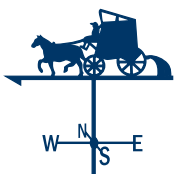




Annual Water Quality Report



**Portland
Water
District**



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Inside this Report

The Water Source

- Ensuring Water Quality: Water Purification and Disinfection
- New Rules in the News
- Water Quality Analysis
- Steep Falls Supplemental Information



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The Annual Water Quality Report provides consumers with information about their drinking water. The report includes water quality information required by the U.S. Environmental Protection Agency (EPA) and the Maine Drinking Water Program, as well as information that Portland Water District believes is important for consumers to know about their drinking water. Portland Water District's dedicated team is proud of the great-tasting, safe drinking water delivered to homes and businesses in the Greater Portland Area.

Consistently, customers rank their satisfaction with water quality very highly.



2023 Customer Engagement Survey



Sebago Lake Watershed Conserved Land

Water Source

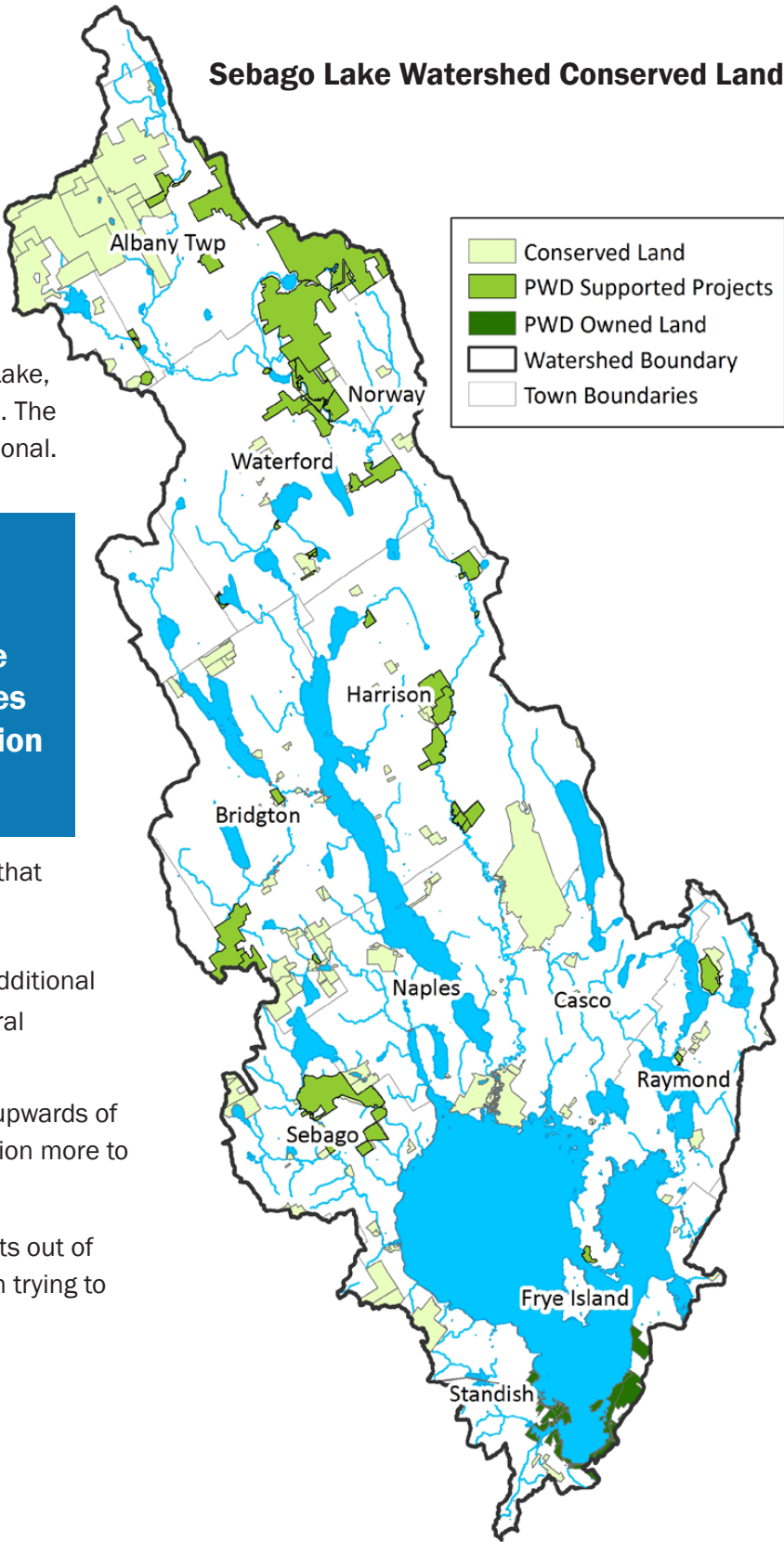
Your source of drinking water is Sebago Lake, Maine's deepest and second-largest lake. The quality of water in Sebago Lake is exceptional.



It is so good, in fact, that it is exempt from filtration by the EPA. Only about 50 of the 13,000 surface water supplies in the U.S. are granted filtration exemptions.

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.
- Stays safer, since keeping contaminants out of the water source is more effective than trying to remove them.



A Shared Responsibility

Sebago Lake is not just a drinking water supply. It is a treasured public resource that is used by many people in many different ways. Portland Water District works with a variety of partners to keep the water quality exceptional. In 2023 alone, Portland Water District worked collaboratively with more than 100 organizations to preserve water quality.

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.

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. Portland Water District has 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



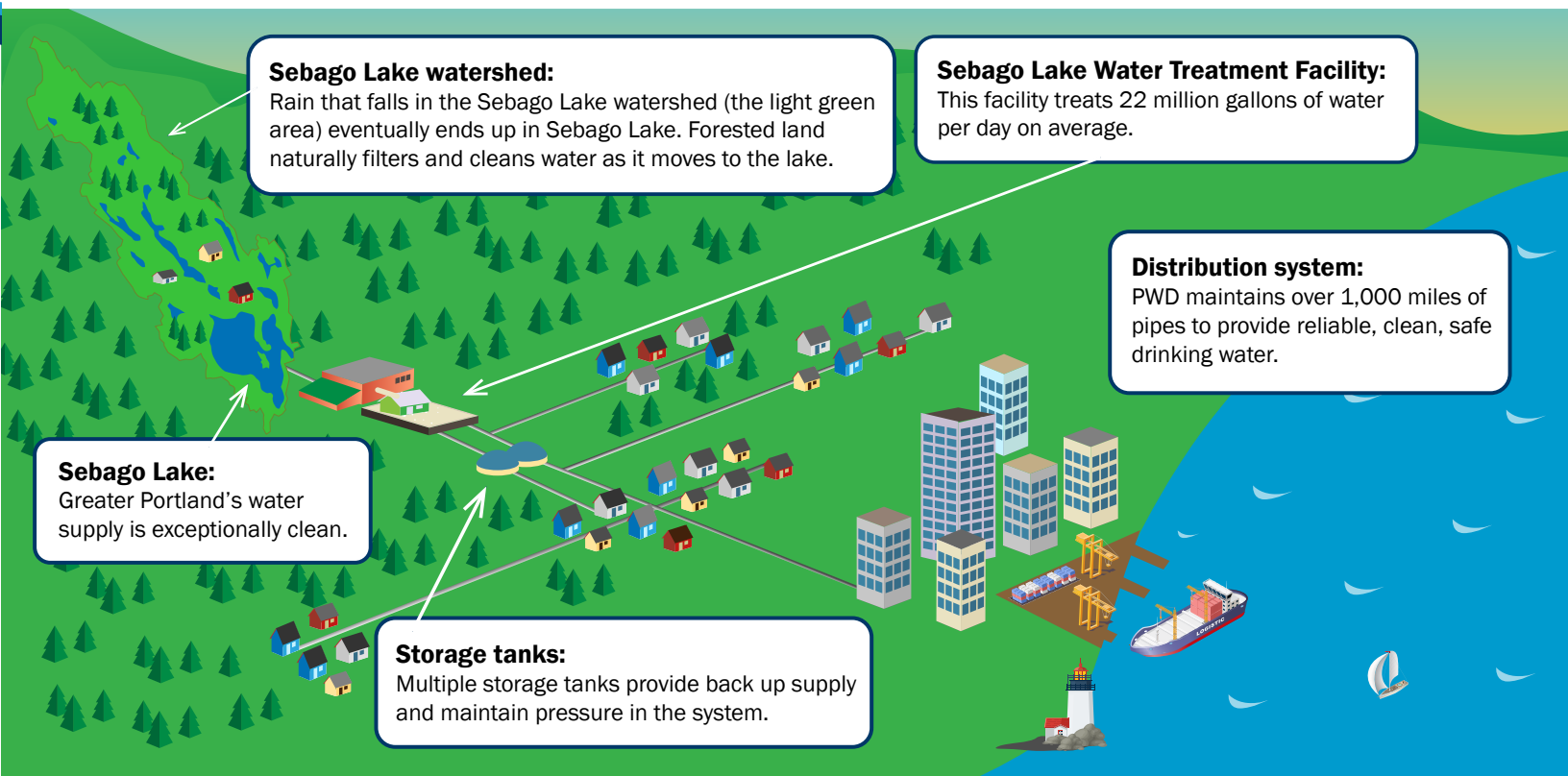
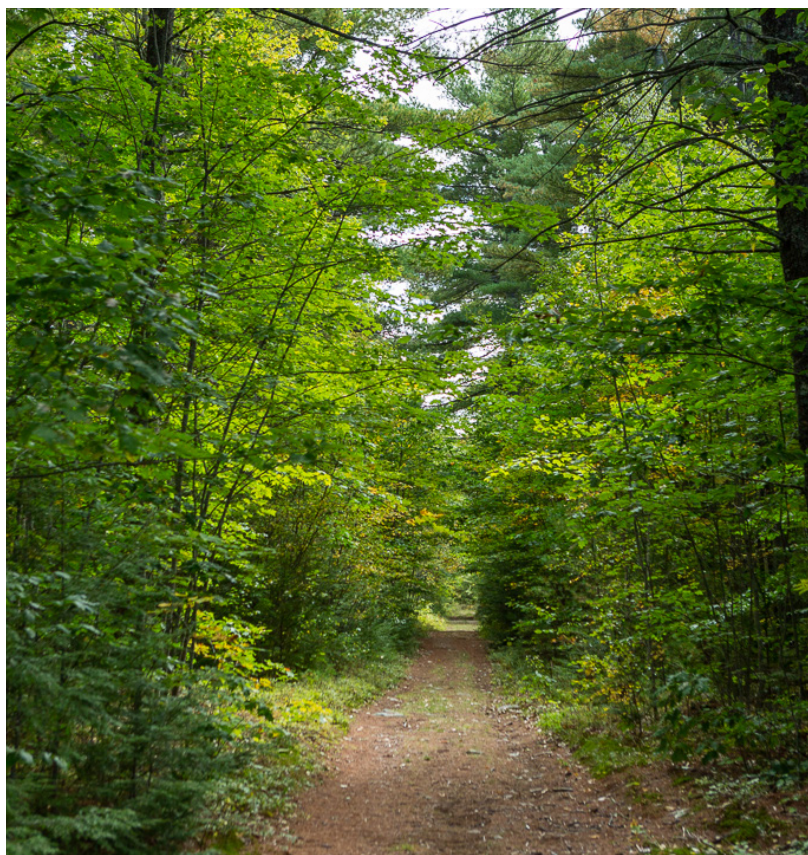
Lowering the Risk of Contamination

Because Sebago Lake is used for different purposes, Portland Water District's efforts to decrease the risk of contamination involve multiple approaches, 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

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. This natural filtration results in higher quality water which is less difficult and expensive to treat. Portland Water District owns roughly 2,500 acres of land surrounding Sebago Lake and works with local land trusts and others, like Sebago Clean Waters, to help landowners 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.



Ensuring Water Quality

Water Purification and Disinfection

The Sebago Lake Water Treatment Facility is located at the source in Standish and is run by certified operators 24/7. The water is cleaned and disinfected, but filtration is not required because of the purity of Sebago Lake.

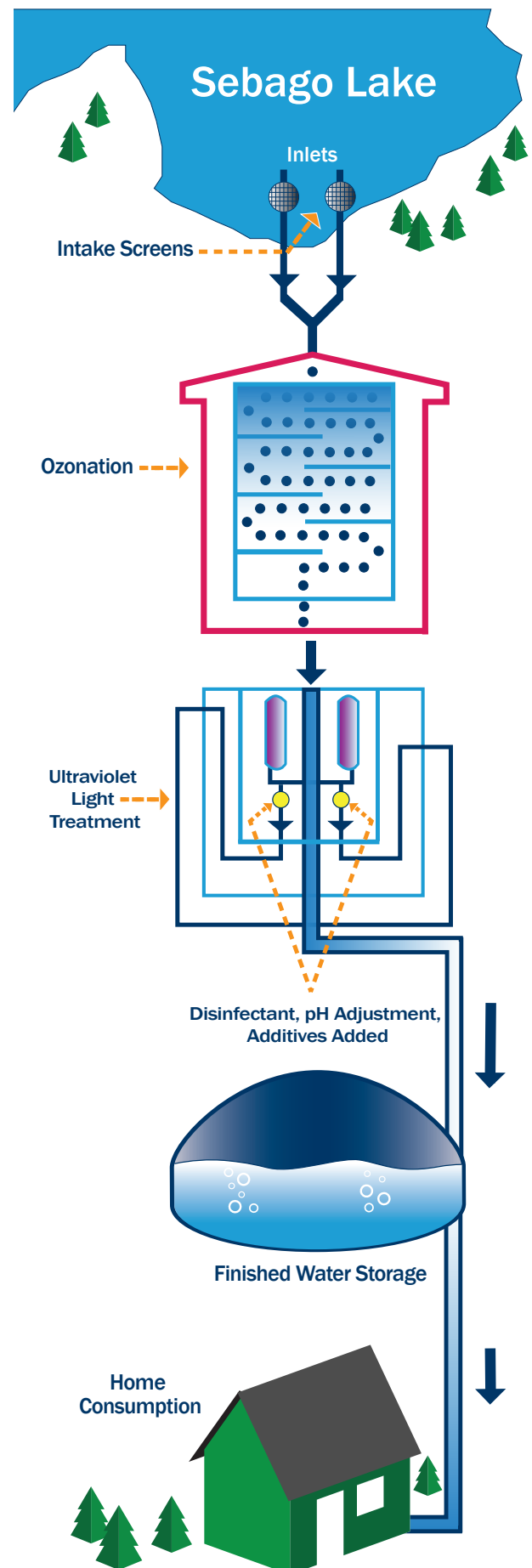


Water is drawn from the lake through two large intake pipes with screens that prevent fish and debris from entering the treatment plant.

Disinfection is accomplished through ozonation and ultraviolet light treatment. First, ozone gas is bubbled through the water. Ozone is an excellent disinfectant because it breaks apart any disease-causing organisms that may be present, rendering them harmless. PWD then uses ultraviolet light (UV) to disinfect the water further. UV light disrupts and destroys the DNA of disease-causing organisms.

Before entering the distribution system, a small dose of chloramines is added to ensure a long-lasting disinfection as the water travels through many miles of pipe to customer taps.

Lastly, the pH is adjusted using sodium hydroxide to make the water less corrosive. Zinc orthophosphate is also added because it coats the pipes which reduces corrosion and keeps metals from dissolving into the water. Fluoride is added for dental health.



New Rules in the News

Rule strengthens existing lead standards

Under new rules, public water systems are required to examine and identify pipe material on both the utility-side and customer-side of the water service lines. Water service lines are the pipes that connect individual buildings to the larger water mains in streets.

There is no measurable lead in Sebago Lake, but lead can enter drinking water through plumbing materials and fixtures containing lead.

Records indicate there are no utility-side lead service lines. PWD is working to determine if there are any lead service lines on the customer-owned portions of the water service lines.



PWD has investigated over 99% of the water service lines in the system and has not identified any customer-owned lead service lines to date. The investigation is ongoing and will be completed by October 16, 2024.

If you are concerned about lead in your drinking water, you can have your water tested. Information on lead in drinking water can be found on the www.pwd.org/lead or www.epa.gov/safewater/lead

EPA Announces New PFAS Rule and PWD Meets Standards

On April 10, 2024, the federal government finalized national drinking water standards to protect communities from exposure to per-and polyfluoroalkyl substances (PFAS), also known as ‘forever chemicals.’ The rule sets PFOA and PFOS Maximum Contaminant Levels at 4.0 parts per trillion, individually.

Most recently, the Greater Portland water system was tested in March of 2024, and no measurable amount of PFAS was found in the water. Also, PWD analyzed both the Greater Portland and Steep Falls water systems under Maine State rule in July 2022, and no measurable amount of PFAS was detected.

Per and polyfluoroalkyl substances, more commonly known as PFAS, are a class of chemicals that resist grease, water, oil, and heat; over 9000 have been identified. They are found virtually everywhere in the environment because they have been used in many consumer products since the 1940s. Cookware with non-stick coatings, food packaging, carpets, cosmetics, furniture and firefighting foam contain PFAS.

PWD is committed to protecting public health and supports keeping PFAS out of the environment and efforts made to reduce PFAS at its sources, including keeping them out of consumer products. PWD is proactively engaged at the local, state, and national levels, exploring solutions to combat the widespread PFAS problem.

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 2023, 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 2023 (unless otherwise noted)	Ideal Goal MCLG	Highest Level Allowed MCL		
Regulated at the treatment facility							
Turbidity (NTU)		No	Average: 0.23 Range: 0.16 - 0.48	None	5	Soil runoff	
Barium (mg/L)		No	0.0035	2	2	Erosion of natural deposits	
Chloramine (mg/L)		No	Average: 2.15 Range: 1.09 - 2.52	MRDLG=4	MRDL=4	A water additive used to control microbes	
Bromate (µg/L)		No	Average: 0.25 Range: 0.0 - 1.0	0	10	By-product of drinking water disinfection	
Regulated in the distribution system							
Fluoride (mg/L)		No	Average: 0.68 Range: 0.60 - 0.82	4	4	Water additive which promotes strong teeth; erosion of natural deposits	
Total coliform bacteria*		No	Highest % detected: 0.67% in the month of June Monthly Range: 0.0% - 0.67%	0% of monthly samples	No more than 5% of monthly samples	Naturally present in environment	
E. coli bacteria*		No	Highest % detected: 0.67% in the month of June Monthly Range: 0.0% - 0.67%	0% of monthly samples	No more than 5% of monthly samples	Naturally present in environment	
Total Trihalomethanes TTHM (µg/L)	Duck Pond Variety	No	Average 0.9	Range 0.7 - 1.1	0	80	By-product of drinking water disinfection
	South Windham Post		1.1	0.9 - 1.1			
	Cumberland Town Hall		1.2	0.9 - 1.4			
	Mackworth Booster Station		0.9	0.8 - 1.0			
Total Haloacetic Acids THAA (µg/L)	Duck Pond Variety	No	8.3	6.4 - 9.3	0	60	By-product of drinking water disinfection
	South Windham Post		8.5	7.3 - 10			
	Cumberland Town Hall		10.7	9.8 - 11			
	Mackworth Booster Station		8.1	6.1 - 10			
Regulated at the customer's tap							
Copper (mg/L)**	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)***	90th Percentile****	No	1.98 Range (0-3.8 µg/L)	0	AL = 15	Corrosion of household plumbing systems	

All other compounds tested for were not detected.

Footnotes:

*Annual detection - 1 in 1605 samples; monthly detection - June 1 in 149 samples or 0.67%.

**In 2023 the maximum value for copper was 0.532 mg/L.

***In 2023 the maximum value for lead was 3.8 µg/L.

****90th Percentile: i.e., 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 2023 and were not detected in Greater Portland's drinking water.

INORGANIC CONTAMINANTS Nitrite; Nitrate; Antimony; Arsenic; Asbestos; Beryllium; Cadmium; Chromium; Cyanide; Iron; Mercury; Nickel; Selenium; Silver; Thallium; Uranium. 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. SYNTHETIC ORGANIC CHEMICALS Alachlor; Aldicarb; Aldicarb sulfone; Aldicarb sulfoxide; Atrazine; Benzo(a)pyrene; Carbaryl; Carbofuran; Chlordane; 2,4-D; bis (2-ethylhexyl)adipate; bis(2-ethylhexyl)phthalate; Dinoseb; Endrin; Heptachlor; Heptachlor epoxide; Hexachlorobenzene; Hexachlorocyclopentadiene; 3-Hydroxycarbofuran; Lindane; Methoxychlor; Methomyl; Oxamyl (Vydate); Pentachlorophenol; Picloram; Propoxur; 2,4,5-TP(Silvex); Simazine; Toxaphene. chloride, Perfluorinated and Polyfluorinated Alkyl Substances (PFAS)

Detected Unregulated Substances, Ongoing research for new regulations

Unregulated contaminant	Violation	Health Advisory, µg/L	Range of Results		Source	
			Average	Range		
Treated drinking water						
Manganese, ug/L ¹	No	No EPA health data	1.6	1.59 - 1.86	Naturally occurring element in water sources and soils.	
Total Organic Carbon, ug/L ²	No	No EPA health data	3310	2440 - 4180	Decay of natural organic materials and synthetic sources.	
Dichloroacetic Acid (ug/L)	No	No EPA health data	Duck Pond Variety	7.7	6.4 - 8.7	By-product of drinking water chlorination.
			South Windham Post	7.4	6.5 - 8.1	
			Cumberland Town Hall	6.8	7.7 - 11.0	
			Mackworth Booster Station	7.6	6.1 - 8.8	
Monochloroacetic Acid (ug/L)	No	No EPA health data	Duck Pond Variety	2.2	NA	By-product of drinking water chlorination.
			South Windham Post	2.4	2.1 - 2.8	
			Cumberland Town Hall	2.8	2.6 - 3.0	
			Mackworth Booster Station	2.6	NA	

¹ In 2020, the treated water was sampled for manganese.

² In 2020, the raw water was sampled for total organic carbon.

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

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 running annual average.

Mineral Content and Secondary Standards

Substance	Maine Recommended Limit	Result	Likely Source
Chloride (mg/L)	250	11	Natural mineral, road salt
Color (CPU)	15	<5	Natural characteristic
Hardness (mg/L as CaCO3)	150	7.7	Natural mineral
Iron (mg/L)	0.3	0.015	Natural mineral
Manganese (mg/L)	0.05	0.0016	Natural mineral
Sodium (mg/L)	100	10.3	Natural mineral, road salt
Sulfate (mg/L)	250	2	Naturally occurring
Magnesium (mg/L)	-	<1	Natural mineral
Calcium (mg/L)	500	3.1	Natural mineral
Zinc (mg/L)	5	0.0945	Natural mineral , corrosion control additive

About the Regulations

The Federal Safe Drinking Water Act directs the state of Maine, along with the EPA, to establish and enforce drinking water standards. The standards set limits on certain substances sometimes found in drinking water. Two types of standards have been established. **Primary drinking water standards** set achievable levels of drinking water quality to protect your health. **Secondary drinking water standards** provide guidelines regarding the taste, odor, color, and other aesthetic aspects of your drinking water, which do not present a health risk.

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.

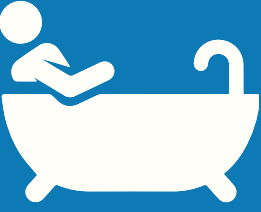
LRAA: Locational Running Annual Average. An annual average calculated at each monitoring site.

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

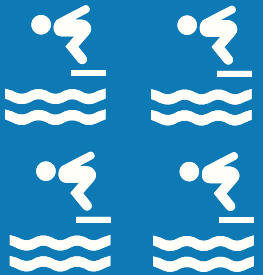
AL = Action Level: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow. Action Levels for Lead and Copper are measured at the tap of “high-risk” homes. Ninety percent of tests must be equal to or below the Action Level.

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 2023 and will re-apply for a waiver in 2024. 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 Fall's Drinking Water		EPA Standard		Source
	Violation	Amount Detected in 2023 (unless otherwise noted)	Ideal Goal MCLG	Highest Level Allowed MCL	
Regulated at the treatment facility					
Barium (mg/L)	No	0.0049	2	2	Erosion of natural deposits
Radon (pCi/L)	No	2.554	4000	4000	Erosion of natural deposits
Uranium (mg/L)	No	3.5	0	30	Erosion of natural deposits
Nitrate - nitrogen (mg/L)	No	1.02	10	10	Erosion of natural deposits, fertilizer runoff, leaching septic tanks
Chlorine (mg/L)	No	Average 1.29 Range 0.96 - 1.56	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 0.65 Range 0.58 - 0.77	4	4	Water additive which promotes strong teeth; erosion of natural deposits
Total Trihalomethanes TTHM (µg/L)*	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	0.11 Range 0.011 - 0.014	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits

Footnotes:

*Trihalomethane collected from Steep Falls Post Office in September 2022.

** The maximum value for copper was 0.140 mg/L in June 2021

*** 90th Percentile: i.e., 90 percent of the samples were less than the values shown

Please refer to page 10 of the booklet for definitions

Undetected Contaminant List

The following is a list of contaminants, regulated and non-regulated, that were tested for in 2023 and **not detected** in the drinking water treated at the Steep Falls Water Treatment Facility. MICROBIOLOGICAL Total Coliform; E. coli. INORGANIC CONTAMINANTS Nitrite; Antimony; Arsenic; Asbestos; Beryllium; Cadmium; Chromium; Cyanide; Iron; Mercury; Nickel; Selenium; Silver; Thallium. 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. SYNTHETIC ORGANIC CHEMICALS Alachlor; Aldicarb; Aldicarb sulfone; Aldicarb sulfoxide; Atrazine; Benzo(a)pyrene; Carbaryl; Carbofuran; Chlordane, 2,4-D; bis (2-ethylhexyl) adipate; bis(2-ethylhexyl)phthalate; Dinoseb; Endrin; Heptachlor; Heptachlor epoxide; Hexachlorobenzene; Hexachlorocyclopentadiene; 3-Hydroxycarbofuran; Lindane; Methoxychlor; Methomyl; Oxamyl (Vydate); Pentachlorophenol; Picloram; Propoxur; 2,4,5-TP(Silvex); Simazine; Toxaphene, Diquat; Endothall.

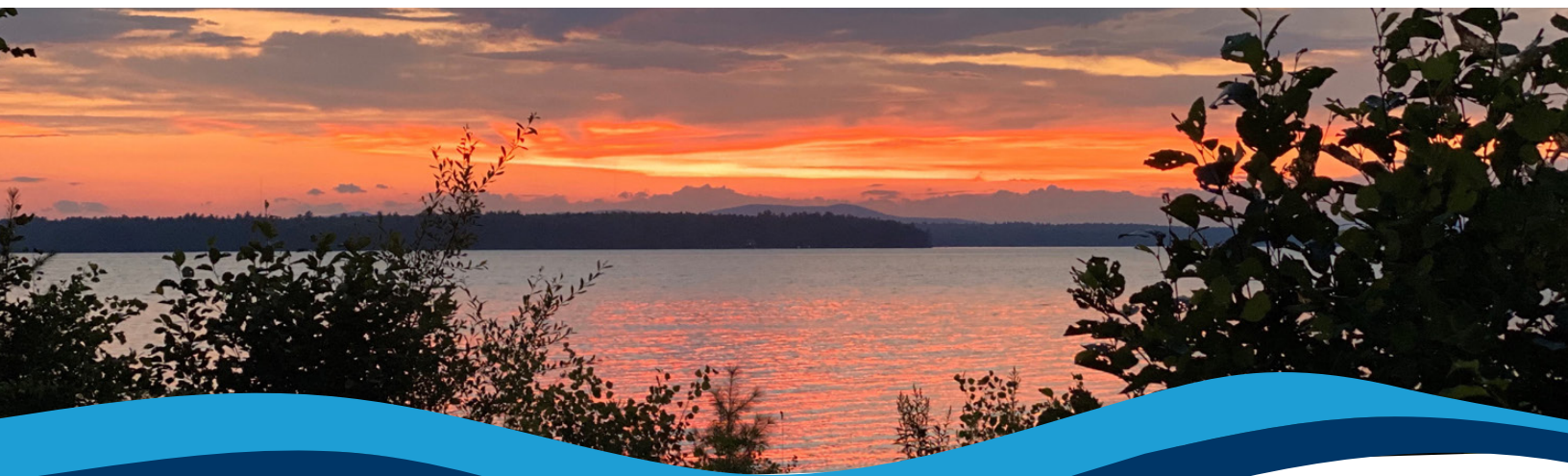
Notes

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 2,554 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.



Contact Us

www.pwd.org • 207.761.8310
(Monday through Friday between
8:00 a.m. and 4:30 p.m.)
Customerservice@pwd.org



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