University of Rhode Island

2008 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 2008. 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. However, in October 2008, we found Total Coliform Bacteria and Fecal Coliform, E coli at a level higher than the EPA allows and therefore our water temporarily exceeded drinking water standards. In addition, our normal triennial sampling showed lead results over the EPA action level.

Please see the "Understanding Our Water Quality Test Results" section on page two and the "Test Results" table on page three for additional information. As always, we remain committed to ensuring the quality of your water.

If you have any questions about this report or concerning your water utility, please contact either Dave Lamb, Utilities Engineer, URI Facilities Services Department, (401) 874-7896 or Harry Davis, Assistant Director, Facilities Services/Maintenance & Repair, (401) 874-2423.

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 gravel packed, high volume wells, located on the Chippuxet ground water aquifer. The wells are in the area located just east of 30-Acre Pond and the Chippuxet River. These wells and pump stations are numbered #2, #3, and #4. Site #2 is located at the end of the Access Road, Site #3 is located south of the Access Road, and Site #4 is located just north of the Access Road.

The wells and associated pump stations pump the water through a 16 inch main that feeds into the one million gallon elevated storage tank at the intersection of North and Flagg Roads. The storage tank provides water for the campus water distribution system. 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 located adjacent to pump station #4, and is capable of supplying all of the campus water requirements. Average daily water usage during school sessions is approximately 600,000 gpd.

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 means that the water could one day become contaminated. This rating is primarily based on land use in and around the aquifer. Monitoring and protection efforts are necessary to assure continued water quality. The complete Source Water Assessment Report is available from the University of Rhode Island or the Department of Health at (401) 222-6867.

Our constant goal is to provide you with a safe and dependable supply of drinking water

University of Rhode Island 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**.

Understanding Our Water Quality Test Results

The table on page 3 lists all of the drinking water contaminants that were detected through our water quality monitoring and testing. 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 2008 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.

Total Coliform & Fecal Coliform/E. coli MCL Violation: In October 2008, we found Total Coliform Bacteria at a level higher than the EPA allows and therefore our water temporarily exceeded drinking water standards. In addition, samples taken in October in the Biological Science Building were also present for Fecal Coliform, E coli. We immediately went on a boil order, distributed public notice and provided bottled water to customers. Water quality test results were taken from upstream and downstream from the building, they came back negative. We chlorinated and flushed the system and tested daily until we received three consecutive negative results. All follow-up samples were negative for both Total Coliform and Fecal Coliform/E. Coli. All follow-up samples were negative for Total Coliform. We're unsure what caused this problem but ongoing construction may have been a contributing factor.
Fecal Coliform/E. coli: Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal waste. Microbes in these wastes can cause short-tem effects, such as diarrhea, cramps, nausea, headaches or other symptoms. They may pose a special health risk for infants, young children, some elderly, and people with severely compromised immune systems.
Total Coliform: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. Coliforms were found in more samples than allowed and this was a warning of potential problems.

Lead Action Level Exceedance: The "90th percentile" is the value used to determine compliance with lead and copper action levels. This means that the concentration of lead and copper must be less than, or equal to, the action level in at least 90% of the samples collected. Four (4) of the thirty (30) building tested on the Kingston Campus had water samples that exceed the action level for lead. The four buildings were the Automotive Garage, Davis Hall, President's House and Chafee Hall. It is important to note that the lead found in the water was not from the water supply system. The most likely cause of the lead action level exceedances is older fixtures or water lines inside the buildings, or a reduction in the pH of the water making it more corrosive to fixtures and pipes. In order to correct the problem we replaced a number of older spigots that were most likely source of the lead. In addition, we have upgraded our lime injection system which increases the pH of the water to ensure that it is non-corrosive. We continued to monitor the pH to ensure that it remains within target levels. We distributed public notification and an EPA pamphlet that discussed lead in drinking water. Follow-up sampling at the four building has shown lead levels within EPA guidelines. **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 deficiencies in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced.

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 University of Rhode Island 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.

Why Are There Contaminants in My Drinking Water?

Additional Questions on your Drinking Water Quality? Contact Our Office!

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 (EPA) Safe Drinking Water Hotline (800-426-4791).
In order to ensure that tap water is safe to drink, 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:

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 the result of oil and gas production and mining activities.

2008 TEST RESULTS-UNIVERSITY OF RHODE ISLAND

Contaminants	Violation Y/N	Level Detected			Unit Measurement	MCLG	MCL	Likely Source of Contamination
		Well 2	Well 3	Well 4				
Combined Radium	N	1.65	1.11	*	pCi/L	0	5	Erosion of natural deposits
Inorganic Contaminants	**Violation Y/N**	**Level Detected**			**Unit Measurement**	**MCLG**	**MCL**	**Likely Source of Contamination**
		Well 2	**Well 3**	**Well 4**				
Barium	N	*	0.01	0.02	ppm	2	2	Erosion of natural deposits
Chromium	N	2	*	*	ppb	100	100	Erosion of natural deposits
Fluoride	N	0.90	*	0.44	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth
Nitrate (as Nitrogen)	N	0.38	4.11	2.02	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Synthetic Organic Contaminants	**Violation Y/N**	**Level Detected**			**Unit Measurement**	**MCLG**	**MCL**	**Likely Source of Contamination**
		Well 2	**Well 3**	**Well 4**				
Atrazine	N	*	*	0.12	ppb	3	3	Runoff from herbicide used on row crops

*Laboratory analysis indicates that the contaminant was not present.

DISTRIBUTION SYSTEM TEST RESULTS

Microbial Contaminants	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	**Y**	12% Positive Samples (October)†	% of Positive Samples	0	5% of monthly samples are Positive	Naturally present in the environment
Fecal coliform and E.coli	**Y**	1 Positive Sample (October)	# of Positive Samples	0	One fecal coliform or E. coli positive	Human and animal fecal waste

†The University of Rhode Island collected 61 samples in October, seven (7) were positive for Total Coliform, one (1) was positive for Fecal Coliform.

Inorganic Contaminants	Violation Y/N	Level Detected 90th Percentile	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Copper	N	0.33	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead	N	27*	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits

*Four (4) of the thirty (30) sites samples exceeded the Lead Action Level. 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 other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated Lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (1-800-426-4791).

The State of Rhode Island requires testing for other contaminants not regulated by the US EPA. URI detected the following contaminant **Dacthal (DCPA):** Dacthal was detected at a range of 0.40—0.49 ppb in Well #3, and at a range of 0.50—0.69 ppb in Well #4.

Units & Definitions

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.

Additional Important Information

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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

UNIVERSITY OF
Rhode Island

Facilities Services
Sherman Building
523 Plains Road
Kingston, RI 02881

Providing Top Quality Water to Every Tap!

The University of Rhode Island undertook a number of system improvement projects in 2008. We started with the redevelopment of our main supply well. We cleaned and flushed the well, replaced the well pump and reconditioned the motor. We updated our lime injection system, which control the pH of the water, with new state of the art pumps and controls.

We also performed a campus wide cross-connection survey. We identified areas in need of backflow prevention devices and in May of 2009, we began to install over 100 new backflow prevention devices. These new devices, coupled with the 100 or so that are already installed, should complete cross-connection protection on all of the buildings connected to the system.

Lastly, we updated our main control room with a state-of-the-art Programmable Logic Controller (PLC). The PLC provides us with remote control and monitoring of the wells and water system.

Please share this report with all of the other people who drink this water, especially those who may not have received this notice directly. You can do this by posting this notice in a public place or distributing copies by hand or mail.

Please Remember to Protect & Conserve Water!

We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

We can all work to protect our drinking water by disposing of waste properly, not using excessive lawn or garden fertilizers or pesticides, properly storing household hazardous waste such as paints, solvents and pool-supplies, and by supporting the efforts of your water supplier and town government.

Education is the best protection for our drinking water! Please contact us for tips on water conservation and protection.