ANNUAL WATER QUALITY REPORT

Reporting Year 2024

Presented By

Tyngsborough Water District

PWS ID#: 3301000

Our Commitment

We are pleased to present to you this year's annual water quality report. This report is a snapshot of last year's water quality covering all testing performed between January 1 and December 31, 2024. Included are details about your sources of water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and providing you with this information because informed customers are our best allies.

Where Does My Water Come From?

Our water is purchased from the following sources: City of Lowell, which treats and filters water from the Merrimack River; and Pennichuck Water, which treats and filters water from the Merrimack River and Pennichuck Brook.

Substances That Could Be in Water

To ensure that tap water is safe to drink, U.S. EPA and Massachusetts Department of Environmental Protection (DEP) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration and Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

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.

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. 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.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the first and third Tuesday of each month, or as needed, at 7:00 p.m. at our office on 87 Progress Avenue, Unit 2.

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 can be particularly at risk from infections. These people should seek advice about drinking water from their health-care providers. U.S. Environmental Protection Agency (U.S. EPA)/Centers for Disease Control and Prevention (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 at (800) 426-4791 or epa.gov/safewater.

Water Conservation Tips

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Daniel Duchesne, Tyngsborough Water District Superintendent, at (978) 649-4577.

Lead in Home Plumbing

There is no safe level of lead in drinking water. Exposure to lead in drinking water can cause serious health effects in all age groups, especially pregnant people, infants (both formula-fed and breastfed), and young children. Some of the health effects to infants and children include decreases in IQ and attention span. Lead exposure can also result in new or worsened learning and behavior problems. The children of persons who are exposed to lead before or during pregnancy may be at increased risk of these harmful health effects. Adults have increased risks of heart disease, high blood pressure, kidney or nervous system problems. Contact your health-care provider for more information about your risks.

Lead in drinking water is primarily from materials and parts used in service lines and home plumbing. The Tyngsborough Water District is responsible for providing high-quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter certified by an American National Standards Institute-accredited certifier to reduce lead is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure it is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling does not remove lead from water.

Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, or doing laundry or a load of dishes. If you have a lead or galvanized service line requiring replacement, you may need to flush your pipes for a longer period. If you are concerned about lead and wish to have your water tested, contact Daniel Duchesne, Superintendent, at (978) 649-4577. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at epa.gov/safewater/lead.

To address lead in drinking water, public water systems were required to develop and maintain an inventory of service line materials by October 16, 2024. Developing an inventory and identifying the location of lead service lines (LSL) is the first step for beginning LSL replacement and protecting public health. A water service line inventory has been prepared, and no lead, galvanized requiring replacement, or lead status unknown service lines, known lead connectors, or connectors of unknown material were identified. Our statement that the inventory contains entirely nonlead services can be viewed at tyngsboroughwater.org/images/Tyngsborough-3301000-lcrr-nonlsl-statement.pdf. Please contact us if you would like more information about the inventory or any lead sampling that has been done.

Source Water Assessments

Pennichuck Water

A Source Water Assessment Plan (SWAP) is now available at the Pennichuck Water 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. If you would like to review the SWAP, please call Matt Day at (800) 553-5191.

SOURCE NAME	DATE *	LOW MED HIGH
Harris Pond Reservoir	7/5/01*	6–3–2
Supply Pond / Springs	7/5/01*	6–3–2
Merrimack River	10/25/01*	2–4–5

Lowell Regional Water Utility

A SWAP is available at the Lowell Regional Water Utility office; please contact Roger Hebert, Superintendent of Operations, at (978) 674-1677. A susceptibility ranking of high was assigned to this system using the information collected during the assessment by DEP.

BY THE NUMBERS

3.4 BILLION

The daily volume in gallons of water recycled and reused in the U.S., reducing waste and conserving resources.

28%

The percent reduction in per capita water use in the U.S. since 1980, thanks to efficiency improvements.

99.99%

The percent effectiveness of modern water treatment plants in removing harmful bacteria and viruses from drinking water.

1.2 MILLION

The length in miles of drinking water pipes in the U.S. delivering clean water to millions of homes and businesses daily.

1.7 MILLION

The number of jobs supported by the U.S. water sector.

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 is included, along with the year in which the sample was taken. We participated in the fifth stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR5) program by performing additional tests on our drinking water. UCMR5 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water to determine if it needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data is available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminant Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES

				Tyngsborough Water District		Pennichuck Water		Lowell Regional Water Utility			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2024	10	0	NA	NA	ND	NA	NA	NA	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2024	2	2	NA	NA	0.0064	ND–0.0064	NA	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2024	[4]	[4]	0.92	0.02–0.92	1.42	0.02–1.42	1.36	0.89–1.36	No	Water additive used to control microbes
Chlorite (ppm)	2024	1	0.8	NA	NA	NA	NA	0.45	0.17–0.45	No	By-product of drinking water disinfection
Combined Radium (pCi/L)	2015	5	0	NA	NA	0.5	ND–0.5	NA	NA	No	Erosion of natural deposits
Fluoride (ppm)	2024	4[1]	4	NA	NA	ND	NA	0.77	0.60–0.77	No	Water additive that promotes strong teeth
Gross Alpha Particle Activity (pCi/L)	2023	15	0	NA	NA	NA	NA	-0.700	NA	No	Erosion of natural deposits
Haloacetic Acids [HAAs] (ppb)	2024	60	NA	10[2]	1.1–19	10.5[2]	4.9–13	13[2]	ND–24	No	By-product of drinking water disinfection
Nitrate (ppm)	2024	10	10	NA	NA	0.47	ND–0.47	0.250	0.05–0.250	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite (ppm)	2023	1	1	NA	NA	0.20	ND–0.20	NA	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Perchlorate (ppb)	2024	2	NA	0.150	ND–0.150	NA	NA	ND	ND–0.16	No	Inorganic chemicals used as oxidizers in solid propellants for rockets, missiles, fireworks, and explosives
Perfluorohexanesulfonic Acid [PFHxS] (ppt)	2024	18	NA	NA	NA	0.773	NA	NA	NA	No	Discharge from industrial processes, wastewater treatment; Residuals from firefighting foam; Runoff/leachate from landfills and septic systems
Perfluorononanoic Acid [PFNA] (ppt)	2024	11	NA	NA	NA	ND	NA	NA	NA	No	Discharge from industrial processes, wastewater treatment; Residuals from firefighting foam; Runoff/leachate from landfills and septic systems
Perfluorooctanesulfonic Acid [PFOS] (ppt)	2024	15	NA	NA	NA	ND	NA	NA	NA	No	Discharge from industrial processes, wastewater treatment; Residuals from firefighting foam; Runoff/leachate from landfills and septic systems

REGULATED SUBSTANCES (CONTINUED)

				Tyngsborough Water District		Pennichuck Water		Lowell Regional Water Utility			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Perfluorooctanoic Acid [PFOA] (ppt)	2024	12	NA	NA	NA	3.9	NA	NA	NA	No	Discharge from industrial processes, wastewater treatment; Residuals from firefighting foam; Runoff/leachate from landfills and septic systems
PFAS6 (ppt)	2024	20	NA	8.78	NA	NA	NA	6.5	ND–6.5	No	Discharges and emissions from industrial and manufacturing sources associated with the production or use of moisture- and oil-resistant coatings on fabrics and other materials; Use and disposal of firefighting foams
Radium 228 (pCi/L)	2023	5	0	NA	NA	NA	NA	0.44	NA	No	Erosion of natural deposits
Sodium (ppm)	2024	NS	0	NA	NA	34.1	ND–34.1	35.2	ND–35.2	No	Erosion of natural deposits; Road salt; Water treatment chemicals
Total Organic Carbon [TOC] (ppm)	2024	TT	NA	NA	NA	0.77	ND–0.77	NA	NA	No	Naturally present in the environment
TTHMs [total trihalomethanes] (ppb)	2024	80	NA	27[2]	11–41	17.7[2]	6.7–37	45[2]	13–83	No	By-product of drinking water disinfection
Turbidity[3] (NTU)	2024	TT	NA	NA	NA	2.00	NA	0.165	NA	No	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	2024	TT = 95% of samples meet the limit	NA	NA	NA	100	NA	100	NA	No	Soil runoff
Uranium (ppb)	2024	30	0	NA	NA	ND	NA	NA	NA	No	Erosion of natural deposits

Tyngsborough Water District: Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	RANGE LOW-HIGH	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2023	1.3	1.3	0.140	NA	0/20	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2023	15	0	1.5	NA	0/20	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES[4]

		Tyngsborough Water District		Pennichuck Water		Lowell Regional Water Utility		
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromodichloromethane (ppb)	2024	NA	NA	NA	NA	6.1	0.09–6.1	By-product of drinking water disinfection
Chloroform (ppb)	2024	NA	NA	NA	NA	30.2	7.8–30.2	By-product of drinking water disinfection
MTBE (ppb)	2024	NA	NA	NA	NA	ND	ND–0.5	Gasoline additive
Perfluorohexanoic Acid [PFHxA] (ppb)	2023	0.0036	ND–0.0036	NA	NA	NA	NA	Industrial processes; Firefighting foam; Landfills; Wastewater treatment and septic systems
Perfluoropentanoic Acid [PFPeA] (ppb)	2023	0.0030	ND–0.0030	NA	NA	NA	NA	Industrial processes; Firefighting foam; Landfills; Wastewater treatment and septic systems
Sulfate (ppm)	2024	NA	NA	NA	NA	6.5	2.5–6.5	Naturally occurring

SECONDARY SUBSTANCES

				Tyngsborough Water District		Pennichuck Water		Lowell Regional Water Utility			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2024	250	NA	NA	NA	51	ND–51	NA	NA	No	Runoff/leaching from natural deposits
Hardness (ppm)	2024	NA	NA	NA	NA	11.7	NA	NA	NA	No	Naturally occurring
Iron (ppb)	2024	300	NA	NA	NA	ND	NA	NA	NA	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2024	50	NA	ND	NA	15.3	NA	NA	NA	No	Leaching from natural deposits
pH (units)	2024	6.5-8.5	NA	NA	NA	7.7	NA	8.1	7.7–8.1	No	Naturally occurring
Sulfate (ppm)	2024	250	NA	NA	NA	5	ND–5	NA	NA	No	Naturally occurring
Zinc (ppm)	2024	5	NA	NA	NA	0.19	ND–0.19	NA	NA	No	Runoff/leaching from natural deposits; Industrial wastes

[1] Fluoride also has an SMCL of 2.0 ppm. [2] Running annual average. [3] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. [4] 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.

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.

NS: No standard.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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.

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