Village of Hartland Waterworks

2010 Consumer Confidence Report

System Number 26802050

The Village of Hartland is pleased to present the Annual Drinking Water Quality Report. This report is designed to inform you about the quality of the drinking water and other water related services the Village delivers to you every day. This report communicates to the public the source of the Village's water and also summarizes the detected compounds from the sampling results for the year ending 2010. Our goal is to provide you with a safe and dependable supply of drinking water. The water supplied meets all EPA/DNR requirements for drinking water. We want you to understand the efforts we make to continually improve the water utility and protect our water resources.

The Village obtains its drinking water from five drilled groundwater wells. Each of these wells is finished in the shallow sand and gravel aquifer. This aquifer can yield municipal wells ranging in capacity from 100 gallons per minute (gpm) to 2,000 gpm depending on the specific well construction and location, but it's also the most susceptible to potential contaminant sources due to the shallow depth. Well No. 1 and the associated reservoir was abandoned in 1994. Well No. 2 was constructed in 1956 to a total depth of 82 feet. The well was rehabilitated in 1999/2000. The current well capacity is approximately 800 gpm. Well No. 3 was constructed in 1974 to a total depth of 135 feet. The well was rehabilitated in 2002 and has a capacity of approximately 950 gpm. Well No. 4 was drilled in 1972 to a depth of 81 feet. The well was rehabilitated in 1998 and produces 275 gpm. Well No. 5 was drilled in 1983 to a depth of 89 feet. The well was rehabilitated in spring of 2011 and has a capacity of approximately 1,250 gpm. Well No. 6 was drilled in 2006 to a depth of 122 feet. The well has a capacity of approximately 1,600 gpm.

At each well pumping station, a fluoride solution is added to supplement the natural fluoride in the groundwater. The fluoride level is increased to about 1.1 milligrams per liter (mg/l). The purpose of fluoride is to help reduce dental cavities.

In addition, the Village has added an air stripping tower adjacent to well pumping station No. 3 to reduce certain detected volatile organic carbon compounds to required levels. Due to the air stripping process, both chlorine and a phosphate compound are added to the water at pumping station No. 3. This is done to eliminate bacteria growth and control the water chemistry. The drinking water supplied in the Village is very hard and is about 23 grains per gallon.

UTILITY IMPROVEMENTS/ INFORMATION

In order to maintain a safe and dependable water supply the Utility sometimes needs to make improvements to benefit all of its customers. The Village has been replacing old water mains, fire hydrants, service lines and valves.

The Department of Public Works has implemented a Geographic Information System (GIS). The GIS is a computer database, which organizes, stores and allows retrieval of infrastructure data. The system includes base water system maps overlaid on aerial photography, property records, etc. It includes the location, size, and installation information for all water mains, service laterals, fire hydrants, water valves, wells, and water storage facilities. The system allows for long-term record keeping including maintenance records and fast information retrieval.

In 2003 the water utility hired a consultant to perform a Vulnerability Assessment of the entire water utility system in order to safeguard the water supply. The recommendations from this study were implemented in 2005. In 2004 an emergency response plan was completed for the water utility in order to quickly respond to vandalism, terrorist acts or a natural disaster. In 2006 a tabletop exercise was performed to test the plan and make refinements where needed.

The Village of Hartland staff works hard to provide top quality drinking water to all its customers at a reasonable cost. The Village is proud that eight of its employees are certified water operators.

We ask that all our customers help us protect our water sources by conserving water and participating in the Village efforts to increase awareness of groundwater protection. We also ask that you repair any leaks such as dripping faucets/running toilets immediately.

MISCELLANEOUS

- The Village water utility had 2989 customers, 50.5 miles of water main, 2989 water meters, 602 fire hydrants, 782 street valves and pumped 334,164,000 gallons of water in 2010.
- The fire department, the D.P.W. staff and contractors with a permit are the only persons allowed to operate a fire hydrant. Please report any suspicious use of a fire hydrant to the police department immediately at (262) 367-2323.
- The cost of a gallon of water from the tap in 2010 was $0.00215.

WATER SYSTEM CONTACT INFORMATION

If you would like to know more about the information contained in this report, or your water utility, please contact the Village Hall at (262) 367-2714 or attend any of our regularly scheduled meetings. The Village Board meets at 7:00 P.M. at the Village Hall on the second and fourth Mondays of each month. Additional information may be found on the Village web site at www.villageofhartland.com.

HEALTH INFORMATION

The Village has followed the sampling/testing requirements set forth by the US Environmental Protection Agency and the Department of Natural Resources. Those test results and additional water sampling test results are available for viewing, by setting up an appointment at the Village Hall.

This report summarizes the water sample test results for the period of January 1, 2010 to December 31, 2010. The table of Water Sampling Test Results is included as required by the Wisconsin DNR. All samples are compared to a predetermined level of safety known as the Maximum Contaminant Level (MCL). The comparisons show if there is a system violation for any given compound.

The table shows that our system did not exceed any limits for the listed contaminants. The Village is proud to report that your drinking water meets or exceeds all Federal and State requirements.

We have, however, learned through our continual sampling program that some compounds have been detected at small levels, below any set MCL. The EPA has determined that your water IS SAFE to consume at these levels.

It should be noted that all sources of drinking water are subject to potential contamination by compounds that are naturally occurring or that are manmade. Those contaminants can be microbes, organic or inorganic chemicals, or radioactive materials. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's safe drinking water hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water. The Environmental Protection Agency and the Center for Disease Control (EPNCDC) guidelines on appropriate means to lessen the risk of infection from potential contaminants and potential health affects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791. The following is additional information provided on certain potential detects in the water:

Total Coliform: The Total Coliform Rule requires water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of the possible presence of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are required including two checks both upstream and downstream of the unsafe sample in addition to the regular quarterly sampling. The Village has never had consecutive unsafe samples. If this limit is ever exceeded, the Village will notify the public by the website, newspaper, television or radio. The Village would also increase the average amount of chlorine in the distribution system.

Nitrates: As a precaution, we would notify physicians and health care providers in this area if there was ever an exceeding amount of the nitrate standard above the MCL in the water supply. Nitrates in drinking water at levels above 10 ppm are a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should seek advice from your health care provider. Nitrate levels are well below the limit and have been decreasing over the last few years.

Lead: Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced. Tests show that lead levels in the well water are negligible. Higher lead levels result from the water being in contact with lead piping or solder which may exist in older homes.

BLUISH-GREEN STAINS IN PLUMBING FIXTURES

These stains are due to higher levels of copper in the water. The water that is supplied by the Water Utility to our customers is tested on a regular basis and the natural copper levels are negligible. The Village annually tests water coming from the five wells and also completes tests in the system at thirty seven locations. These tests show that the water supplied meets all DNR and EPA requirements.

However, in new homes with copper plumbing or in older homes where the plumbing has been replaced, the copper levels may be higher. There may be instances where the copper levels exceed the set standard of 1300 milligrams per liter. Over time, hard water minerals build up on the inside of the pipes and this will lower levels because the water is no longer in direct contact with the copper. High copper levels can result from the following:

- Small pieces of copper from construction caught in faucet screens or water filters. Remove these items, clean them, and thoroughly flush the plumbing.
- Inadequate or incorrect electrical grounding.
- Hot water heater set too high.
- Infrequent water use due to limited occupancy or long run plumbing pipes. Water sitting in pipes for in excess of six hours can increase copper levels.
- Poor quality piping.

If you experience bluish-green staining of the plumbing fixtures, you may want to have water coming from those fixtures tested. This should be done by a laboratory that is State Certified to analyze copper levels in drinking water.

Elevated copper levels in excess of the standard may result in some health affects. In order to avoid exposure to elevated copper levels, it is recommended that water in contact with copper piping for more than six hours be flushed from the system and not used for drinking. This can be accomplished by running water for two or three minutes first thing in the morning or after returning from work.

EDUCATIONAL INFORMATION
The sources of drinking water, both tap water and bottled water, include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and in some cases radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Source(s) of Water

Source id	Source	Depth (in feet)
2	Groundwater	82
3	Groundwater	135
4	Groundwater	81
5	Groundwater	89
6	Groundwater	122

Number of Contaminants required to be tested

This table displays the number of contaminants that were required to be tested in the last five years. The CCR may contain up to five years worth of water quality results. If a water system tests annually, or more frequently, the results from the most recent year are shown on the CCR. If testing is done less frequently, the results shown on the CCR are from the past five years.

Contaminant Group	# of Contaminants
Disinfection Byproducts	2
Inorganic Contaminants	16
Microbiological Contaminants	1
Radioactive Contaminants	3
Synthetic Organic Contaminants including Pesticides and Herbicides	27
Unregulated Contaminants	5
Volatile Organic Contaminants	20

Inorganic Contaminants

Contaminant (units)	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2010)	Violation	Typical Source of Contaminant
BARIUM (ppm)	2	2	.079	.049-.079	02/14/2008	NO	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
CHROMIUM (ppb)	100	100	14	9-14	02/05/2008	NO	Discharge from steel and pulp mills; Erosion of natural deposits
COPPER (ppm)	AL=1.3	1.3	.77	3 of 37 results were above the action level.	10/07/2008	*	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
FLUORIDE (ppm)	4	4	.9	nd- .9	02/14/2008	NO	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
LEAD (ppb)	AL=15	0	5.90	1 of 37 results were above the action level.	10/08/2008	*	Corrosion of household plumbing systems; Erosion of natural deposits

NICKEL (ppb)	100		5.9	3.1000-5.9000	01/31/2008	NO	Nickel occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products.
NITRATE (N03-N) (ppm)	10	10	5.97	1.70-6.40		NO	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)	n/a	n/a	69	36.00-69.00	02/14/2008	NO	n/a

* Systems exceeding a lead and/or copper action level must take actions to reduce lead and/or copper in the drinking water. The lead and copper values represent the 90th percentile of all compliance samples collected. If you want information on the NUMBER of sites or the actions taken to reduce these levels, please contact your water supply operator.

Radioactive Contaminants

Contaminant (units)	**MCL**	**MCLG**	**Level Found**	**Range**	**Sample Date (if prior to 2010)**	**Violation**	**Typical Source of Contaminant**
COMBINED URANIUM (ug/l)	30	0	1.2	0.5- 1.2	10/06/2009	NO	Erosion of natural deposits
GROSS ALPHA, EXCL. R & U (pCi/l)	15	0	.1	-.6-.1	10/06/2009	NO	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)	n/a	n/a	.5	-0.1- 0.5	10/06/2009	NO	Erosion of natural deposits
GROSS BETA PARTICLE ACTIVITY (pCi/l)	n/a	n/a	3.9	2.7- 3.9	10/06/2009	NO	Decay of natural and man-made deposits. MCL units are in millirem/year. Calculation for compliance with MCL is not possible unless level found is greater than 50 pCi/l.
RADIUM, (226 + 228) (pCi/l)	5	0	1.7	1.27- 1.7	10/06/2009	NO	Erosion of natural deposits

Unregulated Contaminants

Contaminant (units)	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2010)	Violation	Typical Source of Contaminant
BROMOFORM (ppb)	n/a	n/a	.6	nd- .60		NO	n/a
DIBROMOCHLOROMETHANE (ppb)	n/a	n/a	.80	nd- .80		NO	n/a

Disinfection Byproducts

Contaminant (units)	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2010)	Violation	Typical Source of Contaminant
TTHM (ppb)	80	0	1.4	nd- 1.4		NO	By-product of drinking water chlorination

Definition of Terms

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
MCL	Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG	Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MFL	million fibers per liter
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.