# UNIVERSITY OF RHODE ISLAND
## Annual Water Quality Report 2022

This report is a summary of the quality of the water that we provided last year. Included are the details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. We are committed to providing you with information because informed customers are our best allies. We are proud to report that your drinking water complies with regulatory standards. If you would like to learn more about our decision-making processes that affect drinking water quality, please call Matthew Simeone, Water System Manager, Facilities Operations at 401-874-4203 or via email at matthew_simeone@uri.edu. You may also visit our website at www.uri.edu/facilities and click on the utilities tab.

Your water comes from:

| Source Name | Source Water Type | Location |
|---|---|---|
| WELL #2 | Ground Water | Chipuxet Aquifer |
| WELL #3 | Ground Water | Chipuxet Aquifer |
| WELL #4 | Ground Water | Chipuxet Aquifer |

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 Chipuxet ground water aquifer. We disinfect the drinking water through chlorination and adjust pH. From the wells and associated pump stations, treated water is pumped into the distribution network. Treated water to meet demand is also stored in an elevated storage tank. We are interconnected with our neighboring water system, Kingston Water District, providing added reliability to both systems.

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, and 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 routinely surveys, monitors and protects the aquifer. The complete Source Water Assessment Report is available from the University of Rhode Island or the Department of Health at (401) 222-6867.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those 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).

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 EPA's 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 we test for include:
*Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, livestock operations and wildlife.
*Inorganic contaminants*, such as salts and metals, which can be naturally-occurring or 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 storm water run-off, agriculture, and residential users.
*Radioactive contaminants*, which can be naturally occurring or the result of mining activity.
*Organic contaminants*, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and come from gas stations, urban storm water run-off, and septic systems.

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. We treat our water according to EPA's regulations. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

In addition to testing for over 133 contaminants, our water system is required to test a minimum of 20 samples per month in accordance with the Total Coliform Rule for microbiological contaminants. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public.

### Water Quality Data

The following table lists all the drinking water contaminants which were detected during the 2022 calendar year. The presence of these contaminants does not necessarily indicate the water poses a health risk. Unless noted, the data presented in this table is from the testing done January 1- December 31, 2022. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old. The presence of a substance in the water does not necessarily indicate that it poses a health risk. For those substances monitored less frequently the most recent test results are listed.

# 2022 Water Quality Results

### *Distribution System Test Results – Regulated Contaminants*

| Contaminant | Collection Date | Highest Value | Range (low-high) | Unit | MCL | MCLG | Violation | Typical Source |
|---|---|---|---|---|---|---|---|---|
| Total Coliform Bacteria | 2022 | **No** total coliform bacteria detected in the 240 distribution samples that were collected and analyzed in 2022 | | | | 0 | No | Naturally present in the environment |
| Chlorine Residual | 2022 | 0.231 | Avg= 0.182 | ppm | MRDL=4 | MRDLG=4 | No | Water additive used to control microbes |
| Haloacetic Acids (Total 5) | 9/13/2022 (Barlow Hall) | LRAA = 0 | ND | ppb | 60 | 0 | No | Byproduct of drinking water disinfection |
| Haloacetic Acids (Total 5) | 9/13/2022 Swan Hall | LRAA = 0 | 1.7 | ppb | 60 | 0 | No | Byproduct of drinking water disinfection |
| Total Trihalomethanes | 9/13/2022 (Barlow Hall) | LRAA = 1.0 | 1.4 | ppb | 80 | 0 | No | Byproduct of drinking water disinfection |
| Total Trihalomethanes | 9/13/2022 (Swan Hall) | LRAA = 8.0 | 7.7 | ppb | 80 | 0 | No | Byproduct of drinking water disinfection |
| Copper | 9/21/2021 | 90th Percentile=0.233 | 0 sites above AL | ppm | AL=1.3 | 1.3 | No | Corrosion of household plumbing systems |
| Lead | 9/21/2021 | 90th Percentile=4.2 | 0 sites above AL | ppb | AL=15 | 0 | No | Corrosion of household plumbing systems |

### *Regulated Contaminants*

| Contaminant | Collection Date | Highest Value | Range (low-high) | Unit | MCL | MCLG | Violation | Typical Source |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 5/17/2021 | <0.001 | <0.001 | ppm | 0.01 | 0 | No | Erosion of natural deposits, runoff from orchards, runoff from electronic production waste |
| Barium | 5/17/2021 | 0.006 | 0.006 | ppm | 2 | 2 | No | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits |
| Cadmium | 5/17/2021 | <0.001 | <0.001 | ppm | 0.005 | 0.005 | No | Runoff and waste discharges from electroplating processes and corrosion of galvanized pipe and fixtures |
| Chromium | 5/17/2021 | 0.002 | 0.002 | ppm | 0.1 | 0.1 | No | Discharge from steel and pulp mills; Erosion of natural deposits |
| Fluoride | 5/17/2021 | <0.20 | <0.20 | ppm | 4 | 4 | No | Natural deposits |
| Nitrate-Nitrite (as Nitrogen) | 3/15/2022 | 3.26 | 1.23 - 3.26 | ppm | 10 | 10 | No | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |

### *Unregulated Contaminants*

| Contaminant | Collection Date | Highest Value | Range (low-high) | Unit | SMCL | MCL | Violation | Typical Source |
|---|---|---|---|---|---|---|---|---|
| Manganese | 2022 | 0.175 | ND - 0.175 | ppm | 0.05 | N/A | No | Natural deposits |
| Sodium | 3/15/2022 | 43.6 | 13.6 – 43.6 | ppm | 100 | N/A | No | Natural deposits; road salt |
| Perfluoroctane Sulfonic Acid (PFOS) | 5/23/2019 | 5.04 | 4.6 – 5.04 | ppt | 0.02 * | N/A | No | Surfactant or emulsifier; used in fire-fighting foam, circuit board etching acids, alkaline cleaners, floor polish, and as a pesticide active ingredient for insect bait traps; U.S. manufacture of PFOS phased out in 2002; however, PFOS still generated incidentally |
| Perfluoroctanoic Acid (PFOA) | 5/23/2019 | 6.90 | 4.29 – 6.9 | ppt | 0.004 * | N/A | No | Perfluorinated aliphatic carboxylic acid; used for its emulsifier and surfactant properties in or as fluoropolymers, fire-fighting foams, cleaners, cosmetics, greases and lubricants, paints, polishes, adhesives and photographic films. |
| Perfluorohexane Sulfonic Acid (PFHXS) | 5/23/2019 | 4.03 | ND – 4.03 | ppt | N/A | N/A | No | Manmade chemical: used in products to make them stain, grease, heat and water resistant. |
| Perfluorononanoic Acid (PFNA) | 5/23/2019 | 16.3 | 4.55 – 16.3 | ppt | N/A | N/A | No | Manmade chemical: used in products to make them stain, grease, heat and water resistant. |

## Terms & Abbreviations

**Maximum Contaminant Level Goal (MCLG):** the "Goal" is the level of a contaminant in drinking water below which there is no known or expected risk to human health. MCLGs allow for a margin of safety.
**Maximum Contaminant Level (MCL):** the "Maximum Allowed" 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.
**Secondary Maximum Contaminant Level (SMCL):** recommended level for a contaminant that is not regulated and has no MCL.
**Action Level (AL):** the concentration of a contaminant that, if exceeded, triggers treatment or other requirements.
**Treatment Technique (TT):** a required process intended to reduce levels of a contaminant in drinking water.
**Maximum Residual Disinfectant Level (MRDL):** 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.
**Maximum Residual Disinfectant Level Goal (MRDLG):** 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.

**Non-Detects (ND):** lab analysis indicates that the contaminant is not present.
**Parts per Million (ppm)** or milligrams per liter (mg/l)
**Parts per Billion (ppb)** or micrograms per liter (µg/l)
**Parts per Trillion (ppt)** or nanograms per liter (ng/l)
**Picocuries per Liter (pCi/L):** a measure of the radioactivity in water.
**Millirems per Year (mrem/yr):** measure of radiation absorbed by the body.
**Monitoring Period Average (MPA):** An average of sample results obtained during a defined time frame, common examples of monitoring periods are monthly, quarterly, and yearly.
**Nephelometric Turbidity Unit (NTU):** a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is not regulated for groundwater systems.
**Running Annual Average (RAA):** an average of sample results obtained over the most current 12 months and used to determine compliance with MCLs.
**Locational Running Annual Average (LRAA):** Average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters

* Non-enforceable EPA Health Advisory published June 15, 2022

### Important Lead Information

Testing showed the amount of lead in our drinking water is below EPA allowed levels. 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. Your water system is 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 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.

### Important Per- and Polyfluoroalkyl Substances (PFAS) Information

According to the United States Environmental Protection Agency, per- and polyfluoroalkyl substances, or PFAS, are widely used, long lasting chemicals, the components of which break down very slowly over time. Because of their widespread use and persistence in the environment, the EPA reports that many PFAS are found in the blood of people and animals all over the world, and PFAS are present at low levels in a variety of food products and in the environment, including in water, air, fish, and soil at locations across the globe. More information about PFAS can be found on the EPA website at https://www.epa.gov/pfas. The Rhode Island Department of Health also has a website dedicated to PFAS information, available at https://health.ri.gov/healthrisks/contaminants/about/pfas/.

## ADDITIONAL TEST RESULTS

Our water system has sampled for a series of unregulated contaminants in addition to those noted above. Unregulated contaminants are researched by EPA for potential future standards. As our customers, you have a right to know that this data is available. If you want to learn more, please contact Matthew Simeone, Water System Manager at 401-874-4203.

## SYSTEM UPGRADES AND IMPROVEMENTS

The University of Rhode Island has undertaken several system improvement projects including upgrading our supply wells and treatment systems, improving our automated control and monitoring systems, and replacing water mains and building service connections. These projects have improved water quality, provided system redundancy, and made the system more resilient.

Recent projects include redevelopment of Well #4 which was completed in the summer of 2022. This involved a complete cleaning of the well screen to improve capacity and inspection and preventive maintenance of the well pump. Plans are also underway to continue painting the water storage tank, which was begun in the fall of 2022. This, along with interior rehabilitation work will also be completed to extend the life of the tank and allow the tank to remain in continued service for many years.

## PROGRAMS TO PROTECT WATER QUALITY

In addition to water quality testing, the URI Office of Utilities performs the following programs to maintain and protect water quality: 1) source water protection program; 2) construction review and inspection; 3) water main flushing program to remove water main sediment; and 4) annual testing and repair of backflow prevention devices.

## EMERGENCY CONTACTS

In cases of emergency contact the campus police at (401) 874-2121. For facility related issues please contact the Facilities Services Control Center at (401) 874-4060

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