

A close-up photograph of a hand holding a clear, textured glass under a running faucet. Water is being poured into the glass, creating bubbles. The background is blurred, showing a kitchen setting with yellow and white patterns.

SPECIAL EDITION

WATER

QUALITY REPORT

FALL 2024

Presented By



BRUNSWICK & TOPSHAM
WATER DISTRICT

PWS ID#: 0090260

Our Commitment

We are pleased to present this special water quality report on PFAS. This report summarizes the District work on PFAS and the changing standards by which water quality is evaluated. BTWD is committed to transparency as we monitor, investigate and report on PFAS. We are committed to ensuring the quality of your water and providing you with this information, because informed customers are our best allies.

Why a Special Water Quality Report?

We are providing this report as a recap and update of the Brunswick & Topsham Water District's (BTWD) ongoing work on PFAS (Per- and polyfluoroalkyl substances). PFAS has been found in our upholstery, toothbrushes, carpets, tap water, soda, sparkling water, clothes, cookware, firefighting foam, food packaging, artificial turf, personal care products and food. It's everywhere.

The AFFF release at the Brunswick Executive Airport Hanger 4 has brought a lot of focus to PFAS both in the environment and in drinking water. The District has reported on PFAS and PFOS/PFOA in Annual Water quality reports in 2018, 2019, 2020, 2021, 2022 and 2023. We sent a letter to customers in January of 2022 regarding a PFAS discovery at the Jordan Avenue Station (BTWD-JAS). Presently the District is constructing an \$18.2 million facility to remove preexisting PFAS at BTWD-JAS. The Navy is reimbursing BTWD for the construction, it is scheduled to be online in the Spring of 2026.

We appreciate that very few people have the time to open and find the PFAS entries in each of the above-mentioned reports, so we are providing this special report. The latest information can always be found at:

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

Enclosed in this report you will find:

- A summary of PFAS investigations.
- A summary table of PFAS results.
- AFFF spill overview for the public water supply.
- Resources for residents with a well.

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 supplies 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.

Summary of PFAS Investigations at BTWD

BTWD first tested for PFAS District-wide in 2015 and again in 2016 at Jordan Avenue Station (BTWD-JAS) in conjunction with the US Navy. No PFOS/PFOA were detected at the time as laboratories could only detect to 20 parts per trillion (ppt) for these chemicals. The District announced in our 2018 Water Quality Report that analytical advances had dropped detection limits to 2ppt at most laboratories, and BTWD was going to start monitoring to build a historical dataset. In 2019 and 2020 BTWD PFOS/PFOA numbers ranged from Non-Detect (ND) to single digits which at the time were well below the US Environmental Protection Agency (USEPA) and Maine Drinking Water Program (MEDWP) health advisory of 70ppt for PFOS and 70ppt for PFOA. In 2021 the Maine State legislature passed a law that required community water systems to sample before January 1, 2023 to look at the sum of six PFAS components called PFAS6. Keeping with the District's goal of building a history of data we pulled samples ahead of the deadline in September of 2021 and were alarmed by a high PFAS6 sample at BTWD-JAS. In response, the facility was immediately taken out of service.

The District undertook an investigation that ultimately cost more than \$600,000 (BTWD was later reimbursed for these expenses with a drinking water program grant). The investigation included collaboration with the MEDWP, US Navy, USEPA and Maine Department of Environmental Protection (MEDEP). We received help from Brunswick Area Citizens for a Safe Environment (BACSE), other Maine water utilities dealing with PFAS and neighbors in the community. After much exploration we discovered PFAS localized in a portion of wells in the lower well field of BTWD-JAS. Further exploration indicated that the source was coming from the former Naval Air Station Brunswick (NASB).

For 2022, the Jordan Avenue wellfield remained out of service until the District permitted and constructed a temporary treatment system to protect the upper well field from the PFAS in the lower well field. A treatment system for the lower field (which treats and land applies the water) had to be built because if the lower field had simply been shut off, PFAS would have migrated from the lower field to the upper field. In 2022 we had a reportable limit of 10.8ppt at BTWD-JAS. Although this was below the Maine limit of 20 ppt, this was not where the District wanted to be. So, we set a goal for 2023.

For 2023, BTWD set a target of less than 2 ppt at all three stations. There is still a lot that BTWD is learning about PFAS. We expect the science and best information to keep changing and we are committed to incorporating this information into our response as we move forward. We keep sampling to learn more about how this contaminant is moving in the environment. The District was able to achieve the target of less than 2 ppt at all three stations in 2023 and we are in line to meet the target in 2024.

What about the AFFF Spill at Hanger 4 at the Brunswick Executive Airport (BXM)?

The District has a very good map of BTWD-JAS’s aquifer because of a jet fuel spill at the former Naval Air Station Brunswick in 1993, when 63,000 gallons of jet fuel went into the marshes and the nearby watershed. While the AFFF spill at BXM had lots of PFAS in it, because of the 1993 study, the District knows the groundwater around Hanger 4 travels to the south away from the public water supply. In an abundance of caution, BTWD doubled its monitoring of the preexisting PFAS even though BTWD-JAS had been shut down for maintenance and the upcoming construction of a PFAS treatment system. The additional sampling revealed a slight uptick in PFAS that we are presently investigating. This uptick of PFAS has not made it into the public water supply because BTWD-JAS is shutdown. Nevertheless, we are investigating and seeking to understand the source. This is why the new treatment facility is needed. BTWD-JAS is an important source because it historically provides about 20% of the system’s demand. The new treatment system will ensure the water delivered is below what can be detected today and more likely than not, what anyone will be able to detect in the foreseeable future.

The District is committed to testing and testing again. We will use the communities’ resources and treatment plants as best we can to provide the cleanest water possible for washing your laundry, dishes, bathing and of course drinking.

The District will do our best to answer all the questions that our customers have. We have found that the best way to help customers is by phone (207-729-9956). PFAS is complicated and there are a lot of details. Every customer brings their own understanding and knowledge to a situation. Like you, we care about the water we drink. Please feel welcome to call and if no one is immediately available to talk to you about PFAS, we will call you back.



BTWD-JAS Lower Well Field PFAS Removal System.
Treated water is returned to the environment.

Definitions

AFFF (Aqueous film-forming foam) A firefighting foam used to extinguish flammable liquid fires. AFFF is a concern because it contains PFAS.

BTWD Brunswick & Topsham Water District

BTWD-JAS (Jordan Avenue Station) One of three treatment facilities that treat water for BTWD. The other two are Holden Station and Taylor Station.

BXM Brunswick Executive Airport

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

MEDWP (Maine Drinking Water Program) The regulatory body for public water systems in Maine.

NA Not applicable.

NASB (Naval Air Station Brunswick) The property is now Brunswick Landing and BXM

ND (Not detected) Indicates that the substance was not found by laboratory analysis.

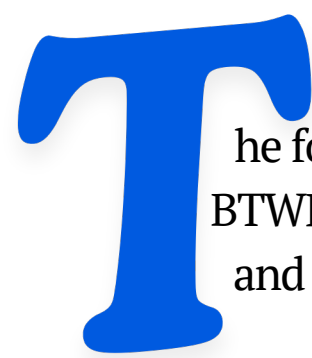
PFAS (Per- and polyfluoroalkyl substances) Known as "forever chemicals" because they do not break down, they are a group of synthetic chemicals that are persistent in the environment and can be found in many products and in the blood of people and animals around the world.

PFAS6 A sum of six specific PFAS. The six PFAS are: PFOS, PFOA, PFHxS, PFNA, PFHpA, and PFDA. Around 2020 PFAS6 began replacing PFOS/PFOA as a method of generally characterizing and for some states regulating PFAS in water.

PFOS/PFOA (Perfluorooctane sulfonate and perfluorooctanoic acid) Two of the most well-studied and widely used chemicals in the PFAS group of chemicals.

ppt (parts per trillion) One part substance per trillion parts water (or nanograms per liter). One part per trillion is one inch in 16 million miles (600+ times around the earth)

USEPA (United States Environmental Protection Agency) The USEPA is a federal agency that protects human health and the environment.



Summary Table of PFAS Results

The following table is our best effort to summarize the history to date of PFAS in BTWD's water and where enforceable regulatory limits are and what BTWD goals have been. As the science of detecting PFAS and regulatory limits have evolved from 70ppt to 20ppt to 4ppt, BTWD has worked to sample and change our response to ensure our water is as clean and safe as possible. While we hope to meet our target of less than 2ppt of PFAS in 2024 it is possible we will see PFAS in the future, given how prevalent it is in our environment.

	BTWD's Treatment Facilities									Regulatory Limits			
	Holden			Taylor			Jordan			USEPA ¹		MEDWP ²	BTWD Goal ³
	PFOS	PFOA	PFAS6	PFOS	PFOA	PFAS6	PFOS	PFOA	PFAS6	PFOS	PFO	PFAS6 ²	
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 ⁶	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.

6 Based on the data through September 2024.

Resources If You Are On Your Own Well



Not every resident of Brunswick and Topsham is served by the Brunswick & Topsham Water District.

If this is the case you probably get water from a well on your property.

Resources are available for residents who get their water from their own well:

PFAS Sampling:

<https://www.maine.gov/dep/spills/topics/pfas/PFAS-homeowner-water%20sampling.pdf>

Understanding Sample Results:

<https://www.maine.gov/dep/spills/topics/pfas/PFAS-interpret-lab-report.pdf>

Treating PFAS in Drinking Water:

<https://www.maine.gov/dep/spills/topics/pfas/#Treat>

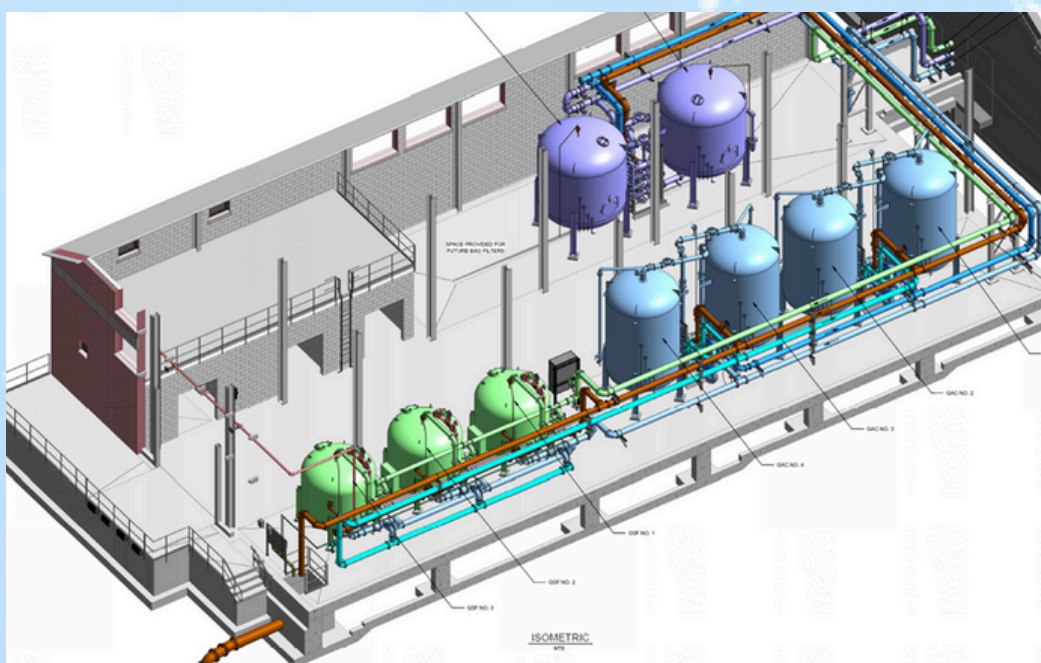
Maine Drinking Water Program Technical Assistance for Private Wells:

<https://www.maine.gov/dhhs/mecdc/environmental-health/dwp/consumers/waterWellFacts.shtml>

Connect to the BTWD System:

If you have a well but there is a Water District main in the street in front of your house, you can connect to the BTWD system by applying for service at:

<https://www.btwater.org/new-water-service-application>



BTWD-JAS PFAS Treatment Addition