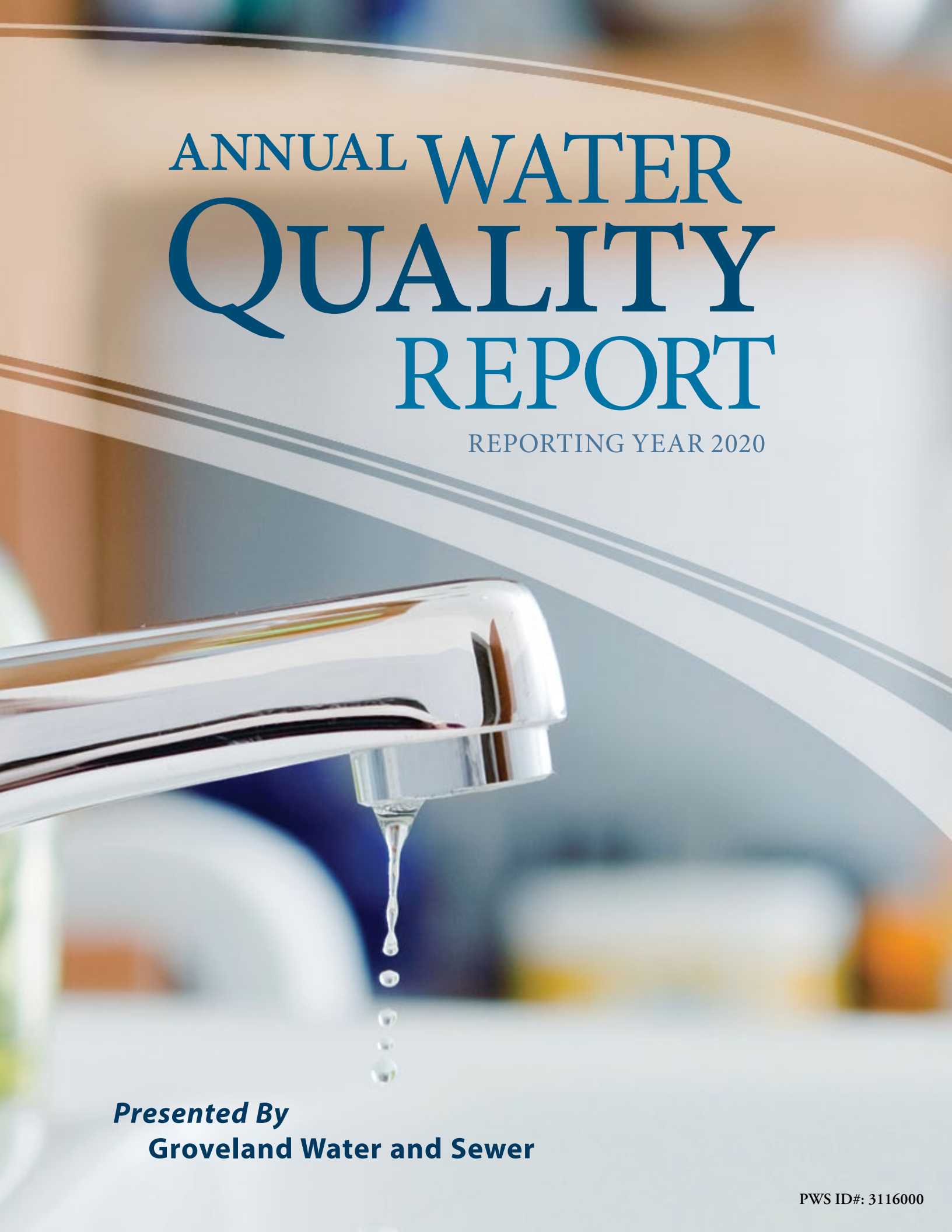


ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2020

Presented By

Groveland Water and Sewer

PWS ID#: 3116000

Quality First

Once again, we are pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2020. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education, while continuing to serve the needs of all our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

Where Does My Water Come From?

The Town of Groveland is served by a groundwater supply, consisting of three gravel-packed wells. Well #1 is located at 462 Main Street, Well #3 is located behind the Pines Recreation Area, and Well #4 is located further down the river from Well #3. Wells #1 and #3 are serviced by vertical turbine pumps that draw water from 50 feet down below the surface. The pumps are connected by long shafts to the drive motors, which are housed in the building above the wells. Well #4 uses a submersible well pump, which is composed of a sealed motor and pump mounted under water 35 feet down in the well. Each of the wells can run independently of each other. Groveland's water is distributed through a network of water mains approximately 36.5 miles long and ranging in size from 2 to 12 inches in diameter. There are currently 1,971 active services connected to our system.

Water Treatment Process

The treatment process consists of a series of steps. First, raw water is drawn from our water sources, then an inline chemical treatment is performed (no filtration). Computer-controlled metering pumps are used to administer the chemical, and the chemistry is monitored by inline analyzers 24 hours a day, 7 days a week. Our treatment operators monitor the system daily and confirm the treatment goals.

Sodium hydroxide is added to make the water less corrosive by raising the pH level. Corrosive (acidic) water has the ability to leach lead and copper out of piping and plumbing fixtures. We raise the system pH to an average of 7.5 (just above a neutral 7.0). This is high enough to keep the lead and copper from dissolving very much and still keep most of the iron and manganese in solution form.

Fluoride is added to the water as sodium fluoride to fight dental cavities. Both sodium and fluoride occur naturally in small amounts in the groundwater in this area. Natural fluoride occurs at a range of 0.05 to 0.10 mg/L. The fluoride is added to achieve a target dose of 0.70 mg/L to help build stronger, more cavity-resistant teeth for all who drink the water in their developmental years.

Calcium hypochlorite is added to maintain a disinfection residual at an average of 0.14 mg/L through out the distribution system. A target dose range of 0.50 mg/L has been established to achieve this residual.

Source Water Assessment

A Source Water Assessment Plan (SWAP) is now available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if 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.

According to the Source Water Assessment Plan, our water system had a susceptibility rating of "medium." If you would like to review the Source Water Assessment Plan, please feel free to contact our office during regular office hours.

Community Participation

You are invited to participate in our public forum to discuss any topic related to your drinking water and public water service. We meet Monday nights, once a month at at our office located in Town Hall. The Meeting Agenda is posted one week in advance; please contact our office for assistance. Check on the Town website www.grovelandma.com for postings and meeting location.

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 (Environmental Protection Agency/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 at http://water.epa.gov/drink/hotline.

Questions? For more information about this report, or for any questions relating to your drinking water, please call the Groveland Water Department office at 978-556-7200, and ask to speak with Colin Stokes.

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.

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) prescribes 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:

> "We remain vigilant in delivering the best-quality drinking water"

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 storm-water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

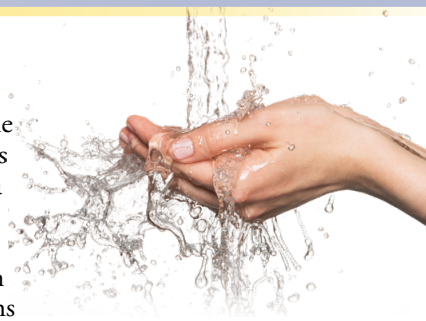
Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban storm-water runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and which may also come from gas stations, urban storm-water 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.

Water Stress



Water stress occurs when the demand for water exceeds the amount available during a certain period or when poor water quality restricts its use. Water stress causes deterioration of fresh water resources in terms of quantity (aquifer over-exploitation, dry rivers, etc.) and quality (eutrophication, organic matter pollution, saline intrusion, etc.).

According to the World Resource Institute (www.wri.org), the Middle East and North Africa remain the most water stressed regions on earth. However, several states in the western half of the U.S. are similarly experiencing extremely high levels of water stress from overuse. It is clear that even in countries with low overall water stress, individual communities within a country may still be experiencing extremely stressed conditions. For example, South Africa and the United States rank #48 and #71 on WRI's list, respectively, yet the Western Cape (the state home to Cape Town) and New Mexico experience extremely high stress levels.

There are undeniably worrying trends in water quality. But by taking action now and investing in better management, we can solve water issues before it is too late.

Information on the Internet

The U.S. EPA (https://goo.gl/TFAMKc) and the Centers for Disease Control and Prevention (www.cdc.gov) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation and public health. Also, the DEP has a Web site (http://bit.ly/2HY4gfO) that provides complete and current information on water issues in Massachusetts, including valuable information about our watershed.

Test Results

Our water is monitored for many different substances on a very strict sampling schedule, which is set by the Massachusetts DEP. Monthly reports are submitted to Mass DEP containing the results obtained from third-party laboratory sample results. 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.

Range data show the span of test results obtained for the year.

The Amount Detected is an average of test results when there were multiple samples taken on multiple days. When only one set of samples were required, the Amount Detected will be shown as the highest test result obtained. The frequency and quantity of samples are determined by the Massachusetts DEP.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2018	2	2	0.0147	0.0091–0.0147	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2020	[4]	[4]	0.14	0.10–0.21	No	Water additive used to control microbes
Combined Radium (pCi/L)	2015	5	0	0.44	NA	No	Erosion of natural deposits
Fluoride (ppm)	2020	4	4	0.5	0.4–0.6	No	Water additive, which promotes strong teeth
Nitrate (ppm)	2020	10	10	0.92	0.87–0.92	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Perchlorate (ppb)	2020	2	NA	0.17	0.08–0.17	No	Inorganic chemicals used as oxidizers in solid propellants for rockets, missiles, fireworks, and explosives
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	2020	80	NA	23.3	21.2–23.3	No	By-product of drinking water disinfection

Tap Water Samples Collected for Copper and Lead Analyses from Sample Sites throughout the Community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2018	1.3	1.3	0.125	0/20	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2018	15	0	3.7	0/20	No	Lead services lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits

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.

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).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

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

TON (Threshold Odor Number): A measure of odor in water.

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.

OTHER REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
PFAS6 (ppt)	2020	20	NA	10.12	4.2 – 16.47	No	Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture and oil resistant coatings on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foams

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2020	250	NA	150	32.4–150	No	Runoff/leaching from natural deposits
Iron (ppb)	2020	300	NA	451	77–451	No	Leaching from natural deposits; Industrial wastes
Manganese[1] (ppb)	2020	50	NA	118	12–231	No	Leaching from natural deposits
Odor (TON)	2020	3	NA	<1	NA	No	Naturally occurring organic materials
pH (Units)	2020	6.5–8.5	NA	7.75	7.6–7.9	No	Naturally occurring
Sulfate (ppm)	2020	250	NA	14.8	13.2–14.8	No	Runoff/leaching from natural deposits; Industrial wastes
Total Dissolved Solids [TDS] (ppm)	2020	500	NA	360	170–360	No	Runoff/leaching from natural deposits
Zinc (ppm)	2020	5	NA	0.007	0.002–0.007	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED SUBSTANCES [2]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium[3] (ppm)	2018	74	23–87	Naturally occurring

OTHER UNREGULATED SUBSTANCES [2]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Perfluorobutanesulfonic Acid (PFBS) (ppt)	2020	3.68	1.8–7.0
Perfluorohexanoic Acid PFHxA (ppt)	2020	7.37	3.3–14

[1] Manganese is a naturally occurring mineral found in rocks, soil and groundwater, and surface water. Manganese is necessary for proper nutrition and is part of a healthy diet, but it can have undesirable effects on certain sensitive populations at elevated concentrations. U.S. EPA and MADEP have established public health advisory levels for manganese to protect against concerns of potential neurological effects.

[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.