

ANNUAL  
**WATER REPORT**

*Water testing  
performed in 2010*



*Presented By* \_\_\_\_\_  
**Providence  
Water**

PWS ID#: RI1592024

## Providence Water – Ranked second-best in America for Water Quality among large water systems

We at Providence Water are proud to present our annual water quality report to you. This report includes all testing performed between January 1, 2010, and December 31, 2010.

You need to know that the federal government requires us to use very specific language in this report that can often be confusing or alarming to some people. Be assured that Providence Water continues to be a reliable source of safe, exceptional drinking water for you and your family.

### General Information

Meetings of Providence Water's Board of Directors are normally scheduled for the third Wednesday of each month and are open to the public. Meetings begin at 5:00 p.m. and are held in the first-floor Walsh Memorial Boardroom at our headquarters located at 552 Academy Avenue, Providence, RI.

### 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. 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 <http://water.epa.gov/drink/hotline>.



## Join Providence Water's NEW customer notification network for FREE.

In the event of a water emergency or service interruption in your neighborhood, wouldn't you like to receive important real-time information directly from Providence Water?

Now you can instruct us to send you important messages, to any or all phone and computer devices that you use -- directly to your cell, home or work phone, or by text to e-mail addresses, or as cell text messages. The Network activates in July, but you need to sign up to be part of the network.



Visit our website at [www.provwater.com](http://www.provwater.com) and click on the Free Customer Notification Network link to tell us exactly how you want us to send word to you.

We won't share your information with anyone. We simply want you to be well informed about your drinking water and water service. Sign up today!

## Lead in Drinking Water

In 2010, Providence Water had an exceedance of the lead action level which required us to conduct public notification and education. Informational pamphlets were mailed to all consumers and delivered to local medical facilities and doctors' offices; information was posted on our Web site ([www.provwater.com](http://www.provwater.com)); and news releases and public service announcements were delivered to local media sources.

Most of the lead in household water usually comes from the plumbing in your own home, not from the local water supply. The U.S. EPA estimates that more than 40 million U.S. residents use water that can contain lead in excess of EPA's Action Level of 15 ppb.

Lead in drinking water is a concern because, if present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Adults who drink this water over many years could develop kidney problems or high blood pressure.

When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 3 minutes before using water for drinking or cooking, or especially, for making baby formula. Hot water is more likely to contain higher levels of lead.

If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800-426-4791) or at <http://www.epa.gov/safewater/lead>. You may also contact the National Lead Information Center (800-LEAD-FYI).

## Where Does My Drinking Water Come From?

Your drinking water comes entirely from surface water reservoirs located in a 92.8-square-mile, mostly rural, forested watershed basin in Scituate.

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 the Moswansicut Reservoir.

## Contact Us

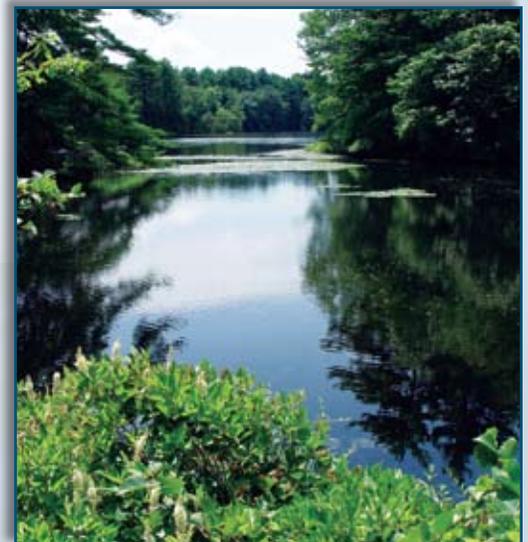
**U.S. EPA Hotline**  
(800) 426-4791

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

**Providence Water Laboratory**  
(401) 521-6300, ext. 7332

**Billing Department**  
(401) 521-5070

**Emergency Leak**  
(401) 521-6300, ext. 7150



## Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent, according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Furthermore, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their website at [www.nrdc.org/water/drinking/bw/exesum.asp](http://www.nrdc.org/water/drinking/bw/exesum.asp).



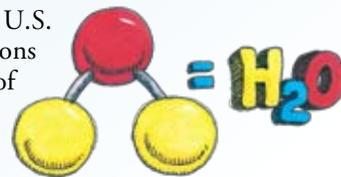
## Substances That Could Be in Water

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.

## A Message from the Chief Engineer

For nearly 100 years, Rhode Islanders have taken special pride in the quality of drinking water distributed by the Providence Water Supply Board. Ask anyone and they will tell you how the drinking water used by nearly 600,000 Rhode Islanders is a local treasure that no one should take for granted.

Water in its neutral or “natural” state has a pH of 7.0. That means it is evenly balanced between acidity and alkalinity. Water that falls in the form of rain over the Scituate watershed area and collects in our reservoir system is highly acidic, due in large measure to the air quality that blows our way from the Midwest that influences the acid pH of our rainfall. Acidity accelerates corrosion or rusting of the iron water mains in our distribution system and reduces their useful lives. To protect our distribution system from this corrosion, we add lime to the water during treatment. Finding and maintaining an optimal pH level throughout the entire system is tricky because other metals, such as lead, respond differently to the pH level that controls corrosion in iron.

Prior to 1947, customers were routinely connected to the Providence Water system with services made of lead, because lead was inexpensive, easy to use, and plentiful. Health effects of lead back then were not as clear as they are today. In 1988, the EPA changed the standard for lead contamination. Since 2006, when Providence Water exceeded the lead action level for lead at the tap, Providence Water has been required to conduct a formal program to systematically remove the lead services remaining throughout our distribution system. At that time, more than 25,000 of the existing 74,000 customer service connections were made of lead. Since 2007, we have replaced 9,590 of those lead services from the main in the street to the customer-owned portion of those connections.

The U.S. Environmental Protection Agency also requires Providence Water to conduct annual public education programs, advising customers who may have lead plumbing how to effectively flush standing water from the property’s pipes to minimize lead exposure.

**Flushing is easy and costs next to nothing. There are two important things to remember about effective flushing:**

- 1. Whenever your water has not been used for several hours, flush water from a kitchen or bathroom faucet for at least 3 minutes. You will use about 3 gallons of water to do this, and the cost will be just about a penny. You can save the flushed water for watering houseplants or gardens or for cleaning purposes. Duplicate this process whenever your water has not been used for several hours: for example, when you wake up and when you return home from work or school.**
- 2. You do not need to flush from a faucet for 3 minutes if you use toilets, washing machines, showers, bathtubs, or wash-up before you use tap water for drinking or cooking. However, whenever you use any faucet for drinking or cooking purposes, you should always flush the water from that faucet for at least 30 seconds.**

Here are a few more tips: Always use the cold water from the faucet when cooking or preparing beverages, especially baby formula. Hot water can contain trace amounts of material from your hot water heater and can contain higher trace amounts of lead. Also, periodically clean your aerator screens on the faucets in your property to remove any debris that may have collected.

Routinely performing these steps can reduce or eliminate the chance that you might ingest trace amounts of lead from your home’s plumbing. For complete peace of mind, consider replacing your portion of a lead service, old lead pipes, brass fixtures, and piping joints where lead solder may have been used.

Providence Water is adding a new important step in the treatment process that should improve things. The introduction of Carbon Dioxide will help stabilize the water’s pH throughout the system while striking a better corrosion control balance for both lead and iron. The investment in equipment and the cost of Carbon Dioxide does add expense to the treatment process, but the new process will pay dividends with more stable corrosion reduction to both iron and lead, lowering concerns about lead exposure and extending the useful life of our system of water mains.

More information on lead in drinking water, testing and treatment methods, plus steps you can take to minimize exposure is available from the U.S. Environmental Protection Agency’s Web site [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).



Pamela M. Marchand, P.E.

A handwritten signature in black ink that reads "Pamela M. Marchand". The signature is written in a cursive, flowing style.

Chief Engineer and General Manager



## What's In My Water?

To ensure the safety of your drinking water, we have taken thousands of water samples during the past year to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water.

### REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2010	2	2	0.01	NA	No	Erosion of natural deposits
Chlorine (ppm)	2010	[4]	[4]	0.34	ND-1.6	No	Water additive used to control microbes
Fluoride <sup>1</sup> (ppm)	2010	4	4	1.98	0.78-1.98	No	Erosion of natural deposits; Water additive which promotes strong teeth
Haloacetic Acids [HAA] <sup>2</sup> (ppb)	2010	60	NA	23.1	7.4-35.6	No	By-product of drinking water disinfection
Nitrate (ppm)	2010	10	10	0.06	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] <sup>2</sup> (ppb)	2010	80	NA	59.7	34.0-98.6	No	By-product of drinking water disinfection
Total Coliform Bacteria <sup>3</sup> (% positive samples)	2010	5% of monthly samples are positive	0	0.5	NA	No	Naturally present in the environment
Total Organic Carbon (ppm)	2010	TT	NA	1.21	0.90-1.59	No	Naturally present in the environment
Turbidity <sup>4</sup> (NTU)	2010	TT	NA	0.30	0.05-0.30	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2010	TT=95% of samples<0.3	NA	100.0	NA	No	Soil runoff

### 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%TILE)	SITES ABOVE AL/ TOTAL SITES	EXCEEDANCE	TYPICAL SOURCE
Copper (ppm)	2010	1.3	1.3	0.06	0/100	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead <sup>5</sup> (ppb)	2010	15	0	21	22/111	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)	2010	9.8	NA	Erosion of natural deposits; Runoff from road de-icing operations

<sup>1</sup>The average fluoride concentration for 2010 was 0.96 ppm.

<sup>2</sup>TTHM and HAA compliance is based upon quarterly running annual averages, and the range is based upon lowest and highest individual measurements.

<sup>3</sup>For 2010, Providence Water collected 2,316 samples for Total Coliform Rule compliance monitoring. One of these samples was positive for coliform bacteria. None were positive for E. coli bacteria.

<sup>4</sup>Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. The average turbidity value for 2010 was less than 0.10 NTU.

<sup>5</sup>For 2010, Providence Water had an exceedance of the lead action level. Although not a SDWA violation, this did trigger a public notification requirement necessitating a pamphlet on the hazards of lead be mailed to all our customers.

## Definitions

**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).

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