

# Kingston Water District

## CONSUMER CONFIDENCE REPORT - 2023

### COVERING CALENDAR YEAR— 2022

This brochure is a snapshot 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 safe and reliable supply of water.

If you would like to learn more, please contact Christopher Champi at (401) 783-5494, via email at [cchampi@kingstonwaterdistrict.com](mailto:cchampi@kingstonwaterdistrict.com), or write c/o Kingston Water District, PO Box 216, West Kingston, RI, 02892. The District's office is located at 14 Frank Avenue (near Amtrak) and is open Monday through Friday between the hours of 8:00 AM and 4:00 PM. The Board meets on the first Tuesday of each month and the meeting times are posted on the Secretary of State's website, public is always welcome to attend. The Budget Hearing and Annual Meeting are held on the first Tuesday of November and December respectively and are advertised in the previously mentioned fashion.

Your water comes from three different groundwater sources located in two separate aquifers shown in the table below:

| Source Name | Source Water Type | Location         |
|-------------|-------------------|------------------|
| Well #1A    | Ground Water      | Chipuxet Aquifer |
| Well #2     | Ground Water      | Chipuxet Aquifer |
| Well #3     | Ground Water      | Genesee Aquifer  |

The District owns two water towers, approximately 25 miles of mains and is interconnected with the University of Rhode Island for times of mutual need.

The Rhode Island Department of Health (RIDOH) and the University of Rhode Island (URI), in cooperation with other state and federal agencies, have assessed the threats to the District's sources of supply. 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 (SWPA), and sampling history of the water. Our monitoring program continues to assure that the water delivered to your home is safe and wholesome. However, the assessment found that the water source is a MEDIUM risk for contamination. Protection efforts are necessary to assure continued water quality. The complete SWPA is available at our office upon request.

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 healthcare providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other 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 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 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 human activity.

Contaminants which may be present in source water before we treat it 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 metals and salts, which may 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 stormwater runoff, agricultural and residential users.

**Radioactive contaminants**, which can be naturally occurring or the result of mining activities.

**Organic 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.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limits the amount of certain contaminants in the water provided by public water systems. We treat our water according to EPA's regulations. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Our water system is required to test a minimum of 4 samples per month in accordance with the Total Coliform Rule for microbial 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 of 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 completed between January 1 through December 31, 2022. The state requires the system 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 water supplied to you is safe to drink, if at any point it was not you would be notified by the District's office.**

| Substances Detected in Kingston Water District's Drinking Water in 2022 |        |       |                     |                 |                         |               |   |                |
|---|--------|-------|---------------------|-----------------|-------------------------|---------------|---|----------------|
| Regulated Substances  | Period | Unit  | MCL                 | MCLG            | Highest detected level  | Range         | Major sources   | SDWA Violation |
| Arsenic   | 2020   | ppb   | 10                  | 0               | 0.90                    | 0.60 - 0.90   | Erosion of natural deposits, runoff from orchards, runoff from glass and electronics production waste.  | NO             |
| Barium  | 2020   | ppm   | 2                   | 2               | 0.014                   | 0.010 - 0.014 | Erosion of natural deposits   | NO             |
| Beryllium   | 2020   | ppb   | 4                   | 4               | 0.20                    | 0.2           | Erosion of natural deposits   | NO             |
| Cadmium   | 2020   | ppb   | 5                   | 5               | 0.30                    | 0.20 - 0.30   | Erosion of natural deposits, corrosion of galvanized pipes  | NO             |
| Nitrate   | 2022   | ppm   | 10                  | 10              | 5.52                    | 1.01 - 5.52   | Runoff from fertilized areas; Leaching from septic tanks; Erosion of natural deposits                   | NO             |
| Nitrite   | 2020   | ppm   | 1                   | 1               | < 0.02                  | < 0.02        | Runoff from fertilized areas; Leaching from septic tanks; Erosion of natural deposits                   | NO             |
| Thallium  | 2020   | ppb   | 2                   | 0.50            | 0.20                    | 0.20          | Ore processing operations, discharge from electronics, glass and drug factories                         | NO             |
| Total Coliform Bacteria   | 2022   | N/A   | TT Trigger          | 0               | 2 Positive Samples 2022 | N/A           | Naturally Present in the environment  | NO             |
| Combined Radium 226 & 228   | 2020   | pCi/L | 5                   | 0               | 0.214                   | 0.214         | Erosion of natural deposits   | NO             |
| Uranium   | 2020   | ug/l  | 30                  | 0               | 0.343                   | 0.343         | Erosion of natural deposits   | NO             |
| Gross Alpha Particles Excluding Radon and Uranium                       | 2020   | pCi/L | 15                  | 0               | 1.12                    | 1.12          | Erosion of natural deposits   | NO             |
| Gross Alpha Particles Including Radon and Uranium                       | 2020   | pCi/L | N/A                 | 0               | 1.35                    | 1.35          | Erosion of natural deposits   | NO             |
| Lead and Copper   | Period | MCLG  | Action Level (AL)   | 90th Percentile | # of Sites over AL      | Units         | Major Sources   | SDWA Violation |
| Copper <sup>1</sup>   | 2020   | 1.3   | AL=1.3              | 0.048           | 0                       | ppm           | Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives. | NO             |
| Lead <sup>2</sup>   | 2020   | 0     | AL=15               | 1.8             | 0                       | ppb           | Corrosion of household plumbing systems; Erosion of natural deposits.                                   | NO             |
| Unregulated Substances  | Period | Unit  | SMCL                | MCLG            | Highest detected level  | Range         | Major sources   | SDWA Violation |
| Aldrin  | 2020   | ppm   | N/A                 | N/A             | 0.0                     | ND - 0.0001   | Pesticides  | NO             |
| Sodium  | 2022   | ppm   | 100                 | N/A             | 23.0                    | 8.37 - 23.0   | Naturally occurring; road salt  | NO             |
| Per - and Polyfluoroalkyl (PFAS)  | Period | Unit  | EPA Health Advisory | MCLG            | Highest detected level  | Range         | Major sources   | SDWA Violation |
| Perfluorooctanoic Acid <sup>3</sup> (PFOA)                              | 2021   | ppt   | 70 <sup>4</sup>     | N/A             | 3.0                     | < 4.0 - 3.0   | Fire-fighting foams, cleaners, cosmetics, greases and lubricants  | NO             |
| Perfluoroheptanoic Acid <sup>3</sup> (PFHA)                             | 2021   | ppt   | N/A                 | N/A             | 11.2                    | < 4.0 - 2.0   | Used as surfactants and repellents in flame retardants, metal plating and pesticides                    | NO             |
| Perfluorobutanesulfonic Acid <sup>3</sup> (PFBS)                        | 2021   | ppt   | N/A                 | N/A             | 10.0                    | 2.0 - 10.0    | Used as surfactants and repellents in flame retardants, metal plating and pesticides                    | NO             |
| Perfluorohexanoic Acid <sup>3</sup> (PFHxA)                             | 2021   | ppt   | N/A                 | N/A             | 5.17                    | < 4.0 - 6.0   | Used as surfactants and repellents in flame retardants, metal plating and pesticides                    | NO             |

<sup>1</sup> At 90<sup>th</sup> percentile no sites exceeding Action Level

<sup>2</sup> At 90<sup>th</sup> percentile no sites exceeding Action Level. 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. Kingston Water District 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 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>.

<sup>3</sup> Some PFAS compounds have been shown to cause developmental toxicity, immunological toxicity, and effects on cholesterol metabolism, particularly PFOA, PFOS, PFHxS, PFHpA, and PFDA. The toxicity of other PFAS is currently not well understood, although they remain in the blood for shorter periods of time. Rhode Island is in the process of developing regulations for PFAS in drinking water.

<sup>4</sup> The USEPA has established a health advisory level individually or combined for PFOA and/or PFOS of 70 parts per trillion.

**Key to Table and Definitions**

**AL=Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**ALG=Action Level Goal:** The level of a contaminant in drinking water below which there is no known or expected health risk. ALG's allow for a margin of safety.

**MCL=Maximum Contaminant Level:** The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's 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. MCLG's allow for a margin of safety.

**MRDL=Maximum Residual Disinfectant Level:** The highest level of disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for the control of microbiological contaminants

**MRDLG=Maximum Residual Disinfectant Level Goal:** The level of disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbiological contaminants

**MRL=Minimum Reporting Level**

**NTU=Nephelometric Turbidity Units:** Measurement of the clarity, or turbidity of water. Turbidity in excess of 5 NTU's is just noticeable to the average person.

**pCi/L=Picocuries per liter**

**ppm=parts per million or milligrams per liter (mg/l) or one ounce in 7,350 gallons of water**

**ppb=parts per billion or micrograms per liter (ug/l) or one ounce in 7,350,000 gallons of water**

**ppt=parts per trillion or nanograms per liter or one ounce in 7,350,000,000 gallons of water**

**TT=Treatment Technique:** A required process intended to reduce the level of contaminant in drinking water, AL for Coliform Bacteria is ≤ 5% of monthly samples positive for Coliform Bacteria.

**N/A=Not Applicable ND=Not Detected**

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| Unresolved Deficiencies |                     |   |
|-------------------------|---------------------|---|
| Date Identified         | Facility            | Comments  |
| 10/19/22                | Distribution System | Kingston Water District does not have a disinfection procedure in place, as they are a non disinfected system. The District must develop a disinfection procedure in the event that chlorine needs to be added in the future. The procedure must also include a plan for the dechlorination and/or bypassing of the aquaculture facility at East Farm in the event that the District must disinfect. The District must submit a copy of the disinfection procedure to RIDOH by the due date and maintain a copy of this procedure with the Operation and Maintenance Plan and Emergency Response Plan.                          |
| 10/31/22                | Distribution System | Kingston Water District has a developed a disinfection procedure, and is still a non disinfected system. The District has installed disinfection equipment and has the ability to add chlorine if needed in the future. The District is in the process of hiring a consultant to design the dechlorination system and can currently bypass the aquaculture facility at East Farm in the event that the District must disinfect. The District has submitted a copy of the disinfection procedure to RIDOH (10/31/22) and maintains a copy of this procedure with the Operation and Maintenance Plan and Emergency Response Plan. |

During the 2022 calendar year, we had the below noted violation(s) of drinking water regulations:

| Federal Compliance Period                            | Analyte | Comments |
|--|---------|----------|
| No violations occurred in the calendar year of 2022. |         |          |

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that were found during these assessments.

During the past year we were required to conduct one Level assessment and one Level 1 assessment was completed. In addition, we were required to take two corrective actions and we completed one of these actions and are working towards completing the second.

There are no additional required health effects violation notice.

#### Special Notices:

**Nitrates:** As a precaution, we will notify physicians and health care providers in this area if there is ever a higher than normal level of nitrates in the water supply. *Nitrate in drinking water at above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.*

**Well #2:** Because of an elevated nitrate level (5.52 in December of 2022), the District limits the use of this well to emergencies such as firefighting. We will continue to test the well while working with regulatory agencies, such as RIDEM, to identify possible sources of nitrate.