Delafield-Hartland
Water Pollution Control Commission
416 Butler Drive
Delafield, Wisconsin 53018

Telephone 262-646-4364
Fax: 262-646-5187

Delafield-Hartland Water Pollution Control 2008 Annual Chloride Report

Once again the staff at Delafield-Hartland distributed brochures to customers of the sewage commission. The customer was asked to post the brochure on their municipal web site and or news letter.

The official news paper for the commission published an article about chlorides and its effect on the environment on December 4th, 2008. Also, the Milwaukee Journal Sentinel published an article depicting the effects of salt and the use of lake water on October 14th, 2008.

Four consecutive daily composite samples are being collected each month and analyzed for chlorides. Corresponding sampled were collected from each customer to see if each community contributes the same level of chloride during the month of July.

	2008		
EFFLUENT FLOW		CHLORIDES	POUNDS
JAN	1.880	487.5	7644
FEB	1.865	520.0	8088
MAR	1.983	510.0	8434
APR	2.449	410.0	8374
MAY	2.210	447.5	8248
JUNE	3.502	602.5	17597
JULY	2.547	432.5	9187
AUG	1.959	312.5	5106
SEPT	1.924	507.5	8143
OCT	1.883	522.5	8205
NOV	1.797	587.0	8797
DEC	1.878	600.0	9398
total	25.877	5940	107221
average	2.1564	594	8935

Average pounds per day 8935

July 2008 Summit 750 mg/l POTW Eff. 540 mg/l
July 2008 Hartland 890 mg/l POTW Eff. 440 mg/l
July 2008 Nashotah 630 mg/l POTW Eff. 400 mg/l

Samples collected in July also include composite samples from the Village of Hartland, Village of Nashotah and the Town of Summit sewer service areas.
Summit Utility District has a higher concentration due to a new 40-50% pressure system. I feel residents use less water when all their wastewater has to be pumped from their homes.
The City of Delafield enters the interceptor sewer at many different locations and can not be sampled separately.

June 2008 chloride samples were collected on June 2nd, 3rd, 4th & 5th, 2008. About 13.2" of rains was recorded during the month of June. The total amount of chloride for month is exaggerated due to the lack of I&I dilution which would have occurred if the samples were collected later in the month.

Triad, a new Pharmaceutical manufacture moved into our sewer service area this year. Recent lab data shows chloride discharge levels averaging 1100 mg/l. Their sludge thickening process uses aluminum chloride in the plate & frame press to dewater their sludge. I asked if they could use aluminum sulfate, their response was no, because the sludge does not thicken enough. I will discuss this problem with Timothy Thompson, South East District Engineer.

Sincerely,
Robert W. Hyde
Robert W. Hyde
General Manager

Delafield-Hartland
Water Pollution Control Commission
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Delafield, Wisconsin 53018

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Fax: 262-646-5187

October 16, 2008

Gina Gresch
City of Delafield
500 Genesee Street
Delafield, WI 53018

RE: Chloride Reduction

Dear Gina:

The Wisconsin Department of Natural Resources requires our Commission to make an effort to inform the public of the effects of chlorides on the environment.

One part of the Commission's discharge permit requires the Commission to continue providing public information about chlorides and water softeners. Water softeners are the greatest producers of chlorides that need maintenance to operate efficiently.

For several years we have asked our municipal customers to insert an informative pamphlet in newsletters or tax bills in an effort to reach residents. This year I am requesting that you place the enclosed information pamphlet on your municipal web page and local municipal television channel for sharing public information.

Your help in getting this information to the residents in your municipality is greatly appreciated.

Sincerely,

Robert W. Hyde

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General Manager

Enclosure: Water Softeners & the Environment

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October 16, 2008

Connie Casper
Village of Hartland
210 Cottonwood Avenue
Hartland, WI 53029

RE: Chloride Reduction

Dear Connie:

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October 16, 2008

Cindy Pfeifer
Village of Nashotah
P O Box 123
N44 W32950 Watertown Plk Rd
Nashotah, WI 53058Connie

RE: Chloride Reduction

Dear Cindy:

The Wisconsin Department of Natural Resources requires our Commission to make an effort to inform the public of the effects of chlorides on the environment.

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October 16, 2008

Debbie Schueler
Summit Utility District #2
2911 N Dousman Road
Oconomowoc, WI

RE: Chloride Reduction

Dear Debbie:

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October 16, 2008

Mary Elsner
Town of Delafield
N14 W30782 Golf Road
Delafield, WI 53018

RE: Chloride Reduction

Dear Mary:

The Wisconsin Department of Natural Resources requires our Commission to make an effort to inform the public of the effects of chlorides on the environment.

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General Manager

Enclosure: Water Softeners & the Environment

DECEMBER 4TH 2008

Dela-Hart wants to reduce salt usage

A 17

More-efficient soft-water systems needed

By KELLY SMITH
ksmith@jcpgroup.com

City of Delafield – Imagine dumping 175 40-pound bags – that is about 2½ tons – of water-softener salt into the Bark River as it flows through Delafield.

Then imagine all of the neighbors who live in the rural areas and smaller communities downstream – like Dousman and Rome in Jefferson County – dumping their share of water-softener salt – the kind purchased at your local grocery or hardware store – into the Bark until it reaches the Rock River in Fort Atkinson.

Then imagine all of the larger communities downstream – Janesville, Beloit, Rockford, the Illinois Quad Cities – dumping their water-softener salt into the Rock River until it reaches the Mississippi River.

The cumulative effect of the excess use of the salt and the resulting brine discharge from each home and business in each community can have toxic effects for aquatic plants and animals, according to the Wisconsin Department of Natural Resources (DNR).

That is why every year the DNR asks local sewer and water treatment plant superintendents to educate their consumers about the environmental dangers posed by excess use of soft-water salt, according to Bob Hyde, general manager of the Delafield-Hartland Water Pollution Control facility.

Sodium chloride is the primary salt used in home water softeners, and Americans annually purchase nearly 3 million tons of it a year, according to the Salt Institute of America.

Dela-Hart treats an average of 1.8 million gallons of wastewater each day for 20,000 residents of the City of Delafield, the Village of Hartland, the Village of Nashotah and portions of the Town of Summit and Town of Delafield.

About 7,300 pounds of chlorides – salt – flow through the treatment facility daily. In 2007, there was an average chloride level of 475 milligrams per liter per month.

DNR would like to see that level at, or below, 350 milligrams per liter, although the facility's permit allows up to 640 milligrams per liter per month.

The amount of salt discharged into rivers and streams can be reduced, according Hyde and the DNR, by softening water only where it is needed and using water softeners that are less than 10 years old that have been designed to reduce the amount of salt concentrations that wind up in septic systems or waste treatment plants.

By softening more water than is needed, consumers increase the cost of operating their soft-water systems and unnecessarily add additional salt discharges into the environment.

Hyde urges Dela-Hart consumers to work with their plumber to connect water softeners only to those areas where softer water is needed, such as the water heater, laundry facilities, dishwashers and bathroom sinks, tubs, showers and toilets.

The water softener should bypass outside water spigots and cold-tap drinking-water lines.

Newer water-softening systems can reduce the amount of salt usage and the amount of salt and brine that is released into the environment.

Consumers are urged to confer with their plumber about how older water-softening tanks can become more efficient in the use of salt.

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Use Minimum Salt Dosage Needed For Regeneration

Water softener regeneration is most efficient at the beginning of the brining cycle. The higher the salt dosage in the cycle, the lower the regeneration efficiency.

By setting your water softener to regenerate more frequently and using less salt for each regeneration, you may be able to increase your softener's regeneration efficiency, which could result in significant salt savings for you.

Consult with a qualified water softener representative for details on how to adjust your water softener to minimize salt usage while retaining enough softened water for normal household use.

Switch from a Timer to a Demand Initiated Regeneration Control

Many water softeners regenerate based on a timer typically set to regenerate once every 2 or 3 days, depending on expected water usage and water hardness. By measuring actual demand on the water softener, "demand initiated regeneration," or DIR controls are much more efficient in the regeneration process. These controls use either a flow meter or a hardness sensor to determine when to begin the cycle. The "payback" period for adding a DIR control to your water softener from reduced salt usage can be as little as 3 years.

Check with your local qualified water softening representative to see what is appropriate for your particular needs. Even if a newer more efficient water softener is not in your immediate future, you can still optimize the efficiency of your home unit, resulting in savings for you and the environment.

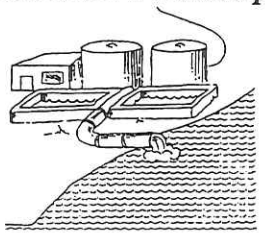
To reduce or eliminate NaCl pollution, our best alternative is preventing the pollution at the source of its generation -- before it creates a more serious environmental problem. Please do your part if you can.

An environmental awareness message brought to you by:

WISCONSIN DEPT. OF NATURAL RESOURCES

and

your local wastewater treatment plant



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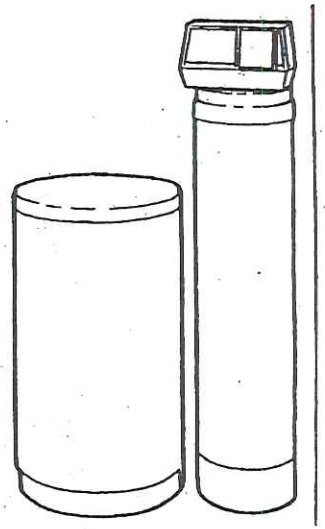
Water Softeners and the Environment



Do you use a water softener?

If your answer is "yes," this brochure contains information for you on how to optimize its usage, resulting in lower salt costs for you and benefits for the environment.

You can easily reduce high concentrations of salt which flow from your house to your septic system or your local wastewater treatment plant, and ultimately end up in neighboring lakes, streams, rivers and groundwater. The cumulative effects of each homeowner's excess use of salt and resulting brine discharge can have toxic effects for aquatic plants and animals.

Why is Water Softener Salt a Problem?

Based on estimates from the Salt Institute of America, in 1994 Americans spent approximately $240 million to purchase 2.6 million tons of salt for use in water softeners.

The primary salt utilized in home water softeners is sodium chloride (NaCl), a naturally occurring and commonly used substance. NaCl normally breaks down into sodium (Na+) and chloride (Cl-). These elements are discharged to septic systems or to your local wastewater treatment plant via sanitary sewers. It passes through these systems and is discharged to groundwater or surface water, where the chloride may impact freshwater organisms and plants, from plankton to fish, by altering reproduction rates, increasing species mortality and changing the characteristics of the entire local ecosystem. In addition, as chloride filters down to the water table, it can stress plant respiration and change the desirability of our drinking water.

How Does a Water Softener Work?

In many Wisconsin communities, people use water softeners to remove minerals from their water that cause hardness. An ion exchange process is the traditional method of removing hardness from water for household use. Hard water passes through a column of sodium charged resin, where hard water ions such as calcium and magnesium are removed from the water by exchanging places with the resin bound sodium ions. The water is then said to be "softened."

The resin is "exhausted" when it has given up all or most of its available sodium ions. The resin is then "recharged" with sodium ions during a process known as regeneration. During this process, the resin is washed with a concentrated brine solution (most often NaCl) that reverses the hardness removal process. The total regeneration cycle includes backwash, brine regeneration and final rinse. Of the three steps in the cycle, brine regeneration is the part over which you, the homeowner, have the most control.

What Can I Do To Reduce My Salt Usage?

Soften only the water that needs to be softened. If you are building a new house, remodeling bathrooms or kitchens, replacing old plumbing or installing a new water softener, consider where your water needs to be softened. Work with your plumber to connect your water softener to only those areas that need softened water.

Places to "feed" softened water are:

- _ hot water heater
- _ laundry facilities
- _ dishwashers
- _ toilets (consider low flush models)
- _ showers

Places to bypass using the water softener include:

- _ outside water spigots for yard use
- _ cold tap drinking water lines.

By softening more water than what is really needed, you increase the cost of operating your softener (in terms of increased payments for salt and energy), and ultimately, more salt will enter the environment as a result of increased softener regenerations.