

FACETS of Freshwater



December 2014

Lake Superior by Dominique Braud

Weather Facts and Photo from *MN Weatherguide Environment Calendar*
December Monthly Normals:
Temp. Max: 27.1 F Min: 12.3 F Precip: 1.16 in. Snow: 11:5 in.

 FRESHWATER SOCIETY

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Groundwater Gets Visible



Steve Woods

On Sunday, November 16 my cell phone rang. It then chimed with several text message alerts. It even received an email message which I discovered Monday morning. The messages were essentially the same: “that Freshwater speaker guy was on *60 Minutes*.”

“That guy” was Jay Famiglietti of the Jet Propulsion Lab in Pasadena, CA. His **lecture** here on September 18 explained how the GRACE satellites are measuring alarming groundwater

depletions in the agricultural areas most responsible for feeding the planet. The night before the lecture Jay had regaled us with stories about a **60 Minutes interview** he recently taped and how his findings are being received around the planet. The interview focused on California's Central Valley and how this large food producing area could continue growing crops amidst record-breaking drought. Jay also mentioned that *60 Minutes* reporter Lesley Stahl was as smart as a whip but struggled with the concepts of groundwater flow and the long-term storage that is being depleted. Jay said you could see the light bulb go on a second before she exclaimed, “So, it's like a savings account!”



Jay Famiglietti and Lesley Stahl

Courtesy: jayfamiglietti.com

Groundwater Gets Visible (continues on page 2)

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

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Nitrogen Pollution is Focus of New Report

Nitrogen is everywhere around us. It is 80% of the air we breathe and an important component of rich, dark prairie soils. However, too much nitrogen in the wrong place is a big problem. Many Minnesota communities have already been forced to spend millions to address nitrates in their public drinking water supplies.

An upcoming Freshwater Society report examines the causes of high levels of nitrogen in our surface water and groundwater and what needs to be done to lower it. The primary source of nitrogen pollution is clear. A 2013 report by the Minnesota Pollution Control Agency put the finger squarely on cropland as contributing nearly three fourths of the nitrogen pollution in Minnesota's surface waters.



Agricultural producers face numerous conflicting pressures in efforts to balance maintaining a profitable business and ensuring long-term stewardship of land, water, and community. These conflicting pressures present tremendous challenges to addressing nitrogen pollution at the scale of the problem. The Freshwater Society report will take a clear look at what has led to our current situation, the shortcomings of our efforts to date, and the steps to align an array of solutions to meet the necessary reductions.

Groundwater gets visible *(con't from pg 1)*

It sure is and it is difficult to grasp. Locally, it took the visible shrinking of White Bear Lake to make the issue of groundwater management one that non-water people began discussing.

Jay's interview was good, but it was the well driller, Steve Arthur, who made the statements that sent a chill down my spine. I wanted to get the words right, so here are the exchanges taken from the video:

Lesley Stahl: *When you dig a well like this, are you taking water from the next farm?*

Steve Arthur: *I would say yeah. We're taking water from everybody.*

Lesley Stahl: *Well, is that neighbor going to be unhappy?*

Steve Arthur: *No. Everybody knows that there's a water problem. Everybody knows you got to drill deeper, deeper. And it's funny you say that because we're actually going to drill a well for that farmer next door also.*

Lesley Stahl: *Are you and are the farmers worried that by going that deep you are depleting the ground water?*

Steve Arthur: *Well, yes, we are depleting it. But on the other hand, what choice do you have?*

Minnesota is light years ahead of California in managing our groundwater. We are slowly taking steps to strengthen our systems so we avoid the everything-is-fine-until-it-is-gone reality other regions of the country will face. See our [2013 report](#) for the steps we recommend. We're not perfect, but as I write this during Thanksgiving week, I am thankful that policy-makers and citizens see there is a choice.

Regards,

STEVE WOODS

Freshwater Society
 Executive Director

It's Time to Get Smart about Salt

Google “salt shortage” and an array of media stories pop up. MPR’s recent [report](#) on the looming road salt shortage and increased prices gives a nice take on the issue. Minnesota is leading the nation with technology, education, and tools that allow our winter maintenance departments to do more with less.

It’s good timing – we need to use less. The Freshwater Society is in the middle of a three year program to encourage cities to do just that. The use of salt on roadways has increased at a rapid rate over the last couple of decades, in part as a response to the increasing amount of traffic on the roads. But salt use comes with costs, both fiscal and environmental.

Supported by a grant from the Minnesota Pollution Control Agency, the Freshwater Society is working with stakeholders in Rochester, Mankato, and eventually St. Cloud to provide training and increased awareness to citizens, winter maintenance professionals, and community leaders.

On November 18 about thirty people gathered at the regional MnDOT offices in Mankato to hear from a variety of professionals about the current state of salt use and winter maintenance practices. Staff from both MnDOT and the cities of Mankato and North Mankato talked about their progres-

sive management techniques that range from utilizing brine solutions to increase effectiveness and reduce the overall salt needed, to high-tech equipment that monitors weather conditions and forecasts. The departments are able to do this while maintaining safety.



Mankato residents learn how their area transportation departments manage salt use.

But citizen awareness and efforts are also needed to reduce salt use. A social media campaign, [Get Smart about Salt Mankato](#), was kicked off at last month’s meeting to help increase knowledge about the issue and offer simple tips everyone can do to help safely decrease salt use. [Here’s](#) what you can do!

Winter maintenance professionals will convene February 5 for Freshwater Society’s 14th Annual Road Salt Symposium sponsored by U of MN’s Local Technical Assistance Program, MPCA, Envirotech Services, Inc., and Liquidow.

[Registration](#) is now open.

Looking for Ways to Get More Conservation Practices on Cropland



The FarmWise program is wrapping up after two years of work with the Cannon River Watershed Partnership. FarmWise, a partnership with the National Park Service Mississippi National River and Recreation Area, was funded by the Mosaic Co. Foundation and the MN Idea Open. The program was devised to help environmental organizations understand how to work more effectively with agricultural producers and groups to increase conservation. Farmers are always looking for ways to increase their productivity and yields, but are under increasing pressure to reduce pollution to local waters.

Finding ways to balance the often conflicting priorities of profitability and stewardship will require unprecedented cooperation between agricultural

and environmental interests. The Freshwater Society will release a report in the upcoming year which looks at the lessons learned in the FarmWise program. The report will present several critical steps that will remove social and political barriers to collaboration, and increase the capacity of local organizations to encourage more voluntary conservation farming practices.

The FarmWise program offered an opportunity to learn what works and does not work at a critical time for Minnesota’s waters. The Freshwater Society Board has discussed the report findings this fall and will conclude at our December Board meeting. Stay tuned for news about our upcoming report release event.



SAVE THE DATE



January 20, 2015, 7pm
University of MN
St. Paul Student Center

Our next Moos Speaker series lecture will be a provocative and timely look at the causes of sediment pollution in the Minnesota River and what can be done about it.

“Sediment, science, and stakeholders – clearing the muddy waters of the Minnesota River”

By Dr. Peter Wilcock, Dept. Head
Watershed Sciences
Utah State University

Stay tuned for the time and location of a special double header on January 21.

UPCOMING EVENTS

DECEMBER 20

Master Water Stewards
applications due

FEBRUARY 5

14th Annual Road Salt Symposium
MN Landscape Arboretum

FEBRUARY 7

Big Island and Back!
ski race and fundraiser



Changing the Urban Landscape

There's a new cistern harvesting stormwater to keep pollutants out of Minnehaha Creek. Several large raingardens planted with native perennials are keeping runoff out of Edina basements. The newly established habitat will provide bees and other pollinators with a steady supply of pesticide-

free nourishment. A church in Minnetonka is infiltrating and harvesting so much of their stormwater that they will reduce their stormwater fees – saving the congregation money that can be put to use in their community. Master Water Stewards are changing the urban landscape.



Master Water Stewards Drew Kerr and Jeff Strom

The **Master Water Stewards** are certified community leaders who help their neighbors and community take control of the water that falls from the sky and runs down the street into lakes and rivers. Master Water Stewards are protecting our lakes –

YOUR lakes – by managing stormwater in their neighborhoods. And you are invited to join us.

The program is entering the final year of a three-year pilot, funded by a Clean Water.

Applications are being accepted now for classes beginning in January. Similar to a Master Gardener certification, the program gives you the knowledge and skills to keep water out of your yard and basement, and make lakes healthier. For more information contact the **Freshwater Society** or **Master Water Stewards** website.

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We are Grateful!

Thank you to everyone who donated to the Freshwater Society on Give to the Max Day! Thank you also to our dedicated Board of Directors and Staff who matched all the funds that came in, allowing us to triple the amount we brought in last year. Because of you, we are able to continue protecting the water we care about and also keep propelling good policies into legislative discussions and local action. Our team is grateful for your support.

Give the Gift of Minnesota

Got a tough-to-buy for person on your list? Struggling for a handy holiday gift for your employees? MN's favorite calendar is available for holiday gift giving. **Order** now or become a member or renew your Freshwater Society **membership** and you'll receive a **complimentary** 2015 Minnesota Weatherguide Environment Calendar!

Support the protection of freshwater resources and you'll enjoy amazing regional photos, Nature Notes by Jim Gilbert, weather history, meteorological information, gardening tips and much more.



Give the gift they'll enjoy all year!