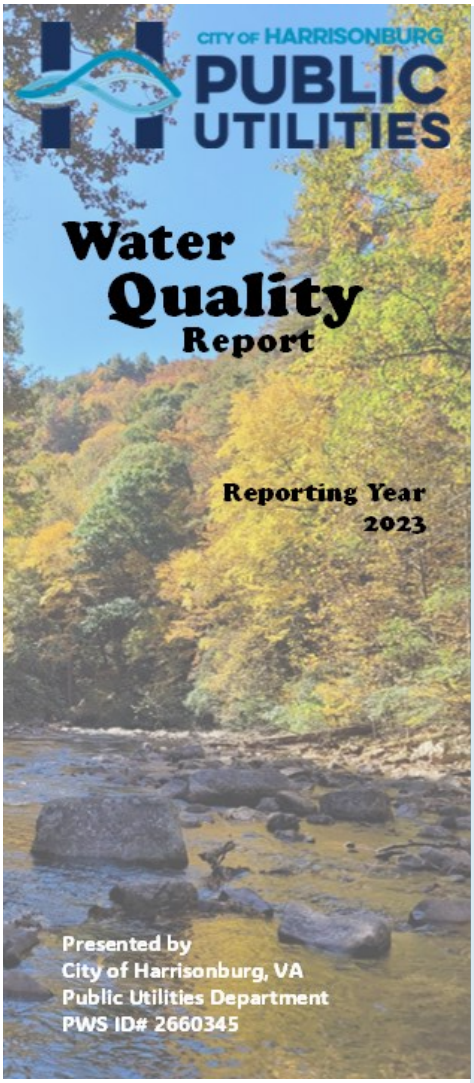



**It is our mission** to provide

- reliable delivery of safe potable water that meets the Water Works Regulations, Virginia Administrative Code, Chapter 590,
- a quantity of water that will enhance fire suppression as determined according to ISO rating, and
- the conveyance of sanitary sewer service to our citizens in accordance to Sewage Collection and Treatment Regulations, Virginia Administrative Code, Chapter 790.

Dear Water Consumers,

Sustainability has become a popular word, but we've seen that no two people understand it in exactly the same way. Miriam-Webster's Dictionary defines sustainable as "*of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged.*" That hits pretty close to the intent of how we at Harrisonburg Public Utilities (HPU) run our operations. We must be set up to operate beyond our lifetimes and into the future, and we recognize three main components to meeting this goal; Environmental, Social and Economical.

First, we acknowledge the environmental impact of our operations. HPU measures our energy consumption relative to the water that we treat and deliver to our customers. We regularly look at our trends and look for new ways to improve our efficiencies in our pumping stations and our operations buildings.

We also seek to provide the level of service that our customers expect from their water and sewer utility. Most of us take for granted that the water will be there when we need it and that the sewer will take that used water away, but there are times when these systems fail. We strive to limit these failures through preventive maintenance and replacement of aging assets.

Finally, we know we must be careful about the cost. The best service in the world means nothing if our customers can't afford it. Fortunately, the City is in a position to provide the environmental stewardship and the reliability that our customers expect at a cost that is well below the state average. HPU's water and sewer rates have historically been very low compared to other localities in the state. To accomplish the goals above, we anticipate some increases in our rates, but with a plan to remain below what others charge.

Our work is a constant balance of the environmental, social and economical impacts. If you'd like to learn more about how we do this, please give me a call. Or consider signing up for the City's hosted Citizen's Academy and get a personalized presentation of our operations. We're proud of what we do and would love to tell you about it.

David Gray | Engineering Manager
dave.gray@harrisonburgva.gov
540-434-9959

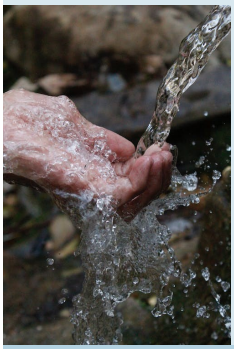
## Where Your Water Comes From

The City of Harrisonburg has two reliable water supply sources. The Dry River in Rawley Springs is a surface water source. The watershed includes the Switzer Reservoir Impoundment and delivers the highest quality water at the most cost-effective price. The North River in Bridgewater is also a surface water source. Approximately 50% of Harrisonburg's water comes from each source. Because of our commitment to long term economic sustainability and environmental stewardship, we are in the process of developing a supply line from the South Fork Shenandoah River. Once this project has been completed, we expect to provide a supply of 15 million gallons per day to our customers.

## 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 substances resulting from the presence of animals or from human activity. Substances that may be present in source water include the following.



**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 storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming. **Pesticides & Herbicides**, which may come from a variety of sources, such as agriculture, urban storm water runoff and residential uses. **Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban storm water 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.

### Health Information for Special Populations

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. EPA/CDC (Centers for Disease Control and Prevention) 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 or at

**http://water.epa.gov/drink/ hotline.**

### Lead in Home Plumbing

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 Harrisonburg Public Utilities Department assists by controlling pH and alkalinity in its 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 15 to 30 seconds or until it becomes cold or reaches a steady temperature 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.**

## Sampling Results

Contaminants detected

January 2023-December 2023

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state requires us to monitor 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

| Regulated Substances | | | | | | | |
|---|---|---|---|---|---|---|---|
| Substance (Unit of Measure) | Year Sampled | MCL [MRDL] | MCLG [MRDLG] | Amount Detected | Range Low-High | Violation | Typical Source |
| Barium (ppm) | 2023 | 2 | 2 | 0.03 | NA | No | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits |
| Sodium (ppm) | 2023 | NA | NA | 0.59 | ND-0.75 | No | Erosion of natural deposits; de-icing salt runoff; water softeners |
| Haloacetic Acids [HAA5] (ppb) | 2023 | 60 | NA | 24.4 | 8.1-43 | No | By-product of drinking water disinfection |
| Nitrate (ppm) | 2023 | 10 | 10 | 0.91 | NA | No | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| TTHMs [Total Trihalomethanes] | 2023 | 80 | NA | 26.6 | 8-50 | No | By-product of drinking water disinfection |
| Total Coliform Bacteria (% positive samples)[3] | 2023 | 5% of monthly samples are positive | 0 | 4 positive sample in 2023 (<1%) | NA | No | Naturally present in the environment |
| Fluoride (mg/l) | 2023 | 4 | 4 | 0.66 | 0.55-0.85 | No | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from aluminum and fertilizer factories |
| Total Organic Carbon (mg/L) | 2023 | TT | NA | NA | ND-0.96 | No | Naturally present in the environment |
| Turbidity[1] (NTU) | 2023 | TT | NA | NA | 0.01-0.14 | No | Soil Runoff |
| Turbidity (Lowest monthly percent of samples meeting limit) | 2023 | <0.3 NTU | NA | 100% | NA | No | Soil Runoff |
| **Radiological** | | | | | | | |
| Beta Emitters (mrem/yr) | 2022 | 4 | 0 | <0.51 | NA | No | Decay of natural and man-made deposits |
| Alpha Emitters (pCi/l) | 2022 | 15 | 0 | < 0.36 | NA | No | Erosion of natural deposits |
| Combined Radium (pCi/l) | 2022 | 5 | 0 | < 0.47 | NA | No | Erosion of natural deposits |
| **Lead and Copper Sampling** | | | | | | | |
| Substance (Unit of Measure) | Year Sampled | AL | MCLG | Amount Detected (90th %tile) | Sites Above AL/ Total Sites | Violation | Typical Source |
| Copper[2] (mg/l) | 2022 | 1.3 | 1.3 | < 0.02 | 0/30 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| Lead[2] (ppb) | 2022 | 15 | 0 | < 2.0 | 0/30 | No | Corrosion of household plumbing systems; Erosion of natural deposits |

1 Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.
2 Tap water samples were collected for lead and copper analyses from sample sites throughout the community.
3 The reported amount detected is the average of all samples in the current year.

# DEFINITIONS

**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.

**MGD:** Million Gallons per Day.

**MRDL (Maximum Residual Disinfection 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 Disinfection 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.

**NTU (Nephelometric Turbidity Unit):** Measure of water clarity. Turbidity in excess of five NTUs is barely noticeable to the average person.

**Ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**Ppm (parts per million) or mg/l (milligrams per liter):** One part substance per million parts water or milligrams per liter.

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

# Water System Facts

| | |
|---|---|
| Population served | 54,606 |
| Treatment capacity (MGD) | 13.1 |
| Miles of sewer mains | 186 |
| Miles of water mains | 293 |
| Water distribution stations | 12 |
| Sewer pump stations | 6 |
| Storage tanks | 12 |
| Automated valve vaults | 15 |
| SCADA units | 36 |
| Water quality tests | 1,326 |
| Fire hydrants | 1,937 |
| Valves | 4,432 |
| Manholes | 5,383 |
| Water meters | 16,403 |

**COMMITTED TO WATER QUALITY**

## Source Water Assessment

A Source Water Assessment for the City of Harrisonburg was completed by the Virginia Department of Health on March 2, 2018. This assessment determined that the city's water sources, North River and Dry River, are surface waters exposed to a wide array of changing hydrologic, hydraulic, and atmospheric conditions. More specific information may be obtained by contacting the Harrisonburg Department of Public Utilities at

**(540) 434-9959.**

**Market Analysis of Water & Sewer Rates**

Among Water Systems of 10,000-30,000 Residential Water Units with 5,000 Gallons Water and Sewer Consumption

| UTILITY PROVIDER | RESIDENTIAL WATER UNITS | WATER $/5000 GAL | SEWER $/5000 GAL | W & S RATE $/5000 GAL |
|---|---|---|---|---|
| Rockingham County | 13,750 | $ 19.00 | $ 28.60 | $ 47.60 |
| **Harrisonburg , City of** | **18,923** | **$ 18.95** | **$ 29.45** | **$ 48.40** |
| Danville, City of | 17,500 | $ 27.59 | $ 29.95 | $ 57.54 |
| Hanover County | 21,431 | $ 26.84 | $ 34.86 | $ 61.70 |
| Henry County PSA | 12,589 | $ 34.70 | $ 34.70 | $ 69.40 |
| Lynchburg, City of | 21,000 | $ 22.81 | $ 58.78 | $ 81.59 |
| Manassas, City of | 10,200 | $ 27.07 | $ 59.25 | $ 86.32 |
| Campbell Co. Utility & Service Auth. | 11,340 | $ 41.62 | $ 45.47 | $ 87.09 |
| Virginia Control Group Average | | $ 39.52 | $ 52.52 | **$ 92.04** |
| James City Service Authority | 22,845 | $ 29.16 | $ 68.35 | $ 97.51 |
| Christiansburg, Town of | 10,111 | $ 53.00 | $ 51.00 | $ 104.00 |
| Augusta Co. Service Authority | 14,598 | $ 39.72 | $ 65.92 | $ 105.64 |
| Bedford Regional Water Authority | 13,370 | $ 59.50 | $ 69.50 | $ 129.00 |

Virginia Control Group: For over 20 years, TRC's survey has tracked a select group compromised of twenty water and wastewater providers who represent a cross section of utilities across the Commonwealth. *Courtesy of TRC 2023 Study*

| Hardness Levels | |
|---|---|
| **Classification** | **Measured in mg/L** |
| **Soft** | **0- 60** |
| **Moderately Hard** | **61-120** |
| **Hard** | **121-80** |
| **Very Hard** | **≥ 181** |

## Do I Have Hard or Soft Water?

Water is soft when it falls as rain. It readily dissolves minerals as it travels through rock and soil. The treatment process removes some of the mineral content and impurities, but calcium and magnesium will generally not be removed. These minerals are not harmful to your health. See the chart for the measurement ranges used by the U.S. Geological Survey to classify hard and soft water.

**In 2023**, our water was **between 16 and 125 mg/l** (milligrams per liter).

**pH** is measured on a scale of 0 to 14. Water with values lower than 6 are acidic and can have taste problems such as a metallic or sour. Water with values greater than 8.5 is less corrosive to metal piping but efficiency with chlorine disinfection decreases.

While the ideal pH level of drinking water should be between 6-8.5, the human body maintains pH equilibrium on a constant basis and will not be affected by water consumption. For example our stomachs have a naturally low pH level of 2, which is a beneficial acidity that helps us with food digestion.

**In 2023,** our pH levels were between **7.1 and 9.8.**

| pH Examples | |
|---|---|
| **Substances** | **Level** |
| **Apple Juice** | **3.0** |
| **Orange** | **3.5** |
| **Coffee** | **5.5** |
| **Milk** | **6.2** |
| **Baking Soda** | **8.5** |
| **Soapy Water** | **10.0** |

CITY OF HARRISONBURG PUBLIC UTILITIES

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