

Presented By



ANNUAL WATER QUALITY REPORT

Water Testing Performed in 2019

PWS ID#: RI1592024

For information on lead and drinking water,
please visit www.provwater.com/lead

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. El informe también está disponible en español en línea en www.provwater.com/waterqualityreport. Si usted desea tener una copia en papel, puede imprimir una directamente desde nuestro sitio web. También puede obtener una versión impresa poniéndose en contacto con nosotros por el 401-521-6303.

A Message from the General Manager

I am pleased to present our 2019 Water Quality Report, which details annual testing information about the quality of the drinking water that is delivered to you and your neighbors.

As the largest water utility in Rhode Island, Providence Water is proud to provide high-quality, affordable drinking water to more than 600,000 Rhode Islanders. Our staff works hard to protect our watershed, maintain our infrastructure, and monitor our water quality 24 hours a day, 7 days a week.

We value your trust and remain committed to providing exceptional drinking water and reliable service to you and your family. As we look toward the future, we will continue to identify and invest in system improvements and technologies that will allow us to increase efficiencies and ensure the safety, reliability, and sustainability of our water supply for many generations to come.



Respectfully,

Ricky Caruolo, General Manager

Important Health Information

Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

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. If you are one of these people, you should seek advice about drinking water from your health care provider. The U.S. EPA/CDC (Centers for Disease Control and Prevention) 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 at <http://water.epa.gov/drink/hotline>.



GENERAL INFORMATION

Meetings of Providence Water's Board of Directors are normally scheduled on the third Wednesday of each month and are open to the public. Meetings begin at 5:00 p.m. and are held in the David F. Walsh Memorial Boardroom at our headquarters located at 125 Dupont Drive, Providence, RI.

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality may deteriorate in areas of the distribution system over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains. Flushing removes sediments that may accumulate in the pipes over time. These sediments can affect the taste, clarity, or color of the water.

During flushing operations in your neighborhood, you may notice some short-term increases in the color and iron level in your cold water. You should avoid using your tap water for household purposes during this period as it may cause minor staining of fixtures and laundry. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use, and avoid using hot water to prevent sediment accumulation in your hot water tank.

Missed Deadline

Providence Water received a reporting violation in 2019 for failure to submit 1 of 385 lead and copper results to sampled households within 30 days. One household received their result within 66 days after the results were received at Providence Water. A total of 384 of 385 households received results within the required 30 days.

QUESTIONS?

U.S. EPA Hotline: (800) 426-4791

Rhode Island Department of Health, Drinking Water Quality: (401) 222-6867

Providence Water:

Billing Inquiries: (401) 521-5070

Emergency Leak: (401) 521-6300, Opt. 1

Water Quality Hotline: (401) 521-6303

Where Does My Drinking Water Come From?

Your drinking water comes entirely from surface water reservoirs located in a 93-square-mile, mostly rural, forested watershed basin located primarily in Scituate, RI.

The main source of this water supply is the Scituate Reservoir, which is the terminal reservoir in a network of six interconnected reservoirs: the Scituate Reservoir, Regulating Reservoir, Barden Reservoir, Ponaganset Reservoir, Westconnaug Reservoir, and Moswansicut Reservoir.



Barden Reservoir

Source Water Assessment

In 2017, Providence Water formally assessed the threats to the Scituate Reservoir. The assessment considered land use, pollution sources, and overall reservoir condition.

The assessment confirmed that the Scituate Reservoir system is at medium risk of contamination. Providence Water is continuing with protection efforts necessary to ensure water quality.

The 2017 Source Water Assessment report is available on the Providence Water website at www.provwater.com/swap.

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;

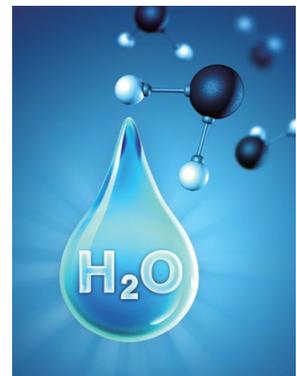
Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban storm-water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban storm-water 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 storm-water 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.



What's In My Water?

During calendar year 2019, Providence Water tested thousands of water samples to determine the presence of any biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those substances that were detected in the water and exactly how much of each substance was present. 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 are included, along with the year in which the sample was taken.

Our water system has sampled for a series of unregulated contaminants. Unregulated contaminants are those that do not yet have a drinking water standard set by EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard. As our customers, you have a right to know that this data is available. If you are interested in examining the results, please contact Providence Water at (401) 521-6303, or at 125 Dupont Drive, Providence, RI 02907.



REGULATED SUBSTANCES

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | MCL [MRDL] | MCLG [MRDLG] | AMOUNT DETECTED | RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
|---|--------------|------------------------------------|--------------|-----------------|----------------|-----------|---|
| Barium (ppm) | 2019 | 2 | 2 | 0.009 | NA | No | Erosion of natural deposits |
| Chlorine (ppm) | 2019 | [4] | [4] | 0.56 | ND-1.12 | No | Water additive used to control microbes |
| Fluoride (ppm) | 2019 | 4 | 4 | 0.80 | 0.58-0.80 | No | Erosion of natural deposits; Water additive, which promotes strong teeth |
| Haloacetic Acids [HAAs] ¹ (ppb) | 2019 | 60 | NA | 24.2 | 4.9-26.3 | No | By-product of drinking water disinfection |
| Nitrate ² (ppm) | 2019 | 10 | 10 | 0.06 | ND-0.06 | No | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| TTHMs [Total Trihalomethanes] ¹ (ppb) | 2019 | 80 | NA | 71.8 | 18.2-68.5 | No | By-product of drinking water disinfection |
| Total Coliform Bacteria ³ (% positive samples) | 2019 | TT | NA | 1.06 | NA | No | Naturally present in the environment |
| Total Organic Carbon ⁴ (removal ratio) | 2019 | TT | NA | 1.77 | 1.62-1.87 | No | Naturally present in the environment |
| Turbidity ⁵ (NTU) | 2019 | TT | NA | 0.88 | 0.02-0.88 | No | Soil runoff |
| Turbidity (lowest monthly percent of samples meeting limit) | 2019 | TT = 95% of samples meet the limit | NA | 100 | NA | No | Soil runoff |

Tap Water Samples Collected for Copper and Lead Analyses from Sample Sites throughout the Community

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AL | MCLG | AMOUNT DETECTED (90TH %ILE) | SITES ABOVE AL/ TOTAL SITES | EXCEEDANCE | TYPICAL SOURCE |
|-----------------------------|--------------|-----|------|-----------------------------|-----------------------------|------------|--|
| Copper (ppm) | 2019 | 1.3 | 1.3 | 0.02 | 0/300 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| Lead (ppb) | 2019 | 15 | 0 | 16.4 | 33/301 | Yes | Corrosion of household plumbing systems; Erosion of natural deposits |

UNREGULATED SUBSTANCES

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AMOUNT DETECTED | RANGE LOW-HIGH | TYPICAL SOURCE |
|-----------------------------|--------------|-----------------|----------------|---|
| Sodium (ppm) | 2019 | 15.0 | NA | Runoff from road de-icing operations; Erosion of natural deposits |

UNREGULATED CONTAMINANT MONITORING RULE - PART 4 (UCMR4)

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AMOUNT DETECTED | RANGE LOW-HIGH | TYPICAL SOURCE |
|------------------------------|--------------|-----------------|----------------|---|
| Bromochloroacetic Acid (ppb) | 2018 | 1.85 | 0.4-2.79 | By-product of drinking water chlorination |
| Manganese (ppm) | 2018 | 0.0008 | 0.0005-0.001 | Erosion of natural deposits |

¹ Compliance is based on the highest quarterly LRAA and range is based on the lowest and highest individual measurement.

² Nitrate was detected in a single sample of source water.

³ This value refers to the highest monthly percentage of positive samples detected during the year. For 2019, Providence Water collected 2,125 samples for Total Coliform Rule compliance monitoring. Five of these samples were positive for total coliform bacteria. None were positive for *E. coli*.

⁴ The value reported under Amount Detected for TOC is the lowest ratio between the percentage of TOC actually removed to the percentage of TOC required to be removed. In order to comply with the EPA standard, the removal ratio must be greater than 1. Detected level is the lowest removal ratio per quarter. Range is the lowest and highest removal ratios per month.

⁵ 0.88 NTU was the highest single turbidity measurement recorded. The lowest monthly percentage of samples meeting the turbidity limit was 100%. The average turbidity value for 2019 was <0.10 NTU.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is caused from lead materials and components associated with your home's water service connection and your home's interior plumbing.

Providence Water analyzes lead concentrations in water samples collected from 300 homes in our retail area two times each year. There is no MCL for lead. The EPA determines a lead exceedance based on whether 90 percent of the homes tested have lead levels less than the action level (AL) of 15 ppb. In the first half of 2019, this 90th-percentile value was 10 ppb. In the second half, the 90th percentile was 16 ppb, which exceeds the 15 ppb AL. This exceedance triggered public notification and treatment technique requirements. Providence Water is working with a panel of nationally recognized corrosion experts to optimize our treatment. We are also committed to improving our distribution system through our flushing and water main rehabilitation programs.

Providence Water is responsible for providing high-quality drinking water to your service connection but cannot control the variety of materials used in your home's plumbing components. You can minimize the potential for lead exposure by flushing your cold water tap to rid your home's plumbing of water that may have been in contact with lead-based pipes, solder, or brass in your home. If water has been sitting for more than several hours, run the cold water faucet until the water gets significantly colder, and then for another minute (usually 3-5 minutes total) before using for drinking and cooking. If you have used toilets, washing machines, or bathtubs, a 3-5 minute flush may not be necessary. For drinking or cooking, however, you should always flush from the cold water faucet for at least 30 seconds.

If you are concerned about lead in your water, Providence Water customers can call our Water Quality Hotline at (401) 521-6303 to have a free lead test kit mailed to their home or business.

Providence Water is offering 10-year, 0% interest loans for homeowners to replace their private lead service lines. Providence Water will ensure that the public side of the lead service line is automatically replaced at no cost whenever a homeowner replaces his/her private side of the lead service line. To find out more information, please call (401) 521-6303 or visit us online at www.provwater.com/loan.

Information on lead in drinking water, testing methods, and things you can do to minimize lead exposure is available from www.provwater.com/lead, the Safe Drinking Water Hotline at (800) 426-4791, or at www.epa.gov/safewater/lead.



Water Distribution System Rehabilitation

The Providence Water system is composed of approximately 1,040 miles of transmission and distribution mains, ranging in size from 6 to 102 inches. Like many older water systems, a large portion of the transmission and distribution system is composed of unlined cast iron water mains, where the interior surface of the main is bare cast iron with no protective coating. As the system ages, these mains experience internal corrosion. Beginning around 1950, all newly installed cast and ductile iron water mains were coated with a protective cement lining. Almost all of the water mains installed up until 1950 were of the unlined variety, and it is estimated that about 55 percent or 550 miles of these mains were unlined cast iron, with about 40 to 50 percent of these mains having been installed prior to 1900.

Water main rehabilitation has been part of Providence Water's Infrastructure Replacement Program since its inception in 1996. Since 1996, Providence Water has reinvested \$498 million into the system (capital improvements and infrastructure replacement combined), during which time Providence Water has expended about \$137 million on the rehabilitation of approximately 528,000 feet (100 miles).



Definitions

90th Percentile: 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.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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).

removal ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

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