# THE WATER WE DRINK

## NORTH KINGSTOWN'S 2022 DRINKING WATER QUALITY REPORT

**May 2023**

***North Kingstown's Drinking Water***

We're pleased to present to you North Kingstown's 2022 Drinking Water Quality Report. This report is designed to inform you about the water quality and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. A copy of this report is available online at www.northkingstownri.gov in the Water Department section as a Water Quality topic.

If you have any questions about this report or concerning your water utility, please contact **G. Timothy Cranston at 268-1520.** We want you to be informed about your drinking water resources. If you want to learn more, please attend any of the regularly scheduled meetings of the Groundwater Committee. They are usually held on the first Thursday of each month at 7:00 PM in the Municipal Offices Conference Room, 100 Fairway Drive, North Kingstown.

***Where does our drinking water come from?***

All of the drinking water provided to customers of North Kingstown Water is supplied by groundwater. In 2022 North Kingstown Water operated seven (7) municipal wells, which draw water from the Hunt-Annaquatucket-Pettaquamscutt (HAP) aquifer system. Average daily water use in 2022 was 3 million gallons per day. The HAP aquifer system has been designated a "Sole Source Aquifer" by the US Environmental Protection Agency (USEPA), meaning that there is no alternative source of drinking water available.

**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 microbes, organic or inorganic chemicals, or radioactive materials. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. 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. The U.S. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. The presence of contaminants does not necessarily indicate that water poses a health risk.**

**We thank all our customers for their help in protecting our water sources. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all our customers. These improvements are included within the water rate structure. Thank you for understanding. Please call our office at (401) 268-1520 if you have questions.**

***Routine water quality monitoring***

The **North Kingstown Department of Water Supply** routinely monitors your drinking water for over 100 constituents according to Federal and State laws. For a complete listing of all the constituents that we are required to test for, contact the Department of Water Supply, or visit the US Environmental Protection Agency's Ground Water and Drinking Water section of their website at https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations. These constituents fall into two categories: regulated constituents where enforceable standards or Maximum Contaminant Levels (MCLs) have been established and un-regulated where only health advisory levels have been set. A listing of *Test Results* for those constituents detected in North Kingstown's water supply wells follows. This report covers the monitoring period from January 1, 2022 to December 31, 2022 but includes observations of constituents less than five years old for which we were not required to test during calendar year 2022.

## *TESTING RESULTS*

All of the regulated constituents tested were non-detect (nd) except those listed in this section. A range is indicated if multiple testing rounds were conducted.

## *Distribution System Test Results*

| Contaminant | Violation Y/N | Level Detected | Result | Unit | MCLG | MCL | Possible Source |
|---|---|---|---|---|---|---|---|
| **Microbiological Coliform (TCR)** | **N** | **2**<br>3/23/22 (1)<br>7/12/22 (1) | In the months of March and July 1.35% and 1.28% respectively, of samples returned as positive. | **% Positive Samples** | **0** | **5% of samples TC+: Treatment Technique* Trigger** | **Naturally present in Environment** |
| **Fecal coliform and *E. coli*** | **N** | **0** | **NA** | | **0** | **A routine sample & repeat sample are total coliform positive, & 1 fecal coliform or *E. coli* positive** | **Human and animal Fecal waste** |
| **Lead**** | **N** | **0.0019**<br>**(90th percentile value)** | **0.002 – 0.0136 mg/l**<br>June 2022 | **ppb** | **0** | **AL=15** | **Corrosion of household plumbing systems; erosion of natural deposits** |
| **Copper**** | **N** | **0.140**<br>**(90th percentile value)** | **0.007 - 0.218 mg/l**<br>June 2022 | **ppm** | **1.3** | **AL=1.3** | **Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives** |
| **Chlorine+** | **N** | **0.32 (RAA)** | **0.03-1.31 (7/6/22)** | **ppm** | **4** (MRDLG) | **4** (MRDL) | **Water additive used to control microbes** |
| **++Total Trihalomethanes**<br>**Haloacetic Acids** | **N** | **12.65 (9/23/2022)**<br>**ND (9/23/2022)** | **12.1- 13.2 (9/23/2022)**<br>**ND (9/23/2022)** | **ppb** | **NA** | **80**<br>**60** | **Byproduct of drinking water disinfection** |

* Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

**In 2022, 30 homes throughout the distribution system were sampled for lead and copper. If more than 10 percent are above the Action Level of 15 ppb for lead or 1.3 ppm for copper this would be considered an exceedance, but not a violation. An Action Level is defined as the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. There were no exceedances of lead or copper.

**+**Chlorine is monitored on a weekly basis; RAA is Running Annual Average

**++** Total Trihalomethanes & Haloacetic Acids are monitored yearly in the third quarter.

**LEAD INFORMATION STATEMENT**

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. *North Kingstown Water* 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 with cold water for 30 seconds to 2 minutes before using cold water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested by a state-certified laboratory. State-certified laboratories are listed at https://health.ri.gov/find/labs/drinkingwater/. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the EPA Safe Drinking Water Hotline or at http://water.epa.gov/drink/info/lead/index.cfm.

***Source Water Protection Assessment Results***

The RI Department of Health and URI Cooperative Extension, in cooperation with other state and federal agencies, have assessed the threats to North Kingstown's water supply sources♦. In 2022 a new assessment was completed for North Kingstown's wellhead protection areas; the assessment found that the water source is at LOW to MODERATE risk of contamination. This does NOT mean that the water cannot be contaminated. Protection efforts are important to assure continued water quality. The complete Source Water Assessment Report is available at the North Kingstown website at https://www.northkingstownri.gov/952/Source-Water-Assessments. You may request hard copy from the North Kingstown Department of Water Supply or the Rhode Island Department of Health, Office of Drinking Water Quality.

♦*Threats to the groundwater (our water supply source) as opposed to water quality in the distribution system.*

**INFORMATION ABOUT CONTAMINANTS AND POTENTIAL HEALTH EFFECTS CAN BE OBTAINED BY CALLING THE ENVIRONMENTAL PROTECTION AGENCY'S SAFE DRINKING WATER HOTLINE AT:1-800-426-4791, or online at https://www.epa.gov/ground-water-and-drinking-water/safe-drinking-water-information.**

## *TESTING RESULTS (continued)*

All of the constituents tested were non-detect (nd) except those listed in this section. A range is indicated if multiple testing rounds were conducted.

### *Regulated Constituents*

| Contaminant | Violation Y/N | Unit | MCLG | MCL | Well #1 | Well #2 | Well #3 | Well #4 | Well #5a** | Well #6 | Well #7 | Well #8 | Well #9 | Well #10 | Well #11 | Possible Source |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nickel* | N | ppm | Not est. | Not est. | 0.018 3/30/20 | nd | 0.006 3/30/20 | 0.005 3/20/20 | nd | nd | 0.006 3/20/20 | nd | nd | 0.087 4/21/20 | 0.02 4/21/20 | Erosion of natural deposits |
| Barium* | N | ppm | 2 | 2 | nd | nd | nd | nd | nd | 0.009 4/21/20 | 0.006 4/21/20 | nd | nd | 0.009 4/21/20 | 0.007 4/21/20 | Discharge of drilling Wastes; Discharge from metal refineries; Erosion of natural deposits |
| Cadmium* | N | | 5 | 5 | nd | nd | nd | nd | nd | nd | 4 3/30/20 | nd | nd | nd | nd | Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints |
| Chromium* | N | ppb | 100 | 100 | 1 3/30/20 | nd | 1 3/30/20 | nd | 1 3/30/20 | 2 4/21/20 | 2 3/30/20 | nd | nd | 1 4/21/20 | 1 4/21/20 | Discharge from steel and pulp mills; erosion of natural deposits |
| Nitrate-Nitrite (as Nitrogen) | N | ppm | 10 | 10 | 1.39 3/21/22 | 1.63 3/21/22 | 0.06 0.07 3/21/22 | 2.34 3/21/22 | 2.60 3/21/22 | 1.62 4/25/22 | 0.13 3/21/22 | 0.18 3/21/22 | 2.25 3/21/22 | 2.84 4/22/21 | 3.70 9/29/22 | Runoff from fertilizer use; leaching from septic tanks, sewage erosion of natural deposits. |

Wells 1,2, 6*** and 9 primarily serve areas north of Hamilton-Allenton Road; Wells 4, 5a, & 11 primarily serve Slocum and Saunderstown. Well 10 is permanently out of service and was not sampled in 2022.

### *Unregulated Constituents*

| Contaminant | Violation Y/N | Unit | MCL | Well #1 | Well #2 | Well #3 | Well #4 | Well #5a** | Well #6 | Well #7 | Well #8 | Well #9 | Well #10 | Well #11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DCPA degradates*▲ | N | ppb | Not est. | nd | nd | nd | 0.67 9/1/20 | 1.6 - 1.9 9/1/20 | nd | nd | nd | nd | nd | 4.3 - 4.6 4/21/20 |
| Chloroform | N | ppm | 100ppm | nd | nd | nd | nd | nd | nd | nd | nd | 1.6 3/21/22 | nd | nd |

* Data presented are from the most recent testing done in accordance with drinking water regulations.
▲Breakdown products of DCPA, a fruit & vegetable crop herbicide, it is one of the most commonly found groundwater contaminants in the US.
** Well 5a permanently replaced Well 5 in 2005.
*** Well 6 was removed from service in January 2022.

**The following definitions have been provided to help you better understand the terms used in this report:**

***Non-Detects (nd)*** – laboratory analysis indicates that the constituent is not present in sufficient quantity to be found by the EPA approved analytical test method.

***Parts per million (ppm) or Milligrams per liter (mg/l)*** – 1 ppm corresponds to 1 minute in 2 years or 1 penny in $10,000.

***Parts per billion (ppb) or Micrograms per liter (ug/l***) – 1 ppb corresponds to 1 minute in 2,000 years, or 1 penny in $10,000,000.

***Maximum Contaminant Level (MCL) or Residual Disinfectant Level (MRDL)*** – The Maximum Allowed is the highest level of a contaminant or disinfectant that is allowed in drinking water. A violation, requiring public notice, occurs when a regulated constituent is detected above the MCL. MCLs are set as close to the MCLG (see below) as can be using the best available treatment technology.

***Maximum Contaminant Level Goal (MCLG) or Maximum Residual Disinfectant Level Goal (MRDLG)*** – The "Goal" 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.

***Picocuries per liter (pCi/L)*** - picocuries per liter is a measure of the radioactivity in water.

***Secondary Maximum Contaminant Level*** (***SMCL)*** - maximum permissible level established for contaminants that primarily affect aesthetic qualities relating to the public acceptance of drinking water.

**Not Est.** – Not Established – The US Environmental Protection Agency has not yet set an MCL or SMCL for this constituent.

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).

## PFAS, PFOA and PFOS: What are they and why should I care?

PFAS, PFOA and PFOS have received increasing coverage in print, radio, television, and online media sources in the last year or so. The chemical compounds grouped together and identified as PFAS, which includes PFOA and PFOS, are a class of manmade chemicals that includes thousands of compounds. These chemicals have been used since 1949 and are valued for their ability to provide a protective coating on products. Some uses include non-stick cookware, stain resistant fabrics and firefighting foam. Dental floss, cleaners, waxes, and many other products may contain PFAS.

**Why is North Kingstown Water Supply Thinking About PFAS**?

In June of 2022 a Rhode Island state law was passed that set an interim standard of 20 parts per trillion (ppt) for a combination of six of the most common of these classes of compounds. Since the concentration of these compounds in one of North Kingstown's wells was near this standard, this well was removed from service since the remaining wells have the capacity to serve the town's needs without it.

Water suppliers, State officials and the EPA, continue to follow the developing science.

**What we know**:

- Our awareness of these chemicals' environmental presence is a result of the increased sensitivity of detection methods. Detection methods can detect these chemicals at the level of 'parts per trillion'.
- The chemical properties that made PFAS effective, contribute to their persistence in the environment. They are not broken down by biological and photo (light) degradation to be rendered harmless.
- PFAS have been found in the environment and in the blood of humans and animals worldwide. Most people in the United States have one or more specific PFAS in their blood, especially PFOS and PFOA.
- Some studies have shown that exposure to some PFAS may be linked to harmful health effects. Additional research is needed to better understand the health effects of PFAS exposure.
- PFAS are currently unregulated by the EPA, meaning the EPA has not established an enforceable limit on the amount of these compounds that may be present in food and water. The EPA has issued a non-enforceable lifetime health advisory of 70 part per trillion (ppt) combined exposure for these compounds. (For perspective, 70 ppt is approximately equivalent to 3.5 drops of water in an Olympic sized-swimming pool). Better understanding of the contribution of sources of exposure (food, water, air) and the relationship of PFAS concentrations in blood and tissue to health effects are being sought prior to setting federal regulatory limits. Many scientists agree that the best way to reduce our exposures to PFAS is to limit their use in consumer products.

**What we do not know**

We do not know the role in, or contribution of drinking water containing PFAS to human blood levels compared to other sources of these compounds. Nor do we know how much of these compounds (as exposure, ingestion, or blood level) poses potential health risks in humans and their companion animals, or farm animals. Neither do we know how the blending of multiple source wells in a system where not all wells have PFAS detects affect the overall concentrations in the system because the volume contributions of wells and system demand are variable.

**If you are concerned**

Do not boil your water – this will concentrate this kind of compound if present. Filters are available that can remove some of these compounds, but it is important to follow the manufacturer's use and maintenance instructions. If you wish to filter your water, the National Sanitation Foundation (NSF) maintains a list of products certified to lower the concentrations of PFOA and PFOS in drinking water. There are units that may be installed at a faucet, in a refrigerator (verify that the device is compatible with your model of refrigerator), and pitcher-type units. The ***Listing of NSF Certified products for reducing PFOA/PFOS in drinking water*** is available at **info.nsf.org/Certified/DWTU**

1. In the box next to "Product Standard" select "Drinking Water Treatment Units - Health Effects (NSF-53)".
2. In the box next to "Product Type" you can select the specific product or leave the default "All Product Types".
3. In the section beneath the line, click the box next to "PFOS Reduction" to return results for products certified for that claim. Note that PFOS appears in more than one section and near the bottom of the screen is available in a section specific to PFOA and PFOS.
4. At the bottom of the screen click the "Search" button.

Consumers can learn more about PFAS using the links below.

- ***US Environmental Protection Agency (PFAS):*** https://www.epa.gov/pfas
- ***Rhode Island Department of Health (PFAS):*** https://health.ri.gov/water/about/pfas/

## 2022 Source Water Assessment of North Kingstown's Wells

In 2022 an updated Source Water Assessment was performed for all of North Kingstown's wells; this assessment is available on the North Kingstown website (www.northkingstownri.gov), in the Water Department section as a Water Quality topic.