

PORTSMOUTH WATER AND FIRE DISTRICT 2016 CONSUMER CONFIDENCE REPORT

ADMINISTRATIVE BOARD MEMBERS

Philip T. Driscoll	Clerk Chairman
Theodore T. Czech	Tax Assessor
Frederick W. Faerber, III	Tax Collector
Andrew V. Kelly	Water Commissioner
Ronald L. Molleur	Moderator
Michael W. Nott	Tax Assessor
Allen J. Shers	Treasurer

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Dear Customer:

We are pleased to present a summary of the quality of the water provided to District customers during the past year. The federal Safe Drinking Water Act (SDWA) requires that water utilities issue an annual "Consumer Confidence" report to customers in addition to other notices that may be required by law. This report details where our water comes from, what it contains, and the risks that our water testing and treatment are designed to prevent. The Portsmouth Water and Fire District is committed to providing you with the safest and most reliable water supply available. Informed consumers are our best allies in maintaining safe drinking water.

The Portsmouth Water and Fire District's drinking water meets or exceeds all federal and state drinking water standards.

About the Portsmouth Water and Fire District

The Portsmouth Water and Fire District is a **quasi-municipal agency** created by the RI General Assembly in 1952. The District is responsible for providing drinking water and water for fire protection for approximately ninety percent of Portsmouth on Aquidneck Island. The District is governed by a seven-member elected Administrative Board and holds an annual election of officers on the second Wednesday in June. **The District is not part of the Town of Portsmouth government.** Nevertheless, the District and Town work together to best serve their common constituents.

The original District was known as *Island Park and Common Fence Point Fire District* and its water distribution system was constructed in the mid to late 1950's. In 1956, the name of the District was changed to *Portsmouth Water and Fire District*. In 1965, the District boundaries were changed to include the south end of Portsmouth and the water distribution system was expanded to cover this area in the mid to late 1960's. The Redwood Farms and Raytheon areas were excluded from the District's expanded service area as they were already served by Newport Water. Today the District's water system serves 6,616 customers and consists of over 130 miles of pipe, 4 water storage tanks, 2 pumping stations and 578 fire hydrants.

The District does not own any water supplies, but instead purchases its regular water supply on a wholesale basis from the City of Newport and relies on the Stone Bridge Fire District in Tiverton for emergency water supply.

The Administrative Board's goal is to provide the customers of the District with an adequate supply of the best quality water available. Recent and current efforts to improve water quality and customer service include:

- Web Portal that allows customers to pay their water and tax bills on-line using ACH drafts and credit and debit cards. **Go to portsmouthwater.org and click on the “PAY MY BILL” button.**
- Development of a Geographic Information System (GIS) for water system mapping and data analysis.
- Purchase of an Asset Management System web application/server that integrates GIS for record keeping and real-time mobile work orders.
- Commencement of planning and funding for replacement of the 48 year-old Union Street Pumping Station.
- Annual uni-directional water main flushing program based on hydraulic modeling and analysis.
- Looping of new and existing water main extensions whenever possible to avoid dead-ends.
- Implementation of a cross-connection control program.

We encourage public interest and participation in our community's decisions affecting drinking water. Regular meetings of the Administrative Board of the Portsmouth Water and Fire District are held on the third Tuesday of every month at 7:00 PM, at the District's office at 1944 East Main Road. The public is welcome and encouraged to attend these meetings. Written minutes of the meetings are available upon request. This Consumer Confidence Report and minutes of Board meetings are also available on the internet at www.PortsouthWater.org.

Your Water Source

In 2016, the Portsmouth Water and Fire District purchased all of its water from the City of Newport. The majority of the water is treated at the Lawton Valley Water Treatment Plant in Portsmouth. On occasion, the water may be treated at the Station One Water Treatment Plant in Newport. Newport Water draws its raw water supply from a system of nine surface water reservoirs: Lawton Valley Reservoir and St. Mary's Pond in Portsmouth; Nonquit Pond in Tiverton; Watson Reservoir in Little Compton; North and South Easton Ponds in Middletown and Newport; and Paradise Pond and Gardner Pond in Middletown. Both plants and all nine reservoirs are owned and operated by the City of Newport. The emergency supply from the Stone Bridge Fire District is treated at the Stone Bridge Water Treatment Plant in Tiverton, which draws surface water from Stafford Pond in Tiverton.

Source Water Assessments

In 2003, the University of Rhode Island, in cooperation with the RI Department of Health (RIDOH) and other state and federal agencies, assessed the threats within the watersheds of Newport Water's water supply sources. The assessment found that the water sources on Aquidneck Island and in Little Compton and Tiverton are moderately susceptible to contamination. Monitoring and protection efforts are especially important to assure continued water quality. Newport Water updated the 2003 Assessment in 2010. The complete Source Water Assessment Report is available at our office.

Health Effects Information for the Water You Drink

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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 and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants 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, and wildlife;
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or 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 can also come from gas stations, urban stormwater runoff and septic systems;
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Water Quality Issues

Concerning Lead in Our Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Portsmouth Water and Fire District is responsible for providing high quality drinking water, but cannot control the variety of materials used in its customer's plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap until the water gets as cool as it can and then flush it for another 15 seconds before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your tap 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.

Although there is no lead in the water supplied by the District, lead can enter tap water through corrosion of household plumbing materials. Homes built before 1986 are more likely to have fixtures and solder containing lead. However, new homes are also at risk: even legally "lead-free" plumbing may contain up to 8 percent lead. The most common problem is with brass or chrome-plated brass faucets and fixtures which can leach significant amounts of lead into the water, especially hot water.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing.

**THE DISTRICT CAN HELP YOU OBTAIN A
CERTIFIED LEAD TEST FOR YOUR TAP WATER FOR \$13.
PLEASE CALL 683-2090 FOR MORE INFORMATION.**

Reporting of Monitoring Data

We are required to report the results of monitoring of your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. For the compliance period August 1, 2016 to August 31, 2016, we violated reporting requirements by failing to submit the results of the monitoring for bacteria (coliform) and chlorine by the due date. All monthly samples and measurements regarding water quality were collected as required and on time, but reported late.

There is nothing you need to do at this time. You do not need to boil your water or take other actions. August data was required to be submitted within 10-days of the end of August. The results were instead submitted within 10 days and 19 hours of the end of August due to decision error by staff, which has been addressed.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

Questions

The Portsmouth Water and Fire District prepared this report. We'll be happy to answer any questions about the District and our drinking water quality. Please contact William J. McGlenn, General Manager and Chief Engineer (401-683-2090).

Some water customers of the Newport Water Department and the Naval Station Newport water system, particularly in the Redwood Farms, Bay View and Melville areas, in addition to properties in the District with private wells, may receive this consumer notice, even though they are not customers of the District. This over-coverage is unavoidable in our effort to ensure that all potential water users within the District receive this legal notice through a Postal Customer mailing.

The Portsmouth Water and Fire District is a proud member and supporter of the American Water Works Association, the New England Water Works Association and the Rhode Island Water Works Association.

Newport Water System Special Monitoring

In 2016, Newport Water monitored the Station 1 and Lawton Valley Treatment Plants for two algae toxins at the raw water intake and total plant effluent. Samples were collected from July 2016 through November 2016. Twenty-eight samples were collected and tested for *Microcystin* and *Cylindrospermopsin*. All tests were negative.

Sample Site	<i>Microcystin</i> (ppb)	<i>Cylindrospermopsin</i> (ppb)
Station 1 Intake	Not Detected	Not Detected
Station 1 TPE	Not Detected	Not Detected
Lawton Valley Intake	Not Detected	Not Detected
Lawton Valley Clearwell	Not Detected	Not Detected

Newport Water System Special Monitoring by RIDEM

In 2016, Newport Water surface water reservoirs were monitored by RIDEM for the following algae toxins: Microcystin, Cylindrospermopsin, Anatoxin and Nodularin. Samples were collected from July 2016 through December 2016. The total number of samples tested was 33.

Sample Site	Microcystin (ppb)	Cylindrospermopsin (ppm)	Anatoxin (ppb)	Nodularin (ppb)
North Pond	ND	ND	ND	ND
South Pond	ND	ND	ND	ND
Lawton Valley	ND - 20	ND	ND	ND
St. Mary's Pond	ND	ND	ND	ND
Paradise Pond	ND – 1.0	ND	ND	ND
Gardiner's Pond	ND	ND	ND	ND
Sisson's Pond	ND	ND	ND	ND
Nonquit Pond	ND	ND	ND	ND
Watson Reservoir	ND - 5.3	ND	ND	ND

Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)

The EPA adopted the LT2ESWTR on January 5, 2006 to control microbial contaminants. Newport Water is required to monitor its source raw water for 24 months, beginning in October 2016, for *Cryptosporidium*, *Escherichia coli*, and Turbidity. The data presented in this report represents the source water entering into the Station 1 Treatment Plant and Lawton Valley Treatment Plant. Current test methods do not allow Newport Water to determine if the organisms are dead or if they are capable of causing disease.

The purpose of the LT2ESWTR is to reduce illness linked to the contaminant *Cryptosporidium* and other pathogenic microorganisms. *Cryptosporidium* is a significant concern in drinking water because it contaminates most surface waters used as drinking water sources, it is resistant to chlorine and other disinfectants, and it has caused waterborne disease outbreaks in the United States. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100% removal. Consuming water with *Cryptosporidium* may cause *Cryptosporidiosis*, an abdominal infection with symptoms including nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease in a few weeks. However, immune-compromised people are at a greater risk of developing life threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

Date	Water Source	Treatment Plant	Cryptosporidium (oocysts/10 Liters)	E.coli (MPN/100 ml)	Turbidity (NTU)
10/03/16	South Pond	Station 1	0	4.2	8.72
10/03/16	Watson Reservoir	Lawton Valley	1	6.4	2.87
11/07/16	North Pond	Station 1	1	4.1	9.67
11/07/16	Watson Reservoir	Lawton Valley	0	1.0	1.95
12/05/16	South Pond	Station 1	0	6.2	8.40
12/05/16	Lawton Valley Res.	Lawton Valley	0	2.0	3.86

PLEASE REFER TO WATER QUALITY TABLE BELOW

How Do I Read This Water Quality Table?

It's easy! Our water is regularly tested to assure that it is safe and healthy. The column marked Detected Level shows the highest test results during the year. The column marked Major Sources in Drinking Water shows where substances usually originate. Footnotes explain important details. Abbreviations and definitions of key terms are shown in the table below:

Abbreviations and Definitions used in the Water Quality Table

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.
MFL	Million Fibers per Liter
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.
Mrem	Millirems: a measure of radiation absorbed by the body.
N/A	Not Applicable.
ND	Not Detectable: Not detectable at testing limits.
NTU	Nephelometric Turbidity Units: a measure of very small particulate matter in drinking water.
pCi/l	Picocuries per liter: a measure of radioactivity.
ppb	parts per billion, or micrograms per liter ($\mu\text{g/l}$).
ppm	parts per million, or milligrams per liter (mg/l).
ppt	parts per trillion, or nanograms per liter (nanograms/l).
RAA	Running Annual Average
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

PORTSMOUTH WATER AND FIRE DISTRICT

PUBLIC WATER SYSTEM # RI1592022

2016 WATER QUALITY TABLE *

DETECTED CONTAMINANTS	YEAR TESTED	UNIT	MCL / MRDL	MCLG / MRDLG	DETECTED LEVEL (FOR COMPLIANCE)	DETECTED RANGE	MAJOR SOURCES IN DRINKING WATER	VIOLATION
Microorganisms			MCL	MCLG				
Total Coliform Bacteria (1)	2016	% of Positive Samples per Month	5%	0	2.44%	N/A	Naturally present in the environment.	NO
Total Organic Carbon (2)	2016	Removal ratio	TT	N/A	1.51	1.23 – 1.78	Naturally present in the environment.	NO
Turbidity (2) (8)	2016	NTU	TT = 1.0 TT = 95% of monthly samples ≤ 0.3	N/A	0.44 99.72% ≤ 0.3	N/A	Soil runoff.	NO
Disinfection Byproducts			MCL	MCLG				
Chlorite (2)	2016	ppm	1.0	0.8	0.225	<0.010 – 0.350	By-product of drinking water chlorination.	NO
Haloacetic Acids (HAA5s)	2016	ppb	60	N/A	15.7	4.6 – 18.1	By-product of drinking water chlorination.	NO
Total Trihalomethanes (TTHMs) (7)	2016	ppb	80	N/A	69.6	16.1 – 103	By-product of drinking water chlorination.	NO
Disinfectants			MRDL	MRDLG				
Chlorine	2016	ppm	4	4	1.05	0.47 – 2.05	Water additive used to control microbes.	NO
Chlorine Dioxide (2)	2016	ppb	800	800	610	30 – 610	Water additive used to control microbes.	NO
Inorganic Chemicals			MCL	MCLG				
Arsenic (3)	2016	ppb	10	0	2	ND – 2	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production waste.	NO
Barium (3)	2016	ppm	2	2	0.011	0.005 – 0.011	Erosion of natural deposits; discharge of drilling wastes.	NO
Copper (4)	2015	ppm	AL = 1.3	1.3	0.025	N/A	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.	NO
Fluoride (2) (5)	2016	ppm	4	4	0.79	0.05 – 0.79	Water additive, which promotes strong teeth.	NO
Lead (6)	2015	ppb	AL = 15	0	2	N/A	Corrosion of household plumbing systems; erosion of natural deposits.	NO
Nitrate (3)	2016	ppm	10	10	1.22	0.30 – 1.22	Runoff from fertilizer use; leaching from septic tanks, sewerage; erosion of natural deposits.	NO
Unregulated Contaminant Monitoring			MCL					
Sodium (2)	2016	ppm	N/A	N/A	28.8	22.9 – 28.8	Erosion of natural deposits; road-salt runoff; contained in water treatment chemicals.	N/A
Chlorate (9)	2016	ppb	N/A	N/A	340	78 – 340	Used in agriculture as defoliant or desiccants and may occur in drinking water related to use of disinfectants such as chlorine dioxide.	N/A

* The data presented in this table is from the most recent testing done in accordance with regulations. Test results are from the Portsmouth Water and Fire District's distribution system unless otherwise noted by the footnotes.

Water Quality Table Footnotes

- (1) In 2016, the District collected 502 samples that were tested for Total Coliform Bacteria. All samples were negative except for one sample that tested positive for Total Coliform Bacteria. Three repeat samples within 48-hours at the positive test site and at test sites upstream and downstream were negative.
- (2) Measured after treatment at the Newport Water Department Lawton Valley Water Treatment Plant.
- (3) Measured in the Newport Water Department raw water reservoirs prior to treatment.
- (4) The detected copper level indicates the 90th percentile value of the 30 samples obtained at 30 high-risk homes. None of the 30 samples exceeded the Action Level for copper.
- (5) Fluoride is added to the water to help prevent tooth decay in children.
- (6) The detected lead level indicates the 90th percentile value of the 30 samples obtained from 30 high-risk homes. None of the 30 samples exceeded the Action Level for lead. *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.*
- (7) *Some people who drink water containing TTHM's in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.*
- (8) *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.*
- (9) Measured after treatment at the Newport Water Department Lawton Valley Water Treatment Plant and in the District's distribution system.