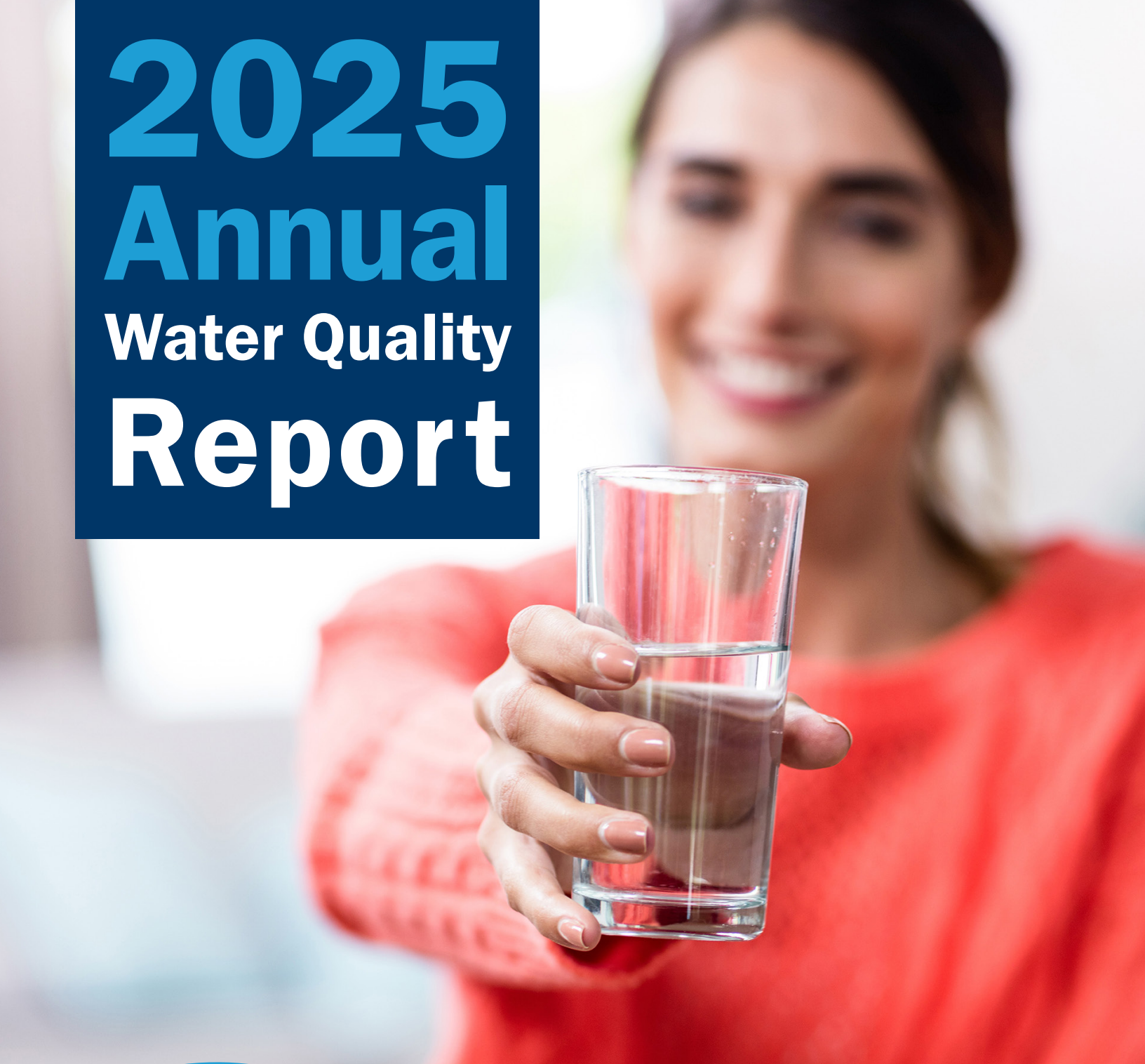
2025 Annual Water Quality Report



Portland Water District

Published May 2025

2024 water quality data

PWSID: ME 0091300 and ME 0091302

The Annual Water Quality Report empowers consumers with important information about their drinking water. It includes data required by the U.S. Environmental Protection Agency (EPA) and the Maine Drinking Water Program, along with additional information the Portland Water District believes consumers want to know. Our dedicated team takes great pride in providing the Greater Portland community with safe, great-tasting drinking water—every day.

Inside this report

Water Source

Your source of drinking water is Sebago Lake, Maine's deepest and second-largest lake. The quality of water in Sebago Lake is exceptional. Having a clean, unfiltered source means that your water:

- Tastes better because filtration uses additional chemicals and alters the natural mineral composition,
- Is less expensive; filtration could cost upwards of $200 million to install and several million more to operate per year, and
- Is safer, since keeping contaminants out of the water source is more effective than trying to remove them.

We take great pride in serving water sourced from Sebago Lake, Maine's second-largest and deepest lake. Surrounded by forests, the lake is exceptionally pure and of such high quality that it is exempt from the filtration requirements set by the Safe Drinking Water Act. Only about 50 out of 13,000 surface water supplies across the country are able to serve unfiltered water. Enjoy the taste of clean water straight from nature with every sip.

A Moderate Risk of Contamination

As water travels over the land or through the ground, it dissolves naturally occurring minerals and radioactive material, and can pick up substances resulting from human or animal activity. Although Sebago Lake is exceptionally clean, human activities on and around the lake can pose a risk to water quality. In 2003, the Maine Drinking Water Program evaluated all public water supplies as part of a state-wide evaluation known as the Source Water Assessment Program (SWAP). The assessment considered things like geology, hydrology, land uses, water testing information, and the extent of land ownership or protections through local ordinance to see how likely each Maine drinking water source is to being contaminated by human activities. Their report on Sebago Lake concluded that the lake is at **Moderate Risk** of contamination. Since the initial evaluation in 2003, PWD revisits the inventory and assessment periodically and monitors potential threats to the water quality of Sebago Lake. Overall risk assessment has not changed.

The most significant risks to the long-term quality of Sebago Lake, according to state officials, are boating and ice fishing in Lower Bay, and development around the shore. PWD maintains programs that are designed to minimize the risks of these activities. A copy of the SWAP assessment for Sebago Lake is available by calling (207) 761-8310 or by calling the Drinking Water Program at (207) 287-2070

A Shared Responsibility

At the Portland Water District, we are committed to protecting this extraordinary resource. In 2023 alone, we collaborated with more than 100 organizations — including local, state, and regional partners — to preserve and enhance the lake's exceptional water quality.

Through these strong partnerships, we continue to ensure that Sebago Lake remains clean, healthy, and accessible for generations to come.

Forests Provide the Best Filtration

Keeping the land surrounding Sebago Lake forested is one key to protecting water quality since forests naturally clean water by acting as a natural filter. PWD owns roughly 2,500 acres of land surrounding Sebago Lake and works with local land trusts and others, like Sebago Clean Waters, to help conserve forested land and protect water quality. These efforts have helped protect more than 15,000 acres of Sebago Lake watershed forest over the last 24 years.

Lowering the Risk of Contamination

Portland Water District employs multiple approaches to lower the risk, including:

- Extensive water quality monitoring
- Land and water use protection measures
- Shoreland zone inspections and pollution prevention
- Environmental education and outreach
- Land acquisition, conservation measures and easements, and forestry management

Ensuring Water Quality

Water Treatment and Disinfection

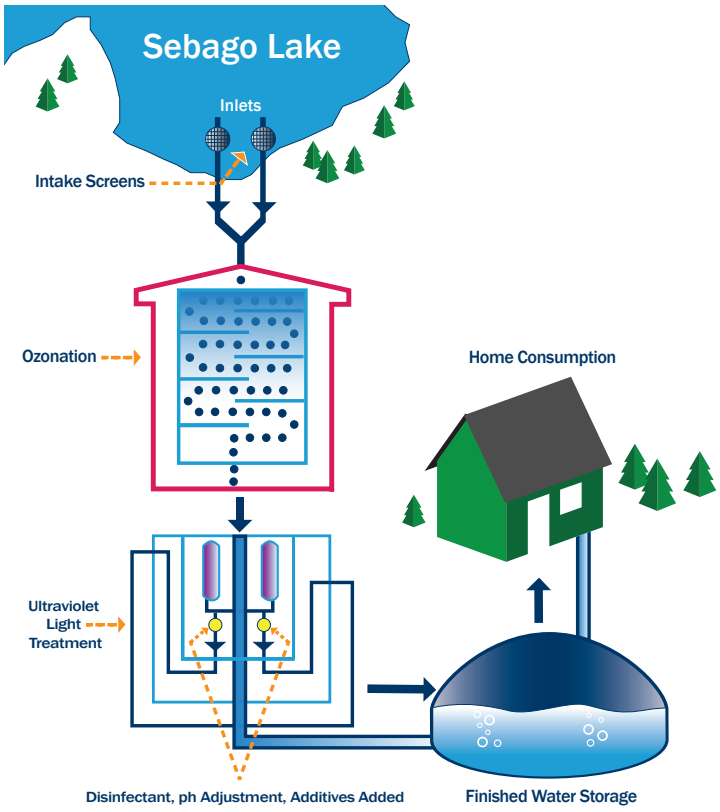
The Sebago Lake Water Treatment Facility is staffed by certified operators 24/7 to ensure safe, high-quality drinking water for our customers. Thanks to the exceptional purity of Sebago Lake, the facility is not required to filter the water — a rare distinction among surface water supplies.

Water is drawn from the lake through two large **intake pipes equipped with screens** that prevent fish and debris from entering the system. Once inside the plant, the water undergoes a robust multi-barrier disinfection process.

First, ozone gas is bubbled through the water. **Ozone** is a powerful disinfectant that destroys disease-causing organisms by breaking them apart at the molecular level. Next, the water is exposed to **ultraviolet (UV) light**, which further inactivates any remaining pathogens by damaging DNA.

Before the water enters the distribution system, we add a small dose of chloramines (a combination of chlorine and ammonia) to maintain a disinfectant residual as the water travels through 1,200 miles of pipe to homes and businesses.

To protect public health and infrastructure, the pH is adjusted using sodium hydroxide, making the water less corrosive. Zinc orthophosphate is also added to form a protective coating inside pipes, reducing corrosion and preventing metals from leaching into the water. Finally, fluoride is added in accordance with public health guidelines to support dental health.



PWD Confirmed No Lead Service Lines in both the Greater Portland and Steep Falls Water Systems

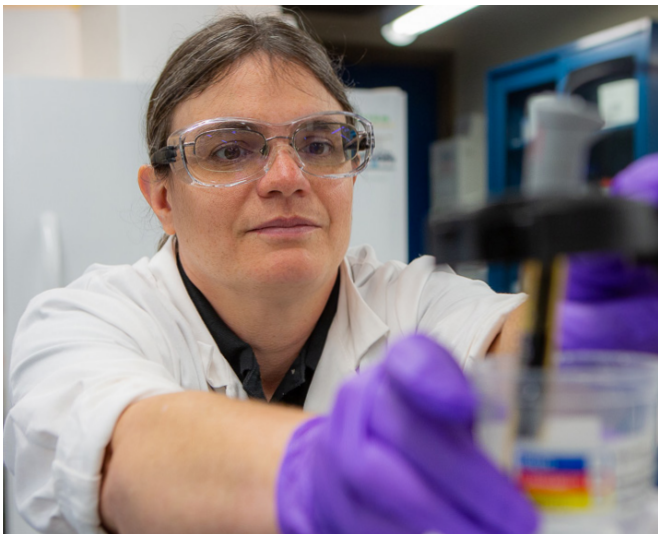
In 2024, PWD completed a comprehensive inventory of its water system and confirmed that no lead service lines or mains exist within the system. This work was completed ahead of the EPA deadline, which required all public water systems to document service line materials.

Over nearly a two-year period, PWD reviewed records for more than 56,000 privately owned service lines and performed inspections as needed. During the process, one non-active lead and three galvanized private service lines were identified and promptly replaced.

This achievement reflects our ongoing dedication to water quality and public health. The full certification and additional details can be found here: pwd.org/protecting-public-health-minimizing-lead-exposure.

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.

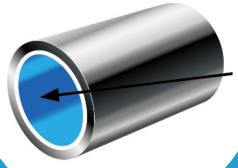
Public water systems are responsible for providing high quality drinking water and removing lead pipes, but cannot control the variety of materials used



in plumbing components in your home. You can identify and remove lead materials within your home plumbing and take steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at: http://www.epa.gov/safewater/lead

Chemistry for Corrosion Control

To protect the public from the potential of lead leaching from pipes and fixtures, the Portland Water District carefully adjusts the water's chemistry. Corrosion control treatment has been optimized since 2002.



Balanced Water Chemistry provides a protective layer to prevent pipe corrosion.

Water Quality Analysis

The Portland Water District's mission is to protect public health and provide high-quality water. Water quality professionals perform over 15,000 analyses per year to ensure safety. Monitoring and testing is routinely conducted for a range of microbial, organic, and inorganic contaminants. Water samples are tested by state-accredited laboratories including two Portland Water District laboratories which are accredited by the Maine Department of Health and Human Services. In 2024, your water met or surpassed every state and federal requirement for water quality.

Detected Regulated Substances

Regulated Substance		Detected in Portland's Drinking Water		EPA Standard		Sources
		Violation	Amount Detected in 2024 (unless otherwise noted)	Ideal Goal **MCLG**	Highest Level Allowed **MCL**	
Regulated at the treatment facility						
Turbidity (NTU)		**No**	Average: 0.28 Range: 0.17 - 0.41	None	5	Soil runoff
Barium (mg/L)		**No**	0.004	2	2	Erosion of natural deposits
Chloramine (mg/L)		**No**	Average: 2.19 Range: 1.10 - 2.60	MRDLG=4	MRDL=4	A water additive used to control microbes
Regulated in the distribution system						
Fluoride (mg/L)		**No**	Average: 0.65 Range: 0.58 - 0.80	4	4	Water additive which promotes strong teeth; erosion of natural deposits
Total coliform bacteria*		**No**	Highest % detected: 1.45% in the month of October Monthly Range: 0.0% - 1.45%	0% of monthly samples	No more than 5% of monthly samples	Naturally present in environment
			Average / Range			
Total Trihalomethanes TTHM (µg/L)	Duck Pond Variety	**No**	0.6 / 0.0 - 1.0	0	80	By-product of drinking water disinfection
	South Windham Post		0.6 / 0.0 - 1.0			
	Cumberland Town Hall		1.0 / 0.7 - 1.4			
	Mackworth Booster Station		0.8 / 0.6 - 0.9			
Total Haloacetic Acids THAA (µg/L)	Duck Pond Variety	**No**	8.1 / 5.1 - 11.0	0	60	By-product of drinking water disinfection
	South Windham Post		8.6 / 7.0 - 11.0			
	Cumberland Town Hall		8.9 / 5.9 - 12.0			
	Mackworth Booster Station		9 / 6.7 - 11.0			
Regulated at the customer's tap						
Copper (mg/L), 2023	90th Percentile**	**No**	0.3939 Range (0.033 - 0.532 mg/L)	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (µg/L), 2023	90th Percentile**	**No**	1.98 Range (0 - 3.8 µg/L)	0	AL = 15	Corrosion of household plumbing systems

Footnotes:
*Annual detection - 3 in 1610 samples; monthly detection - September (1 in 139 samples or 0.72%); October (2 in 138 samples or 1.45%).
** 90th Percentile: 90 percent of the samples were less than the value shown.

Undetected Contaminant List
The following is a list of contaminants that were tested for in 2024 and were not detected in Greater Portland's drinking water.

INORGANIC CONTAMINANTS Bromate; Nitrite; Nitrate; Antimony; Arsenic; Beryllium; Cadmium; Chromium; Cyanide; Iron; Mercury; Nickel; Selenium; Silver; Thallium; Uranium; Perfluorinated and Polyfluorinated Alkyl Substances (PFAS). VOLATILE ORGANIC CHEMICAL Benzene; Carbon tetrachloride; Chlorobenzene; 1,2 Dichloropropane; 1,2-Dichlorobenzene; 1,4-Dichlorobenzene; 1,1-Dichloroethene; 1,2-Dichloroethane; Dinoseb; Ethylbenzene; Methyl-t-butyl ether (MBTE); Methylene chloride; Pentachlorophenol; Styrene; Tetrachloroethene; Toluene; Toxaphene; Trichloroethene; 1,2,4-Trichlorobenzene; 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Vinyl chloride; Xylene. RADIONUCLIDES Gross Alpha.

Unregulated Substances, Ongoing research for new regulations No PFAS compounds or lithium were detected.

In 2024, under the EPA's 5th Unregulated Contaminant Monitoring Rule (UCMR5), the treated drinking water was tested quarterly for 29 PFAS compounds and lithium. The sampling occurred on 03/13/24, 06/11/24, 09/03/24, and 12/10/24.

Unregulated Substances are those that don't yet have a drinking water standard set by the USEPA. The purpose of monitoring for these contaminants is to help EPA decide whether or not they should be regulated.

Notes

Turbidity: Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

Total Coliform Bacteria: Reported as the highest monthly percentage of positive samples for water systems that take more than 40 samples per month.

E. coli: *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems.

Lead/Copper: Action levels (AL) are measured at consumer's tap. 90% of the tests must be equal to or below the action level.

Fluoride: For those systems that fluoridate, fluoride levels must be maintained between 0.5 to 1.2 ppm. The optimum level is 0.7 ppm.

TTHM/HAA5: Total Trihalomethanes and Haloacetic Acids (TTHM and HAA5) are formed as a by-product of drinking water chlorination. This chemical reaction occurs when chlorine combines with naturally occurring organic matter in water. Compliance is based on LRAA.

Mineral Content and Secondary Standards

Substance	Maine Recommended Limit	Result	Likely Source
Chloride (mg/L)	250	10	Natural mineral, road salt
Color (CPU)	15	<5	Natural characteristic
Hardness (mg/L as CaCO3)	150	7.2	Natural mineral
Iron (mg/L)	0.3	0.063	Natural mineral
Manganese (mg/L)	0.05	0.0036	Natural mineral
Sodium (mg/L)	100	10.2	Natural mineral, road salt
Sulfate (mg/L)	250	2	Naturally occurring
Magnesium (mg/L)	–	<1	Natural mineral
Calcium (mg/L)	500	2.9	Natural mineral
Zinc (mg/L)	5	0.115	Natural mineral, corrosion control additive

Definitions

MCL: Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water.

MCLG: Maximum Contaminant Level Goal. The level of a contaminant in drinking water below which there is no known or expected risk to health.

MRDL: Maximum Residual Disinfectant Level. The highest level of a disinfectant allowed in drinking water.

MRDLG: Maximum Residual Disinfection 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.

LRAA: Locational Running Annual Average. An annual average calculated at each monitoring site.

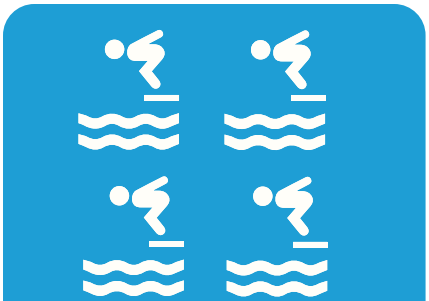
Variances and Exemptions: State permission not to meet MCL or a treatment technique under certain conditions.

AL = Action Level: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow. Action Levels for Lead and Copper are measured at the tap of "high-risk" homes. Ninety percent of tests must be equal to or below the Action Level.

Turbidity: The measurement of cloudiness or suspended colloidal matter (silt). As you can see from the table, all of the samples taken of our water system were well below 5 ntus.

Units

ppm = parts per million
or milligrams per liter (mg/L)
one drop in a large tub



ppb = parts per billion or
micrograms per liter (µg/L)
one drop in four swimming pools

ppt = parts per trillion or
nanograms per liter (ng/L) –
one drop in a small lake

pCi/L = picocuries per liter (a measure of radioactivity)

NTU= Nephelometric Turbidity Units

EPA Health Notice

Drinking water, including bottled water, may reasonably be expected to contain impurities or contaminants. However, these contaminants do not necessarily indicate that water poses a health risk and may include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally occurring or 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 can also come from gas stations, urban runoff, and septic systems.

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

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. EPA/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 (1-800-426-4791) or at the following link: www.epa.gov/ccr/forms/contact-us-about-consumer-confidence-reports.

Steep Falls Water System

The Steep Falls water system is separate from the Greater Portland water system and serves a small number of customers. Some components of the Water Quality Report do not apply to the Steep Falls system. Sections of the Annual Water Quality Report applicable to Steep Falls are provided below.

Your Source of Water and Ensuring Water Quality

The Steep Falls well system in Standish supplies approximately 300 people with drinking water. Treatment includes sodium hypochlorite (chlorine) for disinfection, sodium hydroxide for pH adjustment and corrosion control, aeration for radon removal, and sodium fluoride for dental health.

The Maine Drinking Water Program is transitioning Portland Water District to a new waiver process for synthetic organic compounds (pesticide, herbicide, carbamate and PCB). Portland Water District tested for these compounds in 2024 and will re-apply for a waiver in 2025. Prior waivers were granted based on past water quality test results and the absence of certain land use around the wells.

Regulated Substance	Detected in Steep Falls Drinking Water		EPA Standard		Source
	Violation	Amount Detected in 2024 (unless otherwise noted)	Ideal Goal MCLG	Highest Level Allowed MCL	
Regulated at the treatment facility					
Barium (mg/L), 2023	No	0.0049	2	2	Erosion of natural deposits.
Radon (pCi/L)	No	2,938	4000	4000	Erosion of natural deposits.
Uranium (mg/L), 2023	No	3.5	0	30	Erosion of natural deposits.
Nitrate - nitrogen (mg/L)	No	0.78	10	10	Erosion of natural deposits.
Chlorine (mg/L)	No	Average 1.48 Range 1.05 - 1.79	MRDL=4	MRDL=4	A water additive used to control microbes.
Regulated in the distribution system					
Total coliform bacteria	No	0	0	1 pos/month	Naturally present in the environment
Fluoride (mg/L)	No	Average 0.68 Range 0.55 - 0.77	4	4	Erosion of natural deposits. Water additive which promotes strong teeth.
Total Trihalomethanes TTHM (µg/L), 2022	No	3.1	0	80	By-product of drinking water disinfection.
Regulated at the customer's tap					
Lead (µg/L) 90th Percentile*	No	0	0	AL =15	Corrosion of household plumbing systems.
Copper (mg/L) 90th Percentile*	No	0.085 Range 0.005-0.122	1.3	AL = 1.3	Corrosion of household plumbing systems.

Footnotes:
*90th percentile: i.e., 90 percent of the samples were less than the value shown.

Please refer to page 9 of the booklet for definitions

Undetected Contaminant List

The following is a list of contaminants, regulated and non-regulated, that were tested for in 2024 and not detected in the drinking water treated at the Steep Falls Water Treatment Facility. MICROBIOLOGICAL Total Coliform; *E. coli.* INORGANIC CONTAMINANTS Lead. RADIONUCLIDES Radium-228.

Notes

Radon: Maine adopted a Maximum Exposure Guideline (MEG) for Radon in drinking water at 4000 pCi/L, effective 1/1/07. If Radon exceeds the MEG in water, treatment is recommended. It is also advisable to test indoor air for Radon. Radon at a level of 2,938 pCi/L was detected in Steep Falls' well water after aeration treatment. Radon is found in the soil and bedrock formations and is a water-soluble, gaseous by-product of uranium. Most radon is released to the air moments after turning on the tap. Only about 1-2 percent of radon in the air comes from drinking water. Inhalation of radon increases the risk of lung cancer over the course of your lifetime.
Nitrate: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health provider.

More Information

The Portland Water District's Board of Trustees meets twice a month. The public is encouraged to attend in person. Meetings are also live-streamed and available On Demand: **www.pwd.org/trustee-meetings.**

Please share this information with anyone who drinks this water (or their guardians), especially those who may not receive this report directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this report in a public place or distributing copies by hand, mail, email, or another method.

Environmental Protection Agency
800.426.4791
www.epa.gov/safewater/

National Centers for Disease Control
404.639.3311 • www.cdc.gov

American Water Works Association
303.794.7711 • www.awwa.org

Maine Drinking Water Program
207.287.2070 • www.maine.gov

Portland Water District
From Sebago Lake to Casco Bay

Contact Us

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