



ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2024



BRUNSWICK & TOPSHAM
WATER DISTRICT

PWS ID#: 0090260

Our Mission Continues...

We are pleased to present our annual water quality report covering testing performed between January 1 and December 31, 2024. Our team remains committed to providing safe, high-quality drinking water while exploring innovative ways to improve service. As new challenges arise, we continue to focus on protecting our water sources, promoting conservation, and keeping our community informed. Have questions? We're here to help!

Source Water Assessment Program

In 1996 amendments to the federal Safe Drinking Water Act required each state to complete assessments for each public water supply source. The assessments identify and describe conditions that may threaten the quality of water available to consumers. These assessments are the focus of Maine's Source Water Assessment Program (SWAP). The State of Maine Drinking Water Program (DWP) completed its SWAP report for the Brunswick and Topsham Water District in 2003. The report was sent to municipal officials in Brunswick and Topsham. The report can be viewed by contacting the Brunswick and Topsham Water District.

The responsibility for protecting public water supply sources from contamination falls largely to the public water suppliers. But municipal officials, not water suppliers, make land-use decisions. This means that protection of public water supplies requires a partnership between water suppliers, state and federal regulators, local landowners, and municipalities.

Categories of risk evaluation for public water sources include well type and site geology, existing and future risk of acute contamination, and existing and future risk of chronic contamination. The following is a summary of the assessment provided by the DWP. If you have any questions or comments, feel free to call the Brunswick & Topsham Water District at (207) 729-9956 Monday to Thursday, from 7:00am to 5:00pm.

The DWP has assessed the risk of all our water sources, based on type and geology, as moderate. The only practical means of reducing risk is through replacement of the source. Acute contaminants, such as pathogens, nitrates and nitrites, are those that can make people sick immediately after being consumed. DWP has assessed all our sources as low risk for existing and future acute contamination. Chronic contaminants are those that pose a health risk if consumed over many years. DWP has assessed our sources as, on average, moderate risk for existing and future chronic contamination.

How Is My Water Treated and Purified?

At all our sources, we add sodium hypochlorite (chlorine)

to protect against bacteriological contaminants and fluoride to promote dental health. We also add a phosphate compound to inhibit corrosion of the distribution system piping and reduce lead and copper corrosion of internal plumbing systems.

The water from the Holden and Taylor Wells is filtered to remove iron and manganese caused by erosion of natural deposits in the sand-and-gravel aquifer.

The pH of the water from the Jordan Avenue well field is adjusted using aeration to reduce the corrosivity of the water.

Where Does My Water Come From?

Our supply is groundwater from the following wells:

Holden Station, Topsham: one 24-inch diameter well, one 18-inch diameter well

Jordan Avenue Station, Brunswick: 135 2.5-inch diameter wells

Taylor Station, Brunswick: one 24-inch diameter well, one 18-inch diameter well, and one 12-inch diameter well

William Wells, Brunswick: two 12-inch diameter wells which supply Taylor Station

Our water distribution system includes approximately 120 miles of main, two storage tanks, 7,400 services, and 1,000 private and public hydrants.



How to Learn More About Your Water

- Visit btwater.org
- Email info@btwater.org
- Like us on Facebook (Brunswick & Topsham Water District)
- Attend a board meeting on the second Monday of the month at 5:30 p.m.
- Call the office: (207) 729-9956, Monday through Thursday, 7:00am to 5:00 p.m.

In case of emergency after normal business hours, please call (207) 729-9956. The answering service will contact the appropriate personnel. A technician will return your call as soon as possible.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. 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.

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, in some cases radioactive material, and 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 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.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.



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 substances that were detected in our water (a complete list of all our 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 the 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.

REGULATED SUSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2023	2	2	0.0023	NA	No	Discharge of drilling wastes. Discharge from metal refineries. Erosion of natural deposits
Fluoride (ppm)	2024	4	4	0.8	NA	No	Erosion of natural deposits. Water additive which promotes strong teeth. Discharge from fertilizer and Runoff from fertilizer use. Leaching from
Nitrate (ppm)	2024	10	10	0.52	NA	No	septic tanks, sewage. Erosion of natural deposits.
Combined Radium (pCi/L)	2024	5	0	0.9	NA	No	Erosion of natural deposits.
Combined Uranium (ppb)	2024	30	0	2.3	NA	No	Erosion of natural deposits.
Radon (pCi/L)	2022	4,000	4,000	774	NA	No	Erosion of natural deposits.
Chlorine (ppm)	2024	[4]	[4]	NA	0.47 - 0.83	No	Water additive used to control microbes.
Total Coliform Bacteria (positive samples)	2024	1 pos/mo or 5%	0	2 pos	NA	No	Naturally present in the environment
Haloacetic Acids (ppb) [HAAS]	2024	60	0	14.25	3.4 - 31	No	By-product of drinking water chlorination.
Total Trihalomethane (ppb) [TTHMs]	2024	80	0	23	8.6 - 43	No	By-product of drinking water chlorination.
Tap water samples were collected for lead and copper analyses from sample sites through the community							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED		MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2024	1.3	1.3	0.364	0.0475 - 0.562	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	2024	15	0	0	0	No	Corrosion of household plumbing systems; erosion of natural deposits

SCAN ME!

2024 Consumer Confidence Report



MINERAL CONTENT AND SECONDARY STANDARDS		
MAINE RECOMMENDED		
SUBSTANCE (mg/L)	LIMIT	RESULT RANGE
Chloride	250	25 - 72
Hardness	150	10 - 61
Iron	0.3	<0.01 - 0.1
Manganese	0.05	0.001 - 0.007
Sodium	100	11 - 50
Zinc	5	<0.002 - 0.21
Magnesium	50	2.2 - 6



Definitions

Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

Locational Running Annual Average (LRAA): A 12 month rolling average of all monthly or quarterly samples at specific sampling locations. Calculation of the RAA may contain data from the previous year.

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

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

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: 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.

Running Annual Average (RAA): A 12 month rolling average of all monthly or quarterly samples at all locations. Calculation of the RAA may contain data from the previous year.

Secondary Maximum Contaminant Level (SMCL): Non-mandatory water quality standards.

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

Units

- NA = not applicable
- ND = not detectable
- ppm = parts per million or milligrams per liter
- ppb = parts per billion or micrograms per liter (ug/L)
- pCi/L = picocuries per liter (a measure of radioactivity)
- ppt = parts per trillion or nanograms per liter (ng/L)
- pos = positive samples

PFOS/PFOA Update

This is our sixth straight year dedicating space in the annual report to this important topic. PFOS (perfluorooctane sulfonate) and PFOA (perfluorooctanoic acid) remain in the headlines across the country, region, and locally, especially this past year. The general group of chemicals are called PFAS (per- and polyfluoroalkyl substances). Of our three water sources, Jordan Station has been our primary concern. The District negotiated with the Department of Defense and the Navy to construct a permanent treatment facility at the Jordan Station, that is scheduled to go online in 2026, so we can return the facility to service.

When the District initially sampled for these substances in 2015 and then in 2016 in cooperation with the Navy, tests did not detect these substances. At the time, the detection limit was only 20 parts per trillion (ppt) and there was a limited scope of PFAS chemicals that could be tested. In 2019 the detection levels were improved, allowing these compounds to be detected at 2 ppt (parts per trillion). Fast forward to 2022 and there were rumors throughout the country that the USEPA would drop the health advisory from 70 ppt for PFOS/PFOA to single digits. On April 25, 2024 the USEPA finalized a limit of 4 ppt for PFOS/PFOA for all public supplies by 2029. Maine presently has an enforceable limit for PFAS6 of 20 ppt.

The Jordan Ave wellfield was shut down for nearly ten months in 2022 while the District permitted and constructed a treatment system to protect the upper wellfield from the PFAS in the lower field. A treatment system for the lower field had to be built because if the lower field was just shut off the PFAS would have migrated to the upper wellfield. Sampling for PFAS6 in 2024 resulted in non-detect (less than 2 ppt) at all three stations Jordan, Taylor and Holden. This is what we are striving to maintain in our supplies.

The District has grants and contracts to be reimbursed for more than \$20 million dollars’ worth of work that we have done on this issue. These funds ensure that the Jordan Station PFAS facility gets built at no cost to our customers.

Just so people can appreciate what a trillion is. A trillion seconds ago was 29,665 B.C. Stated another way: One trillion is 0.0025 seconds in a 78-year lifespan. We are talking about very, very small things!

Additional resources:

<https://www.btwater.org/pfas-pfoa>

Questions or comments can be emailed to: info@btwater.org

PFBA Detection

In 2024 the District detected PFBA (Perfluorobutanoic acid) in one of its sources at a level of 2.5 ppt at Taylor Station. PFBA is an unregulated PFAS compound. Illinois and Minnesota have established a health advisory or guidance levels of 3,800ppt and 7,000ppt. These advisory levels for PFBA are higher than other PFAS compounds because PFBA is a short chain compound and as such the body is better able to waste this PFBA compared to other forms of PFAS.

PFBA can be a breakdown product of other PFAS substances, so the source is hard to identify. Follow-up samples in 2025 have resulted in both detects and non-detects for PFBA, at both Holden and Taylor Stations with detects ranging from 2.0-3.2ppt. The District does run field blanks that have been negative for PFAS. Thus the appearance and disappearance of PFBA at Taylor and Holden Station is something we will continue to monitor and report on.

	BTWD's Treatment Facilities									Regulatory Limits			
	Holden			Taylor			Jordan			USEPA ¹		MEDWP ²	BTWD
	PFOS	PFOA	PFAS6	PFOS	PFOA	PFAS6	PFOS	PFOA	PFAS6	PFOS	PFO	PFAS6 ²	Goal ³
2015	ND	ND	-	ND	ND	-	ND	ND	-	-	-	-	-
2016	-	-	-	-	-	-	ND	ND	-	-	-	-	-
2019	3.26	ND	-	ND	ND	-	5.74	5.99	-	-	-	-	-
2020	5.08	ND	-	ND	ND	-	4.08	3.07	-	-	-	-	-
2021	4.03	1.85	5.88	ND	ND	ND	7.96	8.44	45.8 ⁴	-	-	-	-
2022	4.23	ND	4.23	ND	ND	ND	2.6	ND	10.8 ⁵	-	-	-	-
2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	20	2
2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	20	2
2025										-	-	20	2
2026										-	-	20	2
2027										-	-	20	2
2028										-	-	20	2
2029										4	4	20	2

*Note that all the numbers in this table are in parts per trillion (PPT)
**Note for 2015 and 2016 the limit of detection was 20ppt so ND means less than 20ppt. For 2019 and later the limit of detection was 2ppt or less. (As low as 1.85ppt depending on the year and lab.)
1 The first USEPA enforceable limit is proposed for 2029. Until the Maine limit was proposed in 2021, the only guidance available was the USEPA's health advisory of 70ppt for PFOS and 70ppt for PFOA.
2 The MEDWP PFAS6 limit was passed in 2021, but did not require the submission of samples until December 31, 2022 depending on how the utility approached the testing.
3. The District shared the goal of 2ppt or less for 2023 in the 2022 Water Quality Report. The goal has no regulatory consequence, but the District is committed to investigating if we go above that limit, taking the steps required to getting back below 2ppt, and communicating to our customers what we are doing. Communication we started in 2018.
4 This result was unexpected, the facility was immediately put out of service and led to the discovery of the PFAS plume coming from NASB. This is why we are building a treatment plant with financial support from the US Navy.
5 There were 22 PFAS6 samples taken in 2022 ranging from ND to 16.2ppt with an average of 8.3ppt. The 10.8ppt in the table is the blind compliance sample submitted to the state.