Legislative Water Commission Update 11-3-17

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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Subscribe to the weekly update & follow LWC meetings at: www.lcc.leg.mn/lwc/

MN NEWS

WATER ACTIONS

- DEED: PFA Funding Supports $4 Million Echo Project Yellow Medicine County community replacing sewer and water pipes
- Austin Herald: 'Waterway Jay' finishes initial year of paddling Minnesota's rivers
- Winona Post: Tour highlights unique hydrology
- Strib: State fines St. Paul metal recycler over polluting creek with oil discharge
- Strib: Minnesota scientist demoted as Scott Pruitt reshuffles EPA advisory boards
- BWSR: Governor Dayton Engages Minnesotans on Water Quality Goals
- MPCA will award $2.8 million in federal Clean Water Act Section 319 program grants to reduce pollutants in MN waters. The 10 project sponsors receiving grants will provide at least 40% of the total project costs, bringing the total investment to nearly $4.8 million. Addressing runoff from both agricultural and stormwater sources, the projects will reduce nutrient, bacterial, and sediment runoff from nonpoint sources. Selected from a pool of 21 eligible applicants, the projects are:
    - Carnelian Marine Stormwater Phase 2, Carnelian-Marine-St. Croix Watershed District, $92,588
    - Goose Lake Total Maximum Daily Load Final Implementation, Carnelian-Marine-St. Croix Watershed District, $76,000
    - Hawk Creek Watershed Improvement Project, Hawk Creek Watershed Project, $397,000
    - Lake Osakis Minor Watershed Nutrient Reduction, Todd County Soil and Water Conservation District, $300,000
    - Lower Sand Creek Corridor Restoration, Coon Creek Watershed District, $269,563
    - Lower St. Croix Targeted Phosphorus Reduction, Washington Conservation District, $300,000
    - Mankato Watershed-Renville County Improvement, Hawk Creek Watershed Project, $297,000
    - National Water Quality Initiative Seven Mile Creek, Gustavus Adolphus College, $475,524
    - Reducing Bacteria Runoff from Southeast Minnesota Feedlots, Southeastern Minnesota Water Resources Board, $336,000
    - Whitewater Watershed Nitrogen Reduction, Whitewater Joint Powers Board, $232,825

WATER BUSINESSES

- SUEZ: SUEZ finalizes the acquisition of GE Water & Process Technologies; GE Water is a Minnetonka based business
- Strib: Ecolab opens 'Water University' to teach people how to conserve water

SURFACE WATER/STORMWATER

- The Bismark Tribune: F-M diversion task force agrees on some issues, but far apart on others
- Mankato Free Press: Torrential flows threaten area rivers
- MPCA: Success at last: Poplar River meets water quality goals
- Country Messenger: Community floats ideas for better water quality
- Mille Lacs Messenger: One watershed, one plan
- Valley News: MN community at odds over lake levels
- MPCA: How's the water? Let's ask the fish and bugs
- Post Bulletin: Corps commander: New dredging plan in the works; moral of the story – meet 1st, plan 2nd
- BWSR: Assessing long-term success of restored wetlands
- BWSR: Total stormwater treatment in the City of Kimball
- Duluth News Tribune: Duluth settles on plan to replace Minnesota Slip seawalls

GREAT LAKES

- MPR: New website helps measure Great Lakes restoration progress
- MPCA: Three industrial slips in Duluth harbor are now closer to completion
- Port Clinton News Herald: Senate task force calls for $300M in Great Lakes funding

WATER SUPPLY

- Post Bulletin: Duluth asks residents to conserve water after storm; Duluth News Tribune: Duluth city water violates standards for turbidity in wake of storm
- Bemidji Pioneer: Hagman receives Operator's Meritorious Service Award
- Crossroads: Establishment and care of salt-tolerant grass on roadsides; research has led to the development of MNST-12, a grass mix of fine fescues with 20% Kentucky bluegrass that is salt-tolerant; new irrigation specifications will be needed to establish and maintain the grass mix, but researchers say "Providing water only as the plant needs it could result in considerable savings in water and labor over time."
- MDH: Waterline, Winter 2017-2018; learn how Ortonville is using a wastewater treatment technology (plate settlers) to remove iron and manganese from their water supply, how St Anthony Village is one of the first cities in the state to use ultraviolet (UV) light technology and hydrogen peroxide to treat drinking water, what lessons Blaine learned from its empty water tower incidents, how MDH is developing Groundwater Restoration and Protection Strategies to develop watershed-scale groundwater and drinking-water management strategies that can be integrated into local water management plans, and more
- Strib: Attack on water waste in east metro yielding early results

WASTEWATER

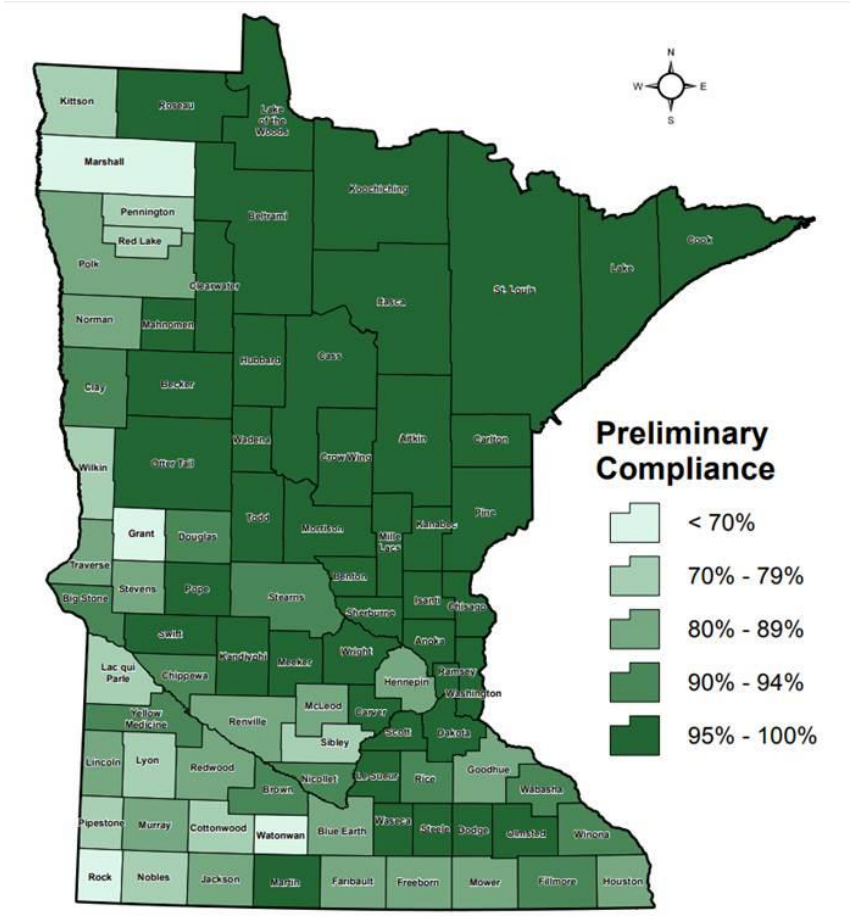
- DEED: PFA Approves $4.2 Million Grant for Winsted Project to upgrade its wastewater treatment plant

AG & WATER

- BWSR: Voluntary conservation programs payoff

- BWSR: Public Drainage system administration
- Ralco Agriculture: tru Shrimp discovers engineering breakthrough; tru Shrimp has had an engineering and process breakthrough that will enable them to construct both their hatchery and production facility (aka a "Harbor" on the same campus in Luverne; Marshall will become home to a future Harbor and hatchery
- Strib: Minnesota farmer improves soil health with cover crops; "A pound of organic matter — which is about 58 percent carbon — can hold up to six pounds of water in the soil, according to the University of Minnesota Extension."
- Mankato Free Press: Discovery Farms provide constant water quality data
- Ensia: Could this one simple idea be the key to solving farmer-environmentalist conflict?
- Governor Dayton's Office: Governor Dayton Thanks Minnesota Farmers for Work to Protect Water Quality under Statewide, Bipartisan Effort
- MPR: Objecting all the way, most farmers meet buffer deadline; PiPress: Almost all Minnesota landowners asked to add grass buffers for water quality have done so; Crookston Times: Dayton thanks Minnesota farmers for high compliance with buffer law

BWSR Map of Estimated Percentage of Parcel Buffer Law Preliminary Compliance Public Waters Only (50 ft. Requirement):



These preliminary compliance estimates were conducted by soil and water conservation districts based on parcel reviews via aerial/satellite imagery. It is important to note that these estimates do not imply or represent non-compliance. Additional field-level reviews will be the next step in the inventory process. (10/26/17)

Preliminary Compliance with Minnesota's Water Quality Buffer Initiative					
County	**Percent Complete**	**County**	**Percent Complete**	**County**	**Percent Complete**
Aitkin	100	Anoka	100	Becker	99
Beltrami	100	Benton	96	Big Stone	92
Blue Earth	87	Brown	89	Carlton	100
Carver	95	Cass	100	Chippewa	93
Chisago	99	Clay	91	Clearwater	99
Cook	100	Cottonwood	77	Crow Wing	99
Dakota	98	Dodge	99	Douglas	93
Faribault	81	Fillmore	90	Freeborn	85
Goodhue	84	Grant	64	Hennepin	84
Houston	86	Hubbard	99	Isanti	100
Itasca	100	Jackson	88	Kanabec	99
Kandiyohi	96	Kittson	70	Koochiching	99
Lac qui Parle	77	Lake	100	Lake of the Woods	97
Le Sueur	96	Lincoln	82	Lyon	76
Mahnomen	95	Marshall	57	Martin	97
McLeod	84	Meeker	95	Mille Lacs	99
Morrison	97	Mower	86	Murray	85
Nicollet	91	Nobles	75	Norman	80
Olmsted	95	Otter Tail	97	Pennington	73
Pine	99	Pipestone	77	Polk	87
Pope	96	Ramsey	100	Red Lake	79
Redwood	86	Renville	87	Rice	89
Rock	56	Roseau	97	Scott	97
Sherburne	100	Sibley	77	Saint Louis	100
Stearns	91	Steele	96	Stevens	87
Swift	95	Todd	98	Traverse	80
Wabasha	94	Wadena	98	Waseca	96
Washington	98	Watonwan	62	Wilkin	73
Winona	90	Wright	97	Yellow Medicine	93

EXTRACTIVE INDUSTRIES

- Strib: Line 3 replacement pipeline would be one of state's largest construction projects in recent history
- MPR: Hearings on Enbridge's Line 3 oil pipeline open in St. Paul
- PiPress: Enbridge official testifies that aging oil pipeline needs replacing
- Duluth News Tribune: Judge deems Line 3 environmental review adequate

AQUATIC INVASIVE SPECIES

- DNR: Zebra mussels confirmed in lakes in Crow Wing, Itasca counties; Brainerd Dispatch: Zebra mussels confirmed in Serpent Lake
- MPR: 'Vampire of the Great Lakes' still haunts Lake Superior fish
- Duluth News Tribune: Zebra mussel-sniffing canine called in to inspect northern Minnesota lakes
- Fergus Falls Daily Journal: Using retenone on invasive fish: Restoring state waters
- St Cloud Times: DNR confirms zebra mussels are in Knaus Lake, near Cold Spring

OPINIONS

- Duluth News Tribune: Izaak Walton League's View: Near Boundary Waters, 2-year review a reasonable consideration
- Mesabi Daily News: Apology accepted, but did you mean it?; Sen Tomassoni weighs in on mining
- Strib: Dayton offers reasonable, qualified support for PolyMet mine
- MinnPost: Seeking sustainable development in Minnesota's north country
- Duluth News Tribune: An Enbridge Employee's View: New Line 3 would ensure high safety standards
- Pilot Independent: The proposed route for the new Line 3 Pipeline: A Bad Idea
- MinnPost: Enbridge's proposed Line 3 expansion is controversial for good reason
- Grand Rapids Herald Review: Regional businesses speak out against MPCA'S wild rice sulfate proposal
- The Timberjay: Wild rice standard - Political meddling undermines credibility of the MPCA
- Albert Lea Tribune: Editorial: How do we take care of the environment?
- Mankato Free Press: Our View: Farmers deliver by meeting buffer law deadlines
- Bemidji Pioneer: LETTER TO THE EDITOR: County should consider impacts to environment; LETTER TO THE EDITOR: Lost opportunities in northern Minnesota

BEYOND MINNESOTA

REGIONAL

- WI Public Radio: Assembly Committee Approves Lifting State Sulfide Mining Moratorium
- EPA: 2016 Michigan Drinking Water Program Review
- MPR: Enbridge says it knew about oil pipeline damage 3 years ago
- Mlive: 71 Michigan water systems now have higher lead levels than Flint; but only 2 private water systems in MI had at least 10% of water samples exceed the federal threshold for lead of 15 ppb
- IA Public Radio: Common Ground on Iowa Water Quality?
- IA Public Radio: Strips Of Native Prairie Plants Could Reduce Pollution Runoff From Farm Fields

NATIONAL

- Council of State Governments: Fixing the Broken U.S. Water System With Data
- Government Accountability Office: Drinking Water and Wastewater Infrastructure: Information on Identified Needs, Planning for Future Conditions, and Coordination of Project Funding; view the full report here
- Texas Public Radio: A Question Of Flushability: Wet Wipes Swirl Down The Drain And End Up In Federal Court
- Water Online: Calling Out The EPA On Water Issues; in 9/17, the Government Accountability Office published a status report on its decade of recommendations to EPA; as of 8/17, the EPA had failed to implement 40% of GAO's recommendations for water issues

GLOBAL

- Circle of Blue: NASA Ends Trailblazing Satellite Mission that Revealed Global Groundwater Trends

MEETINGS

N&E METRO GROUNDWATER MANAGEMENT AREA UPDATE

In their update to the N&E Metro GWMA Project Advisory Team about GWMA Plan activities that have been implemented over the last six months, DNR staff explained that they are working with Met Council to standardize data collection in the metro area and that the newly developed Water Conservation and Efficiency Tracking Tool will be online in early 2018.

Regarding the August 2017 White Bear Lake ruling, DNR staff indicated they filed their post-trial motions on 10/5/17 to amend the Order's findings/conclusions/remedies and request a new trial. As it stands, the Order has significant implications for groundwater permit holders within a 5 mile radius of White Bear Lake (WBL), including a prohibition from issuing new permits or increasing the appropriations of existing permits. This prohibition includes general permits like those for which construction dewatering permits are needed. DNR has already denied an application for Hugo's sewer line construction project. The order also requires an ongoing residential irrigation ban within the 5 mile area and DNR will be working with communities on that. The order directs DNR to enact and enforce the ban, even though they have no jurisdictional authority; the authority resides with the local governmental units. Specifically the Order says the ban should starts when the WBL water level reaches 923.5' and it can be lifted at 924'; if this had been in place previously, the ban would have begun in 2006. The Order requires DNR to amend all permits within the 5 mile area and each permittee will need to develop a contingency plan. By law, contingency plans apply to surface waters, so this requirement essentially directs water suppliers to identify how they would move from using groundwater to wholly or partially using surface water (whether or not the supplier's water is connected to the lake's water). DNR is appealing because: they believe the Order is not rooted in the best available science, it places a burden on communities without significant lake improvements, is already affecting necessary construction, and it uses a broad approach when site specific conditions should be evaluated.

Next, a presentation was given to describe the development of a transient groundwater model and the initial results. The transient model was built by S. S. Papadopulos using Clean Water Fund money and utilized 2 already completed models as its foundation: Met Council's Metro Model 3 and USGS's N&E Metro Lakes steady state model. The model is a comprehensive compilation of existing data that enables numerical representations of multi-variable transient conditions in this area. It's results can be used to help develop strategies to mitigate undesirable impacts to aquifer and lake levels. (Four links to the consultant's work can be found online.) The model looks at the dynamic and interconnected effects of the area's hydrogeology, surface hydrology, and groundwater pumping, as well as accounting for the soil water balance (for groundwater recharge) and dynamic lake water budgets. Because the data set is so large, "runs" of different scenarios can take many hours. Therefore, two versions of the model were developed:

- The annual stress period version, which simulates annual averages and is good for assessing long term scenarios
- The triannual stress period version, which creates three, 4-month periods/year to assess the peaks and troughs associated with seasonal or pumping-induced variability

The models' features and how it was calibrated were also explained. Once completed several scenarios were modeled:

- Cumulative evaluation of all pumping of wells within 5 miles of WBL, reduced by multiple percentages up to 100%, to look at collective, cumulative effect on lake levels
    - Result: if all pumping is stopped, the lake level raises by ~0.5' on average, with levels being affected more during low lake level/low precipitation periods
- Individual evaluation of pumping shut downs for each permit
    - Result: about 7-10 permits have the largest effect on water levels (permits may be for more than one well)
- Evaluation of eliminating residential irrigation
    - Result: affects the water level by about an inch/yr

The model can also be used to evaluate other scenarios, such as: augmenting lake levels with imported water, adjusting the outlet control level, and implementing alternate storm water management practices.

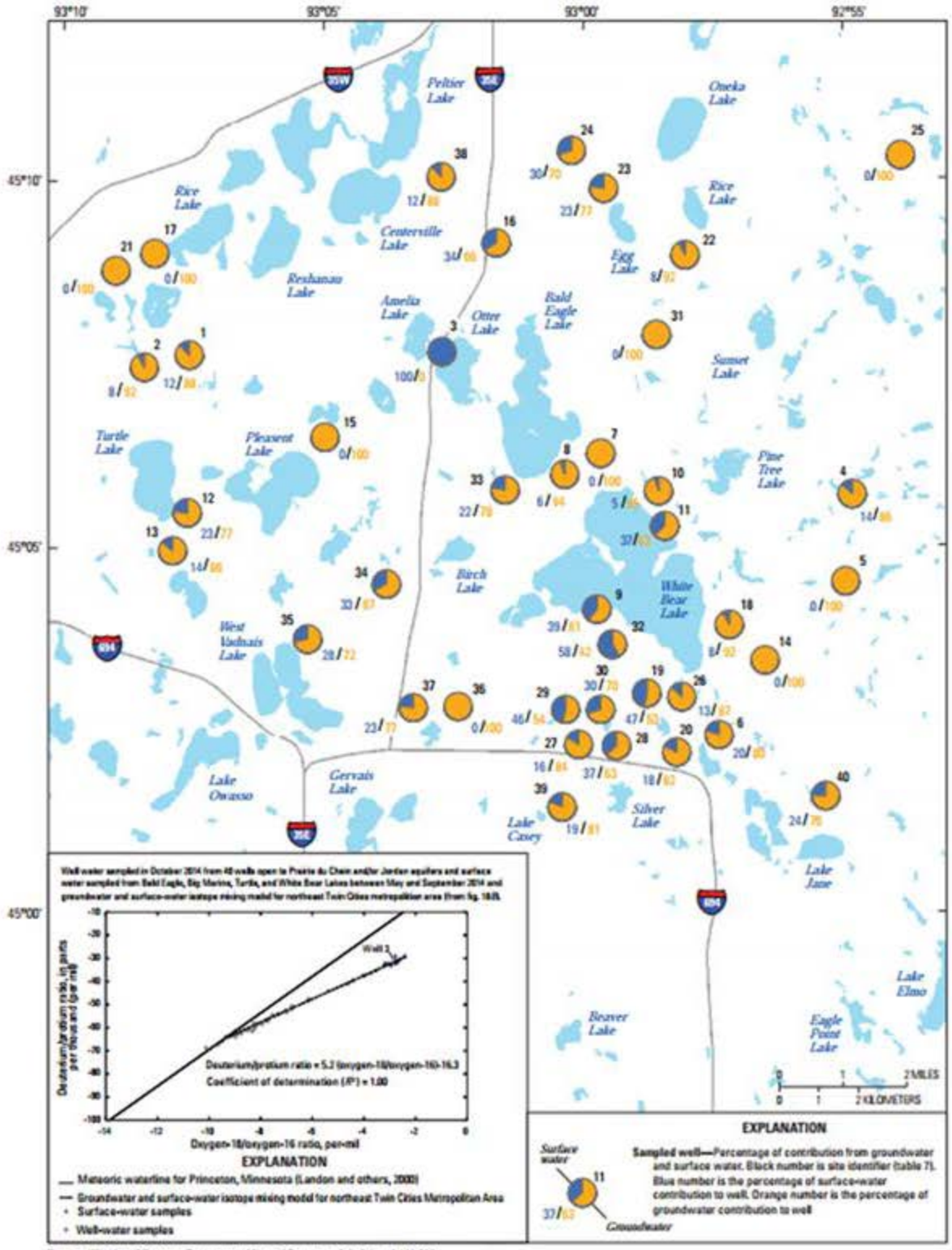
Meeting attendees were then given an opportunity to ask questions about the model and the lawsuit. In response to questions about the model, DNR staff explained that the model was identified as a need in the GWMA Plan; it was not precipitated by the lawsuit. The model can show a change in stream base flow conditions, but it was not built to model stream head or stream flow. From this point forward, DNR staff

will run the model. ***There are 8 communities using the 10 wells that have the highest pumping impacts: White Bear Lake, White Bear Township, St Paul Regional Water Services, Mahtomedi, North St Paul, Hugo, Vadnais Heights, and Oakdale***; DNR will work with those communities to determine mitigation strategies but there is no hurry to do so given current lake levels. It was clarified that the residential irrigation scenario did not account for commercial/industrial/institutional and golf course irrigation. The model is available to other agencies by contacting DNR. The water pumped from the Vadnais chain of lakes (an infinite source bucket) was not included in the model, but it could be done in a future evaluation. DNR has not yet determined how it will share future modeling results. The recharge rates used in the model are also transient. The model is less applicable at the boundaries of its domain. Private wells are not permitted and were therefore not accounted for in the model, but DNR estimates that private well use accounts for only about 5% of the total water use in the area. Many agencies were involved in the development of the model, but due to time constraints, it did not have a formal peer review or external vetting once it was completed. Sensitivity analyses were completed for earlier high water level periods, but there was not time to do that for the latest high level period.

In response to questions about the Order, DNR staff explained that since DNR can't enact and enforce local irrigation bans, the local governmental units (LGU's) will have to do it, possibly as an appropriation permit condition. If a permit applies to an area within the 5-mile boundary, then it also applies to the permitted area outside the boundary. It will be up to LGUs to address residential irrigation by private wells, but DNR may explore a general permit that applies to private wells. Regarding Order item 4f, for groundwater permits within the 5 mile radius, reports are due annually to DNR on their efforts and they must develop plans to reduce total per capita water use to 90 gpd (and 75gpd residential use). DNR is considering whether this can be viewed as a collective goal within the 5 mile radius area. The order only discusses groundwater (including surficial aquifers), not stormwater. It is unknown why the judge picked a 5 mile radius.

Regarding related topics, there was no discussion about bringing St Paul Water System water to augment the N & E metro cities' supplies; the model can be used to simulate the difference that would make. There was not a comparative analysis of how precipitation and evaporation were address in earlier reports to be able to determine the impacts of changing climate; they may not be comparable. Evaporation data from WBL may not be fully translatable to the other shallow lakes. Because there is nonlinearity in the lake response as a function of head, the 1st reduction may have the strongest effect, while later reductions may have lesser effects. For example, when the lake level is high, a 25% pumping reduction won't substantively affect water levels. Within the region, there are many closed basins that are segregated from surface flow; this may affect recharge variability.

As a reminder, the USGS steady state model identified which permitted wells showed what proportion of surface water contribution, as shown in the figure below. The most impactful wells identified in the transient model were not compared against the results of the steady state model; however, the communities listed in bold italics above appear to be in the general proximity of the wells with large surface water contributions.



Base modified from Minnesota Department of Natural Resources digital data, 1:100,000
Minnesota Department of Transportation digital data, 1:100,000
ESRI digital data, 1:500,000, and U.S. Geological Survey digital data, 1:100,000
Universal Transverse Mercator projection, Zone 15
Horizontal coordinate information is referenced to
the North American Datum of 1983 (NAD 83)

Figure 20. Oxygen-18/oxygen-16 ratios and deuterium/protium ratios and percentage contribution from groundwater and surface water for well-water samples collected in October 2014, northeast Twin Cities Metropolitan Area, Minnesota.

REIF

In NE MN, this fall's Regional Economic Indicators Forum focused on the water economics via presentations by students who conducted a variety of economic analyses of the water sector and by Dr Stephen Polasky, economist with the U of MN. Some key takeways from the students:

- Unemployment rates continue to decline,
- The declining labor force is the #1 factor limiting business activity in the REIF area
- Water resource occupations grew 9% since 2012 in this region, led by fishing and water transportation
- 88% of respondents described regional water resources as being very important for REIF's economy
- 71% of businesses said their business would see strong negative effects if water quality was compromised

Key takeaways from Dr Polasky:

- Water creates value – both a private market value and a public social value
- Externalities exist when the actions of one agent directly affect the welfare of another agent and are not reflected in market prices (e.g., personal gain vs social costs can be misaligned)
- Markets provide incentive for private goods that use water, but externalities and public good are examples of market failure because there is little incentive for individual companies to spend money to insure clean water
- Land use planning can be done in a way to optimize land use patterns to address both social/ecosystem benefits and private market values, but must involve affected landowners
- The Natural Capital Project has developed an "Efficiency Frontiers" analysis that evaluates the cost/benefit ratios of different land use scenarios, estimating the cost needed to achieve pollutant reductions for watershed-specific scenarios
- MN has a competitive advantage where there are sustainable sources of abundant clean water
- Trade-offs between environmental benefits and risks and the cost of pollution control should be carefully evaluated, along with where an how an activity is planned
- Preventing political grid-lock needs:
    - Avoiding the rush to judgement
    - Avoiding casting all-or-nothing decisions
    - Using science to understand the consequence of each alternative choice
    - Deliberating the distribution of benefits, costs, and risks across affected societal groups

The National Bank of Commerce gathers academia, businesses, and community leaders from a 15 county region in NE MN and NW WI to sponsor REIF, a comprehensive research initiative to drive growth, prosperity and collaboration across this region:

Similar to Greater MSP's thoughts about establishing a metro "water cluster" of water tech businesses, the regional development folks in this area are trying to marry business development opportunities with regional issues needing solutions and a locally-developed skilled workforce.

WOODBURY'S WATER EFFICIENCY PROGRAM

Over the last decade, the City of Woodbury has been methodically assessing how it can sustainably reduce their aquifer drain. Recognizing that only 5 of 19 production wells are used during the non-irrigation season, they felt the biggest potential for protecting their water assets was by improving irrigation efficiency. The city undertook a 4-step process that began with building commitment among city staff and officials, which included developing of a Water Resources and Policy Statement and a Strategic Initiative for Sustainable Water. Hey also improved enforcement of existing ordinances, tried irrigation efficiency pilots with the commercial sector (aka, businesses, homeowner associations and institutions – all of which have separate irrigation meters), and establishing and implementing a formal Water Efficiency Incentive Program (WEIP). To date, the WEIP program has employed several strategies:

- Establishing criteria for incentivizing the installation of water efficiency devices for commercial accounts (50% cost-share up to $8,000 for audits and EPA WaterSense certified soil moisture sensors, controllers, and sprinkler heads)
- Establishing criteria for incentivizing residential purchases of efficient controllers (residents pay $20, compared to a retail price of $200)
- Creating a regulatory foundation, including, increasing fines for unacceptable watering practices, banning the installation of new private wells, and updating their Rain Sensor ordinance
- Creating the financial foundation by establishing tiered water rates, with higher users paying more; the additional revenue is used to fund the incentive programs.

To date, the city and commercial investment has been $168,540 that will conservatively result in 9.4M gallon [20%] water savings each year. In the next 4 years, they estimate the commercial account savings will top 47M gallons/yr. For every 100 residential controllers installed, they expect to save 3M gallons of groundwater/year. Click on the hyperlink to learn more about Woodbury's Water Efficiency program. Woodbury staff anticipate investigating additional efficiency strategies in the future, including: assessing the effectiveness of the incentive programs, evaluating alternative grass species and top soil requirements, considering residential sprinkler head replacement incentives, and continuing outreach.

WATERSHED BASED WASTEWATER PERMIT LIMIT ANALYSIS

"Mankato, MPCA host meeting: 'What's coming down the pipe' (source: MPCA's On Point newsletter)

The city of Mankato and MPCA hosted a meeting Oct. 18 for wastewater facilities in the Minnesota River Basin. About 105 wastewater operators, community representatives and state agency staff took part in the meeting at Mankato's government center.

The purpose of the meeting was to share information and ideas. MPCA staff talked about how the agency is implementing the river eutrophication and chloride water quality standards. Agency staff also talked about the future of water quality trading and availability of state financial assistance.

Mark Winson, Mankato public utilities director, provided his city's perspective on protecting the Minnesota River, noting that implementation of the river eutrophication standards is causing concern among communities. Concerns include proposed new limits, future of water quality trading, and a need for a more comprehensive and collaborative approach to addressing nutrient pollution.

Audience members asked about variances to standards, impact of agriculture and other nonpoint sources on water quality, and how the MPCA is determining new effluent limits in permits. They also had a chance to visit with MPCA staff individually or in small groups about issues specific to their permits."

“MPCA implementing river eutrophication standards, starting with Minnesota River basin
Several wastewater discharge permit holders in the Minnesota River basin recently received letters announcing the completion of phosphorus limit reviews for their facilities. These reviews, called “phosphorus memos,” include new limits for some facilities, as determined by the Minnesota Pollution Control Agency (MPCA) after examining extensive data for the basin.

These reviews are based on river eutrophication water quality standards adopted by Minnesota in 2014. The standards are designed to protect rivers from algal blooms harmful to aquatic life and recreation. In determining effluent limits, the MPCA examines nutrient levels and response variables that indicate algal growth or potential algal growth.

The agency also looks at each major watershed holistically, accounting for all contributors of phosphorus within it. Under this approach, the MPCA sets phosphorous effluent limits for all the watershed's wastewater facilities at one time, rather than one-by-one as permits come up for reissuance. This watershed approach ensures that all contributors are doing their “fair share” of reducing phosphorus. (While the agency sets limits at one time, any new limits do not take effect until a facility’s permit is reissued.)

The phosphorus memos describe this process in detail, explaining how the agency determined limits for wastewater facilities.

New limits for some facilities
Of 269 facilities in the Minnesota River Basin, about 60 will receive new limits, some more restrictive than their current limits and some not. The new limits go into effect when the agency reissues a facility’s permit for discharging wastewater.

The overall impact to mechanical facilities in the basin:
- 70% can meet new limits
- 15% are close to meeting proposed new limits
- 15% need to do something to meet new limits

The overall impact to stabilization ponds in the basin:
- 75% can meet new limits
- 4% are close to meeting proposed new limits
- 21% need to do something to meet new limits

Facilities, most of them owned and operated by cities, have several tools to meet the new limits:
- Variances to allow time to determine a solution. (More information about variances will be in future On Point newsletters.)
- Schedules that allow time to complete upgrades in equipment and processes.
- Water quality trading, though current trading systems will likely change. (More information about trading will be in future On Point newsletters.)

Summary of legal challenges
The MPCA is implementing river standards after several years of hearings and public comments. An administrative law judge approved the rule in 2014 with the MPCA Citizens Board (now defunct) voting twice to recommend adoption. The U.S. Environmental Protection Agency approved the standards in 2015. The standards have also survived three court challenges so far. A federal court challenge is still

pending, along with a Minnesota Court of Appeals ruling that is awaiting the federal decision. Given the initial approval and the subsequent state court decisions, the MPCA is confident the standards will prevail in federal court and is proceeding with implementation as allowed by law.

The agency will provide facilities with phosphorus limit reviews as they are completed, along with holding additional regional meetings (see story about Mankato meeting below).

The mission of the MPCA is to protect and improve the environment and enhance human health. Under the federal Clean Water Act, the MPCA is responsible for issuing permits to limit pollutants in wastewater discharged to lakes, rivers and land.

For more information
If you have questions about the river standards, contact Joel Peck, municipal liaison, at 651-757-2202 or joel.peck@state.mn.us.
Online resources:

- Phosphorus loads and flow volumes: Summaries of annual phosphorus loads and flow volumes discharged from wastewater facilities since 2005. Users may click on individual facilities for details.
- Wastewater data browser: Provides public access to monthly eDMR records. Application is updated quarterly and allows users to either explore or download monitoring data, permit limits, and details about facilities and stations. "

REPORTS

STATE OF MN WATER

- DNR: MN Stream Flow Report – ended for the year
- National Drought Mitigation Center: 11/2/17
- DNR: HydroClim Minnesota for Early November 2017

NEW REPORTS

- DNR: Transient Groundwater Model for the North and East Metro Groundwater Management Area
- Mississippi Headwaters Board: Biennial Report 2015-2017
- MPCA: Base-Level Appropriation Report
- BWSR: Working Lands Watershed Restoration Program Interim Report to the Minnesota Legislature
- DEED: Contamination Cleanup and Investigation Grant Program Annual Report
- MnTAP: Solutions – MnTAP Intern Program 2017; check out the projects on pages 8, 10, 14, 20, 22, 24, 26, and 28 to see how these water and related cost savings can be achieved:

Recommendation	Reduction	Cost Savings	Equivalents (annual)
Water	271,848,000 gallons	$141,100	Water for 11,458 Minnesota residents

- EPA: Mississippi River/Gulf of Mexico Watershed Nutrient Task Force 2017 Report to Congress; sources of phosphorus and nitrogen in the Mississippi River basin in MN:

Nutrient source	Mississippi River	
	P	N
Cropland runoff	35%	5%
Atmospheric [b]	8%	6%
NPDES permitted wastewater discharges [c]	18%	9%
Streambank erosion	17%	--
Urban runoff	7%	1%
Nonagricultural rural runoff [d]	4%	--
Individual sewage treatment systems	5%	2%
Agricultural tile drainage	3%	43%
Feedlot runoff	2%	0%
Roadway deicing	1%	--
Cropland groundwater [e]	--	31%
Forest	--	4%

Notes: P = phosphorus; N = nitrogen
a. Source percentages do not represent what is delivered to the basin outlets.
b. Atmospheric deposition is to lakes and rivers.
c. Nutrient loads in the Lake Superior Basin are lower than other basins in the state and therefore wastewater is a larger portion of the overall sources. Western Lake Superior Sanitary District (Duluth area) accounts for more than 50 percent of the wastewater phosphorus load in the basin.
d. Includes natural land cover types (forests, grasslands, and shrublands) and developed land uses that are outside the boundaries of incorporated urban areas.
e. Refers to nitrogen leaching into groundwater from cropland land uses.

Figure 13. Sources of phosphorus and nitrogen in Minnesota that contribute to nutrient loading in Mississippi River Basin (Minnesota Pollution Control Agency 2014a).

UPCOMING EVENTS

- Nov 8: The Petri Dish: **The Future of Water in the Land of 10,000 Lakes**; Camp Bar 490 N Robert St, St Paul; reserve $5 tickets @ z.umn.edu/futureofwater
- Nov 14: Freshwater Society Moos Family Speaker Series; Kathy Lake, MBA, Pollution Prevention Manager for the Madison WI Metropolitan Sewerage District will discuss **The Lake Effect: Protecting Water Through Innovative Collaboration**; free, but registration is required; register here
- Dec 4-5: **MASWCD 27th Annual Trade Show & Conservation Information Fair**; Doubletree by Hilton Hotel Bloomington-Minneapolis South; more info to come
- Jan 18, 2018: Water Technology Roundtable: Issues in Groundwater Resources; contact Steve.Riedel@state.mn.us for more info
- Feb 8, 2018: Freshwater Society's **17th Annual Road Salt Symposium**; details to come
- April 12-14, 2018: Freshwater Society's **The State of Water Conference;** details to come
- May 1-3: MN-ND-SD AWWA **Surface Water Treatment Workshop**; Courtyard by Marriott in Moorhead; info to come @ www.AWWAND.org
- May 10, 2018: **Smart Water Technology Roundtable: Workshop for IOT Solutions in Water Treatment**; Uponor, 5925 148th St W, Apple Valley; contact Steve.Riedel@state.mn.us for more info
- June 3-7, 2018: American Society of Civil Engineers **World Environmental and Water Resources Congress**; details to come at www.ewricongress.org

- July 10-12, 2018: US Water Alliance's **One Water Summit** will be at the Hyatt hotel in downtown Minneapolis; details to come