Dedham-Westwood Water District
2023 Water Quality Report

Image of a District truck backfilling a trench after a water main repair.

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION PUBLIC WATER SUPPLY ID # 3073000

Board of Water Commissioners

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THE WATER WE DRINK

The Dedham-Westwood Water District (DWWD) is pleased to present its Annual Water Quality Report for the calendar year 2023. The report is designed to inform you about the quality of your drinking water. We are committed to providing you with high-quality drinking water, which is fundamental for our communities and way of life.

The Massachusetts Department of Environmental Protection (MassDEP) routinely inspects and evaluates our water system for its technical, financial, and managerial capacity to provide safe drinking water to you, our customers. To ensure that we provide the highest quality of drinking water available, Massachusetts Licensed Drinking Water Operators oversee the operations of your water system 24 hours a day.

In 2023, $2,090,000 was invested into water main improvements in Dedham and Westwood. Construction on Veterans Road and Oakland Terrace in Dedham started in April. In total, 2,100 linear feet of new water main, six hydrants, 19 valves, and 21 water service lines were installed. Construction on Brookfield Road, Beacon Street, and a portion of Washington Street (between Brookfield Road and Marshall Street) in Westwood started in August. In total, 3,300 linear feet of new water main, eight new hydrants, 24 valves, and 50 water service lines were installed.

Photo of an excavator installing a new section of ductile-iron water main pipe on Washington Street in Westwood.

Photo of an excavator backfilling a new water service line connection on Veterans Road in Dedham.

PUBLIC PARTICIPATION

We ask that all our customers help protect our water sources and use water wisely. Important educational information may be included with your bill, on our website, or on social media. The Board of Water Commissioners, three from Dedham and three from Westwood, appointed by the Select Board of each town, normally meet monthly. The public is welcome to attend. If you have any questions about this report, please contact Executive Director Blake Lukis at 781-461-2776.

WHAT IS THE SOURCE OF YOUR WATER?

Your drinking water supply is local. The source of your drinking water is groundwater, water that is present below the earth's surface in sand and gravel pore spaces from seventeen wells. Four wells are located in Westwood by the Neponset River near University Avenue, and one well is located by Rock Meadow Brook near Dover Road. In Dedham, one well is adjacent to the Neponset River near University Avenue, and eleven wells are located by the Charles River near Bridge Street. We serve a population of about 41,630 through approximately 13,243 meters and customer service lines. The Dedham-Westwood Water District has emergency water connections with Boston, Norwood, Needham, and the Massachusetts Water Resources Authority (MWRA). Last year, we obtained about 12% of the water supply from the

MWRA. For a copy of the 2023 MWRA Water Quality Report, please reference our website at www.dwwd.org/waterquality.

HOW ARE THE SOURCES OF DRINKING WATER PROTECTED?

The MassDEP prepared a Source Water Assessment Program (SWAP) Report for the water supply sources serving our water system. The purpose of the report was to determine the susceptibility of our drinking water sources to contamination sources so that protection efforts can be best targeted. The results of the assessment are detailed in the report, which is available online at https://www.mass.gov/doc/northeast-region-source-water-assessment-protection-swap-program-reports/download#page=434 or at our office. The report assigns a high susceptibility ranking to the DWWD sources due to hazardous materials storage and use, transportation corridors, and residential land use. The high-threat activities listed by MassDEP are those that typically use, produce, or store contaminants of concern, which, if improperly managed, are potential sources of contamination. Dedham and Westwood have water resource and aquifer protection zoning bylaws to protect our drinking water sources. Residents and businesses are encouraged to protect drinking water sources, especially those living and working in proximity to the supply sources. Measures include proper use and disposal of hazardous materials like fertilizers and pesticides, properly disposing of pet waste, and using environmentally friendly deicers.

THE DISTRICT'S WATER TREATMENT PROCESS

Licensed Drinking Water Operators continuously monitor the treatment of your drinking water with a multi-step process. First, the water is aerated, which helps oxidize minerals such as iron and manganese. Next, the water is filtered to remove any suspended material. Chlorine is added to provide disinfection. Then, the pH of the water is adjusted to an optimal level, so it is not corrosive to pipes and plumbing fixtures. Orthophosphate is added as a corrosion control measure, and fluoride is added to prevent tooth decay/cavities.

SUBSTANCES FOUND IN TAP WATER

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. Water can also pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- **Inorganic substances-** such as salts and metals, that can be naturally occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Organic chemical contaminants-** including synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- **Pesticides and herbicides-** that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Microbial contaminants-** such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Radioactive contaminants-** which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Department of Environmental Protection and the U.S. Environmental Protection Agency (EPA) prescribes regulations limiting certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (MassDPH) regulations establish limits for contaminants in bottled water that must provide the same level of protection for public health. Drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some contaminants. The

presence of these contaminants does not necessarily pose 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).

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, and some elderly and infants, can be particularly at risk from infections. These people should seek advice about drinking water from their healthcare providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

The DWWD continues to urge MassDOT to reduce the amount of sodium and chloride they apply during deicing operations, which ends up in the Public Water Supply Wells that are located near the highway.

CROSS CONNECTION PROGRAM

A *cross connection* is any temporary or permanent arrangement or connection between a public water system or consumer's drinking water system and any source or system containing non-potable water or other substances. One example of a cross connection is the piping between a public water system and a customer's lawn irrigation sprinkler system. The garden hose causes the most common cross connection.

Backflow is the undesirable reversal of flow of non-potable water or other substances through a cross connection and into the piping of a public water system or consumer's potable water system. The best way to prevent backflow is to make sure there is no connection between potable and non-potable sources. Never submerge a hose in soapy water buckets, pools, tubs, sinks, drains, or chemicals. Purchase and install a hose bib vacuum breaker for all threaded water fixtures. These inexpensive, easy to install devices are found at local hardware stores.

Hose Connection Vacuum Breaker

The District requires homeowners to conduct an annual test on the backflow device connected to their irrigation system.

All non-residential properties connected to the District's water supply are surveyed for cross connections. Approved backflow prevention devices are tested either annually or biannually. Questions about the District's program or cross connections should be directed to Stephanie Costa at 781-461-2778.

WATER CONSERVATION

Water conservation is encouraged year-round. Saving water can easily be achieved by being mindful of your daily habits, including taking a shorter shower, only running full loads of dishes and laundry, turning off the faucet while brushing your teeth, and more.

The District offers a Water Conservation Rebate Program for homeowners and businesses. Residential customers can receive a $100 water bill credit for installing a new washing machine (one rebate every seven years). Both businesses and residents can receive a $75 water bill credit for installing a new toilet (two rebates per lifetime of the property). Washing machines and toilets that meet the program's eligibility will ultimately help conserve water. For more information about the program, please visit www.dwwd.org/rebate.

The District partners with the Great American Rain Barrel Company, offering Dedham and Westwood residents a $10 savings on barrel purchases. Rain barrels are an excellent way to conserve water as they can capture up to 60 gallons of rainwater for future outdoor watering purposes. Information about purchasing a rain barrel can be found at www.dwwd.org/rainbarrels.

Complimentary low-flow shower heads and faucet aerators are available at the District Headquarters, 50 Elm Street, in Dedham. Customers are encouraged to subscribe to our social media channels for seasonal water conservation tips.

Image of a graphic promoting the District's toilet and washing machine water conservation program.

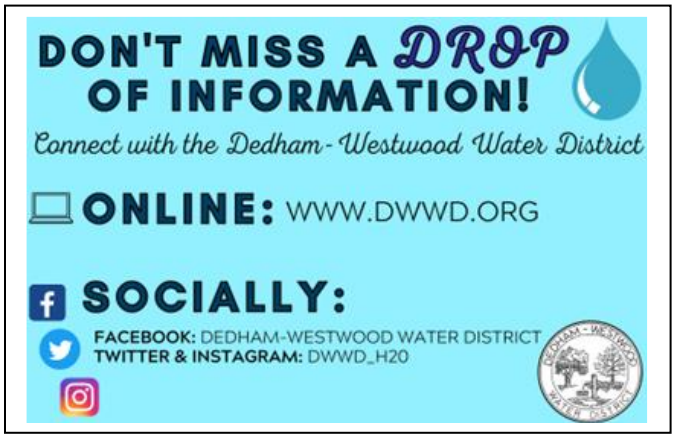
Image of a graphic promoting the District's Rain Barrel Program.

In March 2023, the District launched a new Water Leak Detection Guide. The guide, available as a printable checklist and web page online, provides customers with information about common indoor and outdoor premise leaks, including what to look and listen for. This resource can be accessed by visiting www.dwwd.org/leak.

Pictured Left: An image of leak detection cards available at the District's Office, 50 Elm Street. A water droplet is holding a wrench and magnifying glass, and the top of the image says, "Be a Leak Detective."

STAY CONNECTED WITH THE DISTRICT

Like/follow us on Facebook, Twitter, and Instagram. for district-related news, programs, and information. Social media account information can be referenced in the graphic on the right. Or click the hyperlinks above.



DWWD WATER QUALITY TEST RESULTS

The data presented in the following tables are from testing performed in 2023 on the Dedham-Westwood Water District Supply unless otherwise noted. Over the course of a year, the District takes hundreds of water samples to ensure its quality and your safety. The tables below show only those parameters that were detected in the water.

REGULATED SUBSTANCES

Parameter, Units, and Testing Date/Schedule	Range	Max	Average	MCL	MCLG	Compliance	Source
[1] Fluoride (ppm)	0.54-0.73	0.73	0.65	4	4	Yes	Water additive, which promotes strong teeth.
Nitrate (ppm) 2/9/2023 & 2/16/2023	0.16-0.48	0.48	0.32	10	10	Yes	Runoff from fertilizer use, leaching from septic tanks, sewage; erosion of natural deposits.
[2] Chlorine (ppm)	Range of treatment plant effluent values; 0.99-1.66. Range of individual distribution samples; 0.02-2.88	1.66; 2.88	Average of all treatment plant effluent values; 1.36. Highest quarterly running annual average; 0.71	MRDL=4	MRDLG=4	Yes	Water additive used to control microbes.
Perchlorate (ppb) 9/8/2023	ND-0.054	0.054	0.027	2.0	N/A	Yes	Rocket propellants, fireworks, munitions, flares, and blasting agents.
PFAS6 (ppt) Collected Monthly	7.04-18.9	18.9	Highest quarterly average: 15.1	20	----------	Yes	Discharge and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including the 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.

[1] Fluoride samples are analyzed daily at our two treatment facilities and monthly at an independent laboratory. Fluoride has a Secondary Maximum Contaminant Level (SMCL) of 2.0 ppm.

[2] Chlorine samples are taken multiple times a day from our water treatment facilities, as well as from various locations throughout the two towns on a weekly basis. It is added to your water for disinfection purposes, and as a safeguard against biological pathogens. The District buys water from the MWRA at times, therefore, sites throughout the system may have higher chlorine residual values than those of the treatment plant effluents.

DEFINITIONS TO HELP YOU UNDERSTAND TEST RESULTS:

Maximum Contaminant Level (MCL): 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.
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.
Secondary Maximum Contaminant Level (SMCL): These standards are developed to protect aesthetic qualities of drinking water and are not health based.
Maximum Residual Disinfectant Level (MRDL): 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.
Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
Not Detected (ND): Indicates that the substance was not found by laboratory analysis.
Not Applicable (N/A)

Massachusetts Office of Research and Standards Guideline (OSRG): This is the concentration of a chemical in drinking water at or below which adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.
Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements, which a water system must follow.
90th Percentile: 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.
Running Annual Average (RAA): The average of four consecutive quarters of data.
ppm (parts per million or mg/L): 1 drop in 10 gallons, 1 inch in 16 miles, or one penny in $10,000.
ppb (parts per billion or ug/L): 1 drop in 10,000 gallons, 1 inch in 16,000 miles, or one penny in $10,000,000.
ppt (parts per trillion or ng/L): 1 drop in 10,000,000 gallons, 1 inch in 16,000,000 miles or one penny in $10,000,000,000.
pCi/L: picocuries per liter (a measure of radioactivity)

UNREGULATED SUBSTANCES

The EPA has not established drinking water standards for the following parameters. The purpose of unregulated contaminant monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

Parameter, Units, and Testing Date/Schedule	Range	Max	Average	MCL	SMCL	Source
Hardness as $CaCO_3$ (ppm) 8/28/19	----------	127	127	No MCL	No SMCL	Erosion of natural deposits. Primarily composed of calcium and magnesium.
[3] Sodium (ppm) Quarterly 2023	60.4-108	108	82.2	No MCL. ORSG guideline = 20 ppm	No SMCL	Discharge from the use of or improper storage of sodium-containing deicing compounds. Also, in water softening agents.
Calcium (ppm) Quarterly 2023	18.1-35.7	35.7	26.1	No MCL	No SMCL	Erosion of natural deposits.
Iron (ppb) Quarterly 2023	ND-110	110	20	No MCL	300 ppb	Natural and industrial sources, as well as aging and corroding distribution systems and household pipes.
Potassium (ppm) 8/28/19	----------	7.97	7.97	No MCL	No SMCL	Erosion of natural deposits.
Magnesium (ppm) Quarterly 2023	5.41-10.7	10.7	7.64	No MCL	No SMCL	
Chloride (ppm) Quarterly 2023	68.4-251	251	159.6	No MCL	250 ppm	Discharge from the use of or improper storage of sodium or calcium-containing deicing compounds. Runoff and leaching from natural deposits; seawater influence.
[4] Manganese (ppb) Quarterly 2023	ND-30	30	10	No MCL. ORSG Lifetime Health Advisory (HA) = 300 ppb and Acute HA = 1000 ppb	50 ppb	Natural sources as well as discharges from industrial use.
Sulfate (ppm) Quarterly 2023	ND-14.7	14.7	6.3	No MCL	250 ppm	Erosion of natural deposits.
pH Quarterly 2023	7.9-8.5	8.5	8.1	No MCL	6.5-8.5	Corrosion of household plumbing systems/erosion of natural deposits.

[3] Some people who drink water containing sodium at high concentrations for many years could experience an increase in blood pressure.
[4] Infants and children who drink water containing manganese at high concentrations could develop learning and behavior problems. People with liver disease who drink water containing manganese at high concentrations could develop neurological disorders.

Perfluorobutane Sulfonic Acid (PFBS) (ppt) Monthly 2023	2.18-3.06	3.06	2.53	No MCL	No SMCL	Discharge and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including 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.
Perfluorohexanoic Acid (PFHxA) (ppt) Monthly 2023	2.01-4.1	4.1	3.01	No MCL	No SMCL	

UNDERSTANDING PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)

Since October 2020, MassDEP promulgated a PFAS public drinking water standard, called a Massachusetts Maximum Contamination Level (MMCL), of 20 nanograms per liter (ng/L) (or parts per trillion (ppt)) – individually or for the sum of the concentrations of six specific PFAS. These PFAS are perfluorooctane sulfonic acid (PFOS); perfluorooctanoic acid (PFOA); perfluorohexane sulfonic acid (PFHxS); perfluorononanoic acid (PFNA); perfluoroheptanoic acid (PFHpA); and perfluorodecanoic acid (PFDA). MassDEP abbreviates this set of six PFAS as "PFAS6." This drinking water standard is set to protect against adverse health effects for everyone consuming the water.

The District has a dedicated informational web page for PFAS information. Monthly testing results, previous public outreach initiatives, and more can be found at www.dwwd.org/pfas.

ORGANIC DISINFECTION BYPRODUCTS

Parameter, Units, and Testing Date/Schedule	Range of Individual Site Results	Maximum Quarterly Running Annual Average *(How compliance is calculated)*	MCL	MCLG	Compliance	Source
Total Trihalomethanes (ppb) Quarterly 2023	24-107	76	80	0	Yes	By-product of drinking water chlorination
Haloacetic Acids (ppb) Quarterly 2023	13-42	37	60	0	Yes	By-product of drinking water chlorination

LEAD AND COPPER

Presented below is data from our fall 2023 sampling event. A total of 31 samples were collected at MassDEP-approved sites. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently.

Parameter and Units	EPA's Action Level *(for sampling of customer homes with the highest risk)*	Maximum Contaminant Level Goal	Results	Compliance	Source
[5] Lead (ppb)	90% of all homes tested must be below 15 ppb	0 ppb	90% of all homes tested measured below 2 ppb.	Yes	Corrosion of household plumbing; erosion of natural deposits. There were NO sites with a value above the AL of 15 ppb.
[6] Copper (ppm)	90% of all homes tested must be below 1.3 ppm	1.3 ppm	90% of all homes tested measured below 0.09 ppm.	Yes	Corrosion of household plumbing; erosion of natural deposits; leaching from wood preservatives. There were NO sites with values above the copper AL of 1.3 ppm

[5] Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

[6] Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

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 Dedham-Westwood Water District 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.

The Lead & Copper Rule Revisions (LCRR) were announced in December 2021 by the United States Environmental Protection Agency (EPA) to better protect communities from exposure to lead in drinking water. The revised rule will require public water suppliers to create a lead service line inventory and replacement schedule by October 2024. In addition, sampling protocols have changed to better meet the science behind how lead and copper enter the water, and there are increased sampling requirements for schools and daycare facilities, which were previously not included in sampling programs. All public water suppliers across the country are required to comply with these new regulations.

The District formally launched its Water Service Line Inventory Project in September 2023 after being awarded a $907,400 State Revolving Fund Grant from the MassDEP and the Massachusetts Clean Water Trust to support the creation of an inventory that meets the LCRR. Significant public outreach was conducted to encourage customers to self-report their property's water service line material through multiple channels, including mailing postcards, our website, social media, newspapers, and tabling at local farmer's markets and town events.

Currently, inspections are being conducted by a district-hired engineering firm, Raybern Consulting, in association with Baystate Winnsupply. Customers who have an unidentified water service line will receive a series of mailed letters with instructions on how to schedule an inspection. If you receive a letter, please respond by booking an inspection appointment.

RADIONUCLIDES

Parameter, Units, and Testing Date/Schedule	Range of Individual Site Results	Max	MCL	MCLG	Compliance	Source
Gross Alpha Activity (pCi/L) 2/16/2023	ND-1.82	1.82	15	0	Yes	Erosion of natural deposits
Radium-226 (pCi/L) 2/16/2023	ND	ND	----------	----------	N/A	
Radium-228 (pCi/L) 2/16/2023	ND-1.08	1.08	----------	----------	N/A	
Combined Radium (pCi/L) 2/16/2023	1.08	----------	5	----------	Yes	