HENRY COUNTY PUBLIC SERVICE AUTHORITY

Annual Drinking Water Quality Report for 2023

INTRODUCTION

This Annual Drinking Water Quality Report is designed to inform you about your drinking water quality. Our goal is to provide you with a safe and dependable supply of drinking water, and we want you to understand the efforts we make to protect your water supply. The quality of your drinking water must meet state and federal requirements administered by the Virginia Department of Health (VDH).

Si usted no habla ni lee ingles, pida por favor que alguien traduzca este documento para usted.

If you have questions about this report or want additional information about any aspect of your drinking water, please contact the Public Service Authority at (276) 634-2540. The mailing address is P.O. Box 69, Collinsville, VA 24078. Reports can be found online at https://www.henrycountyva.gov/223/Water-Reports . The Henry County Public Service Authority Board of Directors meets every third Monday of each month at 6:00 p.m. at 3300 Kings Mountain Road, Martinsville, VA 24112.

GENERAL INFORMATION

The sources of both tap and bottled drinking water include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material. It can also pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water include: (1) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife (2) Inorganic contaminants, such as salts and metals, which can occur naturally or as a result of urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. (3) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses. (4) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems. (5) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, the Environmental Protection Agency prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health. All drinking water, including bottled water, may reasonably be expected to contain small amounts of some contaminants. The presence

of contaminants in water does not necessarily pose a health risk. More information can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Turbidity refers to how clear the water is. Cloudy water doesn't necessarily cause health issues. However, turbidity can interfere with disinfection and may provide a medium for microbial growth. Turbidity may also indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised individuals can be particularly at risk from infections. Examples include, but are not limited to, those with cancer or undergoing chemotherapy, recipients of organ transplants, people with HIV/AIDS, certain elderly people and infants. These people should seek advice about drinking water from their health care providers. EPA and CDC guidelines regarding appropriate means to reduce the risk of infection by Cryptosporidium and other microbiological contaminants are available. More information can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

TREATMENT

Treatment of surface (raw) water consists of chemical addition, fluoridation, coagulation, flocculation, sedimentation, filtration, and chlorination. These processes work together to remove the physical, chemical, and biological contaminants to make the water safe for drinking.

SERVICE AREAS

The Upper Smith River Water Filtration Plant receives its water supply from the Smith River. The facility services the following areas of Henry, Patrick and Pittsylvania Counties: Fairystone, Stones Dairy, Hwy 57 West, Oak Level, Pleasant Grove, Bassett, Stanleytown, Fieldale, Carver, Collinsville, Hwy 220 South, Ridgeway, Hwy 58 West, Mount Olivet**,** Axton, Eastwood, Sandy Level and Hwy 58 East.

SOURCE WATER ASSESSMENT PROGRAM (SWAP) Upper Smith River WFP

The Henry County PSA completed an assessment for Upper Smith River source water submitted to the Virginia Department of Health in April 2021. The source water for the system is determined to be susceptible to potential contamination using the criteria developed by the state in its approved Source Water Assessment Program. The assessment report consists of maps of the source water assessment area, an inventory of known land use activities of concern, and documentation of any known contamination. No contaminations were reported within the last five years. The SWAP is available through the PSA's web site at https://www.henrycountyva.gov/316/Source-Water-Protection-Plan or by contacting the Director of Regulatory Compliance & Technical Applications at 3300 Kings Mountain Road, Martinsville, VA 24112 or by phone at (276) 634-2540, Monday through Friday from 8:00 a.m. – 5:00 p.m.

DEFINITIONS

Contaminants in your drinking water are routinely monitored according to federal and state regulations. The tables on the following pages show the results of our monitoring for the past calendar year. In the table and elsewhere in this report you will find many terms and abbreviations you might not be familiar with.
The following definitions are provided to help you better understand these terms:

- ***Action Level*** **(AL) -** the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- ***Adjusted Method Detection Limit (MDL)*** - the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results.

- ***Chlorination -*** the application of chlorine or chlorine compounds to water, generally for the purpose of disinfection, but frequently for chemical oxidation and odor control.
- ***Coagulation -*** the conversion of very small particles into small visible particles by chemical addition.
- ***Dilution Factor (DF)*** - if reported, represents the factor applied to the report data due to dilution of the solution aliquot.
- ***Filtration -*** the process of contacting water with filter media for the removal of very fine particles.
- ***Flocculation*** - the gentle mixing of water and chemicals by either mechanical or hydraulic means to help with the coagulation process.
- ***Locational Running Annual Average (LRAA***) - the average of analytical results of samples taken at a particular monitoring location in the distribution system during the previous four calendar quarters.
- ***Fluoridation*** - the addition of fluoride to water to optimize reduction of tooth decay in children.
- ***Maximum Contaminant Level (MCL)*** - 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 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.
- ***Maximum Disinfectant Residual Level (MDRL)*** - 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.
- ***Nephelometric Turbidity Unit (NTU)*** - a measure of the clarity, or cloudiness, of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is monitored because it is a good indicator of the effectiveness of our filtration system.
- ***Non-detects (ND)*** - lab analysis indicates that the contaminant is not present, based on the limits of the analytical equipment used.
- ***NR***- Not Required.
- ***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.
- ***Parts per trillion (ppt) or Nanograms per liter (ng/l)*** - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.
- ***Picocuries per liter (pCi/L)*** - a measure of radioactivity in water.
- ***Practical Quantitation Limit (PQL)*** - the lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
- ***Sedimentation, Settling*** - the process of removing suspended matter carried by water, by gravity.
- ***Treatment Technique (TT)*** - a required process intended to reduce the level of a contaminant in drinking water.
- ***Unregulated Contaminant Monitoring Rule (UCMR)*** – a monitoring program implemented through the EPA for contaminants which are not currently regulated but are being considered. This testing was most recently conducted once per quarter in 2023 with no detectable concentrations found. The UCMR monitoring results are available upon request.
- ***VDH***- Virginia Department of Health

LEAD IN DRINKING WATER

Elevated levels of lead, if present, can cause serious health problems. This is especially true for pregnant women and young children. Lead in drinking water comes primarily from materials and components associated with water service lines and in-home plumbing. Henry County Public Service Authority 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 15 to 30 seconds before using the 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 to minimize exposure is available from the Safe Drinking Water Hotline (800-426-4791) or at https://www.epa.gov/dwreginfo/lead-and-copper-rule .

DISINFECTION BYPRODUCTS IN DRINKING WATER

Disinfection is an absolutely essential component in the treatment of drinking water because it prevents the occurrence and spread of many serious and potentially deadly water-borne diseases. Chlorination is a time proven method for disinfection. However, some minute amounts of byproducts do result in the form of Trihalomethanes (THMs) and Haloaceitic Acids (HAAs) when chlorine combines with naturally occurring matter in the raw water, such as leaf debris, etc. Drinking water that contains THMs or HAAs in excess of the MCL over many years could lead to problems with the liver, kidneys, central nervous systems, and may increase the risk of developing cancer. Additional information is available from the EPA website at https://www.epa.gov/dwreginfo or the Safe Drinking Water Hotline (800-426-4791).

Sodium

The EPA recommends a maximum level of 20 ppm. The recommended level is established for those individuals on a sodium-restricted diet. If you have any concerns about sodium in your drink water please consult with your physician. HCPSA tested for Sodium in its drinking water in May of 2023 and found a level of 3.15 ppm.

VIOLATION INFORMATION:

The Upper Smith River Water Filtration Plant received **no** violations for the year 2023.

LEVEL 1 ASSESSMENT:

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 assessments to identify problems and to correct any problems that are found.

During the past year, we were required to conduct one Level 1 assessment during the month of August. The Level 1 assessment was completed in a timely manner. In addition, we were required to take no corrective actions.

TABLES

PSA constantly monitors for various contaminants in the water supply to meet all regulatory requirements. The tables below list only those contaminants that had some level of detection. Many other contaminants have been analyzed but were not present or were below the detection limits of the lab equipment. Certain contaminants whose concentrations do not frequently change are monitored less often than once per year.

The U.S. Environmental Protection Agency sets MCLs at very stringent levels. In developing standards, the EPA assumes that the average adult drinks two liters of water each day throughout a 70-year life span. The EPA generally sets MCLs at levels that will result in no adverse health effects for some contaminants. Other contaminant levels are set between the ranges of there being a one-in-a-million to one-in-ten-thousand chance of having the described health effect.

TABLES NOTES

In the tables that follow, these items may be noted:

a TT for systems taking fewer than 40 samples per month, the system has two or more total coliform-positive samples in the same month or, the system fails to take every required repeat sample after any single total coliform-positive sample.

b UR – Unregulated

c AL – Action Level: Copper is 1.3 mg/L; Lead is 15pbb

d 95% of filter effluent samples <0.3ntu and 100% maximum of 1 NTU.

e Primary Contaminant Levels (PMCL) for TTHMs & HAA_5s are based on a Locational Running Average (LRAA) under Stage 2 compliance.

f EPA considers 50pCi/L to be level of concern for beta particles.

* Routine and repeat samples are coliform-positive and either is *E.coli*-positive or system fails to take repeat samples following *E.coli*-positive routine sample, or system fails to analyze total coliform-positive repeat sample for repeat *E.coli.*

~ Not regulated but being considered the EPA.

Results for the Upper Smith River WFP for 2023							
CONTAMINANTS	**MCLG**	**MCL**	**LEVEL FOUND**	**RANGE**	**VIOLATION**	**DATE OF SAMPLE**	**MAJOR SOURCE OF CONTAMINATION**
Microbiological							
Turbidity (NTU) (Combined Filtered)	NA	TT [d]	100% sample <0.3ntu Max-0.09 ntu	0.02 to 0.09 (max)	None	Every 4 hours	Soil runoff
Total Organic Carbon (TOC) - removal ratio	NA	TT-based on the % of TOC removed during the treatment process met when removal ratio is ≥ 1.0	1.0 minimum removal ratio	All quarterly ratios 1.0	None	Quarterly	Naturally present in the environment
E.coli	0	*	0	NA	None	Monthly	Human and animal fecal waste
Total Coliform Bacteria	NA	TT [a]	2 positive samples	NA	Level 1Assessment	Monthly	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 assessments to identify problems and to correct any problems that are found.
Chlorine (ppm) (Distribution)	MRDLG=4	MRDL=4	1.62 highest quarterly avg.	0.34 to 2.20	None	Monthly	Water additive used to control microbes.
Inorganic Contaminants							
Nitrate + Nitrate (ppm)	10	10	0.12	NA	None	5/5/23	Runoff from fertilizer use: leaching from septic tanks, sewage; erosion of natural deposits
Fluoride (ppm)	4	4	0.63 avg.	0.08 to 0.98	None	Daily	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Metals Monitored @ Tap							
Copper (ppm) (Distribution)	1.3	1.3 [c]	0.11 @ 90th %	<0.005-0.19 0 of 30 samples above the action level	None	2021	Corrosion of household pumping systems. Erosion of natural deposits; leaching from wood preservatives
Lead (ppb) (Distribution)	0	15 [c]	0 @ 90th %	<1-12 0 of 30 samples above action level	None	2021	Corrosion of household pumping systems. Erosion of natural deposits

Organic							
Haloacetic Acid (HAA_5) (ppb) (Distribution)	NA	60[e]	51 (highest LRAA at sample site DBP04 2nd qtr.)	30-54	None	Every 90 days	By-product of drinking water disinfection
Total Trihalomethanes (TTHMs) (ppb) (Distribution)	NA	80[e]	67 (highest LRAA at sample sites DBP01 4th qtr.)	23-78	None	Every 90 days	By-product of drinking water disinfection
Radiological Monitoring							
Gross Alpha (pCi/L)	0	15	0.4	NA	None	2/2019	Erosion of natural deposits
Gross Beta (pCi/L)	0	50[f]	0.8	NA	None	2/2019	Decay of natural & man-made deposits
Combined Radium (pCi/L)	0	5	0.4	NA	None	2/2019	Erosion of natural deposits
Semi Volatile Organics- PFAS-PIA							
PerfluorohexanoicAcid PFHxA (ppt)	~	~	0.2	NA	None	06/06/23 Testing conducted by VDH	PFAS are not naturally occurring in the environment, they are manmade compounds that have been used widely over the past several decades in consumer products and industrial applications because of their resistance to heat, oil, stains, grease and water.
Perfluorooctanoic Acid PFOA (ppt)	~	~	0.5	NA	None	06/06/23 Testing Conducted by VDH	PFAS are not naturally occurring in the environment, they are manmade compounds that have been used widely over the past several decades in consumer products and industrial applications because of their resistance to heat, oil, stains, grease and water.