

University of Rhode Island

2016 Water Quality Report

THE QUALITY OF YOUR DRINKING WATER

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the water quality and services that we, the University of Rhode Island (URI), delivered to you in 2016. Included are details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. Our goal is to provide you with a safe and dependable supply of drinking water. We're proud to inform you that your drinking water meets or exceeds all federal and state requirements. If you have any questions about this report or concerning your water utility, please contact Dave Lamb, Utilities Engineer, URI Facilities Services Department at (401) 874-7896.

There are no regularly scheduled meetings, but we welcome all suggestions and comments from our customers. Please feel free to call us at (401) 874-7896 or visit our web site at www.uri.edu/facilities and click on the utilities tab.

THE SOURCE OF YOUR DRINKING WATER

The University of Rhode Island, Kingston Campus owns and operates its own water system. The system draws from three high volume wells, located in the Chippuxet ground water aquifer. The wells are numbered #2, #3, and #4. We disinfect the drinking water through chlorination and adjust pH. The wells and associated pump stations pump treated water into the distribution network. Treated water to meet demand is also stored in a one million gallon elevated storage tank. Three interconnects exist between the campus distribution system and our neighboring water system, the Kingston Water District, providing added reliability to both systems. An emergency generator for the entire water system is capable of supplying all of the campus's water requirements.

The RI Department of Health, in cooperation with other state and federal agencies, has assessed the threats to URI's water supply sources. The assessment considered the intensity of development, the presence of businesses and facilities that use, store or generate potential contaminants, how easily contaminants may move through the soils in the Source Water Protection Area, and the sampling history of the water.

Our monitoring program continues to assure that the water delivered to you is safe and wholesome. However, the assessment found that the water source is at MODERATE RISK of contamination. This rating is primarily based on land use in and around the aquifer. Monitoring and protection efforts are necessary to assure continued water quality. Our active source protection program monitors and trends chemical data. The Utilities Department works with all university departments to ensure safe use of chemicals on campus. The complete Source Water Assessment Report is available from the University of Rhode Island or the Department of Health at (401) 222-6867.

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WHY ARE THERE CONTAMINANTS IN DRINKING WATER?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

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

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.

For most people, the health benefits of drinking plenty of water outweigh any possible health risk from these contaminants. However, 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/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

IMPORTANT LEAD INFORMATION

Testing showed the amount of lead in our drinking water is below the EPA allowed level (see test results table below). If present in elevated levels 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 University of Rhode Island is responsible for providing high quality drinking water, but cannot control the variety of materials used in residential plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 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 <http://www.epa.gov/safewater/lead>.



CONTAMINANTS THAT MAY BE PRESENT IN SOURCE WATER INCLUDE:

MICROBIAL - such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

INORGANIC - 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 & HERBICIDES - which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

ORGANIC CHEMICAL - 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 - which can be naturally occurring or the result of oil and gas production and mining activities.

2016 Test Results from The University of Rhode Island

All test results were non-detects except for the following

Inorganic Contaminants	Violation Y/N	Level Detected Range: single samples			Unit of Measurement	MCLG	MCL	Likely Source of Contamination
		Well #2	Well #3	Well #4				
Barium (2014)	N	0.003	0.006	0.019	ppm	2	2	Erosion of natural deposits; discharge of drilling wastes; discharge from metal refineries
Chromium (2014)	N	2	2	3	ppb	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride (2014)	N	0.75	ND	0.40	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen) (2016)	N	0.88	3.85	1.98	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Synthetic Organic Contaminants	Violation Y/N	Level Detected Range: single samples			Unit of Measurement	MCLG	MCL	Likely Source of Contamination
		Well #2	Well #3	Well #4				
Atrazine (2015)	N	ND	ND	0.1	ppb	3	3	Runoff from herbicide used on row crops

2016 Distribution System Test Results

Volatile Organic Contaminants	Violation Y/N	Level Detected (Range)	Unit of Measurement	MCLG	MCL	Likely Source of Contamination
Chlorine (2016)	N	RAA*: 0.149 Range: 0.05 - 0.44	ppm	MRDLG = 4	MRDL = 4	Water additive used to control microbes
Haloacetic Acids (HAA) (2016)	N	RAA*: 1.5 (1.3-1.8)	ppb	N/A	60	Byproduct of water chlorination
Total Trihalomethanes (TTHM) (2016)	N	RAA*: 7.56 (4.2-11.9)	ppb	0	80	Byproduct of water chlorination
Inorganic Contaminants	Violation Y/N	Level Detected (90th Percentile)	Unit of Measurement	MCLG	MCL	Likely Source of Contamination
Copper** (1/1/13-12/31/15)	N	0.519	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead** (1/1/13-12/31/15)	N	8.8	ppb	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

* RAA(Running Annual Average) is the average of all monthly or quarterly samples for the last year at all sample locations.

** Reported results are the 90th percentile value (the value that 90% of all samples are less than). Of the 30 samples collected for Lead, we had only 1 AL exceedance. Our resulting 90th percentile for Lead still meets the acceptable AL of 15 ppb.

The State of Rhode Island requires testing for other contaminants not regulated by the US EPA. The following contaminants were detected in our well water:

- In 2016, **Sodium** was detected in Well #2 at 7.68ppm, in Well #3 at 11.4ppm and Well #4 at 30.0ppm.

UNITS & DEFINITIONS:

Not Detected (ND)-Laboratory analysis indicated the contaminant was not present.

Parts per million (ppm) or Milligrams Per liter (mg/L) - One part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter (ug/L) - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Action Level (AL) - The concentration of a contaminant which if exceeded, triggers treatment or other requirements which a water system must follow. A violation will occur only if the supplier fails to take corrective action.

Maximum Contaminant Level (MCL) -The MCL is 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.

Maximum Contaminant Level Goal (MCLG) - The MCLG is 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.

Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed in drinking water.

Maximum Residual Disinfectant Level Goal (MRDLG) - The level of a drinking water disinfectant below which there is no known or expected risk to health.

UNDERSTANDING OUR WATER QUALITY TEST RESULTS

In 2016, 646 samples were collected and analyzed to ensure your safety. Our water is tested for over 133 contaminants. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from the January – December 2016 monitoring period. For those contaminants that are monitored less frequently the most recent test results are listed.

Maximum Contaminant Levels (MCL's) are set at very stringent levels. The Maximum Contaminant Level Goal (MCLG) is set at a level where no health effects would be expected, and the MCL is set as close to that as possible, considering available technology and cost of treatment. A person would have to drink 2 liters of water every day, as recommended by health professionals, at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

UCMR Language

Our water system has sampled for a series of unregulated contaminants. Unregulated contaminants are those that don't 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 these data are available. If you are interested in examining the results, please contact David Lamb at 401-874-7896.



THE UNIVERSITY OF RHODE ISLAND

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URI'S CROSS-CONNECTION CONTROL PROGRAMS

URI has developed and implemented a cross-connection control program per the RI Rules and Regulations Pertaining to Drinking Water (Section 9.4). We have isolated all buildings on the system utilizing the proper backflow prevention devices and installed backflow prevention on all of the buildings connected to the water system. We also have an annual program to test and certify all of the existing and new devices on campus.

SYSTEM UPGRADES & IMPROVEMENTS

URI's flushing program has been ongoing since 2003 and has proved to be very successful. Since 2003 we have met our goal of being able to flush the entire system completely once every year. We have also done localized flushing as needed during the rest of the year. Water quality has steadily improved during this time.

Emergency Contacts

In cases of emergency such as broken mains, pump station fire, severe weather, emergency generator failure, etc., contact the Facilities Services Control Center at (401) 874-4060. During non-working hours call the campus police at (401) 874-2121.

PLEASE REMEMBER TO PROTECT & CONSERVE WATER!

Water conservation continues to be an important aspect of the URI water system operation, please remember to conserve when possible.