

A close-up photograph of water being poured from a glass pitcher into a clear glass. The water is captured mid-pour, creating a dynamic splash and bubbles. The background is a blurred wooden surface.

ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2018

Presented By

**Hopkinton Water
Department**



Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2018. Over the years, we have dedicated ourselves to producing clean, potable drinking water. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



“ We remain vigilant in delivering the best-quality drinking water ”

Community Participation

The Board of Selectmen, who act as water and sewer commissioners, meet every other Tuesday at 7:00 PM at Town Hall.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the Department of Environmental Protection (DEP) and the U.S. Environmental Protection Agency (U.S. EPA) prescribe regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 by-products of industrial processes and petroleum production, and which may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.



Where Does My Water Come From?

Our water system uses groundwater as its primary source in addition to water purchased from Ashland's Howe Street Water Treatment Facility. Our groundwater sources include the following eight wells.

SOURCE NAME	DEP SOURCE ID#	SOURCE TYPE	LOCATION OF SOURCE
Fruit St. Well No. 1	2139000-01G	Groundwater	Off Fruit Street
Fruit St. Well No. 2	2139000-02G	Groundwater	Off Fruit Street
Fruit St. Well No. 3	2139000-03G	Groundwater	Off Fruit Street
Whitehall Well No. 4	2139000-04G	Groundwater	Off Donna Pass near Whitehall Reservoir
Whitehall Well No. 5	2139000-05G	Groundwater	Off Donna Pass near Whitehall Reservoir
Whitehall Well No. 6	2139000-06G	Groundwater	Off Fruit Street
Whitehall Well No. 7	2139000-07G	Groundwater	Off Alprilla Farm Road
Whitehall Well No. 8	2139000-08G	Groundwater	Off Alprilla Farm Road

Source Water Assessment Protection (SWAP)

What Is My System's Ranking?

A susceptibility ranking of moderate was assigned to this system using the information collected during the assessment by the DEP.

Where Can I See the SWAP Report?

The complete SWAP report is available at the Hopkinton Water Department and online at the Massachusetts DEP website: <http://www.hopkintonma.gov/swap.pdf>. For more information, call Eric Carty at (508) 497-9765.

Please be aware that any pesticides, herbicides, or lawn care chemicals you use could potentially make their way into your water supply. Please use organic products, which are available at home improvement stores and Weston Nurseries.



We ask that you refrain from storing oil, gasoline, paint, and other potential hazards in old containers or drums that may leak. If you have these items and need to dispose of them, please contact the DPW at (508) 497-9740. Each spring, a hazardous waste collection is held, and these products can be disposed of properly at that time. Thank you for your assistance in preserving and protecting our precious water supplies. If you have any questions, please feel free to call Hopkinton Department of Public Works at (508) 497-9765.

Manganese

Manganese is a naturally occurring mineral found in rocks, soil, groundwater, and surface water. Manganese is necessary for proper nutrition and is part of a healthy diet but can have undesirable effects on certain sensitive populations at elevated concentrations. The U.S. EPA and Massachusetts DEP have set an aesthetics-based secondary maximum contaminant level (SMCL) for manganese of 50 micrograms per liter ($\mu\text{g/L}$), or 50 parts per billion (ppb). In addition, DEP's Office of Research and Standards has set a drinking water guideline (ORSG) for manganese that closely follows the EPA public health advisory. Drinking water may naturally have manganese, and when concentrations are greater than 50 ppb, the water may be discolored or taste bad. Over a lifetime, the U.S. EPA recommends that people limit their consumption of water with levels over 1,000 ppb, primarily due to concerns about possible neurological effects. Children up to one year of age should not be given water with manganese concentrations over 300 ppb, nor should formula for infants be made with that water for longer than 10 days. The ORSG differs from the U.S. EPA health advisory because it expands the age group to which a lower manganese concentration applies from less than six months of age to up to one year of age to address concerns about children's susceptibility to manganese toxicity.

What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (back pressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (back siphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial, commercial, and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection.

For more information on backflow prevention, contact the Safe Drinking Water Hotline at (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. We are responsible for providing high-quality drinking water, but we 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.



Water Treatment Process

Our water system makes every effort to provide you with safe and pure drinking water. To improve the quality of the water delivered to you, we treat it for several contaminants. This includes a disinfectant to protect you against microbial contaminants and chemical treatment to reduce lead and copper concentrations. In addition to chemical treatment, water from the Howe Street Water Treatment Facility in Ashland is filtered. The department is nearing completion of a blending facility to streamline treatment and remove substances such as iron and manganese.

QUESTIONS?

If you have any questions about this report or your water utility, please contact Eric Carty, Hopkinton Department of Public Works, at (508) 497-9765. We want our valued customers to be informed about their water utility.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

Note that although *E. coli* was detected, the water system is not in violation of the *E. coli* maximum contaminant level.

REGULATED SUBSTANCES									
				Hopkinton Water Department		Ashland Water Department			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2015	15	0	3.11	0.51–3.11	NA	NA	No	Erosion of natural deposits
Asbestos (MFL)	2018	7	7	NA	NA	0.98	ND–0.98	No	Decay of asbestos cement water mains; Erosion of natural deposits
Barium (ppm)	2018	2	2	0.017	0.012–0.017	NA	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Bromate (ppb)	2018	10	0	NA	NA	2.9	ND–7.6	No	By-product of drinking water disinfection
Chloramines (ppm)	2018	[4]	[4]	NA	NA	1.84	0.54–2.9	No	Water additive used to control microbes
Chromium (ppb)	2017	100	100	NA	NA	0.8	ND–0.8	No	Discharge from steel and pulp mills; Erosion of natural deposits
Combined Radium (pCi/L)	2015	5	0	0.17	0.17–0.17	NA	NA	No	Erosion of natural deposits
Haloacetic Acids [HAAs] (ppb)	2018	60	NA	19	4.1–19	NA	NA	No	By-product of drinking water disinfection
Nitrate (ppm)	2018	10	10	2.83	ND–2.83	0.948	0.004–1.6	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2018	80	NA	71	11–71	51	31–62	No	By-product of drinking water disinfection
Tetrachloroethylene (ppb)	2018	5	0	NA	NA	0.65	0.17–0.65	No	Discharge from factories and dry cleaners
Tap water samples were collected for lead and copper analyses from sample sites throughout the community									
				Hopkinton Water Department		Ashland Water Department			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2017	1.3	1.3	0.952	0/20	0.140 ¹	0/30 ¹	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2017	15	0	0.005	0/20	3 ¹	0/30 ¹	No	Corrosion of household plumbing systems; Erosion of natural deposits
SECONDARY SUBSTANCES									
				Hopkinton Water Department		Ashland Water Department			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Color (Units)	2018	15	NA	NA	NA	0.721	ND–15	No	Naturally occurring organic materials
Fluoride (ppm)	2015	2.0	NA	0.2	0.2–0.2	NA	NA	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Iron (ppb)	2018	300	NA	6,950	ND–6,950	102	ND–102	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2018	50	NA	1,340	ND–1,340	16	ND–90	No	Leaching from natural deposits
pH (Units)	2018	6.5–8.5	NA	NA	NA	7.35	6.64–8.43	No	Naturally occurring

UNREGULATED SUBSTANCES - HOPKINTON WATER DEPARTMENT ²

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Chloroform (ppm)	2018	0.97	ND–0.97	By-product of drinking water chlorination
Sodium ³ (ppm)	2018	35	28–35	Natural sources; Runoff from road salt; By-product of treatment
Sulfate (ppm)	2013	7.6	7.6–7.6	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED CONTAMINANT MONITORING RULE PART 4 (UCMR4) - ASHLAND WATER DEPARTMENT

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Bromide (ppb)	2018	41.5	NA
Bromochloroacetic Acid (ppb)	2018	6.27	NA
Bromodichloroacetic Acid (ppb)	2018	5.23	4.89–5.23
Chlorodibromoacetic Acid (ppb)	2018	0.548	0.506–0.548
Dibromoacetic Acid (ppb)	2018	0.832	0.731–0.832
Dichloroacetic Acid (ppb)	2018	33.5	31.2–33.5
Manganese (ppb)	2018	22.9	13.3–22.9
Monochloroacetic Acid (ppb)	2018	2.21	ND–2.21
Total Organic Carbon [TOC] (ppm)	2018	2.15	NA
Trichloroacetic Acid (ppb)	2018	22.5	19.8–22.5

¹ Sampled in 2018.

² Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist U.S. EPA in determining their occurrence in drinking water and whether future regulation is warranted.

³ The Massachusetts Department of Environmental Protection maintains a guideline level of 20 ppm for sodium.

Definitions

90th %ile: Out of every 10 homes sampled, 9 were at or below this level. This number is compared to the Action Level to determine lead and copper compliance.

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):

A measure of the presence of asbestos fibers that are longer than 10 micrometers.

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.

MRDLG (Maximum Residual Disinfectant 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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.