FACETS of Freshwater



Weather Facts and Photo from *MN Weatherguide Environment Calendar* February Monthly Normals: Temp. Max: 28.9 F Min: 12.8 F Precip: .77 in. Snow: 7.8 in.

FRESHWATER SOCIETY

In This Issue

<i>Farm to Stream</i> report released on January 30!2
221 Attendees at 14th Annual Road Salt Symposium3
Next Moos Series on Great Lakes
Help us baptize the new St. Paul Saints' stadium3
Steve Woods: How much water do you use?4
XC Ski Fundraiser4
Support Our Programs – Enjoy the Wonders of MN4

Take a look



The transcript below is from an NPR story I heard while sitting in the Gray Freshwater Center parking lot February 2:

Dan Charles did a story about a Des Moines, IA, lawsuit over excess nitrates. He said, "Farmers spread fertilizer on their cornfields, it turns into nitrate and then it often runs into streams." A listener, Sara Carlson, let him know he had missed the point.

CHARLES (interviewer): Carlson was frustrated because she hears that all the time from journalists, politicians, also farmers. And each part of that sentence is technically true. Nitrogen fertilizer does turn into nitrate. Nitrate does run into streams.

But she – and lots of scientists actually – say that ignores something else, the thing really sends nitrate into streams. And it makes Carlson upset because she says this half-truth gets in the way of solving a massive continent-wide problem. Here's the bigger picture, Carlson says. During the summer, when crops are growing on those fields, they scarf up most of the soil's available nitrate. They need it to grow. So during that time, there's usually not much nitrate flowing into streams and rivers.

CARLSON: Our problem is that we only grow plants for five months out of the year. That's our problem.

CHARLES: Most of the Midwestern farmers grow corn and soybeans - warm-season plants. And after they're harvested, for seven long months, nitrate is still forming naturally in the soil. It comes from decaying plant roots or microbes.

CARLSON: And if there's nothing to suck it up, to scavenge it, then it's going to move.

FRESHWATER SOCIETY

The Freshwater Society is a non-profit organization dedicated to educating and inspiring people to value, conserve and protect water resources.

Board of Directors

Stuart E. Grubb, Chair Rick Bateson, Vice Chair Lisa Whalen, Secretary Corrine Ricard, Treasurer Julie Blackburn Todd Bolin, Honorary Director Blyth Berg Brookman Richard S. Caldecott, PhD, Emeritus Director Robert Elde, PhD JoEllen L. Hurr, Emeritus Director Ryan Hurt Barbara Luikens, MD, Emeritus Director Jim Manolis, PhD Lili Tod McMillan Darby Nelson, PhD Tom Skramstad **Paige Winebarger**

Staff

Steve Woods, Executive Director Scott Branch, Operations Assistant Whitney Canton, Administrative Assistant Deirdre Coleman, Program Coordinator Julie Fliflet, Director of Finance and Administration Alex Gehrig, Program Manager Darrell Gerber, Research and Policy Director Peggy Knapp, Director of Programs Chris Prok, Operations Manager Jeanne Prok, Program Manager Laura West, Administrative Assistant Lindsey Wyckoff, Project Assistant

Facets of Freshwater is published by the Freshwater Society.

For permission to reprint, contact us at: 2500 Shadywood Road, Excelsior, MN 55331, 952-471-9773 or at freshwater@freshwater.org.

Visit the Freshwater Society web site at **www.freshwater.org**.

Farm to Stream report released on January 30!

On January 30, the Freshwater Society hosted an event to release *Farm to Stream: recommendations for accelerating soil and water stewardship.* The report offers a series of steps to improve Minnesota's voluntary row crop agricultural conservation program and reduce the impact of agriculture on Minnesota's lakes, rivers and groundwater.



"We need the cooperation of land owners to address water quality on a scale not seen in decades," said Steve Woods, Executive Director, Freshwater Society. "The report identifies ways to overcome barriers that farmers told us were preventing them from doing more soil and water conservation practices."

In 2011–2013, Freshwater Society undertook a project, MN FarmWise, involving a farmer-led pilot project and an analysis of voluntary programs in the region. The findings from that program, and insights that could accelerate conservation, were released in a 2014 Freshwater Society publication.

The recommendations in the report outline changes to the funding, staffing, research and execution of Minnesota's current system that will remove some of the barriers to conservation farming that row crop agricultural producers identified during research conducted as part of the FarmWise program.

"The project was intended to test the model of farmer-led voluntary programs, and find out what did and did not work when it came to accelerating the adoption of conservation farming strategies," Peggy Knapp, Director of Programs at Freshwater Society. "In the end, we did a lot of listening and repeatedly heard about a number of barriers that landowners and local organizations hoped to see addressed."

A critical barrier is that resources and training of local conservation staff are not prioritized for working directly with farmers. "Those areas most successful at delivering conservation are where local staff have been able to build relationships with farmers," says Knapp. Other key findings were

• It is critical to have a local person working with farmers who has developed relationships and trust with the farmers.

• There is a mismatch between the way conservation money is delivered and how farming decisions are made.

• Farmers want more information about the impacts and benefits of conservation

measures that is relevant to their fields.

• Farmers want a crop portfolio with more options that can reduce their financial risk and provide better water quality outcomes.

"Fortunately, in the current voluntary system there are steps we can take to accelerate the adoption of conservation," said Darrell Gerber, Research and Policy Director at Freshwater Society. "There are manageable steps we can take today to break down these barriers and allow our current system to work better."

Farm to Stream offers 17 recommendations for Minnesota to address these barriers to soil and water stewardship. The recommendations fall into four general categories:

• Adjust Funding Structures - Funding needs to provide more flexibility and stability for local governments to focus on outreach. Funding systems should evolve to match the way that water resource planning is done today. Likewise, conservation programs need to change to match the way farming decisions are made.

• Invest in Local Capacity - Local governments need more landowner contact staff. Training and career development opportunities also need to be made broadly available to provide the resources staff need.

• Invest in Relationships and Partnerships -More cross-sector partnerships are needed to take advantage of trusted relationships to provide farmers with better and more consistent information about conservation.

(continues on page 3)



Darrell Gerber presents findings from Farm to Stream at the MN Valley Wildlife Refuge.

221 Attendees at 14th Annual Road Salt Symposium



On February 5 the MN Landscape Arboretum was filled with people concerned about chloride pollution and looking for solutions to protect Minnesota's water and traveling public. Attendees ranged from those who apply road salt to watershed agencies to citizens and city leaders – all with the same goal – use less salt but maintain safety.

Brooke Asleson, who manages the Twin Cities Metro Chloride Project for the Minnesota Pollution Control Agency, began the day by presenting the chloride data collected during the project and the increased number of chlorideimpaired water in the metro area. She then presented MPCA's implementation plan to provide resources, tools, and information to assist those in the metro to use less road salt, a major cause of chloride-impaired waters.

Stephen Drushel, PhD, PE, a professor at Mankato State University presented his latest research on the effects of anti-icing and deicing products. Data on field-tests of these products provides important information to the appliers as to their effectiveness and timing of distribution.

The symposium also featured a presentation on the *Real Cost of Salt Use for Winter Maintenance, Increasing Public Awareness while Decreasing Salt* and more. **View pdfs of the presentations**.

Freshwater Society also presented Environmental Leadership Awards to organizations and individuals in recognition of their exemplary efforts, innovative solutions and collaboration to reduce road salt's impacts on our waters. See who won and read their Environmental Leadership Awards.

Thank you to our sponsors:







Farm to Stream report released...

(continued from page 2)

• **Invest in Research** - Improve the information relevant to a farmer's fields on the effectiveness of conservation measures and the impact they may have on production. Prioritize research and development of economically viable crops to diversify the farm economy while improving water quality and soil health.

Read the Farm To Stream report.

Sponsored by:







Help us baptize the new St. Paul Saints' stadium

Our annual fundraiser celebrating the return of the common loons will be held on April 23, 5:30pm - 9pm at the new CHS Stadium, home to the St. Paul Saints. More details available in March.



Next Moos Series on Great Lakes

The Moos Family Speaker Series on Water Resources brings influential experts to Minnesota to present the latest research on timely and important issues in an accessible – and sometimes humorous – presentation. Coupled with a panel featuring local experts, this program brings the best collection of authorities on issues important to Minnesota's water resources.

Our next speaker will be Dr. Bob Sterner of the Large Lakes Observatory, from nearby Duluth. Sponsors and dates are still being set for stagings in St. Paul and Duluth.

Want to know what topics have been covered or want to watch one of our past lectures? Go to http://freshwater.org/ moos-family-lecture-series/

Take a Look (continued from page 1)

CHARLES: Rainfall and melting snow will carry it downstream to Des Moines and beyond. It damages wildlife and fisheries all the way to the Gulf of Mexico. We won't fix this mess by using less fertilizer, Carlson says.

CARLSON: The way to fix this is we need to have something growing from October till May.

CHARLES: During the cold part of the year. Farmers can do this. The easiest way is they can plant cold-weather crops – a grain called rye, for instance – right after the corn or soybean harvest. Those crops will grow through the fall, go dormant when everything freezes and come back to life in the spring. The impact of these so-called cover crops – crops that just cover the soil – can be dramatic.

THAT is why we are so interested in the movement of water.

Our *Farm to Stream* report addresses the social aspects of selling conservation as an umbrella topic that influences the strategies the state pursues. The increase in runoff from altering MN's hydrologic systems is also an umbrella concept because moving water carries nitrogen, phosphorus, sediment, and other things we don't want moving around.

And the bonus here is this: people can see water moving – they can't see a part per million of anything. Regards,



Steve Woods: How much water do you use?

After deferring action for years, I finally gave in and entered the world of Twitter. You can expect an anemic production rate of a message or two per week. I gave in because there are some active tweeters among the media following the legislature and the organizations we regularly encounter in our work. In addition, it has already proven to be a nice way to promote Freshwater Society events to the highly-mobile crowd. The 140 character limit is a nice safeguard, but the ability to have even a short thought broadcast so quickly does bring a certain amount of hesitation. So all posts from *@freshwaterwoods* are from me and not necessarily reflective of my employer.

One of my early posts:

Got curious. My family of 3 water use averaged 80,600 gal/yr over five years. Ranged from 105,000 ('11) down to 39,450 ('14). Cost = \$120.

The longer story is that a speaker at the January 16 Department of Natural Resources roundtable meeting asked the audience if they knew how many gallons of water they used. Not many hands went up. The engineer in me starting calculating the standard rule-of-thumb of 100 gallons per day, per person and came up with 109,500 gallons for our household of three. (I missed the rest of his talk because I was doing the calculation.)

This weekend I came across my notes from the roundtable and the question was still there. I pulled out my family's water bills and found a wide range of annual water used:

TOTAL GALLONS PER YEAR



The fall of 2011 was dry and I remember soaking my evergreens so they would have enough

moisture for the winter. Although I'm NOT very attentive to our lawn, I did irrigate it enough to keep it from completely burning out. In contrast, the summer of 2014 started wet and stayed damp enough that I never turned the irrigation system on.

With empty-nesting occurring in August 2014, and a new found realization that I may have been more of a waterer than I suspected, I am looking forward to converting more grass to mulched landscape to keep that number under 50,000 for the future. Take a look at your water bill – you might be surprised.

RESIDENTIAL AVERAGE WATER USE



Source: American Water Works Association Research Foundation, End Uses of Water

XC Ski Fundraiser



Sat. February 7 was the 2015 Big Island and Back 10k Nordic Ski/Snowshoe dash. With most cross-country ski races in MN cancelling because of the lack of snow, this race pulled through with a move to St. Alban's Bay and a shortened course.

Volunteers worked hard to make sure racers were able to get out and enjoy the 30 degree weather!

Excelsior Brewing was a great help and sponsor of the event that benefited the Freshwater Society.

Funds were raised and fun was had. Racers of all levels showed up to either race their hearts out or just stay vertical throughout the race. Following the race, participants and volunteers convened at Excelsior Brewing for fine beverages, food, a bonfire and live bands. Thanks to all the racers, sponsors and volunteers!

Support Our Programs Enjoy the Wonders of MN



<u>Order</u> now or become a member or renew your Freshwater Society <u>membership</u> and you'll receive a <u>complimentary</u> 2015 Minnesota Weatherguide Environment Calendar!

Enjoy amazing regional photos, Nature Notes by Jim Gilbert, weather history, meteorological information, gardening tips and much more. Your purchase supports the protection of freshwater resources!