

Massanutten Public Service Corporation

PWS ID: VA2165525

Annual Water Quality Report 2021

Message from Bryce Mendenhall, President

Dear Massanutten PSC Customers,

I am pleased to present your Annual Water Quality Report for 2021. Transparency, health, and safety are key priorities in our company's efforts to provide a high-quality, reliable water supply. Included in this report are details about where your water comes from, what it contains, and how it compares to regulatory standards.

We are proud to share this report which is based on water quality testing through December 2021. We continually strive to supply water that meets and/or exceeds all federal and state water quality regulations.

Our team is comprised of proud members of the community who are dedicated to providing safe, reliable and cost-effective service to you. This commitment includes acting with integrity, protecting the environment, and enhancing the local community.

Maintaining a safe and reliable water supply is hard work. Our devoted local team of water quality experts are working in the community every day, ensuring that our customers are our top priority, and providing the highest quality drinking water and service – now and well into the future.

Best regards,



COVID-19 Response

According to the Centers for Disease Control and Prevention (CDC) and the US Environmental Protection Agency (EPA), the virus that causes COVID-19 has not been detected in drinking water. Conventional water treatment methods that use disinfection, such as those provided by Massanutten Public Service Corporation, should remove or inactivate the virus that causes COVID-19 as they do for other pathogens.

Based on current evidence, the risk to water supplies remains low. Customers can continue using and drinking tap water as usual.

The EPA also encourages the public to help keep household plumbing and our nation's water infrastructure operating properly by only flushing toilet paper. Disinfecting or other sanitary wipes, including those labeled as "flushable" and other non-toilet paper items, should NOT be flushed in toilet. For more information, visit the CDC at <https://www.cdc.gov/coronavirus/2019-ncov/php/water.html> and EPA at <https://www.epa.gov/coronavirus/coronavirus-and-drinking-water-and-wastewater>.

Source of Drinking Water

Our four wells draw from the Massanutten Basin aquifer in Rockingham County. An aquifer is a geological formation that contains water.

Source Water Assessment

A Source Water Assessment has been completed by Virginia Department of Health. The assessment determined that our sources may be susceptible to contamination because they are located in an area that promotes migration of contaminants from land use activities of concern. More specific information may be obtained by contacting customer service department at (866) 928 2325.

Help Protect our Resources

Help put a stop to the more than **1 trillion gallons of water lost annually** nationwide due to household leaks. These easy to fix leaks waste the average family the amount of water used to fill a backyard swimming pool each year. Plumbing leaks can run up your family's water bill an extra 10 percent or more, but chasing down these water and money wasting culprits is as easy as 1—2—3. Simply check, twist, and replace your way to fewer leaks and more water savings:

- ⇒ **Check** for silent leaks in the toilet with a few drops of food coloring in the tank, and check your sprinkler system for winter damage.
- ⇒ **Twist** faucet valves; tighten pipe connections; and secure your hose to the spigot. For additional savings, twist a WaterSense labeled aerator onto each bathroom faucet to save water without noticing a difference in flow. They can save a household more than 500 gallons each year—equivalent to the amount water used to shower 180 times!
- ⇒ **Replace** old plumbing fixtures and irrigation controllers that are wasting water with WaterSense labeled models that are independently certified to use 20 percent less water and perform well.

For more information visit www.epa.gov/watersense.

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.

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

EPA Wants You To Know

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:

- A. **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B. **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.
- C. **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- D. **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.
- E. **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

What measures are in place to ensure water is safe to drink?

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) 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 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 Safe Drinking Water Hotline (800-426-4791).

Special notice from EPA for the elderly, infants, cancer patients and people with HIV/AIDS or other immune system problems

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

Information Concerning Lead in Water

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. Massanutton Public Service Corp 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 www.epa.gov/safewater/lead

Water that remains stationary within your home plumbing for extended periods of time can leach lead out of pipes joined with lead-containing solder as well as brass fixtures or galvanized pipes. Flushing fixtures has been found to be an effective means of reducing lead levels. The flushing process could take from 30 seconds to 2 minutes or longer until it becomes cold or reaches a steady temperature. Faucets, fittings, and valves, including those advertised as "lead-free," may contribute lead to drinking water. Consumers should be aware of this when choosing fixtures and take appropriate precautions. Visit the NSF Web site at www.nsf.org to learn more about lead-containing plumbing fixtures.

Drain Disposal Information

Sewer overflows and backups can cause health hazards, damage home interiors, and threaten the environment. A common cause is sewer pipes blocked by grease, which gets into the sewer from household drains. Grease sticks to the insides of pipes. Over time, the grease can build up and block the entire pipe. Help solve the grease problem by keeping this material out of the sewer system in the first place:

- Never pour grease down sink drains or into toilets. Scrape grease into a can or trash.
- Put strainers in sink drains to catch food scraps / solids for disposal.

Prescription Medication and Hazardous Waste

Household products such as paints, cleaners, oils, and pesticides, are considered to be household hazardous waste. Prescription and over-the-counter drugs poured down the sink or flushed down the toilet can pass through the wastewater treatment system and enter rivers and lakes (or leach into the ground and seep into groundwater in a septic system). Follow the directions for proper disposal procedures. **Do not flush hazardous waste or prescription and over-the-counter drugs down the toilet or drain.** They may flow downstream to serve as sources for community drinking water supplies. Many communities offer a variety of options for conveniently and safely managing these items. For more information, visit the EPA website at: www.epa.gov/hw/household-hazardous-waste-hhw.

The Safe Drinking Water Act was passed in 1974 due to congressional concerns about organic chemical contaminants in drinking water and the inefficient manner by which states supervised and monitored drinking water supplies. Congress' aim was to assure that all citizens served by public water systems would be provided high quality water. As a result, the EPA set enforceable standards for health-related drinking water contaminants. The Act also established programs to protect underground sources of drinking water from contamination.

Understanding This Report In order to help you understand this report, we want you to understand a few terms and abbreviations that are contained in it.

| | |
|--|--|
| Action level (AL) | The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. |
| Action level goal (ALG) | The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety. |
| Average (AVG) | Regulatory compliance with some MCLs is based on running annual average of monthly samples |
| EPA | Environmental Protection Agency. |
| Maximum contaminant level (MCL) | 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. |
| Maximum contaminant level goal (MCLG) | The "goal" is the level of a contaminant in drinking water below which there is no known or expected health risk. MCLG's allow for a margin of safety. |
| Maximum Residual Disinfectant Level (MRDL) | 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. |
| Maximum Residual Disinfectant Level Goal (MRDLG) | 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. |
| Not applicable (N/A) | Information not applicable/ not required for that particular water system or for that particular Rule. |
| Not Detected (ND) | Analysis or test results indicate the constituent is not detectable at minimum reporting limit. |
| 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. |
| Picocuries per liter (pCi/L) | A measure of radioactivity in the water. |
| Nephelometric Turbidity Units (NTU) | A measure of water clarity. Turbidity in excess of 5 NTU is just noticeable to the average person |
| Treatment Technique (TT) | A treatment technique is a required process intended to reduce the level of a contaminant in drinking water. |

Did You Know?

- ◇ The average family of four uses 255 gallons of water a day, 1,785 gallons a week, and 7,650 gallons per month.
- ◇ A single toilet flush uses approximately 5-7 gallons of water.
- ◇ Taking a shower will use approximately 5-10 gallons per minute. A 15-minute shower will use 75-150 gallons.
- ◇ Your kitchen or bathroom sink uses approximately 4-5 gallons a minute.
- ◇ One dishwasher load uses approximately 4-5 gallons a minute.
- ◇ Washing clothes uses approximately 35 gallons per load.

Monitoring Your Water

We routinely monitor for contaminants in your drinking water according to Federal and State laws. The following table(s) lists all the drinking water contaminants that were detected in the last round of sampling for the particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk.

Unless otherwise noted, the data presented in the table is from testing done January 1 through December 31, 2021. The EPA or the State requires us 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, maybe more than one year old.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

If You Have Questions Or Want To Get Involved

Massanutten Public Service Corporation does not hold regular public meetings. Should the Utility hold a public meeting, you will be notified through the mail or by public notice. Please contact customer service at (866) 928 2325 if you have any questions.

Visit us online at www.uiwater.com/virginia-m to view the Water Quality Reports. Also visit our website for water conservation tips and other educational material.

Water Quality Test Results

Inorganic Contaminants

| Contaminant (units) | Sample Date | Violation Y/N | Your Water Average | Range Low - High | MCLG | MCL | Likely Source of Contamination |
|---------------------|-------------|---------------|--------------------|------------------|------|-----|--|
| Barium (ppm) | 2019 | No | 0.108 | N/A | 2 | 2 | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits. |
| Fluoride (ppm) | 2019 | No | 0.13 | 0 - 0.88 | 4 | 4 | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories. |
| Sodium (ppm) | 2019 | No | 10 | N/A | N/A | N/A | Erosion of natural deposits; de-icing salt runoff; water softeners. |

Sodium does not have a state or federal MCL. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about this level of sodium.

Disinfectant

| | | | | | | | |
|----------------|------------|----|------|------------|---------|--------|--|
| Chlorine (ppm) | Daily 2021 | No | 1.01 | 0.4 - 1.74 | MRDLG=4 | MRDL=4 | Water additive used to control microbes. |
|----------------|------------|----|------|------------|---------|--------|--|

Disinfection By-Product Contaminants

| Contaminant (units) | Sample Date | Violation | Level Found | MCLG | MCL | Likely Source of Contamination |
|---------------------------------------|-------------|-----------|-------------|------|-----|--|
| TTHM (ppb) [Total Trihalomethanes] | 2021 | No | 13 | N/A | 80 | By-product of drinking water chlorination. |
| HAA5 (ppb) [Haloacetic Acids] | 2021 | No | 2.1 | N/A | 60 | By-product of drinking water chlorination. |

Radioactive Contaminants

| Contaminant (units) | Sample Date | Violation | Your Water Average | MCLG | MCL | Likely Source of Contamination |
|-------------------------------------|-------------|-----------|--------------------|------|-----|---|
| Beta/photon emitters (pCi/l) | 2016 | No | 1 | 0 | 50* | Decay of natural and man-made deposits. |
| Combined radium -226 & -228 (pCi/l) | 2016 | No | 0.8 | 0 | 5 | Erosion of natural deposits. |

**Note: EPA considers 50 pCi/L to be the level of concern for beta particles.*

Lead & Copper Contaminants

| Contaminant (units) | Sample Date | 90th Percentile of Samples Collected | # of sites found above the AL | MCLG | MCL | Likely Source of Contamination |
|---------------------|-------------|--------------------------------------|-------------------------------|------|---------|---|
| Lead (ppb) | 2021 | 3.53 | 0 of 20 samples exceeded AL. | 0 | AL= 15 | Corrosion of household plumbing systems; erosion of natural deposits. |
| Copper (ppm) | 2021 | 0.417 | 0 of 20 samples exceeded AL. | 1.3 | AL= 1.3 | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives. |

Coliform Bacteria

| Contaminant | Violation | Sample Date | Level Detected | Range of Detects | Unit of Measure | MCLG | MCL | Typical Source |
|----------------|-----------|---------------|----------------|------------------|---------------------|------|-----|--------------------------------------|
| Total Coliform | N | December 2021 | 1 Present | NA | Presence or Absence | NA | TT* | Naturally present in the environment |

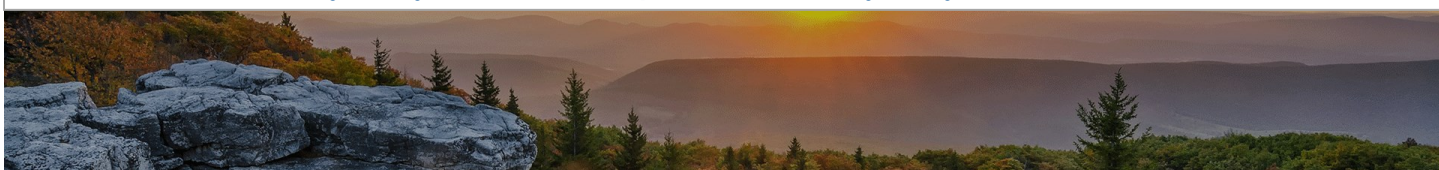
Under the Revised Total Coliform rule that became effective April 1, 2016, if a system has a sample that is positive for Total Coliform, a repeat sample from the same location is required to be collected. If resamples are not collected or not reported in time, a Level 1 assessment is required.

We collect 6 routine distribution samples each month for total coliform bacteria. In December 2021, 1 of 6 routine samples showed the presence of total coliform bacteria. We did not collect the required repeat samples in time due to staff shortages at the contracted lab and missed communications with the lab. As a result we were required to perform a Level 1 assessment. In January 2022, 6 routine samples were collected and total coliform bacteria was not detected.

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 assessment(s) to identify problems and to correct any problems that were found during these assessments.

During the last year we were required to conduct one level 1 assessment. A Level 1 assessment is a study of the water system to identify potential problems. One Level 1 assessment was completed. In addition, we were required to take 1 corrective action and we completed 1 corrective action. It was determined the likely cause of the detection was due to improper sampling technique.

To access your utility account anytime, anywhere, please register for our customer portal & download MyUtilityConnect at <https://connect.myutility.us/connect/>



PFAS Testing

Massanutten PSC. continues efforts to conduct statewide drinking water testing for Per- and Polyfluoroalkyl Substances (PFAS). These man-made compounds are used in the manufacturing of products resistant to water, grease or stains including firefighting foams, cleaners, cosmetics, paints, adhesives and insecticides. PFAS can migrate into the soil, water, and air and is likely present in the blood of humans and animals all over the world. The Environmental Protection Agency (EPA) has established a health advisory level at 70 parts per trillion.

For the latest PFAS results, visit our website at www.uiwater.com/virginia-m and click Water Quality Reports.

For more information visit <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>.

Massanutten PSC. is committed to providing safe, reliable, and cost-effective drinking water services to all of our customers.

Violations

Please see the following violation that Massanutten Public Service Corporation received in 2021:

Chlorine, Free

| Violation Type | Violation Begin | Violation End | Violation Explanation |
|---------------------------|-----------------|---------------|--|
| MONITORING, ROUTINE (GWR) | 04/01/2020 | 9/30/2021 | Massanutten Public Service Corp. monitors residual chlorine leaving the treatment plant daily. During this period, we failed to record chlorine residuals on weekends. |

Coliform Bacteria

| Violation Type | Violation Begin | Violation End | Violation Explanation |
|---------------------------|-----------------|---------------|---|
| MONITORING, ROUTINE (GWR) | 12/01/2021 | 12/31/2021 | Massanutten Public Service Corp. failed to collect the required repeat samples after 1 of 6 routine samples showed the presence of total coliform bacteria. See the Water Quality Table for Coliform Bacteria for additional information. |

NOTICE TO CONSUMERS of the MASSANUTTEN VILLAGE WATERWORKS

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

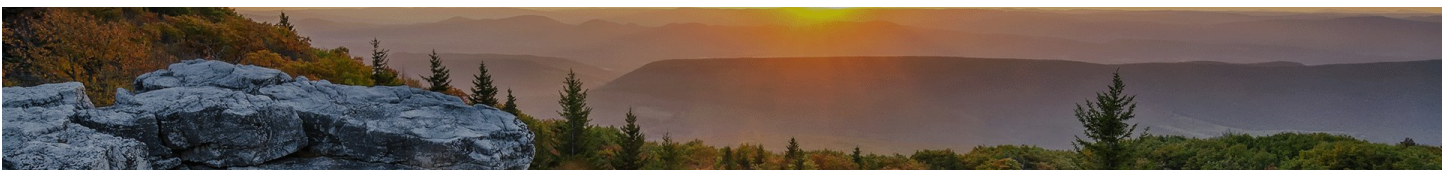
State Health Officials have advised us of a failure to perform required monitoring in accordance with the Virginia *Waterworks Regulations*.

We are required to monitor your drinking water *for free chlorine residual from the entry point prior to the water going out into the distribution system*. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the time period of April 2020 to September 2021, we neglected to *report all free chlorine residual readings from the entry point to the Office of Drinking Water*. Therefore, we cannot be sure of the quality of our drinking water during that time.

There is nothing you need to do at this time.

For more information, please contact: Dennis Mitchell at 1550 Resort Drive; McGaheysville, VA 22840 or 540-289-7088.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.



NOTICE OF DISCONTINUATION OF WATER FLUORIDATION IN THE PUBLIC WATER SUPPLY

Massanutten Village has submitted a notification to the Virginia Department of Health to DISCONTINUE the use of fluoride additives in your drinking water. Massanutten Village waterworks stopped providing artificial fluoridation to your drinking water in October 2019 and notified customers of this change in the 2019 Consumer Confidence Report. This notice is to make you aware of this change, and is not related to any drinking water violations. We will also notify local pediatricians and dental professionals of this change in the public drinking supply.

All leading health and medical organizations recommend using the optimum level of fluoride in community water systems. Fluoride strengthens the tooth's enamel and prevents cavities. However, public water systems in Virginia are not required to add fluoride to the drinking water. Other sources of fluoride include fluoridated dental products and groceries that are processed with fluoridated water, but these sources are not as effective as optimal fluoride in drinking water.

Please consult your doctor and/or dentist regarding this change so that they may consider changing your course of treatment. If you have questions or concerns, or to learn more about community water fluoridation, contact Virginia Department of Health, Dental Health Program at (804) 864-7775.

To learn more about your public water system, please contact Don Smiley at Massanutten Public Service 540-298-7088.

Virginia Department of Health
Office of Drinking Water- Lexington, Va
Phone (540) 463-0400

