

# ANNUAL WATER QUALITY REPORT

Reporting Year 2023



***Presented By***



BRUNSWICK & TOPSHAM  
WATER DISTRICT

## 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, 2023. Included are details about your source 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.

### Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water and removing lead pipes, but we cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, or 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. If you are concerned about lead in your water and wish to have your water tested, contact Brunswick and Topsham Water District at [info@btwater.org](mailto:info@btwater.org). Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at [epa.gov/safewater/lead](http://epa.gov/safewater/lead).

### 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The 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 [water.epa.gov/drink/hotline](http://water.epa.gov/drink/hotline).

### Where Does My Water Come From?

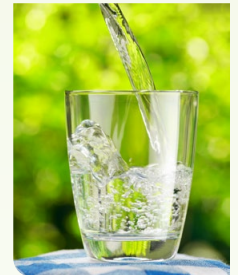
- Our supply is groundwater from the following wells:
- Holden Station, Topsham: one 24-inch-diameter well, one 18-inch-diameter well
  - Jordan Avenue Station, Brunswick: 135 2.5-inch-diameter wells
  - Taylor Station, Brunswick: one 24-inch-diameter well, one 18-inch-diameter well, and one 12-inch-diameter well
  - Williams Station, Brunswick: two 12-inch-diameter wells

Our water distribution system includes approximately 120 miles of main, two storage tanks, 7,400 services, and 1,000 private and public hydrants. In 2023 we delivered an average of 1.79 million gallons of water per day to our customers. On July 14, our highest-demand day, we delivered 3.1 million gallons of water.

### How to Learn More about Your Water

This report highlights some of our activities during the past year. There are many ways to get the information you need:

- Visit [btwater.org](http://btwater.org).
- Email [info@btwater.org](mailto:info@btwater.org).
- Like us on Facebook (Brunswick and 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, 7:00 a.m. 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.

### QUESTIONS?

If you have any questions or comments about this report or any other aspect of our operations, please contact Craig W. Douglas, P.E., General Manager, at (207) 729-9956 (phone), (207) 725-6470 (fax), or [cwdouglas@btwater.org](mailto:cwdouglas@btwater.org).



## 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.



## Source Water Assessment

In 1996 amendments to the federal Safe Drinking Water Act (SDWA) 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 contact the Brunswick and Topsham Water District.

The DWP has assessed the risk of all our water sources, based on type and geology, to be at the moderate level. The only practical means of reducing the 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. The DWP has assessed all our sources as having low risk for existing and future acute contamination. Chronic contaminants are those that pose a health risk if consumed over many years. The DWP has assessed our sources as having, on average, a moderate risk for existing and future chronic contamination.

## About Our Violation

### 1. Violation Type: 66 - Lead Consumer Notice, Lead & Copper Rule

Explanation: We are required to notify any customer who participated in our lead and copper testing of their individual lead results. In 2023 we failed to provide this information to our customers or failed to report information to the DWP on time.

Date and Length of Violation: September 29, 2023

Steps Taken to Correct Violation: The letters were resent.

### 2. Further Description

In 2023 the Brunswick and Topsham Water District performed lead and copper sampling in Brunswick and Topsham. The letter reporting results to those that tested had an error in the date that was not caught by Brunswick and Topsham Water District or DWP until after the compliance period. The letters were resent, and we were required to provide this notice.





## 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

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2023	10	0	2.9	NA	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	2023	2	2	0.0095	NA	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chlorine (ppm)	2023	[4]	[4]	NA	0.17–1.93	No	Water additive used to control microbes
Combined Radium (pCi/L)	2020	5	0	0.3	NA	No	Erosion of natural deposits
Combined Uranium (ppb)	2023	30	0	1.3	NA	No	Erosion of natural deposits
Fluoride (ppm)	2023	4	4	0.75	NA	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (ppm)	2023	10	10	0.46	NA	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Radon (pCi/L)	2022	4,000	300	774	NA	No	Naturally occurring in some drinking water sources
Total Coliform Bacteria (positive samples)	2023	TT	NA	0	NA	No	Naturally present in the environment

### 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)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2023	1.3	1.3	0.353	0/36	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	2023	15	0	ND	0/36	No	Corrosion of household plumbing systems; erosion of natural deposits

### UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Lithium (ppb)	2023	11	NA	NA

### MINERAL CONTENT AND SECONDARY STANDARDS

SUBSTANCE (mg/L)	MAINE RECOMMENDED 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	20	11 - 50
Zinc	5	<0.002 - 0.21
Magnesium	50	2.2 - 6

## 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 wellfield is adjusted using aeration to reduce corrosivity.

## DISINFECTANTS AND DISINFECTION BYPRODUCTS

CONTAMINANT	DATE	RESULTS	MCL	MCLG	TYPICAL SOURCE
<b>201 LONNIE'S HYDRAULICS-227 MIDDLESEX</b>					
TOTAL HALOACETIC ACIDS (HAA5) (9)	LRAA (2023)	<b>8 ppb</b> Range (3-13 ppb)	60 ppb	0 ppb	By-product of drinking water chlorination
TOTAL TRIHALOMETHANE (TTHM) (9)	LRAA (2023)	<b>12 ppb</b> Range (6-33 ppb)	80 ppb	0 ppb	By-product of drinking water chlorination
<b>202 CHURCH ROAD TANK</b>					
TOTAL HALOACETIC ACIDS (HAA5) (9)	LRAA (2023)	<b>25 ppb</b> Range (15-34 ppb)	60 ppb	0 ppb	By-product of drinking water chlorination
TOTAL TRIHALOMETHANE (TTHM) (9)	LRAA (2023)	<b>37 ppb</b> Range (28-44 ppb)	80 ppb	0 ppb	By-product of drinking water chlorination
<b>203 BATH VET HOSPITAL-257 BATH</b>					
TOTAL HALOACETIC ACIDS (HAA5) (9)	LRAA (2023)	<b>10 ppb</b> Range (1-17 ppb)	60 ppb	0 ppb	By-product of drinking water chlorination
TOTAL TRIHALOMETHANE (TTHM) (9)	LRAA (2023)	<b>18 ppb</b> Range (12-22 ppb)	80 ppb	0 ppb	By-product of drinking water chlorination
<b>NAPA AUTO PARTS-127 MAIN</b>					
TOTAL HALOACETIC ACIDS (HAA5) (9)	LRAA (2023)	<b>7 ppb</b> Range (4-12 ppb)	60 ppb	0 ppb	By-product of drinking water chlorination
TOTAL TRIHALOMETHANE (TTHM) (9)	LRAA (2023)	<b>12 ppb</b> Range (6-18 ppb)	80 ppb	0 ppb	By-product of drinking water chlorination

## PFOS/PFOA Update

This is our fifth year of dedicating space in the annual report to this important topic. Perfluorooctanesulfonate (PFOS) and perfluorooctanoic acid (PFOA) remain in the national, regional, and local headlines. This general group of chemicals is called per- and polyfluoroalkyl substances (PFAS). Of our three water sources, Jordan Avenue Station has been our primary concern. The district is presently in negotiations with the Department of Defense and the navy to construct a permanent treatment facility at Jordan Avenue Station so we can return the facility to full service. We will open contractor bids for this project in July 2024.

When the district initially sampled for these substances in 2015, and then in 2016 in cooperation with the navy, they were below the laboratory detection limit. At the time, the detection limit was only 20 parts per trillion (ppt), and there was a limited scope of PFAS that could be tested. Since then, approximately two more compounds have been added to the test method every year. In 2019 the detection levels were improved, allowing these compounds to be detected at 2 ppt. Fast forward to 2022, and there were rumors throughout the country that the U.S. EPA would drop the health advisory from 70 ppt for PFOS and PFOA to single digits. On April 25, 2024, the U.S. EPA finalized a limit of 4 ppt for PFOS and PFOA for all public supplies by 2029. Maine presently has an enforceable limit for PFAS6 of 20 ppt.

The Jordan Avenue wellfield was shut down for nearly 10 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 shut off, the PFAS would migrate to the upper wellfield. Our last round of sampling results for PFAS6 in 2023 were below the detection limit of 2 ppt at all three stations: Jordan, Taylor, and Holden. We are striving to maintain our supplies at this level.

The district has grants and contracts to be reimbursed for more than \$3 million worth of work that we have done for this issue. By next year's report, we hope to say that we have over \$20 million in funds to ensure that the Jordan Avenue Station PFAS facility will be built at no cost to our customers.

Just so people can appreciate what a trillion is, a trillion seconds ago was 29,665 BCE. One trillionth is 0.0025 second in a 78-year lifespan. We are talking about very, very small amounts!

### Additional resources:

[btwater.org/pfas](http://btwater.org/pfas)

[btwater.org/water-quality-report](http://btwater.org/water-quality-report)

Questions or comments can be emailed to [info@btwater.org](mailto:info@btwater.org).

## Definitions

**90th %ile:** The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

**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.

**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).

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