

Weekly LWC Update 6-2-17

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

Thirteen of the bills that passed the legislature during the 2017 session and special session contained water provisions. Due to the length of the tables that summarize these provisions, they will not be incorporated into the weekly update. The summary will be discussed at the 6/15 LWC meeting and will be available at that time on the LWC website under the meeting materials column.

MN NEWS

WATER ACTIONS

- Mankato Free Press: [Mankato gets \\$300,000 for pollution investigations for possible redevelopment sites](#)
- Fergus Falls Daily Journal: [Conversation with DNR groundwater hydrologist](#)

WATER BUSINESSES

- Yahoo Finance: [Pentair and Urban Organics Open Second Commercial-Scale, Indoor Aquaponics Farm in St. Paul, Minn.](#) [see the related summary under meetings]

SURFACE WATER/STORMWATER

- Brainerd Dispatch: [Crow Wing County Board: Conserving clear and cold Big Trout](#)
- MPR: [Old Minneapolis tunnel may get new life in an era of climate change](#)
- Strib: [In Shakopee, Sioux finding ways to recycle rainwater](#)
- MPCA: [Study highlights critical need to protect water resources in Big Fork River watershed](#); Hometown Focus: [Study highlights need to protect water resources in Big Fork River watershed](#)
- Mankato Free Press: [Murky Waters: Area lakes marked by poor water quality](#)
- MPCA: [Prescription for healthier Hawk Creek: Buffers, stormwater controls, changes in ag practices](#); West Central Tribune: [Draft reports available on Hawk Creek pollution issues](#)
- West Central Tribune: [Kandiyohi County ready for another summer of protecting lakes](#)
- Met Council: [Council awards \\$1 million for stormwater management projects](#)
- BWSR: [The Minnesota Wetland Bank: A National Success](#)
- Albert Lea Tribune: [Guest Column: Monitoring shows improved clarity on lakes](#)

- International Falls Journal: [Committee ensures water levels in compliance](#)
- Strib: [It's back: onetime mudhole White Bear Lake now threatens to overflow](#)



GREAT LAKES

- Strib: [On the St. Louis River, a massive environmental cleanup is now under threat](#)
- MPR: [Trump requests \\$77.6M for Great Lakes maintenance projects](#)

WATER SUPPLY

- Mankato Free Press: [Nitrates rising in Mankato's drinking wells](#)
- WNAX: [Minnesota Money Helps Push Lewis & Clark Water Project](#); Worthington Daily Globe: [Bonding bill includes funding for Lewis & Clark; awaits governor's signature](#)
- Pioneer Press: [Cottage Grove limits lawn watering as it struggles to filter out pollution](#)
- Strib: [Arden Hills megaproject delayed by underground pollution](#)

WASTEWATER

- Pipestone Co Star: [MPCA reacts to cost projections for cities to comply with standards](#)
- Pipestone Co Star: [State offers alternative to costly water facility upgrades](#)
- MPCA: [Ask the MPCA: What to do with a septic tank?](#)
- EPA: [Minnesota NPDES Permits](#); EPA issues all NPDES permits for wastewater facilities on tribal lands in MN; the link directs you to a table of final and draft permits issued by EPA

AG & WATER

- AgriNews: [Study: Water quality can improve by 20% — without cost](#)
- Morris Sun Tribune: [Morris ag research lab slated for closure](#); *"The ARS lab in Morris opened in 1959. Much of its research focuses on soil and water quality and how farming practices impact both."*
- Water Online: [Minnesota Tries Voluntary Program To Protect Water Quality](#)
- Northfield News: [Northfield farmer receives grant for nitrogen application research](#)
- Winona Post: [County critiques water quality efforts](#)
- Strib: [Buffer measure has grace period added under new legislation](#) and [Dayton fends off attacks on buffer strips, environment board](#)
- BWSR: [Healthy Soil is a Benefit to Everyone](#)
- BWSR: [Sustainable Conservation Practices for Healthier Water and Soil – A Farmer-Led Approach](#)

EXTRACTIVE INDUSTRIES

- MPR: [Titanium Range? Breakthrough could lead to new kind of mining in NE Minn.](#)

- DNR: [Exploration plan proposals on state nonferrous metallic mineral leases](#); AngloGold Ashanti Minnesota has submitted plans to search for metallic mineral deposits in the bedrock on its existing 33 state mineral leases in Koochiching County
- City Pages: [Twin Metals' owner has a history of environmental disaster in its homeland](#)

OPINIONS

- Mankato Free Press: [Our View: Drinking water: City, state must act on high nitrate levels](#) and [Our View: Water quality: Area lakes need resuscitation](#)

BEYOND MINNESOTA

REGIONAL

- Strib: [\\$3.8 billion Dakota Access oil pipeline begins service](#)
- Strib: [Walker signs bill easing regulations on high cap wells](#)
- La Crosse Tribune: [Supreme Court upholds denial of Trempealeau County frac mine](#)

NATIONAL

- Smithsonian: [The Hidden Dangers of Road Salt](#)
- Water Deeply: [Public Opinion Expert Reveals What Americans Think About Water](#)

GLOBAL

- Fast Company: [These Shoes Help Clean Lakes—Because They're Made Of Polluting Algae](#)

MEETINGS

MAWSAC

The Metropolitan Area Water Supply Committee took a more in-depth look at two issues at their last meeting: groundwater monitoring programs in Dakota County and MPCA's chloride strategy – as it affects groundwater monitoring and wastewater permitting.

Summaries of testing from three programs were given: Dakota County's Ambient Groundwater Quality Study (broad range of parameters), MDA's Targeted Township Study (nitrates and pesticides), and MDH's Wells and Increased Infant Sensitivity and Exposure (WIISE) Study (multiple parameters). The WIISE Study area focused on the Inver Grove Heights area and is looking specifically at exceedences of standards for infants of natural and anthropogenic contaminants. Observations include: evidence of exceedences of arsenic, manganese, nitrate and cyanazine; pesticides and herbicides are being detected at levels below health risk values, the anthropogenic impacts are increasing; and contaminants are moving deeper into the aquifer. In the absence of testing requirements for private wells, more effort is needed to: encourage well owners to do regular testing, apply pollution prevention strategies, and share advice on in-home treatment options (and to clarify what devices provide what type of treatment). In Dakota County, when new private (domestic) wells are drilled, testing is only required for nitrate, copper, and arsenic. At the time of property sale, only nitrate and coliform bacteria tests are required.

Chloride levels are increasing in surface and groundwater in many metropolitan areas and the sources are primarily road salt and water softeners (the percent contribution of each varies from area to area). Water softener discharges to municipal wastewater treatment facilities, which lack the capacity to remove salt unless they have installed expensive reverse osmosis equipment. With progress being made in road salt management, MPCA has given more attention to addressing wastewater discharges. Since 2009, MPCA has required over 150 wastewater treatment facilities to test for chloride and MPCA has determined that 2/3rds of these facilities have a "reasonable potential to exceed" (RPE) the chloride standard. The chloride limit is contentious and only 12 wastewater facilities have permits with chloride limits, along with 8-20 year

compliance schedules. MPCA formed a Chloride Work Group to make recommendations to address chloride in municipal wastewater effluent, which are contained in [Chloride Work Group Policy Proposal for Minnesota](#) and [Alternatives for addressing chloride in wastewater effluent](#). Options could include no limits (which opens the door for third party lawsuits), limits with long schedules of compliance, or variances until economically feasible treatment options are available. MPCA will be finalizing an approach based on the report's decision tree and will be developing a screening tool to help municipalities with the variance option. MPCA staff also advocate for improving water monitoring networks to: determine the trends in deeper aquifers, identify seasonal variability, and evaluate whether conductivity or age dating can be used as a surrogate for chloride testing. The presenter also noted that the U of MN is undertaking an LCCMR project [Understanding Impacts of Salt Usage on Minnesota Lakes, Rivers, and Groundwater](#) that will quantify the current water-softening salt loads in MN waters, assess alternative water-softening materials and methods, and quantify the transport of de-icing and water-softening salt through the soil. This project is slated for completion by 6/30/19.

COMING SOON TO A PLATE NEAR YOU



Urban Organics and Pentair have teamed up to launch a St Paul-based, commercial-scale aquaponics venture to co-raise Atlantic salmon with herbs and salad greens, with minimal environmental impacts. In honor of their grand opening, Governor Dayton and Mayor Coleman proclaimed Thursday, June 1st “Eat Local Day”, acknowledging, among other benefits, the reduction in water use and synthetic chemical inputs to grow lean protein and nutrient-rich veggies for an urban market. Housed in the former Schmidt brewery, their closed-loop farming method extracts water from the fish tanks, removes the solids with self-backwashing drum screens, and uses nitrogen converting bacteria to transform the fishes’ ammonia-rich waste into nitrate that is recirculated back to the vegetable crops as fertilized irrigation water. Once the tanks have been filled from their well, additional water is added only to offset

evaporation from the tanks and evapotranspiration from the plants. With little added water, virtually no waste water, and a 24/7, year-round growing season, this operation uses <2% of the water needed for traditional agriculture.

Six years in the making, the 87,000 sq ft facility will annually produce 275,000 pounds of fresh fish and 475,000 pounds of organically grown produce. Plants are grown in trays stacked from floor to ceiling, creating an indoor growing space that is equivalent to about a two field acres. However, their faster growth rate and the ability to have nearly 4 growing seasons/year equates to an offset of about 10 acres. The carnivorous fish are fed a fish meal and fish oil mix and they are efficient users of feed, with a fish to food ratio of about 1 to 1.2. By comparison, the food conversion ratio for broiler chickens is about 1.6, pigs rate 3.5 to 4.1 and beef cattle range from 4.5 to 7.5 (note that FCRs can vary according to the growing stage of the animal and the quality of the food).

Although the 150,000 salmon fry aren’t ready for consumption yet, Urban Organics is already regularly supplying Health Partners hospitals and clinics, area coops, Lund’s & Byerly’s grocery stores and the Birchwood Café’.

This is not the only aquaponics business in MN. The UMD began the 9,000 sq ft [Victus Farm](#) in Silver Bay and a private off-shoot, [Mariner Farms](#), has launched in Silver Bay with plans to expand to International Falls. Read about them in the Duluth News Tribune: [Company plans aquaponic farms for Silver Bay, International Falls](#). TruShrimp and other MN shrimp producers, discussed in prior weekly updates, are aquaculture farms (without hydroponic plant production).

REPORTS

STATE OF MN WATER

- DNR: MN Stream Flow Report [5/29/17](#)
- National Drought Mitigation Center: [5/30/17 MN Drought Monitor](#); abnormally dry area expanding in the northwest
- DNR: [HydroClim Minnesota for Early June 2017](#)

UPCOMING EVENTS

- June 8: **Open House on the Minnesota River Valley Recreation and Conservation Master Plan**; Redwood Falls Public Library community room; 4:30 to 7:30 pm
- June 12-13: **4R Nutrient Stewardship Summit**; Radisson Blu Downtown Minneapolis Hotel; \$200; agenda [here](#); registration [here](#)
- **June 15: LWC Meeting, 10:30 am to 12:30 pm; Rm 5 State Office Building**; agenda posted [here](#)
- June 21-23: **MN Association of Watershed Districts Summer Field tour**; details [here](#)
- June 22: Alliance for Water Efficiency **Net Blue: Supporting Water-Neutral Community Growth webinar**; free; information & registration link [here](#)
- July 31: **"25 by 25" Water Quality Town Hall**, evening, Rochester, details to come [here](#)
- Aug 1-3: **Farmfest**; more information [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](#)
- Nov 1-3: **BWSR Academy** Cragun's Conference Center; Brainerd; registration to come in August