Hartland Township 2017 Consumer Confidence Report

Water Quality Report

Hartland Township's water system

Hartland Township's water treatment plant currently receives source water from three active submersible wells. The wells are capable of an output of 2.594 million gallons per day. The treatment plant uses an iron/manganese removal system to treat source water prior to the distribution process. The current water distribution serves the water district through approximately 24 miles of water mains and 254 fire hydrants. Water mains range in size from 4" to 16" in diameter. The water mains sized 16" and larger are located along M-59 and are commonly referred to as transmission mains; water mains smaller than 16" are commonly referred to as distribution mains. Hartland Township currently distributes water to approximately over 800 homes and businesses.

Safe water

To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) has placed regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration's (FDA) regulations establish limits for contaminants in bottled water, which must provide the same level of public health protection. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants, but the mere presence of contaminants alone does not indicate that the water poses a health risk. Contaminants that may be present in "source water" (untreated surface or ground 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 organics, 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 the result of oil and gas production and mining activities.

Hartland Township proudly presents this 2017 Annual Consumer Confidence Report on Water Quality. As detailed in the report, we have surpassed water quality standards mandated by the U.S. Environmental Protection Agency (EPA) and the State of Michigan's Department of Environmental Quality (MDEQ).

Source water assessment and its availability

Hartland Township municipal water is sourced from three groundwater wells with depths in excess of 100 feet. The MDEQ in partnership with the U.S. Geological Survey, Hartland Township, and the Michigan Public Health

Institute performed an assessment of Hartland Township's source water to determine the water system's susceptibility to potential contamination. The assessment's susceptibility rating is a seven-tiered scale ranging from very low to very high, based primarily on geologic sensitivity, water chemistry, and contaminant sources. Hartland Township's water is categorized as having a moderately low susceptibility to potential contaminant sources. Additionally, the water treatment plant has consistently provided satisfactory treatment of this source water to meet drinking water standards.

Lead in water systems

The recent heightened concern associated with elevated lead levels in nearby metropolitan areas has acted as a catalyst for additional water testing within Hartland Township. Lead enters drinking water through corrosion of plumbing materials, especially where the water has high acidity or low mineral content that corrodes pipes and fixtures. Homes built before 1986 are more likely to have lead pipes, fixtures and lead-based solder. However, new homes are also at risk: even legally "lead-free" plumbing may contain up to eight percent lead.

Beginning January 2014, changes to the EPA's Safe Drinking Water Act further reduced the maximum allowable lead content of pipes, pipe fittings, plumbing fittings, and fixtures to 0.25 percent. The most common problem is with brass or chrome-plated brass faucets and fixtures manufactured with lead-based solder, from which trace amounts of lead can enter into the water, especially hot water.

Corrosion is the dissolving of metal caused by a chemical reaction between water and plumbing components. A number of factors are involved when lead enters the water including the chemistry of the water (acidity and alkalinity), the amount of lead contacting water, how long the water stays in the plumbing materials, and the presence of protective scales or coatings inside the plumbing materials.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Hartland Township is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

To address corrosion of lead and copper into drinking water, the EPA issued the Lead and Copper Rule (LCR) under the authority of the Safe Drinking Water Act (SDWA). The LCR requires corrosion control treatment to prevent lead and copper from contaminating drinking water. Corrosion control treatment means systems must make drinking water less corrosive to the materials it comes into contact with on its way to consumers' taps. While corrosive water is not the norm, is it generally associated with surface water. Surface water refers to lakes, streams and rivers. Surface water is relatively susceptible to environmental contaminants, however it is easily treatable. Many metropolitan areas use surface water as the source water for their water systems.

The general alternative to surface water is ground water. Communities lacking a viable surface water source generally resort to ground water sources. Hartland Township uses three ground water sources to provide municipal water to the community. Ground water is generally not exposed to the environmental contaminants to which surface water is exposed; however, ground water has a different set of challenges. Iron and other minerals are abundant in ground water sources, which require enhanced filtration and removal processes to provide clean and safe drinking water. For these reasons, the cost of treating ground water is generally more than that of surface water when all other factors are equal. About 91% of Hartland Township residents rely on water from private wells. Private wells are not regulated under the SDWA, and Hartland Township recommends residents who use private wells to take precautions to ensure their drinking water is safe.

Water quality data table

The following tables list all of the drinking water testing results for 2017. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires the Township to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

2017 Hartland Township Water Quality Report

Disinfectants & Disinfection By-Products

(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.)

Contaminants	MCLG or MRDLG	MCL,TT, or MRDL	Hartland Water	Range		Sample Date	Violation Yes/No	Typical Source
				Low	High			
Chlorine (as Cl2) (ppm)	4	4	0.51	0.23	0.7	2017	No	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	NA	60	0	NA	NA	2017	*Yes incorrect sampling site	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	NA	80	14.4	NA	NA	2017	*Yes incorrect sampling site	By-product of drinking water disinfection

Inorganic Contaminants

Contaminants	MCLG or MRDLG	MCL,TT, or MRDL	Hartland Water	Range		Sample Date	Violation Yes/No	Typical Source
				Low	High			
Fluoride (ppm)	4	4	0.25	0.14	0.42	2017	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Arsenic (ppb)	0	10	ND	NA	NA	2017	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production waste
Nitrate (ppm)	10	10	ND	NA	NA	2017	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium (optional) (ppm)	250	250	34	NA	NA	2017	No	Erosion of natural deposits; leaching

Microbiological Contaminants

A violation occurs when a routine sample and a repeat sample, in any given month, are total coliform positive, and one is also fecal coliform or E. coli positive.

Contaminants	MCLG or MRDLG	MCL,TT, or MRDL	Hartland Water	Range		Sample Date	Violation Yes/No	Typical Source
				Low	High			
Fecal coliform/E. coli (positive samples)	0	0	0	NA	NA	2017	No	Human and animal fecal waste
Total coliform (positive samples/month)	0	1	0	NA	NA	2017	No	Naturally present in the environment

Inorganic Contaminants

Contaminants	MCLG or MRDLG	MCL,TT, or MRDL	Hartland Water	Range		Sample Date	Violation Yes/No	Typical Source
				Low	High			
Copper - action level at consumer taps (ppb)	1300	1300	180	NA	NA	2016	No	Corrosion of household plumbing systems; erosion of natural deposits (tested at faucet taps throughout Hartland)
Lead - action level at consumer taps (ppb)	15	15	0	NA	NA	2016	No	Corrosion of household plumbing systems (tested at faucet taps throughout Hartland)

The hardness of Hartland Township municipal water tested at 460 mg/L, or 26.9 grains per gallon in 2017.

Test Result Unit Descriptions	
ppm	Parts per million, or milligrams per liter (mg/L)
ppb	Parts per billion, or micrograms per liter (µg/L)
positive samples/month	Number of samples taken monthly that were found to be positive
positive samples	The number of positive samples taken that year
NA	Not applicable
ND	Not detected
NR	Monitoring not required, but recommended.
Important Drinking Water Definitions	
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.
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.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	Maximum residual disinfection level goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
MRDL	Maximum residual disinfectant level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MNR	Monitored Not Regulated
MPL	State Assigned Maximum Permissible Level

PUBLIC NOTICE: 2017 Water System Monitoring Requirements Violation

Hartland Township is required to monitor your drinking water for specific contaminants on a regular basis. During September 1, 2017 to September 30, 2017, we were required to take two samples from designated locations and have them analyzed for trihalomethanes (TTHM) and haloacetic acids (five) (HAAS). The Township staff inadvertently collected a sample from the water treatment plant, however the approved sampling plan required two samples from the distribution system. As a result, the Township failed to adhere to the approved monitoring plan during September 2017. Subsequent samples were collected on October 5, 2017 from the correct sites with favorable results and restored the water system compliance with DEQ. There is nothing the public is required to do as a result of this action. The public is not required to boil water or seek alternate sources of water. Even though this is not an emergency, as our customers, you have a right to know what happened and what we are doing to correct the situation. Township Staff have made corrective measures to assure this was an isolated incident and will be collecting follow-up samples in September 2018. For more information, please contact Robert M. West, Public Works Director, at (810) 632-7498.

Contaminant	Required number of samples	Number of samples taken	When all samples should have been completed	When all samples actually collected
TTHM	2 samples annually	2 samples*	9/1/17 - 9/30/17	10/5/2017
HAA5	2 samples annually	2 samples*	9/1/17 - 9/30/18	10/5/2017

**The samples were collected from the incorrect sampling sites before the State deadline, however subsequent samples from the correct sites were collected after the State Deadline of September 30, 2017, resulting in a violation from the State of Michigan. The violation was related to the time the samples were collected and not the actual test results. The samples were in compliance with the Federal regulations, which use a deadline of 12/31/2017.*

This report is updated annually and Hartland Township will keep you informed of any problems that may occur throughout the year, as they happen. Additional copies are available at Hartland Township Offices, 2655 Clark Road, Hartland, MI 48353. Electronic copies can be requested at DPW@HartlandTWP.com as well. For more information about safe drinking water rules and regulations, visit the U.S. Environmental Protection Agency at www.epa.gov/safewater.

News from the Water Division

Hartland's water treatment plant uses an iron/manganese removal system to treat source ground water prior to the distribution process. The treatment process minimizes iron content in your municipal water, however it remains categorized as hard water. Hartland's Public Works Department recommends use of a water softener for residents and businesses customers preferring soft water. In 2017, the Township's distribution water hardness levels were 460 mg/L, or 26.9 grains per gallon, and the total iron was 0.3 mg/L. These numbers are often used to program homeowner's water softeners. Please contact the Public Works Department with additional questions regarding water quality at (810) 632-7498.

Service Disruptions

As Hartland Township continues to develop along the M-59 Corridor, the Public Works Department may be required to interrupt water service in your area for new connections. In the event of a large water service disruption that results in decreased pressure for an isolated section of the distribution system the Public Works Department may issue a boil water advisory. This is a precautionary measure meant to protect the public from a potential bacteriological contamination. In addition to hand delivered flyers, the boil water advisory is sent to media outlets that reach more than just the affected area. This is done to ensure the greatest coverage of the event. Boil advisories are generally 48 hours long and are lifted 48 hours after the pressure is restored and the system is put back in service. A bacteriological sample is then taken, which is a 24-hour test. Two tests performed back to back (24-hours apart) must be completed before the service area is able to receive a rescind notice of the boil water advisory.

Public Participation

We invite public participation in decisions that affect drinking water quality. The Township Board occasionally takes action regarding the Hartland Water System, and Township Board Meetings meetings are held twice a month on the first and third Tuesdays of the month at 7:00 pm at the Township Hall located at 2655 Clark Road Hartland, Michigan 48353. Contact the Township Hall office at 810-632-7498 or visit the Township's website at www.HartlandTWP.com for specific meeting dates and agendas.

Hartland Township
Public Works Department
2655 Clark Road
Hartland, MI 48353

NOTICE TO NON-RESIDENTIAL WATER CUSTOMERS

Federal Regulations require that as the billing customer, it is your responsibility to ensure that all water consumers at your facility (whether business, educational institute, apartments, etc....) have access to this report. Please post this CCR in a visible area. Additional copies are available for your distribution by contacting the Public Works Department at 810-632-7498.