
City of Portsmouth

Department of Public Works – Drinking Water Division



Portsmouth and Pease International Tradeport Drinking Water Status Report 2026 – Second Quarter (April 1, 2026 – June 30, 2026)

The City of Portsmouth’s water supply sources have continued to perform reliably despite ongoing drought conditions that began in June 2025. The Seacoast region remains in a *Moderate Drought (D1)* classification, with a small portion of the area still experiencing *Severe Drought (D2)* conditions. While groundwater levels remain below typical seasonal averages, storage in the Bellamy Reservoir has remained stable and sufficient through the first half of 2026.

To support long-term water supply sustainability, treatment operations continue to maximize the use of available surface water from the Bellamy Reservoir, allowing local groundwater aquifers the opportunity to recover during precipitation events. During the second quarter of 2026, approximately 72 percent of the City’s total water supply was provided by treated surface water from the reservoir.

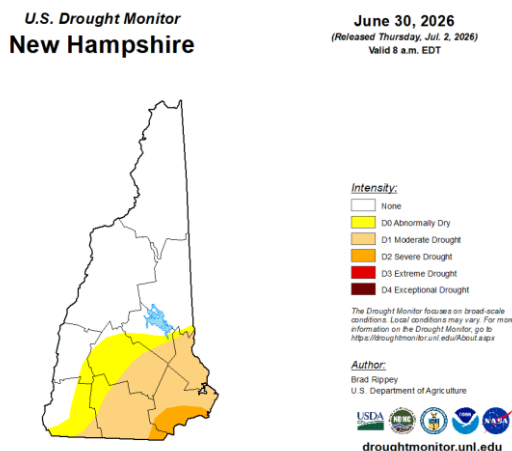
Precipitation patterns during the quarter were mixed. Rainfall totals in April and June were 56 percent and 45 percent below the 10-year average, respectively. However, May rainfall was 42 percent above average, with a total accumulation of 5.4 inches. This significant rainfall helped improve drought conditions and stabilize source water levels heading into the summer season.

On May 15, the Portsmouth Water Division issued a Water Use Advisory to help preserve water supplies during the high-demand summer months. The City continues to encourage all customers served by the Portsmouth and Pease Tradeport Water Systems to minimize outdoor irrigation and avoid non-essential outdoor water use whenever possible.

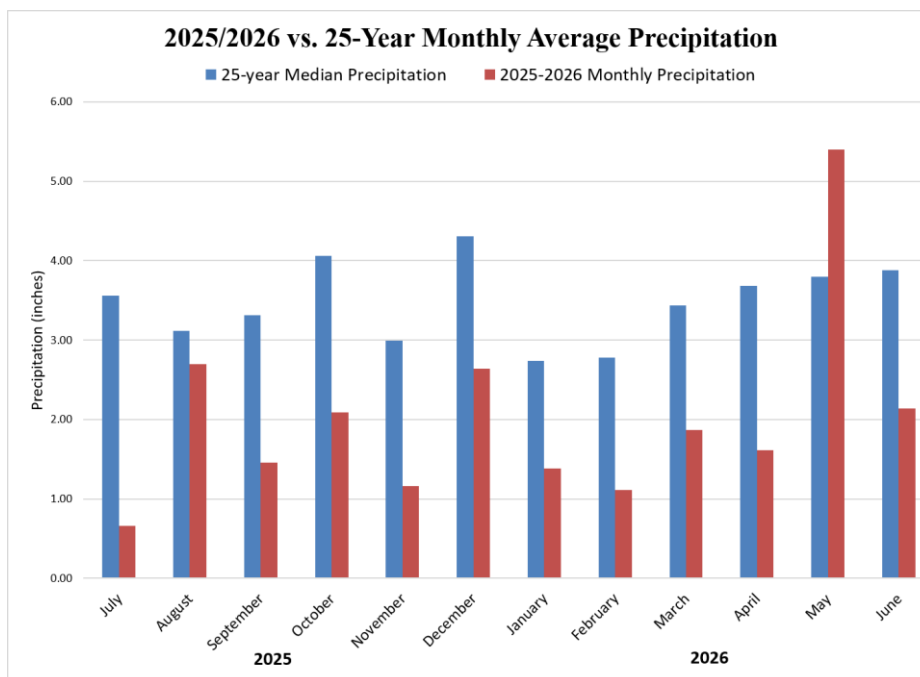
While current conditions do not constitute a water supply emergency, ongoing drought conditions could require additional conservation measures if water levels decline further. Should the region enter *Severe Drought (D2)* conditions more broadly, or if source water supplies become significantly impacted, the City may implement mandatory water use restrictions to help ensure an adequate and reliable water supply for essential needs and fire protection. The City of Portsmouth, in coordination with state officials, neighboring public water systems, and the Seacoast Drinking Water Commission, will continue to monitor conditions closely and provide timely updates to keep water users informed of any changes to drought status or water use requirements.

Precipitation and Weather

Throughout the second quarter of 2026, drought conditions improved across much of New Hampshire as spring rainfall helped replenish streams, lakes, reservoirs, and groundwater supplies. Despite these improvements, southeastern New Hampshire continues to experience drier-than-normal conditions.



The bar chart below compares monthly precipitation totals from July 2025 through June 2026 with Portsmouth's 25-year monthly average. Apart from May 2026, precipitation remained below normal throughout the year, resulting in persistent rainfall deficits across the region. Dry conditions were particularly noticeable during the summer of 2025, when July received just 18 percent of its average monthly rainfall, making it the driest month of the reporting period. Although several precipitation events provided some relief during the winter and spring, monthly totals generally remained below historical averages. As a result, drought conditions persisted and continued to influence regional water resources through the first half of 2026.



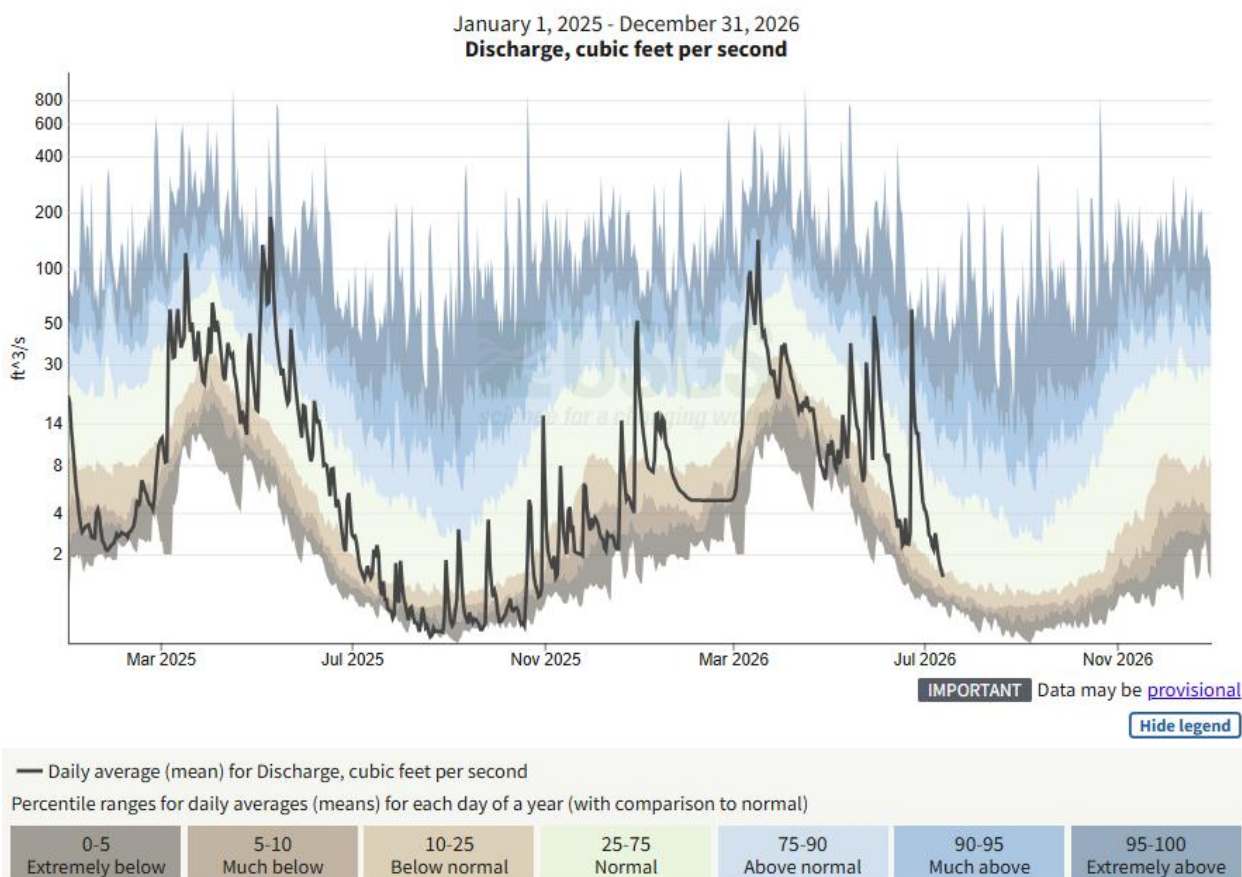
The 12-month rolling average precipitation through June 2026 was 40% below normal at a total of 25.5 inches versus the normal of 24.2 inches.

River Flows and Reservoir Levels

The figure below illustrates daily mean streamflow in the Oyster River at the USGS New Durham gage, which is used by the City to inform assessments of inflows to the Bellamy Reservoir. Following near-normal conditions throughout the first half of 2025, streamflows declined sharply beginning in early summer and entered the *much below normal* to *extremely low* percentile ranges. These suppressed flows persisted through much of the summer and fall, with the most prolonged low-flow period occurring between July and October 2025. This duration coincided with persistent precipitation deficits and above-average temperatures, resulting in reduced watershed runoff and baseflow contributions.

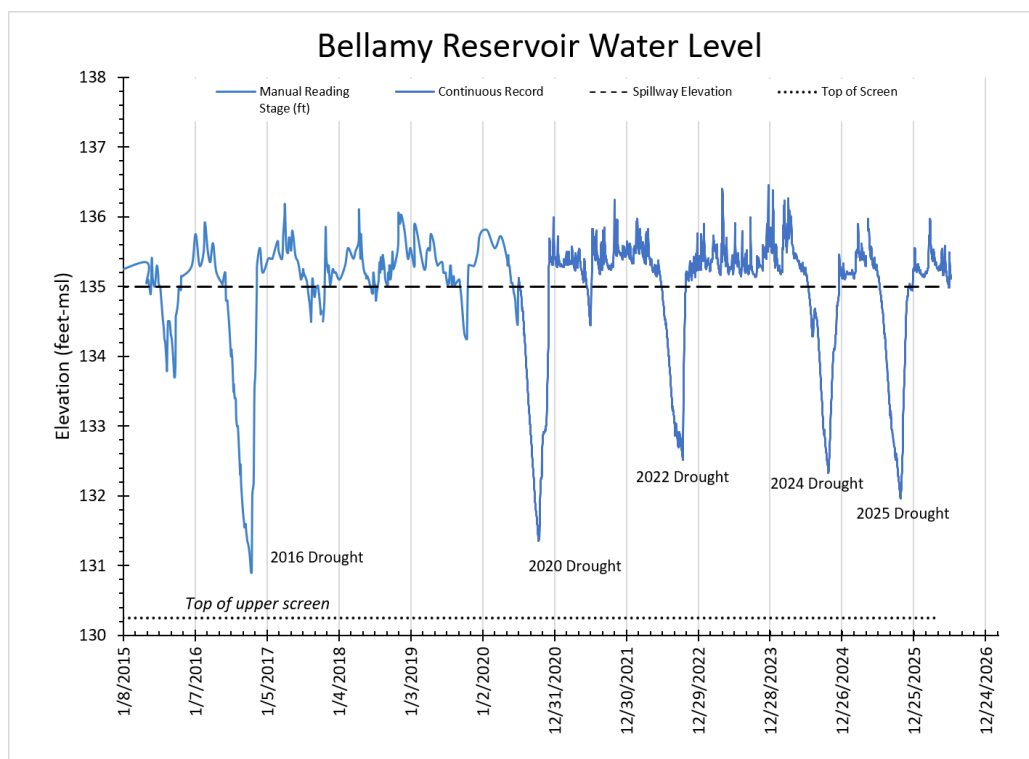
During late winter and spring 2026, streamflows recovered in response to snowmelt and several precipitation events, with daily flows returning to the near-normal range. As temperatures rise and rain events become less frequent heading into July, streamflows can be seen heading toward a *below normal* range. Overall streamflow conditions remain closely tied to cumulative precipitation patterns, highlighting the hydrologic impacts of extended dry periods. The observed trends underscore the importance of continued monitoring of surface water conditions to support reservoir management and water supply planning.

Oyster River Near Durham, NH - USGS-01073000



The long-term record of the Bellamy Reservoir water levels illustrates how the reservoir has responded to several notable drought periods in recent years, including those experienced in 2016, 2020, 2022, 2024, and 2025. While each drought event affected reservoir levels differently in terms of timing, duration, and severity, the 2025 drought followed a pattern consistent with previous dry periods. Although reservoir levels declined during the event, they remained above the lowest levels observed in the historical record. What distinguished the 2025 drought was its duration, resulting in the longest sustained period of below-normal reservoir levels in the dataset.

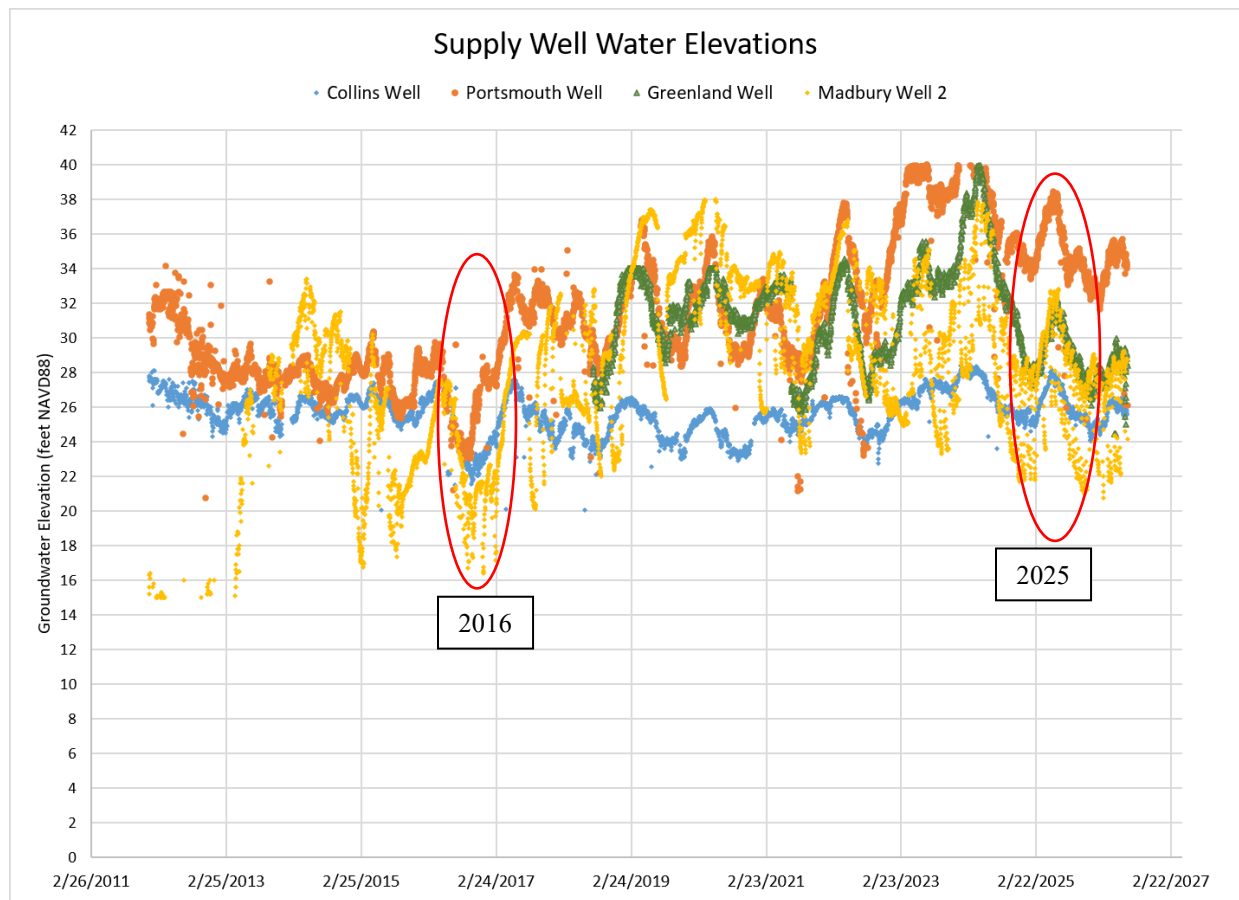
Conditions have improved significantly since late 2025. By early 2026, Bellamy Reservoir had fully recovered, with water levels returning to a healthy operating range. Seasonal precipitation, snowmelt runoff, and above-average rainfall during May contributed to a strong recovery and replenishment of reservoir storage. Current reservoir conditions are consistent with historical recovery patterns and indicate that the water supply system remains well-positioned to meet customer demand.



Groundwater Levels and Status

During the second quarter of 2026, groundwater levels across Portsmouth's drinking water supply wells were generally stable and within normal seasonal ranges. As expected, an increase in surface water withdrawals from the Bellamy Reservoir allowed groundwater withdrawals to be scaled back, giving aquifers time to recover following previous high demand periods. Groundwater levels rose or remained steady in most wells throughout the quarter, reflecting average Spring recharge conditions.

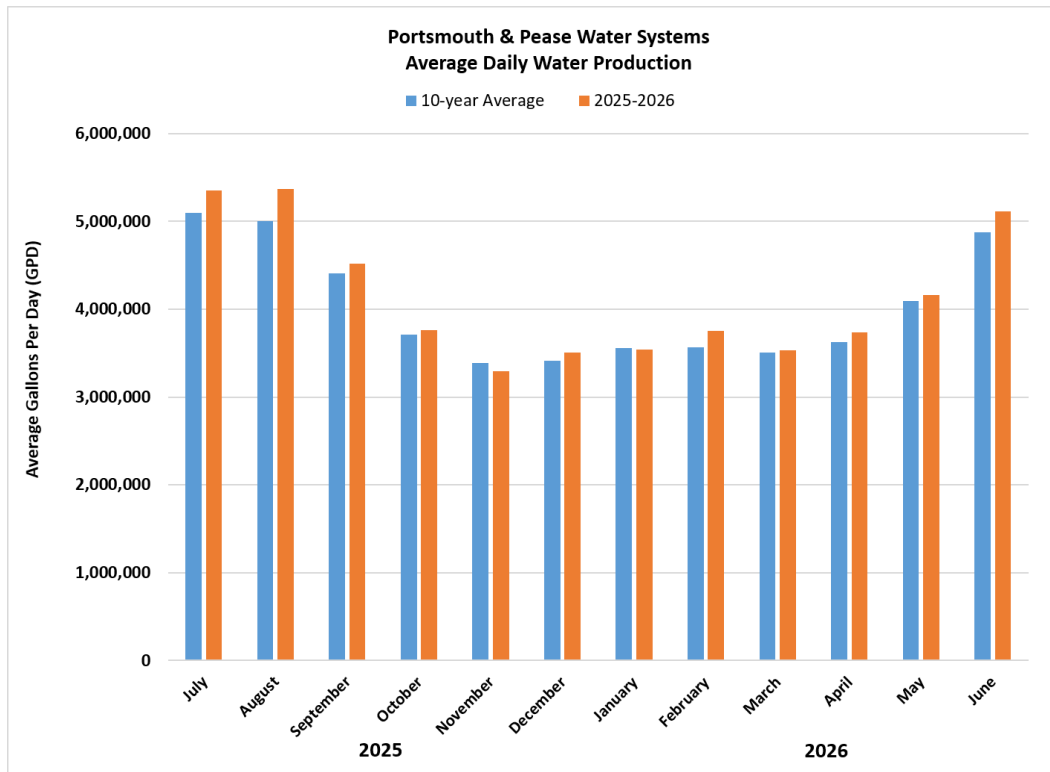
Wells that experience larger seasonal fluctuations, including the Madbury wells, showed recovery from late-season drawdowns as pumping decreased. Overall, groundwater levels during the second quarter remain average compared to those observed during 2024 and 2025 drought conditions, and greater than the extended low levels seen in 2016.



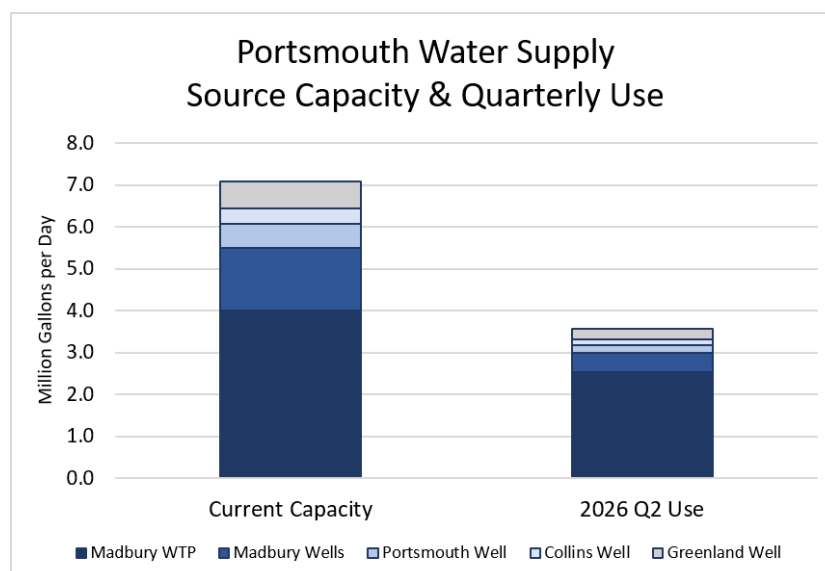
Current Water Production and Demand

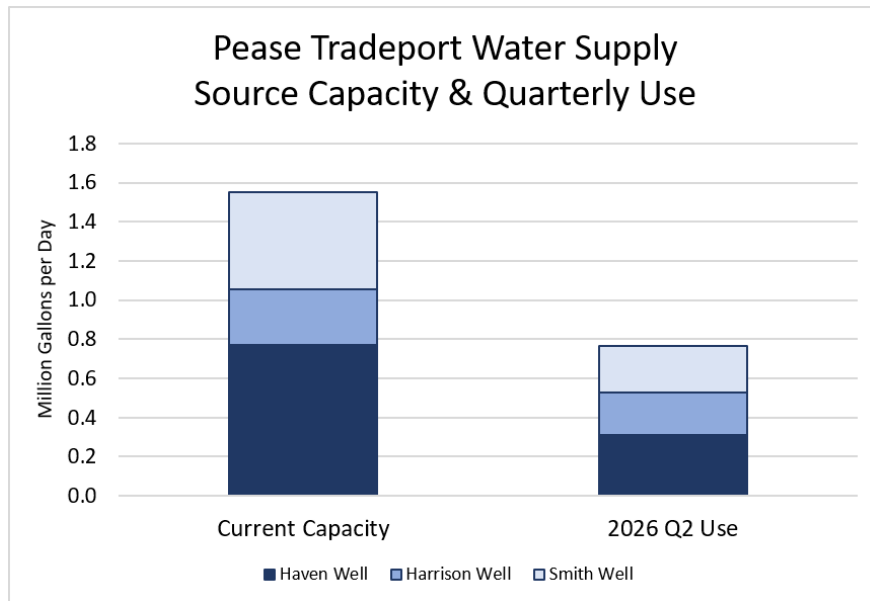
Average daily water production for the Portsmouth and Pease Water Systems during 2025 and 2026 generally tracked near or above the 10-year average, with only two months falling below long-term norms. Production during November 2025 and January 2026 was below the 10-year average, likely reflecting periods of increased precipitation and reduced outdoor water use during portions of the late fall and early winter. From July through October 2025, water production exceeded the 10-year average, with peak demand occurring in July and August, consistent with warmer temperatures and increased seasonal water use. Production remained at or near average through May 2026, with the exception of February and June. This can be attributed to unfortunate water main breaks that occurred in February, while June was the return of the high-demand season.

Throughout the second quarter of 2026, average daily production was largely consistent with historical spring- and early-summer demand patterns. Production in April and May modestly exceeded long-term averages while June was above the 10-year average by 243,000 gallons per day (GPD) over the course of the month. Overall, second-quarter demand reflects typical spring operating conditions and does not indicate elevated system stress entering the summer.



The following charts illustrate second quarter water production relative to the available supply capacity of the Portsmouth and Pease drinking water systems. Both systems maintained considerable available capacity throughout the quarter, with average water production at approximately one-half of total available system capacity. The Portsmouth Water System produced approximately 3.5 million gallons per day (MGD) compared to an available capacity of about 7.0 MGD, while the Pease Tradeport Water System produced approximately 0.75 MGD compared to an available capacity of about 1.55 MGD. These results demonstrate a comfortable supply buffer in both systems to meet current demand. Available source capacity can vary over time depending on operating conditions, including groundwater levels, treatment requirements, source water quality, and regulatory or operational constraints affecting individual wells and treatment facilities.





Water Efficiency

The City continues to offer water efficiency rebates of \$100 for the purchase of a low-flow toilet and \$150 for the purchase of a high-efficiency washing machine. These rebates are available to all residential Water customers, including multi-family customers. To date, the City has issued over 1,600 rebates. According to the NH Department of Environmental Services (NHDES), Portsmouth is currently the only public water system in New Hampshire offering these rebates.

Additional information on this program is available from the City’s water billing department and on the City’s website: <https://bit.ly/499rHj9>.



The City intends to continue with the rebate program and expand outreach efforts to focus on ways that customers can be more efficient with summertime water use for irrigation and cooling needs.

Water Quality Information

The Portsmouth Water Division prepares Annual Water Quality Reports for the Portsmouth and Pease Drinking Water Systems to provide customers with important information about their drinking water. These reports summarize water quality monitoring results and explain where the City's drinking water comes from, what parameters are tested for, and how the water compares to state and federal drinking water standards. Reviewing the Annual Water Quality Report helps customers stay informed about the quality, safety, and reliability of their drinking water.

A bill insert including a link to the 2025 Water Quality Reports on the City's website was distributed to all customers in June 2026, and digital copies of the reports are currently available at <https://portsnh.co/3Rn5yVi>.



The Portsmouth Water Division conducts routine monitoring and analysis of water quality parameters in accordance with the Federal Safe Drinking Water Act and regulations established by the New Hampshire Department of Environmental Services (NHDES). Water sources are regularly tested for a range of potential contaminants, including radioactive, biological, inorganic, volatile organic, and synthetic organic compounds. Key treatment parameters - such as turbidity, pH, chlorine, orthophosphate, and fluoride - are continuously monitored and recorded by Water System operators. Regulatory guidelines permit less frequent monitoring for certain substances whose concentrations typically remain stable over time. In such cases, the most recent available data is included in the report, along with the year the samples were collected.

PFAS Monitoring and Regulatory Updates

The City's work to track and treat PFAS contamination at the Pease International Tradeport and Portsmouth Water System continues. The term "PFAS" covers a broad group of perfluoroalkyl and polyfluoroalkyl substances found in many commercial products, including firefighting foam.

On September 30, 2019, the New Hampshire Department of Environmental Services (NHDES) established maximum contaminant levels (MCLs) for four PFAS compounds in drinking water and groundwater. The NHDES MCLs remain at 15 parts per trillion (ppt) for perfluorooctane sulfonic acid (PFOS), 12 ppt for perfluorooctanoic acid (PFOA), 11 ppt for perfluorononanoic acid (PFNA), and 18 ppt for perfluorohexane sulfonic acid (PFHxS). These limits were based on an annual rolling average of sample results collected throughout the state.

On May 14, 2025, the EPA announced that it would retain the federal MCLs for PFOA and PFOS at 4 ppt while initiating actions to reconsider the regulations for PFHxS, PFNA, HFPO-DA (GenX chemicals), and the Hazard Index standard applicable to mixtures containing those compounds and PFBS. The EPA also announced its intent to provide additional implementation flexibility for water systems, including extending the compliance deadline for the PFOA and PFOS standards from 2029 to 2031 through a federal exemption framework. In May 2026, the EPA formally proposed extending the compliance deadline for PFOA and PFOS to April 26, 2031, for qualifying public water systems while it proceeds with rulemaking regarding the other PFAS standards.

As of the date of this report, the federal drinking water standards for PFOA and PFOS remain in effect, while the EPA is proposing to rescind and reconsider the federal standards for PFHxS, PFNA, HFPO-DA (GenX chemicals), and the PFAS Hazard Index.

The City of Portsmouth continues to comply with all applicable state and federal requirements regulating PFAS in the Portsmouth and Pease drinking water systems. New Hampshire public water systems remain subject to the NHDES PFAS MCLs established in 2019. The City samples its water supply sources for PFAS on a quarterly basis and periodically posts results on the City's website at: <https://portsnh.co/PFASTesting>.

PFAS Average – 12 Month Rolling New Hampshire Regulated Compounds - All Sources In Compliance (July 2025-June 2026)												
12-MONTH ROLLING AVERAGE 2026 Q2	EPA MCL (2026)	NH MCL	MADBURY WTP FINISHED	MADBURY WELL 2	MADBURY WELL 3	MADBURY WELL 4R	MADBURY WELL 5	PORTSMOUTH WELL	COLLINS WELL	GREENLAND WELL	PEASE WTP	
Perfluorohexanesulfonic acid (PFHxS)	ng/L	18	0.0	0.7	0.4	0.2	1.0	7.9	2.1	2.0	0.0	
Perfluorooctanesulfonic acid (PFOS)	ng/L	4	15	1.0	1.2	1.2	0.7	0.9	5.6	4.1	3.7	0.0
Perfluorooctanoic acid (PFOA)	ng/L	4	12	2.0	2.6	2.4	2.0	2.1	7.2	3.7	4.2	0.0
Perfluorononanoic acid (PFNA)	ng/L	-	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/L	-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perfluorobutanesulfonic acid (PFBS)	ng/L			0.9	1.6	1.3	0.8	1.5	3.9	8.3	2.4	0.0
Hazard Index*		1		0.0	0.1	0.0	0.0	0.1	0.8	0.2	0.2	0.0

* Hazard Index MCL = (HFPO-DA/10)+(PFBS/2000)+(PFNA/10)+(PFHxS/10)

According to the City's ongoing monitoring, the following water sources have detection averages above the projected EPA finalized MCLs:

- Portsmouth well: 5.6 ppt of PFOS, 7.2 ppt of PFOA
- Collins well: 4.1 ppt of PFOS
- Greenland well: 4.2 ppt of PFOA
- The Pease Water Treatment Facility continues to remove these compounds from the system's supply wells.

The Pease Tradeport's dual treatment system of ion exchange and granular activated carbon continues to perform very well. After four years of operation and over 1 billion gallons of water treated, the levels of the regulated compounds remain below laboratory method detection levels.

Disinfection Byproducts (TTHMs & HAAs)

Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAAs) are regulated disinfection byproducts that can form when chlorine, used to disinfect drinking water, reacts with naturally occurring organic material in the source water. At the Madbury Water Treatment Facility, the treatment process removes an average of 64% of total organic carbon (TOC) before disinfection. This exceeds U.S. EPA requirements, which call for 45 to 50% TOC removal for surface water sources such as the Bellamy Reservoir. Even with this level of treatment, some organic material remains and can react with chlorine, resulting in the formation of disinfection byproducts. During quarter two of 2026, the highest system-wide average concentrations measured in Portsmouth were 43 parts per billion (ppb) for TTHMs and 51 ppb for HAAs, both of which remain within EPA regulatory limits.

Elevated HAA levels observed during the third quarter of recent years are linked to the severe summer drought. Drought conditions can increase dissolved organic carbon in surface waters, which is more difficult to remove through conventional filtration. To address this, the Portsmouth Water Division is considering the replacement of current sand and anthracite filter media with granular activated carbon (GAC). This upgrade will significantly improve the removal of dissolved organic material and further reduce the potential for HAA formation after disinfection. In the meantime, Water Division staff are actively evaluating treatment performance and adjusting pre-treatment processes as needed. By comparison, the Pease Water System consistently reports near non-detect levels of TTHMs and HAAs due to both its source water quality and its existing use of granular activated carbon treatment.

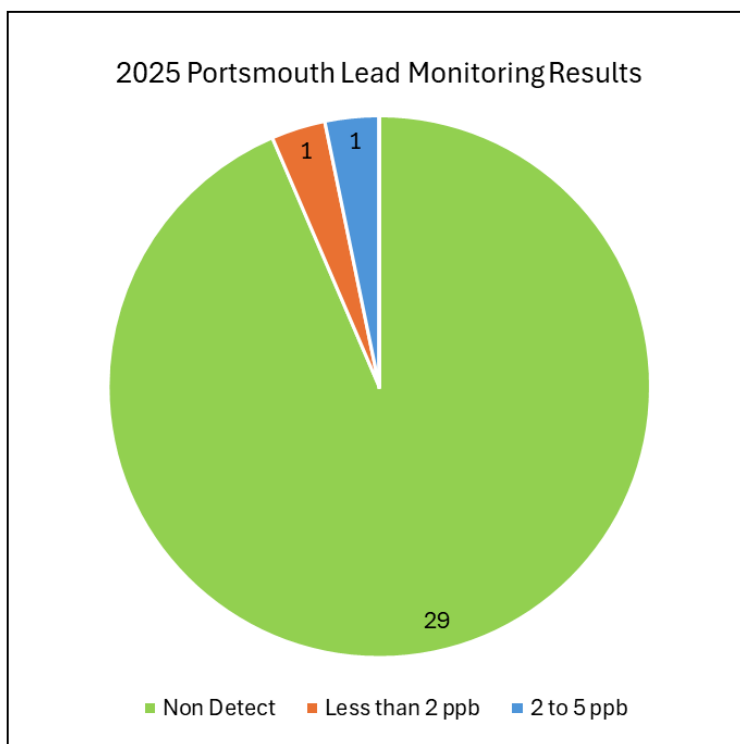
TTHM & HAA5 Running Average – 2026 – Portsmouth Water System

Quarter II 2026		TTHM	HAA5
		<i>MCL's =></i>	
		80	60
		<i>Reference</i>	
		ppb	ppb
Locational Running Average		Locational Running Average	Locational Running Average
321	30 SPINNAKER WAY	36	51
325	1550 WOODBURY PLAZA	29	48
323	120 SPAULDING TURNPIKE	33	49
324	WATER STREET	43	51

Lead Sampling

The City of Portsmouth has maintained a Lead and Copper Corrosion Control Program since 2003 and continues to meet all state and federal regulatory requirements. The purpose of this program is to reduce the potential for drinking water to corrode pipes, fixtures, or solder that may contain lead or copper, which can allow these metals to enter the water. Portsmouth's water sources do not contain measurable levels of lead. As a result, any lead or copper that may be present in drinking water typically comes from household plumbing, fixtures, or service lines within privately owned buildings rather than from the water supply itself. In some cases, lead can be found in older service lines that connect homes to the water system. Many homes in Portsmouth and neighboring communities were built before lead-based solder was banned in 1986. For this reason, the City encourages residents, especially households with children under six or individuals who are pregnant, to consider having their drinking water tested by a certified laboratory.

In 2025, water samples collected from 31 residential locations across the Portsmouth water system showed measurable lead at only two homes. These results were 1 part per billion (ppb) and 3 ppb - well below the EPA action level of 15 ppb. The remaining 29 samples showed no detectable lead. The next sampling round to meet regulatory compliance will occur during the third quarter of 2026. Historic and present-day results confirm that Portsmouth's corrosion control practices continue to be effective in protecting public health.



The City actively manages water chemistry through its Corrosion Control Program at treatment facilities and wells to reduce the likelihood that lead from private plumbing materials enters drinking water. While these measures significantly lower risk, trace amounts of lead may still be possible in homes that contain lead-based plumbing components. Information about the Corrosion Control Program can be accessed on the City website: <https://portsnh.co/LeadCopperProgram>.

Service Line Inventory Efforts

The U.S. Environmental Protection Agency (EPA) Lead and Copper Rule Revision required all public water suppliers including the City of Portsmouth to submit a baseline inventory of every service line and its material composition by October 16, 2024. The City of Portsmouth Water Division submitted this inventory for the Portsmouth and Pease Tradeport Water Systems and notified customers whose water service line material was identified as galvanized steel or whose service line material has not been identified. These notifications are intended to raise awareness of service line materials and help customers avoid possible exposure to lead from their household plumbing in their drinking water.

No lead service lines have been identified in the Portsmouth or Pease Water Systems.

Customers who received a notification letter are being asked to assist the City by following the directions outlined in the notice. The information letters include:

- A statement that the service line material is either galvanized steel and requires replacement, or is unknown;
- Information on replacing galvanized steel service lines requiring replacement;
- Actions to take if the material of the water service line is unknown;
- An explanation of the health effects of lead; and
- Steps to reduce any exposure to lead.

In accordance with the federal regulation, letters must be sent to property owners on an annual basis until service lines that might contain lead are removed, or the public water system is able to verify that a service line does not contain lead. These notification letters will be sent to homeowners again in October 2026. Those who do not receive a letter by the end of the year should be assured that the Water Division has determined that their service line material does not contain lead.

More detailed information about this inventory effort can be found on the City website: <https://portsnh.co/serviceinventory>.

Safe Water Advisory Group (SWAG)

The Safe Water Advisory Group (SWAG) was created with the approval of City Council on October 5, 2020. Its starting mission was to review and communicate the latest science on the health and environmental effects of PFAS, to monitor federal and state level legislative changes, and to anticipate policy changes that could impact the City of Portsmouth. Since 2020, the group has evolved to review topics beyond PFAS, such as the City's drinking water quantity, quality, preservation and conservation efforts, water infrastructure projects, and public health aspects of water quality. The SWAG met four times in 2025 and twice so far in 2026 and continues to support and provide public education about these drinking water topics. Video recordings and minutes from SWAG meetings are posted on the City's YouTube channel and website: <https://bit.ly/3PxxnLd>.

The 2026 Portsmouth City Council voted to renew the SWAG for another 2 years. The public is invited to attend meetings and encouraged to be involved with the community and informed of all aspects of the City's water supply.

Further Updates and Information

This information is updated on the City of Portsmouth's website in the Department of Public Works > Operations > Water section. More detailed updates on capital improvement projects can be found here: <https://www.portsmouthnh.gov/projects/dashboard>

For additional information or questions contact Mason Caceres, Assistant Water Resource Manager at mecaceres@portsmouthnh.gov / 603-312-3804 or Al Pratt, Water Resource Director at anpratt@portsmouthnh.gov / 603-520-0622.

