

Letter from the Mayor

Once again I am happy to introduce our annual water quality report to you. This report covers testing that the Water Department performed between January 1 and December 31, 2012. Every year, the Water Department delivers this report to the customers to convey vital information regarding their drinking water. We strive to continue to provide Haverhill's residents with the highest quality water at a price that is among the lowest in the region.

I would also like to encourage all customers to help us by keeping conservation in mind when using water this year. In 2012, we had one of the driest years in the last century. Because of this, our supplies were at lower levels than normal this past winter. These levels are now normal due to above average snowfall, but we would like to stress the importance of conservation in maintaining these levels throughout the year. We ask that you do not waste water during your daily routines. Some easy ways to conserve are included in this report.

We would like to hear if you have any questions or concerns. You can contact my office at (978) 374-2300 or if you have any specific questions regarding this report, please call Mary D'Aoust at (978) 374-2385.

You can also find a copy of the report on the following website: <http://tinyurl.com/2012CCR>

Sincerely,

James Fiorentini
Mayor

Department Telephone Numbers

Backflow/Cross Connection	(978) 374-2375
Billing Office	(978) 374-2370
Meter Division	(978) 373-8487
Water Maintenance	(978) 374-2368
Water Treatment	(978) 374-2385
DPW Director Michael Stankovich	(978) 374-2360
Deputy DPW Director Robert Ward	(978) 374-2382



Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

Annual Drinking Water Quality Report

Water testing performed in 2012



Haverhill Water Department

PWS ID#: 3128000

Year in Review

The Haverhill Water Department has continued its phased plan of improvements at the water treatment plant that began in 2006. During 2012 a full evaluation of the water treatment plant, equipment, and processes was performed as the basis of the next phase of improvements at the plant. This phase encompassed an evaluation of all the processes and related systems to ensure they are prepared to meet today's and tomorrow's anticipated water quality needs.

In addition to the work on the treatment side the city has also been at work on finding the next source of water. Work has focused on developing a groundwater source along the Merrimack River. If you traveled the river during the summer of 2012 you may have noticed a yellow drilling barge. That was the barge exploring the soils of the river bottom to better understand the geology and potential groundwater availability.

The City has completed the preliminary assessment of the transmission mains that form the essential back bone of our system. These large cast iron mains, some in excess of 100 years in age, are still serving the City well and will for years to come. The City will move to improve and maintain this vital infrastructure in 2013 as well as enter the design phase to provide redundancy and additional reliability to our system.

The Haverhill Water Department's program of meter replacement continued through 2012 with 3552 radio read meters replaced by our contractor, Easton Winwater, and the Meter Division. We would like to thank our customers for their cooperation during this program. The newer meters will eliminate the need for estimated bills. All work will be completed by uniformed staff with clearly labeled vehicles. If you would like to verify authenticity, you may contact the Water Department at (978) 373-8487.

Water Treatment Process

Our drinking water comes from a combined water source, all of which are surface water. Water is pumped from Millvale Reservoir and Crystal Lake into Kenoza Lake where the Water Treatment Plant is located. Round Pond and Winnekenni Basin overflow into Kenoza Lake.

The Water Treatment Plant is a conventional filtration plant, which includes coagulation, flocculation, and sedimentation. It then goes through a two stage filtration process before it is disinfected, and finally pumped into the distribution system. Haverhill's water is fluoridated. Fluoride is added to prevent tooth decay and cavities. Last year, the Water Treatment Plant processed 2.3 billion gallons of water.

The distribution system is made up of three storage tanks with a capacity of 17 million gallons, ten pumping stations, and approximately 300 miles of water main.

The Haverhill Water Department would like all residents to be mindful of their water use and conserve when possible. Low flow shower heads, faucet aerators and water conservation kits are available to all water customers at the Water/Wastewater Billing Office in City Hall.

Frequently Asked Questions

Why am I getting grit or sand in my hot water?

The water department has received a number of call regarding sediment in their hot water. All water has natural mineral in it such as calcium and magnesium. When water is heated to temperatures above 130oF these minerals will precipitate out and settle in your hot water tanks or coat the coils and piping. We have found that in domestic situation, just lowering the temperature of your hot water system to below 130oF will lessen scaling and precipitation. Follow manufacturer's recommendations for flushing out your hot water tank.

Who do I call when I am selling/buying a house for a final water reading?

Real estate transfers require a final water meter reading to finalize the present account and start a new account. This is usually arranged by the buyer's attorney. To schedule a meter reading appointment, call the Water Billing Office at 978-374-2370.

Who is responsible for repairing a leak on my service?

You own your water service from the main to the meter. The water department will repair any leak at the homeowner's cost. As a public water supply, the state requires us to repair all leaks within 7 days of notification.

What is a cross connection?

A cross connection is a physical connection between a possible source of contamination and the public drinking water system piping. This connection, if not properly protected, can lead to the contamination of the drinking water system through a backflow event.

What is a backflow?

Backflow is the reversal of water flow through a cross connection from a possible source of contamination into the public drinking water system. Backflow may be caused by either backpressure or backsiphonage. Backpressure may be created when the water pressure of a facility's internal water system is elevated above the supply pressure of the public drinking water system resulting in backflow through unprotected cross connections.

What can you do?

Preventing backflow situations in your home or business:

- Be aware of and eliminate and/or isolate cross connections.
- Maintain air gaps on sinks and when using hoses.
- Do not submerge hoses or place them where they could become submerged.
- Use hose bib vacuum breakers on fixtures (hose connections in the basement, laundry room, and on outside faucets/spigots).
- Install approved backflow prevention devices on lawn irrigation systems and on fire sprinkler system services.
- Do not create a connection between an auxiliary water system (well, cistern, body of water) and the water supply plumbing.

Water Conservation – Saves YOU Money

Activity	Without Conservation	With Conservation	Estimated Monthly Savings
Flush the Toilet	5 gallons	1.6 gallons	\$14.00
Run tap two minutes while brushing teeth	5 gallons	2 gallons	\$6.20
Take a shower (per minute)	5 gallons	1.8 gallons	\$3.30
Ignore a slowly leaking faucet for a day	1.8 gallons	0 gallons	\$14.00
Ignore a leaking toilet for a day	200 gallons	0 gallons	\$51.75

**all calculations based on an average family of four with both city water and wastewater services*

Sampling Results

This report is a summary of the quality of the water we provide our customers. We routinely monitor for constituents in your drinking water according to Federal and State laws. The analysis covers January 1 through December 31, 2012, and was made by using the data from the most recent U.S. Environmental Protection Agency (EPA) required tests and is presented in the attached pages. We hope this information helps you become more knowledgeable about what's in your drinking water. 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 about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Regulated Substances							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL	MCLG	HIGHEST AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Fluoride (ppm)	2012	4	4	1.43	0.66 - 1.52	No	Water additive which promotes strong teeth
HAA5 (ppm)	2012	60	NA	17.6	5.0-26.7	No	By-product of drinking water disinfection
TTHM (ppm)	2012	80	NA	34.3	13.8-68.3	No	By-product of drinking water disinfection
Turbidity (NTU)	2012	TT	NA	0.11	0.01-0.24	No	Soil runoff
Turbidity (lowest monthly percentage of samples meeting limit)	2012	TT=95% of samples <0.3	NA	100%	NA	No	Soil runoff
Perchlorate (ppb)	2011	2	NA	0.11	NA	No	Rocket propellant, fireworks, munitions, flares, blasting agents

Copper and Lead							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2011	1.3	1.3	0.04	0/32	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2011	15	0	7	0/32	No	

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL	MCLG	HIGHEST AMOUNT DETECTED	LOWEST MONTHLY	VIOLATION	TYPICAL SOURCE
Total Coliform	2012	<5% of monthly samples	0	4% (July)	0	No	Human and animal fecal waste

Unregulated Substances							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Sulfate (ppm)	2012	250	NA	20.0	NA	No	Runoff/leaching from natural deposits; Industrial wastes

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Any unregulated contaminants detected are reported in this table. For additional information and data visit <http://www.epa.gov/safewater/ucmr/ucmr2/index.html> or call the Safe Drinking Water Hotline at (800) 426-4791.

Definitions

In the tables you might find terms and abbreviations you are not familiar with. To help you better understand these terms we've provided the following definitions:

- **Action Level (AL)** – the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **Action Level Goal (ALG)** – the level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.
- **Maximum Contaminant Level (MCL)** – the highest level of a contaminant that is allowed in

in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

- **Maximum Residual Disinfectant Level Goal (MRDLG)** – 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.
- **NA** – not applicable.
- **NTU** – Nephelometric Turbidity Units.

drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

- **Maximum Contaminant Level Goal (MCLG)** – 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.
- **Maximum Residual Disinfectant Level (MRDL)** – the highest level of a disinfectant allowed

- **Parts per billion (ppb)** – micrograms per liter ($\mu\text{g}/\text{l}$) or one ounce in 7,350,000 gallons of water.
- **Parts per million (ppm)** – milligrams per liter (mg/l) or one ounce in 7,350 gallons of water.
- **90th Percentile** – 90% of samples are equal to or less than the number in the chart.
- **Treatment Technique (TT)** – a required process intended to reduce the level of a contaminant in drinking water

Source Water Assessment

A Source Water Assessment Plan (SWAP) is now available at the water treatment plant. This plan is an assessment of the delineated area around our listed sources through which contaminants is present could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area and a determination of the water supply's susceptibility to contamination by the identified potential sources.

This report assesses activities on our watershed and identifies potential pollution hazards. These potential hazards, if handled properly, would not pose a threat to our water supplies. These hazards fall in the following categories: fertilizer storage, livestock operations, manure storage/spreading, nurseries, pesticide storage/use, auto repair and body shops, bus and truck terminals, cemeteries, golf courses, junk/salvage yards, nursing homes, repair shops, sand and gravel mining/washing, fuel oil storage, lawn care/gardening, septic systems, aquatic wildlife, combined sewer overflows, composting facilities, fishing /boating, land application of sewage sludge, school, colleges/universities, snow dump, stormwater drains/retention basins, underground storage tanks. One or all of these hazards can be found on all of Haverhill's water sources. A Water Department employee checks these areas every week to identify any violations. If you would like to view this report, please contact the Water Treatment Plant at (978) 374-2385.

Substances that can be in drinking water

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 stormwater 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 stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

All drinking water may contain contaminants

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 water poses a health risk. In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

Lead in home plumbing

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. The Haverhill Water Department 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>.

