



PHOTO: DOMINIQUE BRAUD

June 2017

June monthly normals from
the Minnesota Weatherguide
Environment™ Calendar:

Temperature: Max 78.8°F Min 58.8°F

Precipitation: 4.25 in.

Highly recommended:

Every once in a while, someone begins a “weekly update” of water information. They vary in quality and often drift away with neglect as the amount of labor required becomes onerous. A promising update from **Barb Huberty of the Legislative Water Commission** began last year and has really hit its stride. In our opinion, it is worthy of your time. **Subscribe or see back issues:** lcc.leg.mn/lwc/WeeklyUpdates.html



Heeding the signs

by **Steve Woods, executive director**



A younger friend described a temporary limitation affecting his run and bike training this spring. It was clear he was going to push through the warning light

on his body's dashboard. Been there, done that. In my 30s I too did not yield to warning signs until they had become full-blown injuries. Now solidly in my fifties, I see I should have yielded. I would've healed quicker and had less downtime.

Makes me wonder what I am doing now that in a decade an older me will think, “What a dope.”

Which brings me to this year's legislative session. Originally scheduled to end May 22, it went

into overtime (again). Since I began monitoring legislative work in the late 1990s, I have seen some legislatures do better than others in producing “good” outcomes. The last several sessions have been challenging because so much now occurs out of the public's eye and at the last minute.

Some correctly note that legislators have a hard job. Here are some other hard jobs: farming, city engineering, surveying, developing, expanding business, teaching, and county administering — to name a few. Their work gets done on time by coordinating efforts and minimizing surprises to their collaborators.

The legislature has created a number of advisory commissions and councils that dig into the interconnected details of land, water, and habitat issues, to help legislators do their work well. A big warning light came on this session when the House and Senate deviated significantly from their advice.

Heeding signs, continued on page 3

Freshwater Society is a nonprofit organization dedicated to educating and inspiring people to value, conserve, and protect water resources.

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Soak it up, Minnesota

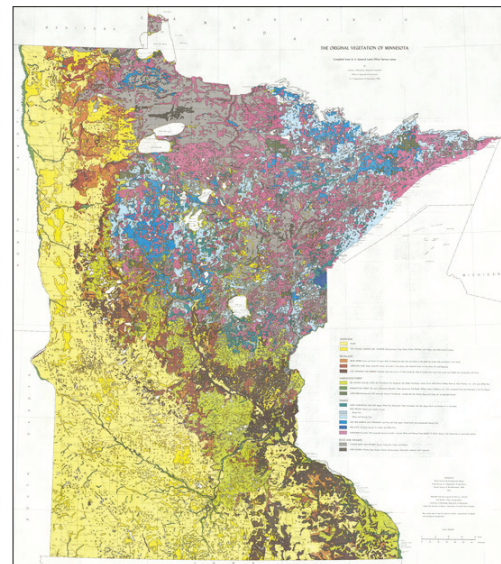
by Carrie Jennings, research and policy director

I met a woman who worked on restoring rivers in the U.K. Much like our goals here, she was directed by E.U. policy to restore the condition of a stream to pre-settlement conditions. In Minnesota, that is a mere 200 years or so. In the U.K.? Pre-Roman — 100 B.C. to 450 A.D. — was what she was shooting for, a seemingly impossible task! (Well, start by taking out those pesky Roman roads).

The first task in restoring a water body is in knowing what it used to be. We are lucky in that we can extract information from original land surveyors' reports to understand what the landscape looked like when they walked section lines. They recorded the witness trees (arcg.is/2rIV3iB) at section



Roman roads in Britain.
romanobritain.org/12_innovations/inv_roads.htm



corners and sketched in vegetation and shorelines. We can even learn the width of certain streams. Those surveyor notes have been scanned and are available online (bit.ly/2qYTdgz, in case you're interested) but prior to that were compiled in the so-called Marschner map (bit.ly/2rITbqf) that records pre-settlement vegetation.

From this map we can see that about a third of the Minnesota River watershed and a lot more of the Red River watershed were in wet prairie or wetland (darker yellow areas). These shallow depressional areas stored water and allowed it to soak in slowly, replenishing groundwater rather than

sending it directly to the streams. Too much water in the streams causes more frequent flooding, erosion of stream banks, turbid water, permanently wider valleys, and infilled floodplain lakes.

Today the depressional storage areas or prairie potholes are almost entirely gone, as are many of the shallow lakes. Town names like Bird Island and Buffalo Lake just don't make sense in a drained landscape. Ditching and tiling have resulted in a wholesale rearrangement of our drainage system. Most of us are unaware of these rural equivalents to our gutter and storm sewer system. We count on them in the metro; farmers count on them in their fields. But at what cost to water quality? In both places, slowing water down before it reaches the stream would be beneficial.

One of the best approaches to returning our rivers to more reasonable flows and sediment loads is to again store water on the land so streams will begin to heal themselves. This is an ongoing focus of the work of Freshwater Society. Soak it up, Minnesota. It's good for all water in the state.

Read more of Carrie's blog posts at bit.ly/2ovUfxC.

Managing nutrients on the landscape – increasing efficiency or controlling pollution?

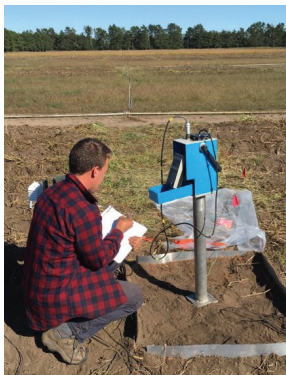
By Brian Bohman, research and policy intern

When it comes to water quality in Minnesota, addressing nutrient management (i.e. nitrogen and phosphorus) is near the top of the priority list. There are two competing ideas for how best to approach this issue: one is a series of programs to increase nutrient-use efficiency; the alternative is a focused effort to reduce non-point source pollution. What's the difference?

These approaches tackle the same issue starting from a different problem statement: as an agronomic and economic dilemma or as an environmental and social problem to solve. Nutrient-use efficiency is a term preferred by the agriculture industry because it fits well within their existing operational framework – increased efficiency means more bang for your buck, fewer losses of expensive inputs, and greater overall profitability. Regulatory agencies and environmental groups see nutrients as pollutants that should be prevented from damaging aquatic life, recreational opportunities, and drinking water.

These two approaches, with their differing rationale, will result in the same water quality goals. The difference in problem definition, however, is not just semantics, but represents a broader division hampering collective efforts.

Improving water quality is about overcoming barriers, in communication as well as technical, scientific, and logistical efforts. In the case of nutrient management, the next step should be to critically rethink the language we use and how our choice of words relates to the problems we do and *do not* see. In the end, our collective nutrient management goals are not limited to “efficiency” or “reduction” but represent a quality of life improvement for ourselves and our neighbors.



Bohman measures soil moisture content with a neutron probe in order to improve irrigation management. Photo: University of Minnesota Water Resources Center

Read more about Brian's work with Freshwater Society, in this article published by the University of Minnesota Water Resources Center: bit.ly/2qZ8CNE

And check out this groundwater video Brian created with Erin Mittag, Alana Helin, and John Bilotta: bit.ly/2rS3vyj

Heeding signs, continued from cover

Complaints about this practice are often dismissed, since these bodies produce recommendations while the legislature makes the decisions. This is *factually* accurate.

Trouble is, coordination between them is minimal. Making change is hard work. Even minor changes can cause inadvertent effects, like playing whack-a-mole with funding local work; not funding the tail end of a multi-year project; not securing a state match for federal dollars on a project that has

been years in the making. Reneging on two-year old legislation by diverting ten percent of the Clean Water Fund (\$22 million) is unnecessarily disruptive to the communities the state government expects to clean up our waters.

Last-minute lawmaking makes mistakes and misses opportunities. Let's hope a decade from now the Capitol crowd looks back at the twenty-teens and realizes they should have yielded to the warning signs.



Dan Egan packs the house in St. Paul and Duluth

In April and May, Dan Egan played to full houses in both St. Paul and Duluth, talking about *The Death and Life of the Great Lakes*, his recently published book about challenges facing the Great Lakes. This dual event lecture was part of the Moos Family Lecture Series.

Egan is an author, Pulitzer Prize finalist, and reporter for the *Milwaukee Journal Sentinel*. His book has received wide acclaim, including from the New York Times Book Review: nyti.ms/2r2Qf5C

Read more: bit.ly/2lhU2xP

Thanks to our sponsors: Consulate General of Canada, Board of Water and Soil Resources, Emmons & Olivier Resources, and The Nature Conservancy

And our co-hosts: University of Minnesota's College of Biological Sciences and its Large Lakes Observatory in Duluth

We want to hear from you!

Help us plan the 2018 State of Water Conference

More than 250 Minnesotans joined us for the 2016 State of Water Conference. This important semi-annual conference inspires and teaches us to effectively protect our lakes and rivers.

As we plan for the next conference (to be held in spring 2018) we need your input. Please take 10 minutes to fill out this survey and help make the 2018 conference the best one yet: bit.ly/2s1sFvd



April's Ice OUT Loon IN gala honored Clean Water Champions

Thanks to 250 of our supporters who joined Freshwater Society at our annual Ice OUT Loon IN gala on April 9. We celebrated with silent and live auctions, Water Bar tastings, plus dinner, drinks, and a program featuring this year's Clean Water Champion award recipients.

Thanks to our sponsors: Mosaic, Smith Partners PLLP, Best & Flanagan, Success Computer Consulting, RESPEC, Fredrikson & Byron P.A., Bremer Bank, Bolger Printing

2017 Clean Water Champion Award Recipients

Governor Mark Dayton

For making a stand for our water, reminding us all "it's the public's water"

Metropolitan Council Environmental Services, Braun Intertech, and HDR, Inc.

For developing a smart Groundwater Recharge Study of the Seven County Metropolitan Area

Friends of the Mississippi River and Mississippi National River Recreation Area

For publishing the widely-acclaimed State of the River Report

St. Croix River Watershed Research Station

For their ongoing, exceptional science work

Exceptional Master Water Steward: Kristine Maurer and Brittany Faust

For establishing the Tangletown Water Fest and installing a cistern and living wall at a local business

Peggy Knapp

For providing years of outstanding service to Freshwater Society



Join your neighbors to protect your water

We are now accepting applications for the next class of Master Water Stewards! Since Freshwater Society developed the Master Water Stewards program in 2013, 138 Stewards have been certified and are volunteering their time for watershed districts, cities, and environmental groups; participating on city and local government boards; influencing policy; and improving the health of our waters. To date, they have:

- Connected with thousands of people through outreach and educational events
- Installed or planned 83 projects, including rain gardens, rain barrels, cisterns, a dry creek bed, and a permeable driveway
- Prevented well over 1.2 million gallons of polluted stormwater runoff from entering our lakes, rivers, and creeks each year!

In October, the current class of 57 stewards will be certified, and the program will expand statewide in 2018.

Learn more and apply: masterwaterstewards.org



Check out the MWS
2013-2016 annual report:
bit.ly/2sPOSJ4

Upcoming events

Art of Facilitation Workshop

June 15-16, lunch included

Eisenhower Community Ctr, Hopkins

This workshop will immerse participants in the art of hosting people, fostering leadership from within to address many of the challenges we face.

Learn more: bit.ly/2qY0yLq

Big Island and Back Paddle Event

August 12, 9:30 a.m.

Excelsior Commons Beach

Tune up your canoe, kayak or paddleboard and head on over to Excelsior for a friendly race out around Big Island and back. Includes after party at Excelsior Brewing Company. Proceeds support Freshwater Society.



Learn more: bigislandandback.com

Minnesota Water Resources Conference

October 17-18, 2017

RiverCentre, Saint Paul

Engineers, water resources managers, researchers, and agency staff will learn about innovative, practical, and applied water resource engineering solutions, management techniques, and current research about Minnesota's water resources.

Learn more: bit.ly/2dq53ah

Water Quality Town Hall Meetings

In April, Governor Mark Dayton announced a series of meetings to discuss the water quality challenges facing communities, learn from experts, and engage with policymakers.

Upcoming meetings:

Rochester – July 31, 2017

Marshall – August 16, 2017

Mankato – August 17, 2017

Learn more and see the full schedule:
bit.ly/2rS3o5y