

ANNUAL WATER QUALITY REPORT

Reporting Year 2023



Presented By
Rye Water District

Our Commitment

We are pleased to present to you this year's annual water quality report. This report is a snapshot of last year's water quality covering all testing performed between January 1 and December 31, 2023. Included are details about your sources of water, what it contains, and how it compares to standards set by regulatory agencies. 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 and providing you with this information because informed customers are our best allies.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water and removing lead pipes, but we cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, or doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute-accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact Rye Water District at (603) 436-2596. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at epa.gov/safewater/lead.

“When the well is dry, we know the worth of water.”
—Benjamin Franklin

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. Environmental Protection Agency (EPA)/Centers for Disease Control and Prevention (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 at (800) 426-4791 or water.epa.gov/drink/hotline.



Naturally Occurring Bacteria

The simple fact is that bacteria and other microorganisms inhabit our world. They can be found all around us: in our food, on our skin, in our bodies, and in the air, soil, and water. Some are harmful to us, and some are not. Coliform bacteria are common in the environment and generally not harmful themselves. The presence of this bacterial form in drinking water is a concern because it indicates that the water may be contaminated with other organisms that can cause disease. Throughout the year, we tested many water samples for coliform bacteria. In that time, none of the samples came back positive for the bacteria.

Federal regulations require that public water that tests positive for coliform bacteria must be further analyzed for fecal coliform bacteria. Fecal coliforms are present only in human and animal waste. Because these bacteria can cause illness, it is unacceptable for fecal coliform to be present in water at any concentration. Our tests indicate no fecal coliform is present in our water.

Where Does Rye's Water Come From?

Rye Water District has two main sources of water: Rye production wells and water purchased from Portsmouth for customers on Wentworth Road, a section of Frontier Street, and Elizabeth Lane (off Pioneer Road).

Our primary source is the Garland Well, a gravel-packed well developed in the mid-1970s which yields 400 to 470 gallons per minute (gpm). Our secondary sources are two deep-driven, high-yielding bedrock wells. The Bailey Brook Well was developed in the early 1980s and yields 300 to 325 gpm; the Cedar Run Well, our most recent source, was developed and brought online in 2004. It yields 325 to 340 gpm and is presently serving as an emergency backup well. Combined, these three wells supplied over 133 million gallons in 2023. The water you receive at your home is a blend from all three wells.

QUESTIONS? For more information about this report, or for any questions relating to your drinking water or system operations, please call Mr. Arik Jones, District Superintendent, at (603) 436-2596 or contact the Rye Water District Commissioners at commissioners.ryewater@comcast.net. Many reports and additional information can be viewed at ryewaterdistrict.com.

Treatment Train Description

The water you receive at your tap is unfiltered groundwater. We adjust the pH of the water from the Garland Well as part of our corrosion control program. Disinfection of all water entering the distribution system is done with chlorine at a minimal dosage of 0.6 to 0.9 part per million (ppm) as required by NHDES.

Community Participation

You are always welcome to attend the district's monthly meetings and provide your input about your drinking water. Rye Water District Commissioners meet the first Wednesday of each month at 9:00 a.m. at the Rye Water District office, located at 60 Sagamore Road, Rye. Please feel free to email your questions or comments to commissioners. ryewater@comcast.net.

Please attend our annual meeting to vote on the water district's annual budget, warrant articles, and proposed projects. This meeting is normally held on the last Saturday in March. See ryewaterdistrict.com for details.

Source Water Assessment Summary

The New Hampshire Department of Environmental Services (NHDES) prepared drinking water source assessment reports between 2000 and 2003 for all public water systems in an effort to assess the vulnerability of each public water supply source. Included in the report are a map of each source water protection area, a list of potential and known contamination sources, and a summary of available protection options. The results of the assessments prepared on May 2, 2002, and November 12, 2004, are noted below.

* Garland Well: Three susceptibility factors were rated high, four were rated medium, and five were rated low.

* Bailey Brook Well: One susceptibility factor was rated high, four were rated medium, and seven were rated low.

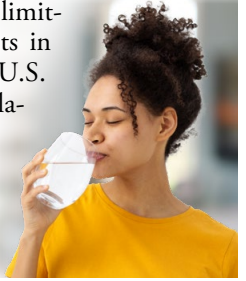
* Cedar Run Well: One susceptibility factor was rated high, four were rated medium, and seven were rated low.

This information is over 10 years old; it was current at the time the report was completed. Some ratings might be different if updated to reflect current information. At the present time, NHDES has no plans to update this data.

The complete assessment is available for review at the Rye Water District office, 60 Sagamore Road, Rye. For more information, call (603) 436-2596 or visit <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/rye.pdf>

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.



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, in some cases radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 per- and polyfluoroalkyl substances, synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Think Before You Flush!

Flushing unused or expired medicines can be harmful to your drinking water. Properly disposing of unused or expired medication helps protect you and the environment. Keep medications out of our waterways by disposing responsibly. To find a convenient drop-off location near you, please visit <https://bit.ly/3IeRyXy>.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2022	5	0	1 ¹	ND–1 ¹	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	2022	2	2	0.0123 ²	0.0121–0.0489 ²	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Combined Radium (pCi/L)	2023	5	0	0.6 ¹	ND–0.6 ¹	No	Erosion of natural deposits
Fluoride (ppm)	2022	4	4	0.25 ¹	ND–0.25 ¹	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 1 (ppb)	2023	60	NA	7.1	6.4–7.1	No	By-product of drinking water disinfection
Nitrate (ppm)	2023	10	10	3 ²	ND–3 ²	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Perfluorohexanesulfonic Acid [PFHxS] (ppt)	2023	18	0	1.15 ³	ND–1.15 ³	No	Discharge from industrial processes; wastewater treatment; residuals from firefighting foam; runoff/leachate from landfills and septic systems
Perfluorononanoic Acid [PFNA] (ppt)	2023	11	0	ND ⁴	NA	No	Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/leachate from landfills and septic systems
Perfluorooctanesulfonate Acid [PFOS] (ppt)	2023	15	0	6.36 ¹	ND–6.36 ¹	No	Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/leachate from landfills and septic systems
Perfluorooctanoic Acid [PFOA] (ppt)	2023	12	0	8.03 ²	ND–8.03 ²	No	Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/leachate from landfills and septic systems
TTHMs [total trihalomethanes]–Stage 1 (ppb)	2023	80	NA	23	20–23	No	By-product of drinking water disinfection

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (µg/L) (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (mg/L) (parts per million): One part substance per million parts water (or milligrams per liter).

ppt (ng/L) (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

Tap water samples were collected for lead and copper analyses from sample sites throughout the community⁵

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2023	1.3	1.3	0.804	1/80	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	2023	15	0	ND	1/80	No	Corrosion of household plumbing systems; erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2022	250	NA	93 ²	37–93 ²	No	Runoff/leaching from natural deposits
Iron (ppb)	2022	300	NA	670 ¹	ND–4,280 ¹	No	Leaching from natural deposits; industrial wastes
Manganese (ppb)	2022	50	NA	67.7 ¹	ND–264.6 ¹	No	Leaching from natural deposits
Sodium (ppm)	2022	100-250	NA	98.9 ¹	45.9–98.9 ¹	No	Naturally occurring
Sulfate (ppm)	2022	250	NA	46 ¹	16–48 ¹	No	Runoff/leaching from natural deposits; industrial wastes
Zinc (ppm)	2022	5	NA	ND ⁶	ND–0.3 ⁶	No	Runoff/leaching from natural deposits; industrial wastes

¹ Sample taken from Bailey Brook Well.

² Sample taken from Garland Well.

³ Sample taken from Cedar Run Well.

⁴ Samples taken from Garland, Bailey Brook, and Cedar Run Wells.

⁵ Semiannual sampling is performed, and 40 samples are collected each time.

⁶ Samples taken from Bailey Brook and Garland Wells.

What Are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of manufactured chemicals used worldwide since the 1950s to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. During production and use, PFAS can migrate into the soil, water, and air. Most PFAS do not break down; they remain in the environment, ultimately finding their way into drinking water. Because of their widespread use and their persistence in the environment, PFAS are found all over the world at low levels. Some PFAS can build up in people and animals with repeated exposure over time.

The most commonly studied PFAS are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). PFOA and PFOS have been phased out of production and use in the United States, but other countries may still manufacture and use them.

Some products that may contain PFAS include:

- Some grease-resistant paper, fast food containers/wrappers, microwave popcorn bags, pizza boxes
- Nonstick cookware
- Stain-resistant coatings used on carpets, upholstery, and other fabrics
- Water-resistant clothing
- Personal care products (shampoo, dental floss) and cosmetics (nail polish, eye makeup)
- Cleaning products
- Paints, varnishes, and sealants

Even though recent efforts to remove PFAS have reduced the likelihood of exposure, some products may still contain them. If you have questions or concerns about products you use in your home, contact the Consumer Product Safety Commission at (800) 638-2772. For a more detailed discussion on PFAS, please visit bit.ly/3Z5AMm8.

