Erie's toxic algae](#)
- Utah Public Radio: [High Frequency Data Informs Water Conservation Strategies](#) [this work resembles the WaterSmart efforts that Shoreview is taking]
- Sacramento Bee: [Despite drought's end, conservation rules were still in place in California – until now](#)

NATIONAL

- Gray Washington News Bureau: [What does the future hold for CRP?](#)
- Successful Farming: [What cover crop research shows](#); cover crops have trade offs
- Stanford University: [Stanford researchers create a better way to predict the environmental impacts of agricultural production](#)
- Philly.com: [Nearly 400 military bases must be tested for drinking water contamination — and it will take years](#)
- San Francisco Chronicle: [50 programs scrapped at EPA](#)
- Water Deeply: [Trump's Border Wall Could Have Lasting Effect on Rivers, Water Supply](#)
- USGS: [Expanded Target-Chemical Analysis Reveals Extensive Mixed-Organic-Contaminant Exposure in U.S. Streams](#); the South Fork of the Zumbro River and a tributary to the Sunrise River, the 2 MN sites

The Great Lakes cover an area the size of the United Kingdom and Lake Superior is as big as Maine. Until the 1950s, the Great Lakes were protected by their basin boundaries, which include a sub-continental divide on the west and Niagra Falls on the east. With the construction of the St Lawrence Seaway, two routes for invasive species opened: one through the lock and dam system and another via ship ballast water. The first major invasive species disruption was the arrival of sea lampreys, which nearly decimated lake trout and whitefish populations, opening the door to the proliferation of lower food chain species. Eventually, a lamprey-specific poison was found and over 10 years, the sea lamprey population was reduced to 10% of its peak population. The second major hit came from the alewife, which made up 90% of the fish population in Lake Michigan at one point. Because they were poor survivors in freshwater, they would undergo massive die-offs. Instead of poison, stocking Pacific Coho Salmon that ate the alewives controlled the invasive species and created a \$7B/yr economic boon from a new fishery.

Both the lampreys and alewives attacked the top of the aquatic food chain. More recent invasions are attacking the bottom of the food chain and altering lake ecology. First came the zebra mussels and then came quagga mussels, whose density can be over 100,000 mussels per square meter (they can grow on top of one another) Within only 10 years, Lake Michigan's quagga mussels population has eradicated their commercial fishery; only chubs remain. As these figures show, the zebra mussel invasion was a pittance compared to the quagga invasion.



Another invader, big head carp, is traveling up the Mississippi River system and the only thing keeping them out of the Great Lakes is an electric barrier in the Chicago Sanitary and Ship Canal. These fish can grow to 100 pounds and inhale massive amounts of plankton, up to 20% of their body weight a day. Some streams now contain 90% Asian carp and they are a physical hazard to boaters.

In Lake Huron a balance is being re-established by an invader from the Caspian Sea. There, the round goby is eating mussels and other native fish are eating the goby. It is not predictable whether invasive species can co-exist with native species or will be complete disruptors. This “bio-pollution” might be more troublesome than chemical pollution because it breeds and chemical pollution often degrades or disperses.

How can individuals help the Great Lakes? Be literate about the issues, instill appreciation in youth, be politically active, and take invasive species prevention and enforcement seriously. Idaho is so committed to preventing the introduction of invasive species that they issue very high fines: \$5,000 for a jet ski that doesn't go through a check point. Compare that to a \$3,000 fine issued for a freighter in the St Lawrence Seaway that doesn't manage its ballast water correctly. Ballast water management is the most urgent concern, particularly given a plan to transfer regulation of ballast water from the EPA to the Coast Guard, which would result in a loss of Clean Water Act authorities. Inadequate sanitary sewage disinfection in some areas is also a major concern. Climate change is also impacting the Great Lakes; the historic water level variation in Lakes Huron and Michigan has been +/- 3'; it is now 8-10' and effects the economy from both flooding and lost lake access during low water level periods.

Here are some Lake Superior Facts from MN Sea Grant:

- Lake Superior is the largest freshwater lake in the world by surface area and third by volume
- Ice cover has declined 70% since the 1970's
- Summer surface water temperatures have risen about 2 degrees F per decade since the 1980s
- Wind speeds have increased over the lake by nearly 5% since the 1980s
- Duluth-Superior is one of the busiest inland ports in the U.S.; about 1,000 ships/yr carry nearly \$1.9B in cargo (iron ore and coal make up 80% of the cargo)
- Lake Superior has 71 non-native species of parasites, plants, and fish reproducing in it
- So far, zebra and quagga mussels only occupy the harbor area of Lake Superior
- The retention time of Lake Superior is 191 years (in other words, water and pollution don't flush out of the lake system very quickly)
- Most chemical pollution in Lake Superior comes from the atmosphere, with precipitation or dust (e.g., dioxin, mercury and PCBs)

MN Sea Grant has many roles in protecting Lake Superior. Did you know their research on sea lamprey pheromones led to the discovery of a new way to control sea lampreys? Their helped identify the cause of accelerated corrosion of \$250M in steel dock and breakwall infrastructure. They also have outreach programs to help people learn how to stop aquatic invasive species, improve scientific literacy, and manage stormwater.

REPORTS

STATE OF MN WATER

- DNR: MN Stream Flow Report [4/24/17](#)
- National Drought Mitigation Center: [4/25/17 Drought Monitor](#)

NEW REPORTS

- U of MN & MDA: [Nutrient removal in agricultural drainage ditches](#)
- U of MN & MDA: [Analyzing and optimizing denitrification in agricultural surface waters](#)
- MPCA: [Chloride Work Group Policy Proposal for Minnesota](#) and [Alternatives for addressing chloride in wastewater effluent](#); for general information about chloride, visit MPCA's website [Chloride and water quality](#); to learn more about water softeners, read this MPCA newsletter article:

Do you live in a community with [hard water](#)? Most Minnesotans do. A lot of us have experience with hard water’s unpleasant effects: dingy clothes, deposits on glassware and cooking utensils, scale buildup in pipes and on fixtures, and more. It’s not surprising that water softeners are a popular household item.

Soft water has some notable benefits. Among others, it can extend the life and improve the efficiency of water heaters, dishwashers, and other appliances, which potentially saves on water, energy, and detergent use.

A major drawback of salt-based [ion-exchange](#) water softeners is the [chloride](#) they produce and discharge into septic or sewage systems. Chloride from salt can seep into and pollute groundwater from on-site septic systems. Chloride also enters the environment via wastewater treatment facilities. Because facilities aren’t designed to remove it, chloride ends up in rivers, lakes and streams. High levels of chloride in the environment are toxic to fish and aquatic creatures.

- **Determine if you really need one.** Hardness is determined by the level of minerals, principally calcium and magnesium, contained in water – the more minerals present, the harder the water. Groundwater is typically harder than river or lake water. The table to the right provides a common classification of water hardness.

Before buying a softener, have your water tested for hardness or ask your city for information. Find out from your water utility if softening happens during the drinking water treatment phase. Minneapolis, St. Paul, Bloomington, and several other Minnesota cities use lime-softening or other upfront methods to soften their water, which eliminates or decreases the need for household treatment.

- **Reduce the salt.** Only soften the water that needs it. Don’t soften water to outside spigots or to cold drinking water taps. Only soften to the optimal hardness – over-softening wastes salt and water and results in excess chloride. Check your unit’s settings and adjust if they’re too high – the equipment may have been preset at an unnecessarily high level at the factory.

Do things to reduce your overall water use. It will have environmental and economic benefits, including less need for water softening. For ideas on how you can conserve water in and around the home, see pca.state.mn.us/conserving-water.

- **Adjust the timer.** If you’re using less water because of changes in household size or because you’ve installed water-efficient appliances and fixtures—and your water softener is on a timer—you may be able to extend the time between regeneration cycles. Less regeneration results in less chloride in wastewater.

- **Upgrade to a high-efficiency water softener.** If you're buying or upgrading to a new water softener (a good idea if you own an older unit), look for one that is high salt-efficiency and [demand-initiated](#). Though you may pay a little more upfront, you'll save on salt and generate less chloride.

- **Go with a service.** Another option is to subscribe to an exchange service. The company delivers soft water exchange tanks to the customer on a schedule determined by household size and water

Degree of Hardness	Milligrams/liter (mg/L) or	Grains/gallon (gpg)
Soft	0 – 60 mg/L	0 – 3.5 gpg
Moderately Hard	60 – 120 mg/L	3.5 – 7 gpg
Hard	120 – 180 mg/L	7 – 10.5 gpg
Very Hard	Over 180 mg/L	Over 10.5 gpg

hardness level. Removed tanks are regenerated at a special facility, taking the handling of salt and solution discharge out of consumers' hands.

Learn More

- [Chloride and Water Quality](#), Minnesota Pollution Control Agency. In-depth information on chloride and water quality in Minnesota. Includes newly released policy proposal from the Chloride Working Group.
- [Water Softener Facts](#), Region of Waterloo and City of Guelph. Canadian government website contains useful information on how water softeners work, what to look for when shopping for one, water softener alternatives, and more.
- [Water Hardness Fact Sheet](#), Washington County Department of Public Health and Environment. Brief, informative overview of water hardness and water softeners.
- [The Effects of Chloride from Waste Water on the Environment](#), Center for Small Towns, University of Minnesota, Morris. 2013 report discusses the links between home water softeners and chloride pollution in the Pomme de Terre River watershed.

UPCOMING EVENTS

- April 29: **Water for People Benefit Concert** featuring Big Bob & the High Rollers; Bogart's Event Center (14917 Garrett Ave, Apple Valley); \$10; opens at 7:30; organized by the MN American Water Works Association, the concert raises money to provide water infrastructure for 3rd world countries without clean drinking water
- May 4: **MN's Water Story – An Update for Policy Makers**; Minnehaha Creek Watershed District and Freshwater Society; stormwater BMP tour @ 5:30 pm, Steve Woods presentation and discussion 6:30 – 8:00 pm; St. Mary's Greek Orthodox Church (3450 Irving Ave S, Minneapolis); free to attend and light dinner provided, but RSVP by May 1st at tmamayek@minnehahacreek.org or 952-641-4508
- May 5: **N & E Metro Groundwater Management Area Project Advisory Team Meeting**; 8:30-11:30; DNR Central Office, 500 Lafayette Road, St. Paul,
- May 9: Minnesota Day at the **National Climate Adaptation Forum**; registration can be found [here](#)
- May 9: **DEED MN Water Technology Roundtable: Challenges & Solutions in Stormwater**; 9:30 am– 3 pm; \$30; more event info and registration link [here](#)
- May 18: **MN River Congress**; 4:30 pm networking fair and 7-9 pm program; Redwood Falls Community Center; Redwood Area Community Center (901 East Cook Street, Redwood Falls); \$30; register [here](#)
- May 22-25: **MN Public Drainage Manual Outreach Workshops**; 10:00-3:30; \$25 (includes lunch); 3 locations noted below; registration info to come
 - May 22, MN State Community and Technical College, Moorhead
 - May 23, Coyote Moon Event Center, St. Cloud
 - May 25, New Ulm Conference Center, New Ulm
- May 22: **MN Public Drainage Manual Broad User Outreach Workshop**; 10 am to 3:30 pm; \$25 (lunch provided); MN State Community & Technical College, Moorhead; register [here](#) by 5/12
- May 23: **MN Public Drainage Manual Broad User Outreach Workshop**; 10 am to 3:30 pm; \$25 (lunch provided); Coyote Moon Event Center, St. Cloud; register [here](#) by 5/12
- May 24: **The Death and Life of the Great Lakes**; Freshwater Society Moos Family Lecture Series; U of MN Duluth - Swenson Science Bldg; 6:00 p.m. public reception & 7:00 p.m. lecture; register [here](#)
- May 25: **MN Public Drainage Manual Broad User Outreach Workshop**; 10 am to 3:30 pm; \$25 (lunch provided); New Ulm Conference Center, New Ulm; register [here](#) by 5/12
- July 31: **"25 by 25" Water Quality Town Hall**, evening, Rochester, details to come [here](#)
- Aug 7-9: **WaterWorks! Drinking Water Institute for Educators**; Lakeville; details [here](#)

- Aug 16: **"25 by 25" Water Quality Town Hall**, evening, Marshall, details to come [here](#)
- Aug 17: **"25 by 25" Water Quality Town Hall**, evening, Mankato, details to come [here](#)
- Aug 22: MN Technical Assistance Program Intern Symposium; U of MN McNamara Alumni Center; more info [here](#)
- Sept 5: **"25 by 25" Water Quality Town Hall**, evening, Crookston, details to come [here](#)
- Sept 6: **"25 by 25" Water Quality Town Hall**, evening, St Cloud, details to come [here](#)
- Sept 12: **"25 by 25" Water Quality Town Hall**, evening, Ely, details to come [here](#)
- Sept 13: **"25 by 25" Water Quality Town Hall**, evening, Bemidji, details to come [here](#)
- Sept 19-20: **Great Lakes Commission Annual Meeting**; Duluth Entertainment Convention Center; more details to come
- Sept 26: **"25 by 25" Water Quality Town Hall**, evening, Minneapolis, details to come [here](#)
- Oct 4: **"25 by 25" Water Quality Town Hall**, evening, Burnsville, details to come [here](#)
- Oct 5: **"25 by 25" Water Quality Town Hall**, evening, Maplewood, details to come [here](#)