



2023

HARFORD COUNTY WATER QUALITY REPORT



BOB CASSILLY, HARFORD COUNTY EXECUTIVE
JOSEPH SIEMEK, PUBLIC WORKS DIRECTOR



WILLIAM BETTIN
DEPUTY DIRECTOR
HARFORD COUNTY WATER & SEWER

Dear Valued Customer:

Providing you with safe, reliable water is our top priority. We conduct quality testing around the clock and perform over 230,000 tests per year. This report is to keep you informed of your water quality based on rigorous testing required by the federal Safe Drinking Water Act.

In the pages that follow, you'll find comprehensive data and results for all known potential contaminants, both regulated and unregulated.

We are proud to report that in 2023, as in every year since this reporting began, Harford County has delivered high-quality water to our customers with no contaminant violations.

These outstanding results are made possible by our team of dedicated professionals who continuously treat, test, and monitor your water to ensure it meets, and often exceeds, EPA standards.

In August of 2023, Harford County water was named Best in Show at the American Water Works Association's regional taste test challenge during the Chesapeake Tri-Association Conference held in Ocean City. The care and pride of our professional team shows every day as they deliver high-quality, award-winning water to you, our valued customers.

We thank you for the opportunity to provide this vital service.

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WHERE DOES MY WATER COME FROM?

Harford County's water system has over 750 miles of water mains with 4,386 fire hydrants and 12 storage tanks holding more than 12 million gallons of water. We have three water treatment plants (WTP): Abingdon WTP treats surface water from either the Loch Raven Reservoir or the Susquehanna River, Havre de Grace WTP treats surface water from the Susquehanna River, and the Perryman WTP treats ground water from seven wells. In 2023, we provided 4.5 billion gallons of water to 130,000 consumers for an average of 12.3 million gallons each day. We obtained 3.6 billion gallons of surface water from the Loch Raven Reservoir, 40.5 million gallons from the Susquehanna River, and 854.4 million gallons of groundwater from wells tapping the Potomac Group Aquifer.



Source Water Assessment

A requirement under the Safe Drinking Water Act is for each state to develop a Source Water Assessment Program. The assessments evaluate the drinking water sources that serve public water systems, and examine activities associated with the surrounding areas to determine their contribution to contamination. The required components of an assessment report are: 1) outline the area that contributes water to the source; 2) identify potential sources of contamination; and 3) determine the susceptibility of the water supply to contamination.

Wellfield Assessment

The Maryland Department of the Environment has conducted a Source Water Assessment for Harford County's well water supply. The source for the well water is a semi-confined aquifer known as the Potomac Group. Potential sources of contamination are agricultural land use, underground storage tanks, ground water contamination sites, and commercial/industrial sites. It was determined that the well water supply is susceptible to contamination by nitrates, volatile organic compounds (e.g. solvents and gasoline) and radionuclides.

Loch Raven Assessment

The Maryland Department of the Environment has conducted a Source Water Assessment for Loch Raven Reservoir. The reservoir collects water from a 303 square mile watershed spanning three Maryland counties (Baltimore, Carroll and Harford). Harford County has a surface water plant that can draw from the reservoir. Potential sources of contamination are public and private sewage systems, storm runoff from agricultural and developed areas, and spillage of hazardous materials. It was determined that the water supply is susceptible to contamination by phosphorus, turbidity and sediment, pathogenic protozoans, disinfection byproducts and sodium.

Susquehanna River Assessment

The Susquehanna River Basin Commission conducted a Source Water Assessment of the Susquehanna River. Harford County has two surface water plants that can draw water from the lower Susquehanna Subbasin. Potential sources of contamination are agricultural land use, urban/residential development, boating activities, sewage effluent, major transportation corridors (highways, railroads) and nuclear power generating plants. It was determined that the water supply is susceptible to contamination by turbidity & sediment, microorganisms, inorganic compounds, organic compounds, disinfection byproducts and radionuclides.

Treatment Plant Processes

The County's Havre de Grace WTP treats water from the Susquehanna River by adsorption clarification, multi-media filtration, and with chemical treatment for coagulation, disinfection, pH adjustment, and fluoridation. The Abingdon WTP treats water from the Susquehanna River or the Loch Raven Reservoir by sedimentation, dual media filtration, and with chemical treatment for coagulation, disinfection, pH adjustment, corrosion inhibition, and fluoridation. The Perryman WTP treats water from the Potomac Group Aquifer by activated carbon filtration, and with chemical treatment for disinfection, pH adjustment, corrosion inhibition and fluoridation.

IS MY WATER SAFE?

Drinking water, including bottled water may reasonably be expected to contain at least small amounts of some contaminants. A contaminant is any physical, chemical, biological, or radiological substance or matter in water. The presence of these contaminants does not necessarily mean that the water poses a health risk.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons, such as cancer patients undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, and some elderly and infants, can be particularly at risk for infections. These people should seek advice from their health care providers about drinking water.

EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline (1-800-426-4791) or EPA's website <https://www.epa.gov/safewater>. More information about contaminants and potential health effects can also be obtained from the EPA hotline or website.

IMPORTANT HEALTH INFORMATION

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. Harford County Water & Sewer is responsible for providing high quality drinking water and removing lead pipes, but 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, 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 Harford County Water & Sewer. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <https://www.epa.gov/safewater/lead>.

NITRATE levels above 10 ppm in drinking water are a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue-baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice about drinking water from your health care provider.



PFAS - short for per- and polyfluoroalkyl substances - refers to a large group of more than 4,000 human-made chemicals that have been used since the 1940s in a range of products, including stain- and water-resistant fabrics and carpeting, cleaning products, paints, cookware, food packaging and firefighting foams. These uses of PFAS have led to them entering our environment, where they have been measured by several states in soil, surface water, groundwater, and seafood. Some PFAS can last a long time in the environment and in the human body and can accumulate in the food chain.

The Maryland Department of the Environment (MDE) conducted a PFAS monitoring program for community water systems from 2020 to 2022. The results are available on MDE's website: <https://mde/maryland.gov/PublicHealth/Pages/PFAS>.

The Environmental Protection Agency proposed regulations for 6 PFAS compounds in drinking water in March 2022. The MCLs for PFOA and PFOS are proposed to be 4 parts per trillion. The proposal for HFPO-DA (GenX), PFBS, PFNA and PFHxS is to use a Hazard Index of 1.0 (unitless) to determine if the combined levels of these PFAS pose a risk and require action.

The 5th Unregulated Contaminant Monitoring Rule (UCMR5) began testing for 29 PFAS compounds and lithium in 2023, and testing will run through 2025. The UCMR5 should test all community water systems with populations of at least 3,300 people. Three randomly selected systems in Maryland with populations less than 3,300 people will also be tested under the UCMR5. Detections greater than the minimum reporting levels for each constituent should be reported in the Consumer Confidence Report.

WHAT'S IN MY WATER?

The table below lists all of the drinking water contaminants that we detected. The contaminant levels from other utilities that have provided water are incorporated into the tables. The state allows us to monitor for some contaminants less than once per year because the concentration of these contaminants changes infrequently. Unless otherwise noted, the data presented in the tables is from January 1 to December 31, 2023. The definitions provided at the end of the table may be useful in interpreting the data. The Harford County Government's Public Water System Identification Number (PWSID) is 012-0016.

Metal Contaminants	AL	90th %	Samples>AL			Violation	Typical Sources
Copper (ppm) for 2023	1.3	0.37	0			NO	Corrosion of household plumbing systems; erosion of natural deposits.
Lead (ppb) for 2023	15	<1.0	0			NO	Corrosion of household plumbing systems; erosion of natural deposits.
Disinfectant & Disinfection Byproducts Contaminants	MCLG	MCL	CL	Low	High	Violation	
Chlorine (ppm)	4	4	3.9	0.4	3.9	NO	Water additive used to control microbes. Avg. = 1.75 ppm
Haloacetic Acids (HAA5) (ppb)	N/A	60	31	8.3	38.1	NO	Byproduct of drinking water disinfection. CL= highest locational running annual average.
Total Trihalomethanes (TTHMs) (ppb)	N/A	80	46	11.3	87.9	NO	Byproduct of drinking water disinfection. CL = highest locational running annual average.
Inorganic Contaminants	MCLG	MCL	CL	Low	High	Violation	
Arsenic (ppb)	0	10	2	ND	2	NO	Erosion of natural deposits: runoff from orchards, glass, and electronics production waste.
Barium (ppm)	2	2	0.12	0.02	0.12	NO	Discharge of drilling wastes; discharge of metal refineries. Erosion of natural deposits.
Fluoride (ppm)	4	4	0.65	ND	0.65	NO	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories. Avg. = 0.55 ppm
Nitrate (ppm of Nitrogen)	10	10	3.45	ND	3.45	NO	Runoff from fertilizer use, leaching from septic tanks, sewage; erosion of natural deposits.
Organic Contaminants	MCLG	MCL	CL	Low	High	Violation	
Total Organic Carbon (ppm)	N/A	TT	Multiple compliance criteria	1.09	2.96	NO	Organic matter. It can provide a medium for formation of disinfection byproducts.
Microbiological Contaminants	MCLG	MCL	CL	Low	High	Violation	
Total Coliform (5% positive in a month)	0%	5%	2%	0%	2%	NO	Coliforms are naturally present in the environment. Three positives out of 1450 samples.
Turbidity (NTU) TT ≤ 0.3 in 95% of samples in a month. Never >1.0	N/A	TT	100%	0.014	0.203	NO	From soil runoff. Avg. = 0.05 NTU.
Radioactive Contaminants	MCLG	MCL	CL	Low	High	Violation	
Combined Radium (226 & 228) (pCi/L) for 2020	0	5	3.2	3.2	3.2	NO	Erosion of natural deposits.
Gross Alpha (pCi/L) for 2020	0	15	4.3	4.3	4.3	NO	Erosion of natural deposits.

Unregulated Contaminants			Avg.	Low	High	
Iron (ppm)			0.18	ND	0.911	Erosion of natural deposits.
Manganese (ppm)			0.022	0.020	0.025	Erosion of natural deposits.
Nickel (ppm)			0.004	0.002	0.005	Corrosion of pipes and fitting; erosion of natural deposits.
PFOA (ppt)			0.5	ND	0.7	Firefighting foams, industrial waste sites. EPA proposed MCL of 4 ppt.
PFHxA (ppt)			0.4	ND	0.6	Firefighting foams, industrial waste sites, and insecticides.
PFTA (ppt)			0.3	ND	0.4	Firefighting foams, industrial waste sites, and insecticides.
PFTrDA (ppt)			0.4	ND	0.4	Firefighting foams, industrial waste sites, and insecticides.
11Cl-PF3OUdS (ppt)			0.3	ND	0.4	Firefighting foams, industrial waste sites, and insecticides.
Sodium (ppm)			31.2	14.1	73.2	Erosion of natural deposits; Sodium salts used in water treatment.
Raw Water Contaminants	MCLG	MCL	Low	High		
Cryptosporidium (oocyst/liter)	0	TT	ND	ND		Human and animal fecal waste.
Giardia (cyst/liter)	0	TT	0.2	0.2		Human and animal fecal waste. Susquehanna River (HdG Plant)

11-Chloroheptafluoro-3-oxaundecane-1-sulfonic Acid (11Cl-PF3OUdS) - a member of a group of perfluorinated chemicals used in many products.

90th Percentile (for lead & copper testing only) - Ninety percent of the homes where the tap water was tested are at or below this value. EPA currently requires the voluntary testing of homes built between 1983 and 1986 where lead solder may have been used in the plumbing.

Action Level - Refers to a specific threshold or limit that triggers a recommended course of action or intervention. If a contaminant exceeds this concentration, it can trigger improved treatment techniques or other requirements a utility must follow.

Avg. - Average.

Compliance Level (CL) - Is the value used to determine compliance with a MCL or a TT. The CL for contaminants can be a maximum test value, an average, or meeting a condition for a certain percentage of the time.

Disinfection By-Products - Are formed when disinfectants used in the water treatment process react with bromide and/or natural organic matter (i.e., decaying vegetation) present in the source water. Disinfection by-products for which regulations have been established include Trihalomethanes, Haloacetic Acids, Bromate, and Chlorite.

DEFINITIONS

Intestinal Parasites - Microorganisms such as Giardia and Cryptosporidium that can cause gastrointestinal illnesses. Our surface water sources, the Susquehanna River and the Loch Raven Reservoir are routinely tested for the presence of these organisms.

Maximum Contaminant Level (MCL) - The "maximum allowed" is the highest level of a contaminant that is allowed in drinking water as set by federal law.

Maximum Contaminant Level Goal (MCLG) - This is the level of a contaminant in drinking water, below which there is no known or expected health risk. The MCLGs allow for an extra margin of safety, over and above the Maximum Contaminant Level (MCL).

Nephelometric Turbidity Unit (NTU) - A unit of measure for the clarity of water. A turbidity level of 5 NTU is just noticeable to the average person.

Nondetectable (ND) - A nondetectable value that is below the level of sensitivity of the analytical procedure.

Parts Per Billion (ppb) - A measurement unit for the level of contaminants in water. One ppb corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts Per Million (ppm) - A measurement unit for the level of contaminants in water. One ppm corresponds to one minute in two years or a single penny in \$10,000.

Parts Per Trillion (ppt) - A measurement unit for the level of contaminants in water. One ppt corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

PFHxA - Perfluorohexanoic Acid.

PFOA - Perfluorooctanoic Acid, (PFAS compound).

PFTA - Perfluorotetradecanoic Acid.

PFTrDA - Pentacosafuorotridecanoic Acid.

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

Total Coliform Bacteria - A group of bacteria that are naturally present in the environment. They are normally found in the intestines of warm-blooded animals (including humans). The presence of coliform bacteria indicates that the water may contain pathogens and/or fecal contamination.

Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

HARFORD'S DRINKING WATER WINS REGIONAL TASTE TEST AWARD

"Water is a vital resource, and Harford's dedicated teams continue to deliver high quality drinking water to our customers, I'm proud to raise a glass in honor of these professionals."

- County Executive Bob Cassilly





HARFORD COUNTY

PUBLIC WORKS



Contact US:



For questions about your water quality or this report, contact Mike Turner at 410.638.3939
For water emergencies, call 410.612.1612



www.HarfordCountyMD.gov/WQR



3334 Abingdon Road
Abingdon, MD 21009



SCAN ME