

Stories from Master Water Stewards  
**Terry Hammink and Sheila Goeken**



Each month, the Freshwater Society will profile the work of our Master Water Stewards. Stewards are working in neighborhoods throughout the Minnehaha Creek Watershed District, helping neighbors to reduce urban runoff, protecting our lakes and rivers.

Terry Hammink and Sheila Goeken, partners for the capstone project of the Master Water Stewards certification process, planned and facilitated a rain garden installation on the Luverne side of 308-310 Parkway Court in Minneapolis, with the approval of Terry's townhome association.

Every Steward does a final project as part of their certification process. Each project is comprised of an installed stormwater management project, and an education and outreach campaign.

Terry recently became President of the townhome association, and discovered that the 22 properties in the townhome complex were paying nearly \$10,000 in stormwater fees. He thought they could do better, and became a Master Water Seward to provide leadership for his small community.

The raingarden was installed between October 25 and October 28 by Ecoscapes. Terry, Sheila, and

a townhome resident will maintain the garden. According to Terry, "The first and major benefit to this rain garden is water quality. The rain garden will reduce both the rate and the volume of runoff from the South facing roof of 308-310 Parkway Court, as well as a portion of the roof from 312 Parkway Court. The runoff will be infiltrated through the rain garden. This project is a great example of collaboration between the Master Water Steward participants and the leadership and homeowners of the Parkway Place Homeowners Association. The rain garden is on the Luverne side of the townhomes and is easily visible to the public. Finally, native plantings used in the rain garden will improve wildlife habitat."

The 250 square foot, 9-inch deep rain garden collects from a total drainage area of 1472 square feet, leading to annual stormwater reduction of 27,500 gallons.



For Terry and Sheila's outreach project, they provided an informational session for the public at local coffee shop Sovereign Grounds in Minneapolis on November 2. Terry and Sheila had coffee and muffins and other treats from the coffee shop. They also had plenty of informational material talking about the Master Water Steward Program, maps of the Minnehaha Creek Watershed District, raingarden guides and a sign in.

Terry and Sheila's raingarden project on Parkway Court in Minneapolis.



Terry and Sheila's outreach project provided an informational session for the public at a local coffee shop.

The two Stewards talked with a total of 45 people. They were able to collect 24 addresses from the 45, and had 13 of those people who agreed they want to take further action to protect water.

Applications are now being accepted for the 2014 class of Stewards. To learn more about the Master Water Stewards program, contact Peggy Knapp at the Freshwater Society – [pknapp@freshwater.org](mailto:pknapp@freshwater.org)  
**Deadline to apply is January 13.**

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# FACETS of Freshwater



Split Rock Lighthouse and Fog at -20F  
By Jonathan Mortenson

**DECEMBER 2013**

Weather Facts and Photo from *MN Weatherguide Environment Calendar*  
Monthly Normals: Temp. Max: 27.1 F Min: 12.3 F Precip: 1.16 in. rain / 11.5 in. snow



## UPCOMING EVENTS

- January 13  
**Deadline for Master Water Steward Applications**
- January 30  
**Moos Series Lecture, U of MN, St. Paul Campus**
- February 6  
**Road Salt Symposium, U of MN Landscape Arboretum, Chaska**

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## On Spouses, Ice and Freshwater

It's thin ice season so let's head out on it, metaphorically, by discussing spouses.

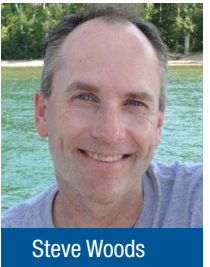
The Freshwater Society staff have been crafting our 13th Annual Road Salt Symposium materials and securing several national speakers. (See more information on page 3 regarding this popular Feb. 6 event.) There are certain work topics I should not try to discuss over dinner – my excitement over the art and science of road and parking lot salt application wasn't gaining any traction with my patient spouse.

Vehicle control, pedestrian safety, fish habitat, cost savings, and clean water benefits barely melted her reserve as she tried to hang in there and show interest in my new job. "Any other benefits?" she asked. "People's shoes won't get salt stains on them when they pick up their mail from the end of their driveways," I replied.

"Now that's a good thing a lot of regular people can relate to," she said.

In fact, Freshwater's work on road salt since 2001 is serious and important. Research shows metro lakes and groundwater near streets and freeways increasingly are polluted by chloride from wintertime salt applications. We have been working to publicize that threat to water quality and assisting public works supervisors and snowplow crews to strike the fine balance between applying less salt and maintaining safe streets. **Learn more** about the symposium.

(*On Spouses, Ice and Freshwater* continues on page 2)



Note: Steve became Freshwater's new executive director on Dec. 2. For more information on his background and views read a [Star Tribune interview](#) or a [Freshwater interview](#). Links to both are also found in the middle of our [homepage](#).



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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Visit the Freshwater Society web site at [www.freshwater.org](http://www.freshwater.org).

January 30th Moos Speaker Series  
Fracking: What We Know and Don't Know About Its Impacts on Water



Dr. Robert Jackson

Coffee grounds and diesel fuel. What do they have in common? Both have been used in hydraulic fracturing - fracking - the controversial technique of pumping water and chemicals into deep underground petroleum deposits to force oil and natural gas to the surface.

On Thursday, Jan. 30, the Freshwater Society will sponsor a free public lecture on fracking by Robert Jackson, a Duke University environmental scientist who has extensively researched fracking and its impact on water. So far, he and his research team have not found evidence of contamination of drinking water wells by the

substances injected into the Earth or by the brackish waste water pumped to the surface with the oil and gas. But the research has found evidence that poor drilling techniques allow methane to invade water wells.

His lecture is titled "Fracking: What we know and don't know about its impacts on water." [Register](#) to attend the lecture. Read a brief [q-and-a interview](#) with Dr. Jackson. Learn about those coffee grounds. [Learn more](#) about the speaker series and view video of previous lectures.

The lecture will be at 7 p.m. in the Student Center of the University of Minnesota's St. Paul campus. It is part of a speaker series sponsored by the Freshwater Society and the University's College of Biological Sciences.

Is there a lecturer you would like to hear, or a subject you would like addressed? Send us your [suggestions](#).

Clean Water Council Advises Use of Legacy Funds

Do you know about Minnesota's Clean Water Council? The Council was created through the Clean Water Legacy Act which was signed into law June 2, 2006 and consists of [28 members](#), including 19 members appointed by the Governor. The Council's role is to advise on the administration and implementation of the Clean Water Legacy Act, including:

- Fostering coordination among public agencies and private entities to ensure cooperation with relevant plans and programs,
- Prioritization strategies for TMDLs, restoration and protection activities,
- Development of appropriate processes for expert scientific review, and
- Development of education and participation strategies for citizens and stakeholders.

The Clean Water Council created an Aquatic Invasive Species (AIS) Ad Hoc Committee in April 2013 in the wake of several AIS presentations to the council. This committee has been discussing AIS issues and potential funding options. **They presented an update at the December 2013 meeting and will bring draft recommendations to the full council on January 27. [Click](#)** for more information about the Clean Water Council and to view meeting materials.



Items of Interest

Links to original reports on water availability, water pollution and water policy are archived on the [Reports and Research](#) page of the Freshwater web site. There is some intriguing research there by agencies and organizations as diverse as the U.S. Geological Survey, the Intergovernmental Panel on Climate Change and the Pew Environment Group. You can look up a report that puts Minnesota water use into a national perspective, and you can read about Chesapeake Bay pollution caused by giant chicken farms. Browse through the web page. You will find something that interests you.

On Spouses, Ice and Freshwater (continued from page 1)

There are many good things going on out there in our cities, watersheds, and landscapes to improve our water. Some of these efforts make for more scintillating dinner-table conversation than others. But finding ways for these good ideas to be shared and applied in other places is what the Freshwater Society is about. I'm looking forward to my time here at the Society and working with our partners and members to make a difference.

Regards,

STEVE WOODS

Steve Woods  
Executive Director

Bringing Salt to the Table

Salt application to winter roads began in earnest in 1938 and spread rapidly *because it works*. We've come to realize now that it worked at an environmental cost. We can see salt's corrosive impacts to our cars and bridges, but the real problem is mostly invisible. In the past, not a lot of sympathy has been generated for its impacts on macro invertebrates. But recent research shows that salt's impacts on water go beyond the critters in our wetlands. Our groundwater, lakes and rivers are becoming increasingly damaged by chloride. Each year, more Minnesota waterways are listed as impaired, according to MNPCA standards.

It takes just one teaspoon of salt to permanently pollute five gallons of water. Salt dissolves and can't be collected, settled or treated with anything short of reverse osmosis. That means **the most practical solution is to use less**.

Over the past 13 years, the Freshwater Society and Fortin Consulting have been working to bring that message to city, county, state and private transportation departments. By providing the tools, along with success stories from their colleagues, many maintenance departments have made changes and have not only reduced chloride pollution, but have also saved time and money along the way.



Each year, at the Annual Road Salt Symposium, the Freshwater Society honors leaders in winter maintenance with Environmental Leadership Awards. In 2012, the City of Richfield received an award for their efforts to reduce their salt use by 2/3! They saved money, time and our waters. Here is what the City of Richfield does to keep the public and the water safe:

- aggressive snow removal so there is less water mass on the driving surface
- greatly reduced truck speed so pellets stay on the road instead of bouncing along the crowned surface toward the gutters, ditches and boulevards
- application amount is determined by pavement temperature sensors rather than air temperature
- trucks are calibrated annually
- salt is pre-wet so it sticks to the road
- all applicators were [trained and certified](#) by the MPCA

The 13th Annual Road Salt Symposium will be held on February 6 at the University of Minnesota Landscape Arboretum. This year's symposium will feature more stories of successful methods to decrease salt use from transportation departments. Minnesota Pollution Control Agency will present the latest research on chloride pollution in our groundwater and the current state of chloride in the Twin Cities metro area waters. Innovations in salt runoff recycling in Virginia and New Hampshire's new liability law for certified applicators and property owners are just a couple of the hot topics on this year's agenda. [Learn more or register](#) to attend.

WHAT CAN I DO?

Help stop chloride pollution!

Snow and Ice Best Management Practices:

- Shovel. The more snow and ice you remove manually, the less salt you will have to use and the more effective it can be. Whether you use a shovel, snow blower, snow plow, or ice scraper, get out there as early as you can and keep up with the storm. You may even decide that salt isn't needed.
- 15°F is too cold for salt. Most salts stop working at this temperature. Use sand instead for traction, but remember that sand does not melt ice.
- Slow down. Drive for the conditions and make sure to give plow drivers plenty of space to do their work.
- Be patient. Just because you don't see salt on the road doesn't mean it hasn't been applied. These products take time to work.
- More salt does not mean more melting. Use less than 4 pounds of salt per 1,000 square feet (an average parking space is about 150 square feet). One pound of salt is approximately a heaping 12-ounce coffee mug. Consider purchasing a hand-held spreader to help you apply a consistent amount.
- Sweep up extra. If salt or sand is visible on dry pavement it is no longer doing any work and will be washed away. Use this salt or sand somewhere else or throw it away.
- **Improved Winter Maintenance: Good Choices for Clean Water** provides more tips to homeowners about more environmentally friendly snow and ice removal. Provided by MPCA.

[WATCH](#) a video for homeowners.

[CHECK](#) if your public works crew or private contractors are certified by MPCA.