



2012 Water Quality Report

Important Information About Your Drinking Water

Any Questions?

Want to know more about the Bristol County Water Authority? Please call or write to Pamela M. Marchand, P.E., Executive Director, with any questions, comments or concerns.

Our office is located at 450 Child Street, Warren, RI 02885. We hold monthly meetings, the time/location of our meetings is posted at Town Halls of Barrington, Bristol, Warren and Rehoboth, at sos.ri.gov, and BCWA Bulletin Boards, or contact our office or visit our website at www.bcwari.com.

**Our Emergency Phone Number is
401-245-5071**

Portuguese

IMPORTANTE!

Este relatório contém informações importantes sobre a qualidade da água da comunidade. Pergunta a quem saiba para traduzir ou fala com alguém que compreenda o que está escrito.

**Bristol County Water Authority
450 Child Street
P.O. Box 447
Warren, RI 02885
401-245-2033**

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 Moswansicut Reservoir.



Source Water Assessment for the Scituate Reservoir.

A Source Water Assessment was conducted in 2003 by the University of Rhode Island, Department of Health (RIDOH) and the Providence Water Supply Board (PWSB). The water supply was found to be at low risk. A four page summary of the assessment is available from the PWSB or the RIDOH.

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 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 Water Drinking Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially from pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service line and home plumbing. We are responsible for providing high-quality drinking water but cannot control the variety of materials used in plumbing components.

When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 3 full minutes before using water for drinking or cooking.

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 or at www.epa.gov/safewater/lead.

Note: The Bristol County Water Authority does not have any lead service lines.

What's in My Water?

Providence Water and Bristol County Water Authority conducts thousands of laboratory tests throughout each year to ensure the safety of your water. We have compiled a list in the table below that shows you what substances were detected. Each and every substance on the list was found to be below the Maximum Contaminant Level (MCL) as set by the U.S. EPA. We want you to know exactly what was detected during these tests and how much of each substance was present in your drinking water. The RI Department of Health allows us to monitor 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.

2012 BRISTOL COUNTY WATER AUTHORITY • WATER QUALITY DATA

Bristol County receives all of its water from Providence through the East Bay Pipeline.

The table below represents the results of the testing performed by the Bristol County Water Authority (BCWA) and by the Providence Water Supply Board (PWSB).

| REGULATED SUBSTANCES SUBSTANCE (Unit of Measure) | PERIOD OF TESTING - YEAR 2012 | | HIGHEST AMOUNT DETECTED | RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE | |
|---|-------------------------------|-------------------------------|----------------------------|-------------------------------|----------------------------|--|--|
| | SOURCE | MCL* (MRDL) | | | | | MCLG* (MRDLG) |
| Barium (ppm) | PWSB | 2 | 2 | 0.012 | 0.006-0.012 | No Erosion of natural deposits | |
| Chlorine ¹ (ppm) | BCWA | (4) | (4) | 0.34 | 0.01-1.24 | No Water additive used to control microbes | |
| Fluoride (ppm) | PWSB | 4 | 4 | 1.00 | 0.66-1.00 | No Erosion of natural deposits; water additive that promotes strong teeth | |
| Haloacetic Acids (HAA5) ² (ppb) | BCWA | 60 | NA | 15.2 | 6.2-26 | No By-product of drinking water disinfection | |
| TTHMs (Total Trihalomethanes) ² (ppb) (TOC) | BCWA | 80 | NA | 64.5 | 39.4-122 | No By-product of drinking water disinfection | |
| Total Coliform Bacteria ³ (%Positive Samples) | BCWA | 0% Positive | 0 | 0 | NA | No Naturally present in the environment | |
| Nitrate (ppm) | PWSB | 10 | 10 | 0.05 | NA | No Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits. | |
| Alpha Emitters (pCi/L) | 01/15/2008 PWSB | 15 | 0 | 5.08 | 0-5.08 | No Erosion of natural deposits | |
| Total Organic Carbon ⁴ (ppm) | PWSB | TT* | NA | 1.05 | 0.90-1.51 | No Naturally present in environment | |
| Turbidity ⁵ (NTU) | PWSB | TT* = <1 NTU | NA | 0.16 | 0.03-0.16 | No Soil runoff | |
| Turbidity (Lowest monthly percent of samples meeting limit) | PWSB | TT* = 95% of samples <0.3 NTU | NA | 100 | NA | No Soil runoff | |
| Substance (Unit of Measure) | SOURCE | AL | MCLG | Amount Detected 90th% TILE | Sites above AL/total sites | Exceedance | TYPICAL SOURCE |
| Copper (ppm) | BCWA | 1.3 | 1.3 | 0.02 | 0 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| Lead (ppb) | BCWA | 15 | 0 | 0.003 | 0 | No | Corrosion of household plumbing systems; Erosion of natural deposits |

30 tap water samples were collected for lead and copper analyses from sample sites throughout the community.

UNREGULATED SUBSTANCES

| Substance (Unit of Measure) | SOURCE | AMOUNT DETECTED | RANGE LOW-HIGH | TYPICAL SOURCE |
|-----------------------------|--------|--------------------|-------------------|---|
| Sodium | PWSB | 13.0 | NA | Erosion of natural deposits; Runoff from road de-icing operations |

* see included list of definitions

1. Compliance is based upon the highest quarterly running annual average, and the range is based upon the lowest and highest individual measurements.

2. Compliance is based upon the highest locational quarterly running annual average, and the range is based upon the lowest and highest individual measurements.

3. For 2012, the Bristol County Water Authority collected 761 samples for Total Coliform Rule compliance monitoring; there were no positive samples for bacteria.

4. In order to comply with the EPA's TOC Standard, the removal ratio between the source and finished water must be greater than 1.0. The detected level is the lowest removal ratio per quarter. Range is the lowest and highest removal ratios per month.

5. Turbidity is a measurement of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. 0.16 NTU was the highest single measurement recorded. The average turbidity value for 2012 was <0.10 NTU (Nephelometric Turbidity Unit).

Focus on Water Quality

The Bristol County Water Authority is committed to providing its customers with high quality drinking water that meets or surpasses state and federal standards for quality and safety.

The BCWA discontinued the use of the Child St. Water Treatment Plant in 2011. ALL of our water supply is now purchased from the Providence Water Supply Board's Scituate Reservoir. The Reservoir is listed as #2 for water quality in the country by the Environmental Working Group, a national environmental health and research group.

A change in regulations this past year for trihalomethanes brought water quality issues to the forefront. Trihalomethanes are a by-product of disinfection of the water with chlorine. The BCWA did meet the standard, but the revised regulation provided a wake-up call to look at operational improvements to ensure future compliance. The Scituate Reservoir is a surface supply that is subject to the decay of products from leaves and other vegetation in the watershed. Trihalomethanes are formed when these natural organics come in contact with chlorine. We are required by the EPA to maintain a detectable level of chlorine throughout the distribution system to protect the water from microbial contamination.

To address this issue, we have replaced our chlorination equipment with a modern control system and initiated an improved water quality monitoring program throughout the system. With these improvements, we can insure sufficient chlorine is added for disinfection, but minimize the formation of disinfection by-products. We are also planning to install mixing systems in our water tanks to improve quality, and aeration at the 2 million gallon Bay View tank in Bristol to remove trihalomethanes.

Cast iron water mains play a large part in water quality issues. Like most utilities in the northeast, the water mains that deliver water to our customers are aging and need to be rehabilitated or replaced. Approximately 100 miles of our 233 miles of water main, installed before 1950, are unlined cast iron and in need of cleaning and lining or replacement. (Water mains purchased after 1950 were supplied with a concrete inner lining.) The interior of the cast iron corrodes and may cause discoloration issues and restrictions to flow from the buildup of iron deposits on the walls. And then the chlorine reacts with the iron deposits and requires higher doses of the disinfectant to be added to the water. The BCWA has adopted a 20 year plan to clean and line or replace 60 miles of the cast iron pipe. Meanwhile, the entire system is now flushed in the spring to remove iron sediments from the mains, and we are investigating alternative corrosion control methods.

BCWA is focused on maintaining the excellent water quality provided by the Scituate Reservoir with distribution projects to clean and line cast iron water mains, provide mixing and aeration in the water storage tanks, pump station upgrades, operational improvements and with more control and monitoring of the water quality.

Funding capital projects and maintenance is critical to maintaining a high quality water supply. Unfortunately, this has required an increase in rates this year. The Bristol County Water Authority is working hard to minimize operational costs and future rate increases by creating a more efficient organization, including the development of strategic plan and long term capital and financial plans.

Pamela M. Marchand, P.E.
Executive Director and Chief Engineer

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).

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.