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Dear Customer,

This report brings you the results of our annual water quality testing. While 2020 was a year filled with uncertainty, one thing remained constant: the quality of your drinking water was excellent. MWRA takes hundreds of thousands of tests each year, and for 2020, we again met every federal and state drinking water standard.

As providers of essential services, the women and men of MWRA have been on the job every day during the pandemic to make sure that the customers in our service area received uninterrupted delivery of safe drinking water.

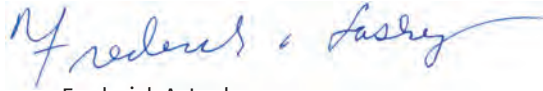
Our reservoirs have ample supplies to meet the demands of our service area. However, water is the most precious resource and we encourage everyone to save water wherever possible. You can find tips on how to conserve water on our website at www.mwra.com.

System-wide, we were again below the Lead Action Level. Lead continues to be a priority for us and our member communities. To date, 11 communities have utilized over \$17 million through our zero-interest loans to remove lead service lines. Please read your community's letter on page 7 for more information on your local water system.

PFAS, or 'forever chemicals' have been in the news a lot lately. As expected, given our well-protected sources, our test results easily meet the newly issued Massachusetts Department of Environmental Protection standards. No changes in our treatment are needed, and we continue to monitor this important issue.

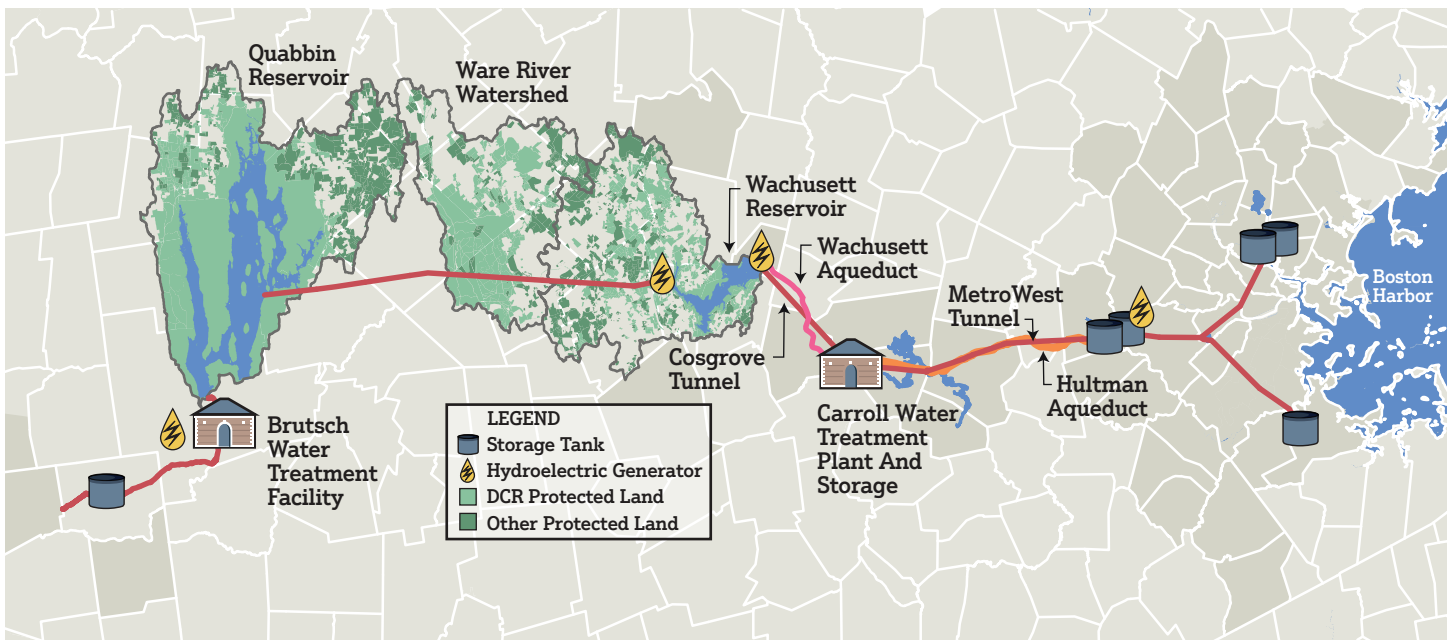
I hope you will take a few moments to read this report. We have great confidence in the water we deliver to your homes and businesses and we want you to as well. Please contact us if you have any questions or comments about your water quality, or any of MWRA's programs.

Sincerely,

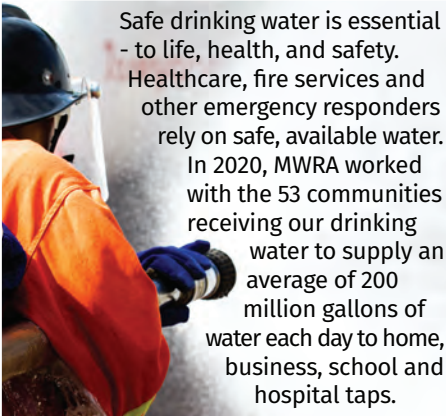


Frederick A. Laskey
Executive Director

For more information on MWRA and its Board of Directors, visit www.mwra.com.



Safe Drinking Water Is Essential



Safe drinking water is essential - to life, health, and safety. Healthcare, fire services and other emergency responders rely on safe, available water. In 2020, MWRA worked with the 53 communities receiving our drinking water to supply an average of 200 million gallons of water each day to home, business, school and hospital taps.

Essential Information About Your Water

This 2020 Water Quality Report will provide you with essential information on your drinking water-how we test, treat, and ensure the safety of your water-every day, without interruption. MWRA ensures the quality of your water through a comprehensive protection, treatment, distribution and system-wide evaluation process that ensures the safety of the water you receive.

MWRA's Water Sources

MWRA's efforts to protect your drinking water start 65 miles west of Boston, at the Quabbin Reservoir, and the Wachusett Reservoir, 35 miles west of Boston. The combined supply of these two reservoirs provided an average of 200 million gallons of high quality water every day to our consumers in 2020. The Ware River also provides additional water when needed.



The Quabbin and Wachusett watersheds—the areas that drain water into the reservoirs—are naturally protected. Over

85% of the watersheds are covered in forests and wetlands, which help filter the rain and snow as they enter the streams that flow to the reservoirs. This water comes in contact with soil, rock, plants, and other material as it follows its natural path to the reservoirs. While this process helps to clean the water, it can also dissolve and carry very small amounts of material into the reservoir. Minerals from soil and rock do not typically cause problems in the water. Water can also transport contaminants, including bacteria, viruses or other potential pathogens, from human and animal activity. Test results show few contaminants are found in the reservoir water. The few that are detected are in very small amounts that are well below EPA's standards.

Water Source Protection

A Source Water Assessment Program report was developed by the Department of Environmental Protection (DEP), for the Quabbin and Wachusett Reservoirs. The DEP report commends the Department of Conservation and Recreation (DCR), and MWRA for our source water protection plans, and states that our "watershed protection programs are very successful and greatly reduce the actual risk of contamination." MWRA and DCR follow the report recommendations to maintain the pristine watershed areas.

Testing from Forest to Faucet

MWRA and your community work together to test your drinking water frequently, from the water's source in the Quabbin Reservoir to your kitchen or workplace tap.



MWRA laboratories conduct hundreds of thousands of tests every year for 120 potential contaminants. You can learn more about our testing for potential waterborne contaminants on our website at www.mwra.com. The 2020 water quality tests are shown below. These results confirm the quality and safety of the water delivered each day to your community, and it tastes great right from the start.

Turbidity (or cloudiness of the water), for example, is one measure of overall water quality. All water must be below 5 NTU (Nephelometric Turbidity Units) and water can only be above 1 NTU if it does not interfere with effective disinfection. In 2020, typical levels in the Wachusett Reservoir were 0.33 NTU, with the highest level of turbidity at 0.67 NTU, well below the standard.

MWRA also tests reservoir water for pathogens such as fecal coliform bacteria, and the parasites *Cryptosporidium* and *Giardia*, that can enter the water from animal or human waste. All test results in 2020 were well within state and federal testing and treatment standards. For more information, please visit www.mwra.com.

TEST RESULTS - AFTER MWRA WATER TREATMENT

Compound	Units	(MCL) Highest Level Allowed	(We Found) Detected Level-Average	Range Of Detections	(MCLG) Ideal Goal	Violation	How It Gets In The Water
Barium	ppm	2	0.009	0.009-0.01	2	No	Common mineral in nature
Monochloramine	ppm	4-MRDL	2.01	0.05-3.7	4-MRDLG	No	Water disinfectant
Fluoride	ppm	4	0.72	0.10-0.82	4	No	Additive for dental health
Nitrate [^]	ppm	10	0.095	0.04-0.095	10	No	Atmospheric deposition
Total Trihalomethanes	ppb	80	15.4	4.9-23.1	NS	No	Byproduct of water disinfection
Haloacetic Acids-5	ppb	60	15.7	ND-17.4	NS	No	Byproduct of water disinfection

KEY: MCL=Maximum Contaminant Level. The highest level of a contaminant allowed in water. MCLs are set as close to the MCLGs as feasible using the best available technology. MCLG=Maximum Contaminant Level Goal. The level of 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 health risk. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination. ppm=parts per million ppb=parts per billion NS=no standard ND=non-detect [^]=As required by DEP, the maximum result is reported for nitrate, not the average.

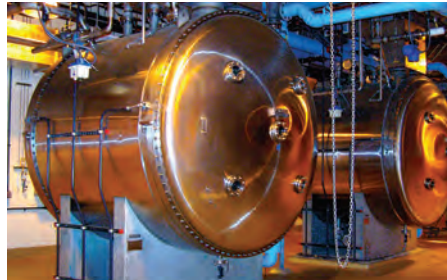
Essential Water System Protection

MWRA and DCR protect the water you drink by testing, treating and protecting water quality. From the streams in the watershed, through hundreds of miles of MWRA and thousands of miles of local pipes all the way to your home. MWRA works with the Department of Conservation and Recreation (DCR) to protect 150,000 acres of permanently protected forested land and wetlands in the watershed. DCR maintains a nationally recognized protection program that includes extensive water quality testing, stormwater controls, water quality maintenance and development regulations.

MWRA maintains a state of the art water monitoring system that operates continuously—24 hours a day, 7 days a week—before and after treatment. This system helps us confirm the water is free of contaminants, and allows MWRA to rapidly respond to any changes in water quality.

MWRA’s modern treatment processes make sure your water is safe, fresh, and tastes

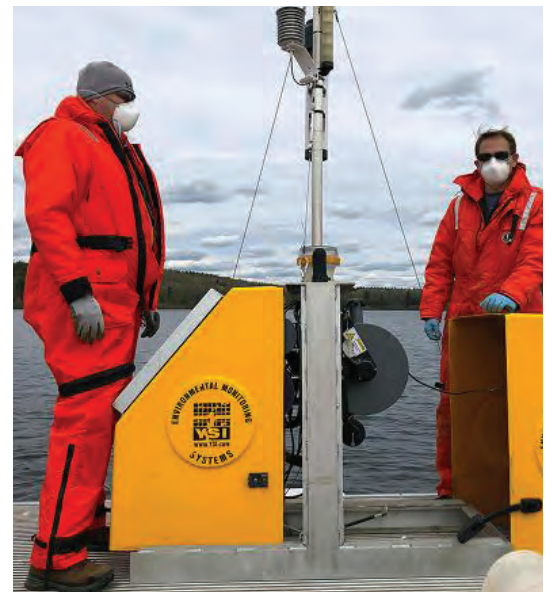
great. Part of the reason that the water tastes so good is MWRA’s advanced water treatment at the John J. Carroll Water Treatment Plant in Marlborough. First, your water is treated with ozone—produced by pure oxygen. Ozone disinfects the water, killing bacteria, viruses and other organisms. It also improves water clarity and makes the water taste better. Next we use ultraviolet light (UV) disinfection, further improving the quality of the water. UV light is essentially a more powerful form of the natural disinfection from sunlight, and further ensures that any pathogens in the water from our reservoirs are rendered harmless.



In addition, fluoride is added to promote dental health, and the water chemistry is adjusted to reduce corrosion of home plumbing. Last, we add monochloramine (combining chlorine and ammonia), a mild and long-lasting disinfectant to provide continuing protection of the water as it travels through miles of pipelines to your home.

Ensuring System Redundancy for Continuing Service


Our goal is to provide a continuous supply of safe, clean water to every person and



organization in the MWRA service area. Redundant pipelines and tunnels allow inspection and maintenance of key facilities while ensuring uninterrupted service. Construction of a second pipeline to provide more reliable service to communities to the south is ongoing. Construction is now underway to repair and improve the Weston Aqueduct Supply Main 3 in Weston, Waltham, Belmont, Arlington and Medford. And planning and environmental review for two new tunnels north and south of Boston that will provide redundancy for the entire region is now well underway.

Distribution System—Pipeline Rehabilitation

MWRA continues to rehabilitate and replace pipelines throughout the distribution system to improve both reliability and water quality. MWRA also provides zero-interest loans to customer communities for local pipeline projects. In 2020, \$36 million was loaned to communities to fund 24 community projects for the replacement or rehabilitation of older unlined pipes or replacement of lead service lines.



FACTS ABOUT SODIUM
Sodium in water contributes only a small fraction of a person’s overall sodium intake (less than 5%). MWRA tests for sodium monthly and the highest level found was 42.7 mg/L (about 10 mg per 8 oz. glass). This level would be considered Very Low Sodium by the Food and Drug Administration (FDA).




MAINTAINING SERVICE DURING COVID-19 PANDEMIC
MWRA’s emergency planning and commitment to providing reliable service allowed us to keep the water and sewer systems working continuously over the past year. We activated our long-standing pandemic response plan, protected our staff with changed work rules and social distancing, and met all drinking water testing and safety requirements.

Essential Facts—Lead In Drinking Water

Why is lead in drinking water important?

Lead affects young children, and may cause damage to the brain, slow growth and development, and cause learning and behavior problems. Preventing lead exposure is particularly important if a pregnant woman or child lives in your home or apartment. Lead can also impact the health of your entire family. While lead poisoning frequently comes from exposure to lead paint dust or chips, lead in drinking water can also contribute to chronic, total lead exposure.

Lead in your home plumbing or a lead service line can contribute to elevated lead levels in the water you drink. To lower your family's exposure to lead in drinking water, review the information on this page.

Important Lead Information From EPA

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in

drinking water comes primarily from materials and components associated with service lines and home plumbing. MWRA is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. If 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 1-800-425-4791 or www.epa.gov/safewater/lead.

How Lead Can Enter Your Water

MWRA water is lead-free when it leaves our reservoirs, and MWRA and local pipes that carry the water to your community are made mostly of iron and steel, and don't add lead to the water. Lead can enter your tap water through pipes in your home, your service line (the line that connects your home to the water main) if it is made of lead, lead solder used in plumbing, or from some brass fixtures.

Corrosion or wearing away of lead-based materials can add lead to tap water, especially if water sits for a long time in the pipes before it is used. MWRA's corrosion control

3 WAYS TO REDUCE LEAD IN YOUR WATER

- Remove lead service lines to your home
- Run your drinking water before using
- Use a filter certified to remove lead



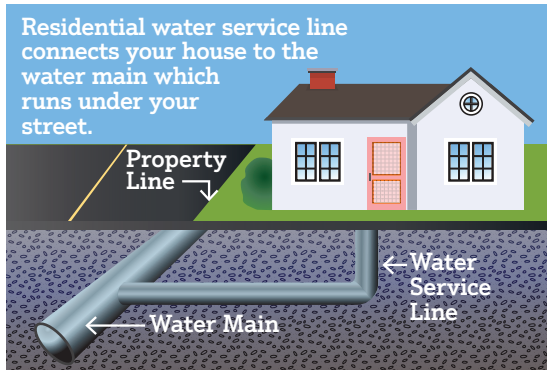
program helps limit the amount of lead in your water. In 1996, MWRA began adding sodium carbonate and carbon dioxide to adjust the water's pH and buffering capacity. This treatment makes the water less corrosive and reduces leaching of lead into drinking water. Lead levels found in sample tests of tap water have dropped by about 90% since this treatment change. Learn more about lead in drinking water at www.mwra.com.

MWRA Meets Lead Standard In 2020

Under EPA rules, MWRA and your local water department must test tap water each year in a sample of homes likely to have high lead levels—those with lead solder or lead service lines. The EPA rule requires that 9 out of 10, or 90% of the sampled homes must have lead levels below the Action Level of 15 ppb in their drinking water.

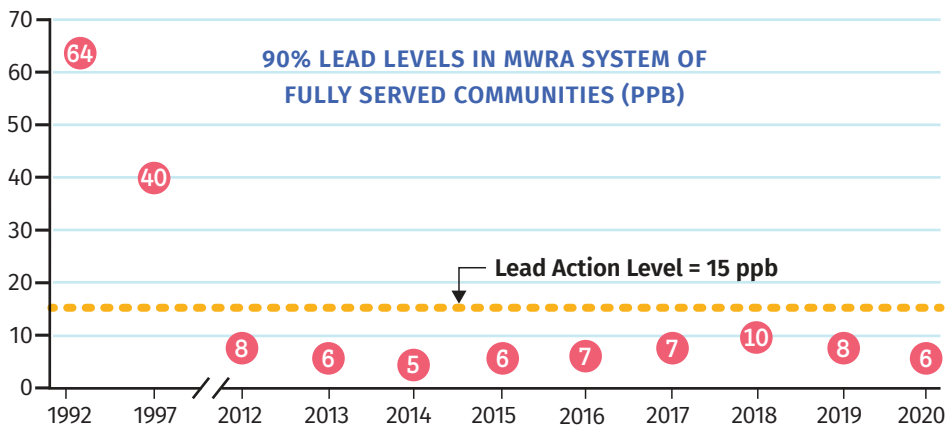
All sampling rounds over the past 17 years have been below the EPA Action Level. Of the 3,482 samples taken in the last 7 years, 96.7% were below the Action Level. Results for the 450 samples taken in September 2020 are shown in the table. Nine out of ten homes were below 6.5 ppb—well below the Action Level of 15 ppb.

Three communities—Boston, Medford and Melrose—were above the Lead Action Level in 2020. Your community letter on page 7 will provide you with local results and more information.



LEAD AND COPPER RESULTS-2020	90% Value	Target Action Level	Ideal Goal (MCLG)	#Homes Above AL/ #Homes Tested
Lead (ppb)	6.47	15 ppb	0	16/450
Copper (ppb)	105	1300 ppb	1300	0/450

KEY: AL=Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.



WHAT IS AN ACTION LEVEL?
An Action Level is the amount of lead that requires action to reduce exposure. If your home or school's

drinking water sample is above the Lead Action Level, additional steps to reduce the level of lead may be required. If more than 10% of your community's samples were over the Lead Action Level (15 ppb), your local water department is taking action to address the problem. See page 7.

Ways To Reduce Lead In Your Water



Do I Have a Lead Service Line?

A service line connects your building's plumbing to the water main in your street. In some older buildings, the service line is made of lead and can add significant amounts of lead to your drinking water. Replacing the lead service line can eliminate a major source of lead in your drinking water.

Contact your local water department to find out if you have a lead service line. You can also scratch the pipe entering your home near your water meter with a key. Lead pipes will show a dull grey or silver color, while copper pipes will not.

MWRA Funding to Replace Lead Service Lines

MWRA and its Advisory Board offer zero-interest loans to customer communities for full lead service line replacement projects. Each MWRA community can develop its own local plan, and many communities have already taken steps to remove lead service lines. To find out more, contact your local water department.

How to Test Your Drinking Water

Interested in testing your home drinking water for lead? Contact your local water department about testing for lead in your drinking water. Or, go to the list of certified laboratories and sampling instructions available on the lead testing page at www.mwra.com. You may also call MWRA at 617-242-5323 for more information.



Free MWRA Testing for Schools and Child Care Facilities

Children consume much of their drinking water at school and daycare. The plumbing in some schools and child care facilities can contain lead, and contribute to total lead exposure. MWRA, in collaboration with MassDEP, has provided no-cost lab analysis and technical assistance for schools and child care centers across all of MWRA's water communities since 2016. Water samples are tested at our laboratory and the results are provided to the local school, health and water departments. Since the start of this program in 2016, MWRA has completed over 38,000 tests from 506 schools across 44 communities. Results are available at: www.mass.gov/dep (search for "lead in schools"). Results may also be available from your local school department or water department.



REDUCE EXPOSURE TO LEAD IN YOUR HOME

- Lead can enter your drinking water through pipes in your home, or your lead service line (that connects your home to the water main).
- Find out how to identify and remove a lead service line if your home has one. Contact your local water department about removal options.
- Any time water has not been used for more than 6 hours, run any faucet used for drinking or cooking until after the water becomes cold.



- Let the water run before using it: fresh water is better than stale. To save water, fill a pitcher with fresh water and place in the refrigerator for future use.
- Never use hot water from the faucet for drinking or cooking, especially when making baby formula or other food for infants or young children.
- Remove loose lead solder and debris. Every few months remove the aerator from each faucet in your home and flush the pipes for 3 to 5 minutes.
- Be careful of places where you may find lead in or near your home. Paint, soil, dust and pottery may contain lead. Call the Massachusetts Department of Public Health (MDPH) at 1-800-532-9571 or 1-800-424-LEAD for information on health and lead.

WATER SERVICE LINES – OLD AND NEW

You can identify lead service line by carefully scratching with a key.

New copper service line. →



Essential Information On Your Water

Partners In Testing For Bacteria

MWRA and local water departments test 300 to 500 water samples each week for total coliform bacteria. Total coliform bacteria can come from the intestines of warm-blooded animals, or can be found in soil, plants, or other places. Most of the time, they are not harmful. However, their presence could signal that harmful bacteria from fecal waste may be there as well. If total coliform is detected in more than 5% of samples in a month, the water system is required to investigate the possible source and fix any identified problems. If a water sample does test positive, we run more specific tests for *E. coli*, which is a bacteria found in human and animal fecal waste and may cause illness. **If your community was required to do an investigation, or found *E. coli*, it will be in the letter from your community on page 7.**



Monitoring Water For PFAS

PFAS compounds, used since the 1950s for everything from stain and water proofing to firefighting, continue to be an environmental concern. In 2020, the Department of Environmental Protection (MassDEP) published a drinking water standard for PFAS. Tests of MWRA water showed only trace amounts of these compounds, well below the new state maximum contaminant



MWRA Wins the MassDEP Public Water Systems Award

The Department of Environmental Protection awarded a Public Water System Award to MWRA in 2020, recognizing MWRA's continued excellent level of performance and compliance with all drinking water standards.



COMPLAINTS ARE ESSENTIAL TOO!

MWRA takes customer concerns seriously. Every call is investigated. Most complaints

are related to discolored water (usually related to local construction or hydrant use), or conditions in a building's plumbing. If you have any questions or concerns, contact your local water department, or call MWRA at (617) 242-5323.

level (MCL) of 20 parts per trillion. See www.mwra.com.

Important Research For New Regulations

MWRA works with EPA and health research organizations to help define new national drinking water standards by collecting data on water contaminants that are not yet regulated. With our well-protected sources, very few of these potential contaminants are found in MWRA water. Information on this testing, as well as other water quality data, including information on PFAS, disinfection byproducts, *Giardia* and *Cryptosporidium*, and other contaminants can be found at www.mwra.com.

Contaminants in Bottled Water and Tap Water

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. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791) or MWRA. In order to ensure that tap water is safe to drink, the Massachusetts DEP and EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration (FDA) and the Massachusetts Department of Public Health (MDPH) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Important Health Information: Drinking Water and People with Weakened Immune Systems

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 EPA's Safe Drinking Water Hotline (1-800-426-4791).



CONSERVATION IS ESSENTIAL

Some parts of the state are experiencing drought conditions. Although the Quabbin Reservoir is well within the "Normal" operating range for this time of year, MWRA urges its customers to conserve water wherever possible. Our website has many tips on how to save water both indoors and outdoors. Every drop counts!



CROSS CONNECTION INFORMATION

A cross-connection is any temporary or permanent connection between a potable (drinking) water source and a non-potable source. Non-potable water or other sources can contaminate your drinking water if backflow occurs. Sources could include:

- Garden hoses
- Boilers
- Swimming pools
- Irrigation systems or wells
- Residential fire protection systems

Massachusetts DEP recommends the installation of backflow prevention devices for inside and outside hose connections to help protect the water in your home as well as the drinking water system in your town. For more information on cross connections, please call 617-242-5323 or visit www.mwra.com.



**CITY OF QUINCY
DEPARTMENT OF PUBLIC WORKS**

**THOMAS P. KOCH
Mayor
ALFRED J. GRAZIOSO
Commissioner**

**Public Water Supply
3243000**



As the Commissioner of Public Works it is my pleasure to provide you with this annual letter to keep you informed about our water distribution system.

Our Distribution System

The City of Quincy purchases all of its water directly from the MWRA. The water is delivered through five MWRA master meters into the City's distribution system. The system, which consists of a network of pipes, valves, hydrants and service lines, delivers water to homes, businesses and other facilities for drinking and other uses.

Our system is comprised of approximately 238 miles of water mains ranging from four-inch to twenty-inch in diameter, with 2,549 hydrants. There are thousands of gate valves that allow us to isolate portions of the system for repairs and maintenance.

An estimated thirty percent of the pipes in our system are unlined cast iron pipes over 85 years old. Last year, we completed a \$7.3 million dollar project for the replacement of 5.3 miles of water main throughout each ward of the City. In the past 3 years, the City has replaced an estimated 13.5 miles of water main on 103 roadways.

Lead and Copper Results

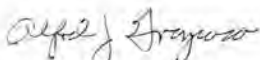
One of our Department's continuing, primary goals is to provide safe, clean water to all residents and businesses. Twice per year, we test for lead in 15 homes that have a known lead or a lead-lined service. In September 2020, the 90th percentile for lead based on all results for the City was 8.29 ppb (parts per billion), under the lead Action Level (AL) of 15 ppb. The 90th percentile for copper was 128 ppb, under the AL for copper of 1300 ppb. Only 1 of the 15 homes sampled exceeded the lead action level (AL) of 15 ppb. The Department has identified a total of 63 water service connections through historical record that may be a lead or lead-lined service. The City's Lead Service Replacement plan states that the City will be required to remove the identified remaining service connections over a period that shall not exceed 11 years. This Program protects our children and improves the health of our community. Additional information is available on our website: https://www.quincyma.gov/govt/depts/pwd/sewer_n_water/lead_or_lead_lined_water_service/default.htm.

Total Coliform Tests in Community Pipes

Each month we test 23 locations and submit 92 samples for total coliform bacteria to monitor the distribution system. The EPA requires that no more than 5% of the samples in a month may be positive. During 2020, none of our 1,330 samples tested positive.

If you have any questions, or if you need any additional information on public meetings, please visit our website at: <https://www.quincyma.gov> or call Water/Sewer Operations Manager Neil McCole at (617) 376-1371.

Sincerely,


Alfred J. Grazioso