

# Annual Water Quality Report 2024

Reporting Period from January 1, 2023 to December 31, 2023



**Howard County**

**Department  
of  
Public Works**



**PSWID 0130002**



# Howard County's Tap Water Supply Meets All State and Federal Health Standards in 2023

Howard County is pleased to present to you this year's Water Quality Report, as mandated by the U.S. Environmental Protection Agency (EPA) and the Maryland Department of the Environment (MDE). This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts our water suppliers make to continually improve the water treatment process and protect our water resources. Based on the water quality monitoring data collected in 2023, the County's tap water met all state and federal drinking water health standards. The U.S. Environmental Protection Agency (EPA) and the Maryland Department of the Environment mandate all water agencies produce an annual document educating customers about their drinking water quality for the previous year.

## Message from the County Executive

### Howard County Drinking Water



Clean water is critical to our individual health and overall community well-being. Howard County's 2024 annual water quality report once again shows our dedication to providing reliable and safe water for residents, businesses, and visitors. This report highlights our water sources and treatment, allowing us to understand and protect this valuable resource.

As we face continued climate challenges, Howard County seeks to solidify and enhance our water infrastructure and reliability with our regional partners to ensure our ability to provide safe drinking water into the future.

We are thankful for the many utility professionals who ensure our drinking water is safe, clean, and reliable for all. Together, we will continue to strengthen environmental protection and enhance our resilience for current and future generations.

Sincerely,

Calvin Ball  
Howard County Executive

## Contact



- Office of The County Executive 410-313-2013
- Public Information 410-313-2022
- Public Works 410-313-4400
- Water-Sewer Billing 410-313-2058
- Bureau of Utilities 410-313-4900
- Water Quality 410-313-4997

## Websites



- Howard County..... <https://www.howardcountymd.gov>
- EPA..... <https://www.epa.gov/ground-water-and-drinking-water>
- Maryland Department of the Environment..... | [https://mde.maryland.gov/programs/water/water\\_supply/pages/index.aspx](https://mde.maryland.gov/programs/water/water_supply/pages/index.aspx)

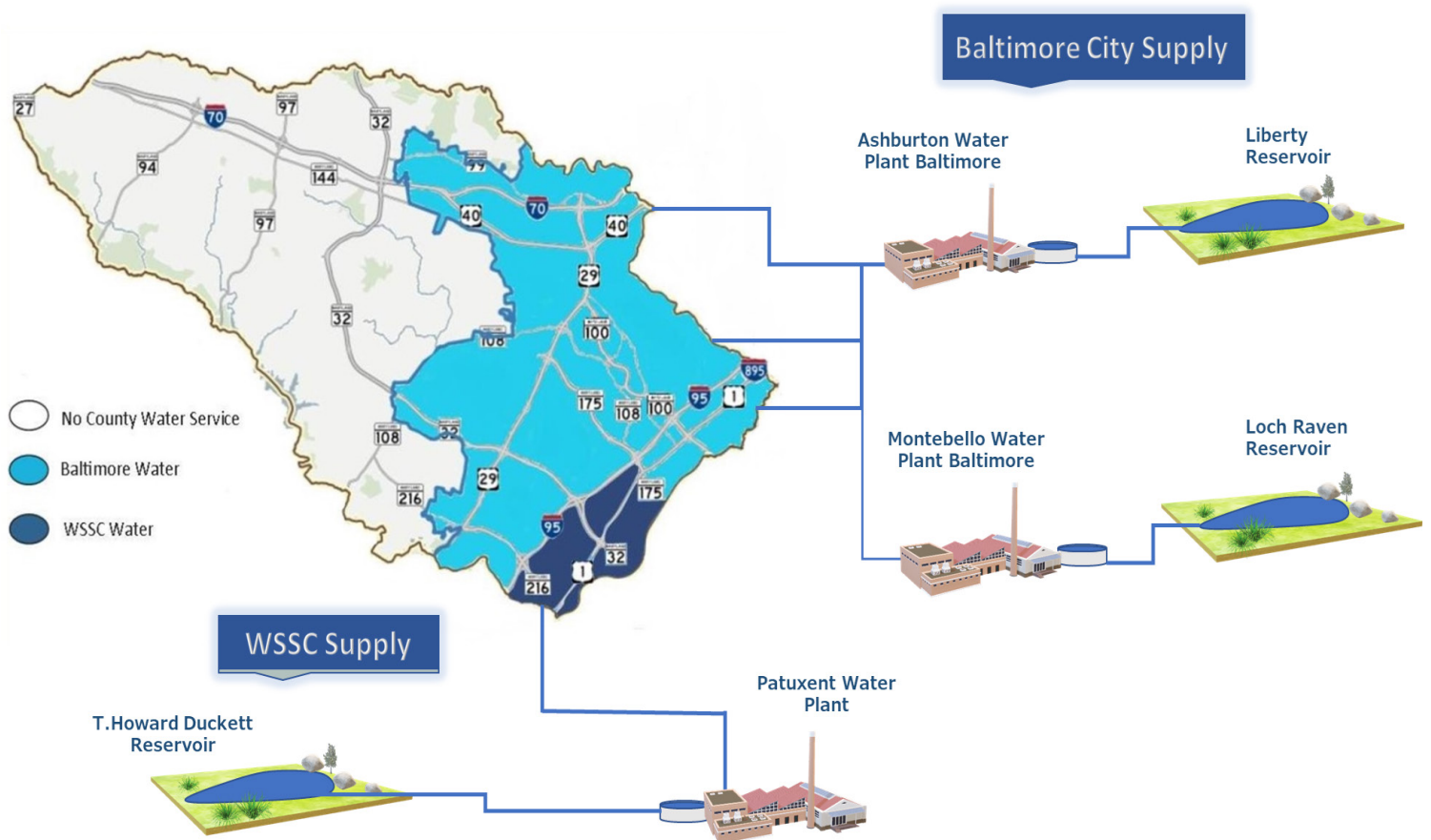
## E=Newsletter Sign-up

Stay informed about water main repairs, sanitary sewer overflows, shared septic interest and more!

<https://tinyurl.com/yye8u9av>



# Where Your Water Comes From



As a “Consecutive Water System,” Howard County purchases water from Baltimore City and WSSC. If you live in the North Laurel area of Howard County, east of Interstate 95 and south of Patuxent Range Road, your water originates from WSSC in Laurel. If you live anywhere else in Howard County and are connected to the public water supply, your water originates from Baltimore City. Water quality analyses are performed at Howard County, Baltimore City and WSSC laboratories. The tables inside this brochure shows the results of monitoring for the period of January 1, 2023 to December 31, 2023.

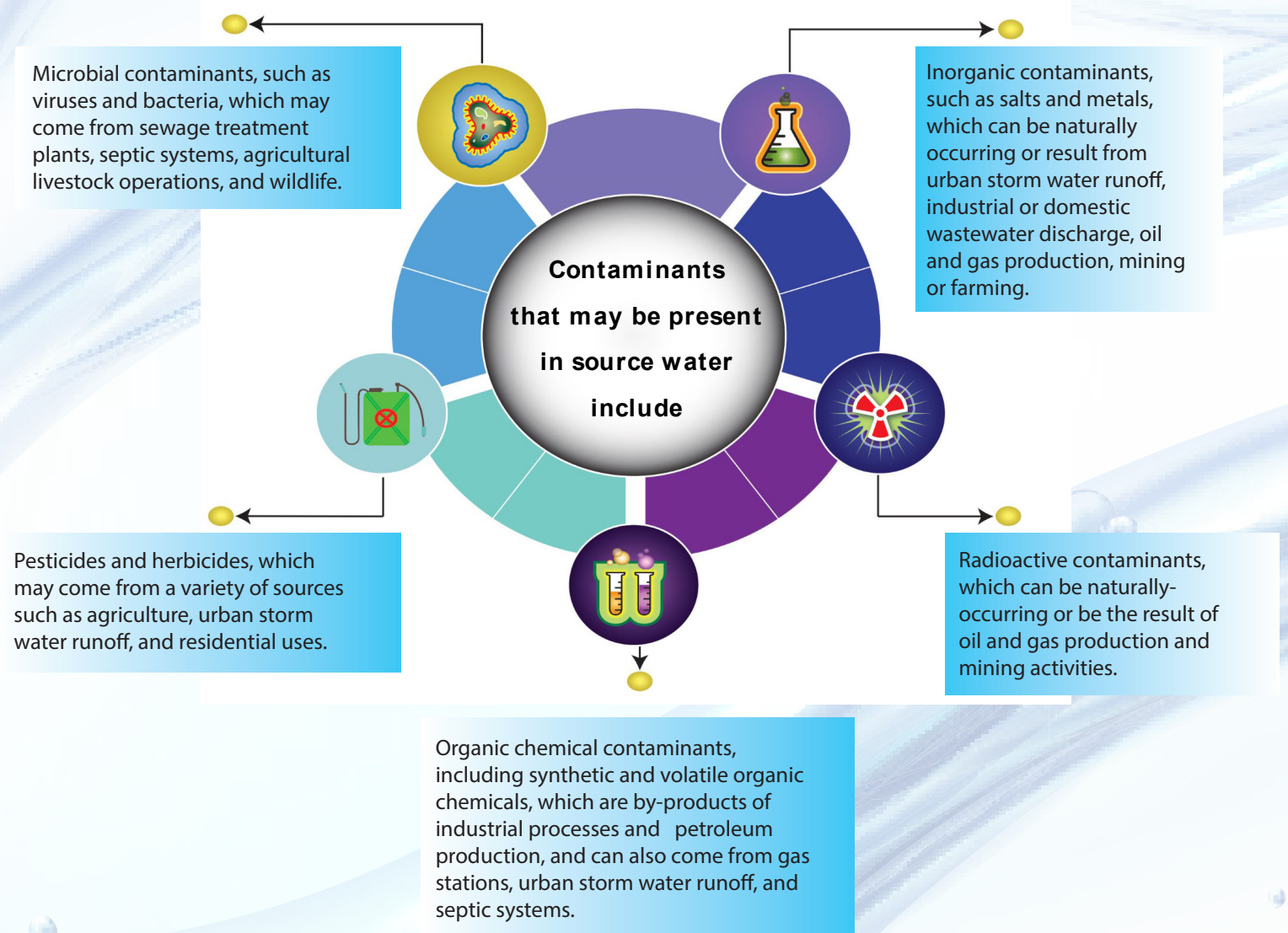


The amount of water you should drink varies depending on your activity level, health conditions, height and weight, gender, and other factors. Here are some tips to stay hydrated:

1. Carry a Water Bottle: Keep a reusable water bottle with you to make drinking water more convenient.
2. Set Reminders: Use phone alarms or apps to remind you to drink water throughout the day.
3. Eat Water-Rich Foods: Fruits and vegetables like watermelon, cucumbers, and oranges contribute to your overall fluid intake.
4. Drink Water with Meals: Make it a habit to drink a glass of water with each meal.

# WHY WATER IS TESTED

All sources of drinking water, whether sourced from above ground or below, are subject to potential contamination by substances that are naturally occurring or man-made. These substances or contaminants can be microbes, inorganic or organic chemicals, and radioactive substances, resulting from the presence of animals or from human activity. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of these contaminants. However, the presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-4264791).



To ensure that tap water is safe to drink, the US Environmental Protection Agency (EPA) sets regulations that limit the amount of certain contaminants in water provided by public water systems. Additionally, the US Food and Drug Administration (FDA) regulations set limits for contaminants in bottled water to provide the same level of protection as tap water. The Maryland Department of the Environment (MDE) has also completed a Source Water Assessment of the water supplies that serve Baltimore City and WSSC. The Source Water Assessment Program may be viewed on MDE's website [https://mde.maryland.gov/programs/water/water\\_supply/source\\_water\\_assessment\\_program](https://mde.maryland.gov/programs/water/water_supply/source_water_assessment_program) For more information about drinking water contaminants and potential health effects, contact the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

# Glossary and Abbreviations

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

**Locational running annual average (LRAA):** The average of analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

**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 a margin of safety.

**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 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.

**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.

**Nephelometric Turbidity Unit (NTU):** Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**Parts per million (ppm) or Milligrams per liter (mg/l):** would be equal to putting ONE drop of water from an eyedropper into 10 gallons of water.

**Parts per billion (ppb) or Micrograms per liter (ug/l):** would be equal to adding ONE drop of water to a 10,000 gallon swimming pool.

**Parts per trillion (ppt) or Nanograms per liter:** A single drip from an eyedropper of water into the volume of water held in 35 Junior size Olympic pools.

**pCi/L or picocuries per liter:**  
A radioactivity concentration unit.

**n/a or not applicable:**  
Does not apply to this subject or in this scenario.

**Non-Detects (ND):**  
Laboratory analysis indicates that the contaminant is not detectable by the analytical instrument used.

**PFAS compounds:**  
Perfluorooctane sulfonic acid (PFOS); perfluorooctanoic acid (PFOA); perfluorohexane sulfonic acid (PFHxS); perfluorononanoic acid (PFNA); GenX chemicals (hexafluoropropylene oxide (HFPO) dimer acid); and perfluorobutane sulfonic acid (PFBS).

**QRAA or quarterly running annual average:**  
An ongoing annual average calculation of data from the most recent four quarters.

**Total Coliform E.coli:** Indicator bacteria used to determine if contamination has occurred in a drinking water system.

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

**90th percentile:**  
Represents the highest value found out of 90% of the samples taken in a representative group. If the 90th percentile is greater than the action level, it will trigger a treatment or additional requirements that a water system must follow.

## Violations and Exemptions

**Violation** - Howard County had no violations in 2023.

**Waivers** - MDE has granted the City of Baltimore monitoring waivers for the following compounds: 2,3,7,8-TCDD (Dioxin), Endothall, Diquat, Glyphosphate, Asbestos and Cyanide.

# Cryptosporidium

**Cryptosporidium** (crip-toe-spor-ID-ium) is a protozoan, single-celled parasite that lives in the intestines of animals and people. This organism is found in some surface water (lakes, reservoirs, rivers, etc.) and ground-water. Infection of healthy individuals by this organism can cause a gastrointestinal illness referred to as cryptosporidiosis, which may produce symptoms including diarrhea, headache, abdominal cramps, nausea, vomiting and low-grade fever. The symptoms usually last one to two weeks. However, for immuno-compromised people, the infection can continue and last for several months and a prolonged infection can prove fatal for this population as there are no effective medical treatments. Human transmission routes include ingestion of contaminated foods or drinking water through direct contact with fecal matter.



## CRYPTOSPORIDIUM AND GIARDIA

On September 28, 2023 a minimal amount of cryptosporidium was detected in a routine test of the water in the Druid Lake Drinking Water Reservoir conducted by Baltimore City Department of Public Works. The detection of cryptosporidium was likely due to the reservoir being uncovered. By the end of 2023, all of the City's drinking water reservoirs were converted to underground covered tanks. Using underground covered tanks adds a higher level of protection to the water supply to ensure the continued delivery of high-quality water to residents and water customers. As soon as Howard County was notified of the detection of Cryptosporidium in Druid Lake Drinking Water Reservoir, Howard County DPW established a regular sampling effort within our system. We sampled for Cryptosporidium as well as Giardia (also a parasite that can be found in water and can cause diarrheal disease). All results were negative for both Cryptosporidium and Giardia. These results can be found on Howard County website at <https://www.howardcountymd.gov/Cryptosporidium>

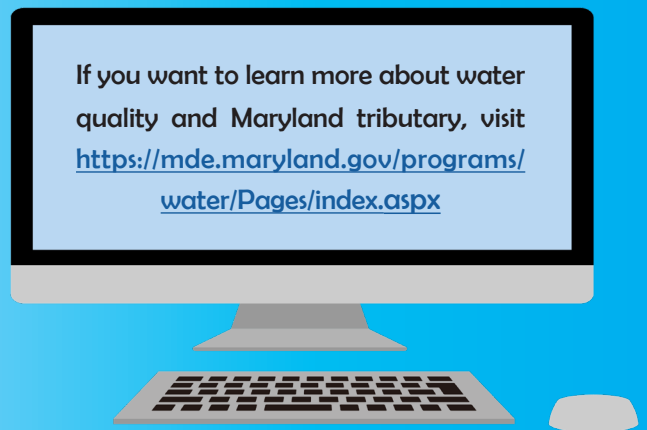


Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants 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 microbiological contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

### FOR MORE INFORMATION

We want our valued customers to be informed about their water quality. If you have any questions about this report or your water quality, please contact Howard County's Bureau of Utilities at 410-313-4900. Employees at our Bureau of Utilities work around the clock to provide top quality water to every tap. 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.

If you want to learn more about water quality and Maryland tributary, visit <https://mde.maryland.gov/programs/water/Pages/index.aspx>



# LEAD AND COPPER TESTING - HOWARD COUNTY

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. While the County's Bureau of Utilities is responsible for providing high quality drinking water and removing lead pipes, it 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 the Bureau of Utilities at 410-313-4900. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead>.

Contaminant	Action Level	90th Percentile Value	Source of Contamination
Lead	15 ppb	4 ppb	Corrosion of house plumbing systems
Copper	1.3 ppm	0.1 ppm	

When water leaves the water treatment plant, lead and copper levels are below detection limits; however, lead and copper can be released when the water comes in contact with pipes and plumbing fixtures in homes and buildings that contain these elements. The EPA requires testing of the water distribution system for lead and copper at the tap. Howard County is required to sample 50 sites and of these 50 sites, 90 percent of the samples must have lead and copper levels less than the Action Level set by the EPA: 0.015 mg/l or 15 parts per billion for lead and 1.3 mg/l or 1.3 parts per million for copper. The results of the sampling in 2023 are shown above. Howard County's lead and copper levels are consistently below the Action Level set by the EPA. The next scheduled sampling for Lead and Copper will be performed during the summer of 2026. For more information about lead in drinking water: [https://mde.maryland.gov/programs/water/water\\_supply/pages/pb\\_and\\_cu\\_rule.aspx](https://mde.maryland.gov/programs/water/water_supply/pages/pb_and_cu_rule.aspx).

## Water Quality 2023 Monitoring- Howard County


Contaminant	Violation Y/N	Total Sample Collected	Total Coliform* Positive	E-coli** Positive	E-coli MCLG	Likely Source of Contamination
<b>Microbiological Contaminants</b>						
Routine Samples	N	1800	25	0	0	Naturally present in the environment
Repeat Samples	N	79	3	0	0	Human and animal fecal waste


**\*Total Coliform bacteria**—are commonly found in the environment (e.g., soil or vegetation) and are generally harmless. EPA considers total coliforms a useful indicator of other pathogens for drinking water. Total coliforms are used to determine the adequacy of water treatment and the integrity of the distribution system.

**\*\*E-coli**—is a type of coliform bacteria that can be found in water and is a sign of recent fecal contamination. It can come from sewage or animal waste, which can contain many disease-causing organisms.

Volatile Organic Chemicals						
Substance	MCLG	MCL	Range - Levels Detected	Level Detected	Violation	Major Sources
<b>Chlorine</b>	MRDDL = 4	MRDL = 4	0.07 - 1.28 ppm	0.62ppm	No	Water additive used to control microbes
<b>HAA(5)</b>	n/a	60ppb	5.8 - 51.0 ppb	37ppb	No	Byproduct of drinking water disinfection
<b>Total THM's</b>	n/a	80ppb	23 - 64 ppb	60ppb	No	Byproduct of drinking water disinfection

### TEST RESULTS – OUR SUPPLERS

	Baltimore City Supply				WSSC Supply		MCLG	MCL	Likely Source of Contamination
	Ashburton Plant		Montebello Plant		Patuxent Plant				
Contaminant Units	Level Detected	Violation Y/N	Level Detected	Violation Y/N	Level Detected	Violation Y/N			



### Inorganic Contaminants

Arsenic-ppb	ND	N	ND	N	ND	N	0	10	Erosion of natural deposits
Barium-ppm	0.023	N	0.035	N	0.03	N	2	2	Discharge from drilling waste
Fluoride-ppm	0.94	N	1.07	N	0.8	N	4	4	Water additive that promotes strong teeth
Nitrate-ppm	1.54	N	1.82	N	1.4	N	10	10	<b>Runoff and leaching from fertilizer use; erosion of natural deposits</b>
Residual Chlorine ppm	1.17	N	1.25	N	1.6	N	4	4	Water additive to disinfect supply

*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.*



### Metal Contaminants

Aluminum-ppm	ND	N	ND	N	0.04	N	0.2	0.5	Erosion of natural deposits
Calcium- ppm	ND	N	ND	N	21.3	N	n/d	n/d	Erosion of natural deposits
Copper-ppm	ND	N	ND	N	0.02	N	1.3	AL=1.3	Internal corrosion of household plumbing systems
Sodium-ppm	18.9	N	17.5	N	12.0	N	n/d	n/d	Runoff from road salt



Radioactive Contaminants						
Substance	MCL	MCLG	Highest Level Detected	Range - Levels Detected	Violation	Source
<b>WSSC Water Supply</b>						
Gross Beta pCi/l	50	0	5.9	n/d - 5.9	N	Decay of natural and manmade deposits
Radium 228 pCi/l	5	0	0.3	n/d - 0.3	N	Erosion of natural deposits
<b>Baltimore City Supply</b>						
Combined Radium pCi/l	5 pCi/l	0	1.6	0.2-1.6	N	Erosion of natural deposits

As water travels over the surface of the land or in underground aquifers, it dissolves naturally-occurring minerals and, in some cases, radioactive material. Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

	Baltimore City Supply				WSSC Supply				
	Ashburton Plant		Montebello Plant		Patuxent Plant		MCLG	MCL=TT	Source
Contaminant Units	Level Detected	Violation Y/N	Level Detected	Violation Y/N	Level Detected	Violation Y/N			

Turbidity									
NTU	0.13 NTU	N	0.24 NTU	N	0.09 NTU	N	n/a	TT = 1 NTU	Soil Run-off
% <0.3 NTU	100% of samples ≤ 0.3		100% of samples ≤ 0.3		100% of samples ≤ 0.3		n/a	TT = 95% of samples ≤ 0.3 NTU	n/a

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may 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.

	Ashbuton Lake Reservoir	Druid Lake Reservoir	Patuxent			
Giardia lamblia	met TT requirements	met TT requirements	met TT requirements	TT=99.99% removal	0	Human and animal fecal waste
	Violation - N	Violation - N	Violation - N			
Cryptosporidium	met TT requirements	0.09 range = n/a - 0.09	met TT requirements	TT=99.99% removal	0	Human and animal fecal waste
	Violation - N	Violation - N	Violation - N			

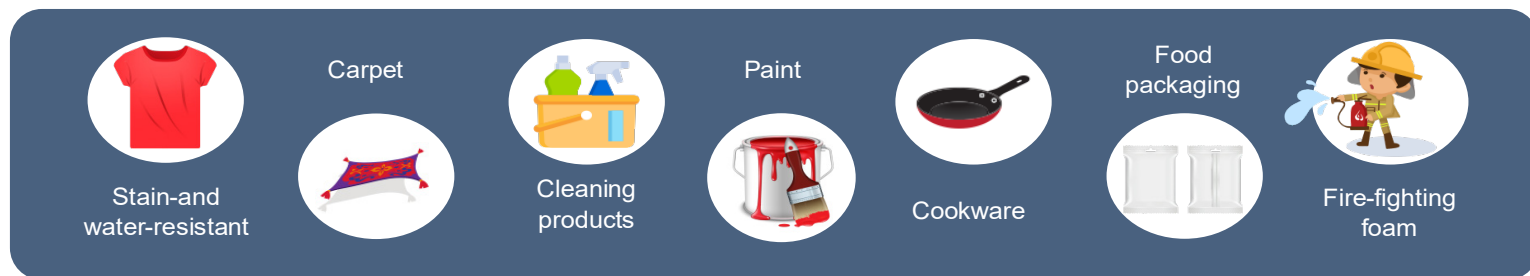
On September 19, 2023 Cryptosporidium was detected in the Druid Lake Reservoir. Public notification was provided and Howard County took critical steps to ensure that these parasites did not enter the County's drinking water system. Sampling began as soon as Howard County was notified and continued until the underground Finished Water Tanks at Ashburton and Druid Lakes were in service and there was no further threat of contaminants. During this sampling period these contaminants were never detected in Howard County's drinking water. Please refer to page 6 for more information.

## Unregulated Contaminant Monitoring Rule (UCMR5)

Every five years, under the 1996 Amendments to the Safe Drinking Water Act (SDWA), the EPA issues a list of contaminants that could be present in the public water systems around the country. This is called the Unregulated Contaminant Monitoring Rule (UCMR). The UCMR list of contaminants are not regulated by MDE or EPA and monitoring is not required. Information from this study can help develop regulatory decisions for any contaminants that reach a unsafe level of exposure in the public drinking water supply. The 5th Unregulated Contaminant Monitoring Rule (UCMR5) began testing for 29 PFAS compounds and lithium in 2023, and testing will run through 2025. Howard County conducted UCMR5 sampling in 2023. The detected contaminants are listed below.

UMCR 5 STUDY									
Contaminant	Units	Route 40 POE		All Saints POE		MCL	MCLG	Violation	
		Baltimore		WSSC					
		Average Detected	Range	Average Detected	Range				
PFPeA	ppt	1.7	n/d - 3.6	1.0	n/d - 3	n/a	n/a	n/a	Consumer and industrial products
PFHxA	ppt	1.0	n/d - 3.4	-----	-----	n/a	n/a	n/a	Consumer and industrial products

PFAS – or 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



These uses of PFAS have led to PFAS 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 Environmental Protection Agency (EPA) finalized regulations for 6 PFAS compounds in April 2024, including PFOA, PFOS, PFNA, PFHxS, PFBS and HFPO-DA (GenX).

**It should be noted that none of these 6 regulated PFAS compounds were detected in our drinking water distribution system during UCMR5.**

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-Landing-Page.aspx>.



**Howard County Government**

Department of Public Works Bureau of Utilities  
8250 and 8270 Old Montgomery Road  
Columbia, MD 21045



DPW enhances the quality of life of our customers by providing an exceptional level of service

This report contains important information about your drinking water. Please contact Howard County Bureau Utilities at 410 313-4900 for assistance.