

Howard County

Reporting Period from January 1, 2024 to December 31, 2024

Annual Water Quality Report 2025



PSWID 0130002

Howard County Drinking Water



A message from the County Executive



Protecting access to clean, safe, and reliable drinking water is a necessity and a critical part of Howard County's vision for a sustainable and resilient future. The 2025 Annual Water Quality Report reflects the high standards our Bureau of Utilities maintains to ensure your water meets and exceeds federal and state safety regulations.

This report provides a transparent look at the source of our water, how it is treated, and the rigorous testing it undergoes to guarantee its quality. We want our residents to enjoy peace of mind each time they turn on the tap, and we remain steadfast in delivering that confidence.

We are incredibly thankful for the dedicated public servants and utility professionals who work around the clock through every season and circumstance to protect our water infrastructure and serve our community with excellence. Their work is the backbone of our public health and daily life.

As we look to the future, Howard County continues investing in sustainable water solutions and resilient infrastructure, partnering regionally to adapt to climate pressures and secure this vital resource for generations to come.

Together, we will continue to build a healthier community -one drop at a time!

Sincerely,

A handwritten signature in blue ink, likely belonging to Calvin Ball.

Calvin Ball
Howard County Executive



Please sign up to receive the County Executive's weekly newsletter "The Ball Bulletin" to stay informed about the latest County news. <https://www.howardcountymd.gov/county-executive/county-executive-newsletter>

Howard County's
Tap water supply meets
all State and Federal
health standards in 2024



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. 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 2024, the County's drinking water met all state and federal drinking water health standards. The U.S. Environmental Protection Agency 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.

INSIDE

Message from the County Executive 2

Why Water is Tested 4

Where Your Water Comes From 5

Important Health Information 6

Glossary and Abbreviations 7

Violations and Exemptions 7

Lead and Copper Testing 8

Water Quality 2024 Monitoring 8

Unregulated Contaminant Monitoring Rule (UCMR5) 11

Per- and polyfluoroalkyl - PFAS 11

Service Line Stewardship Program 12

Message from the Public Works Director 13



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/

E=Newsletter Sign-up

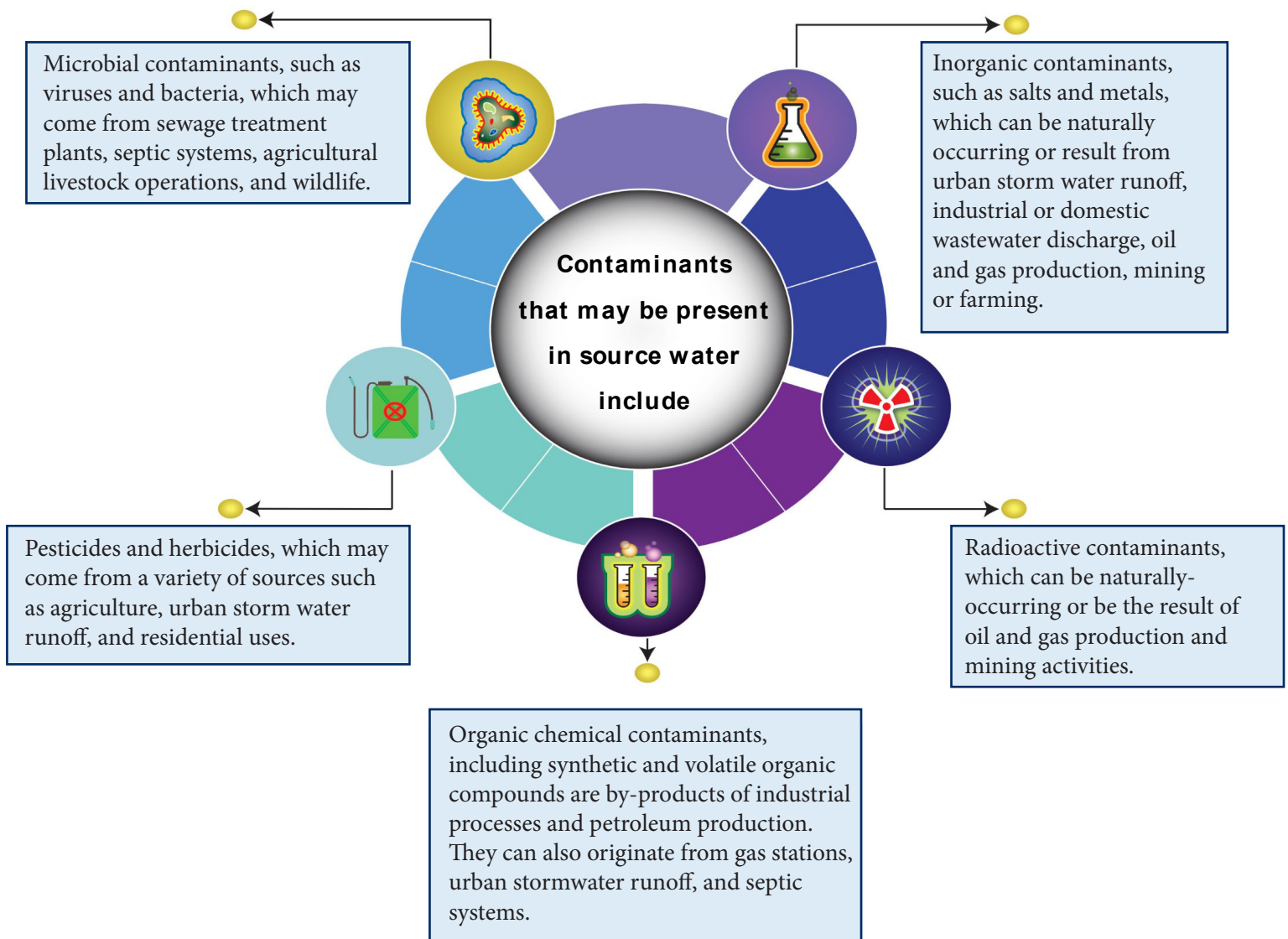


Stay informed about water main repairs, sanitary sewer overflows, shared septic interest and more!
<https://tinyurl.com/yye8u9av>

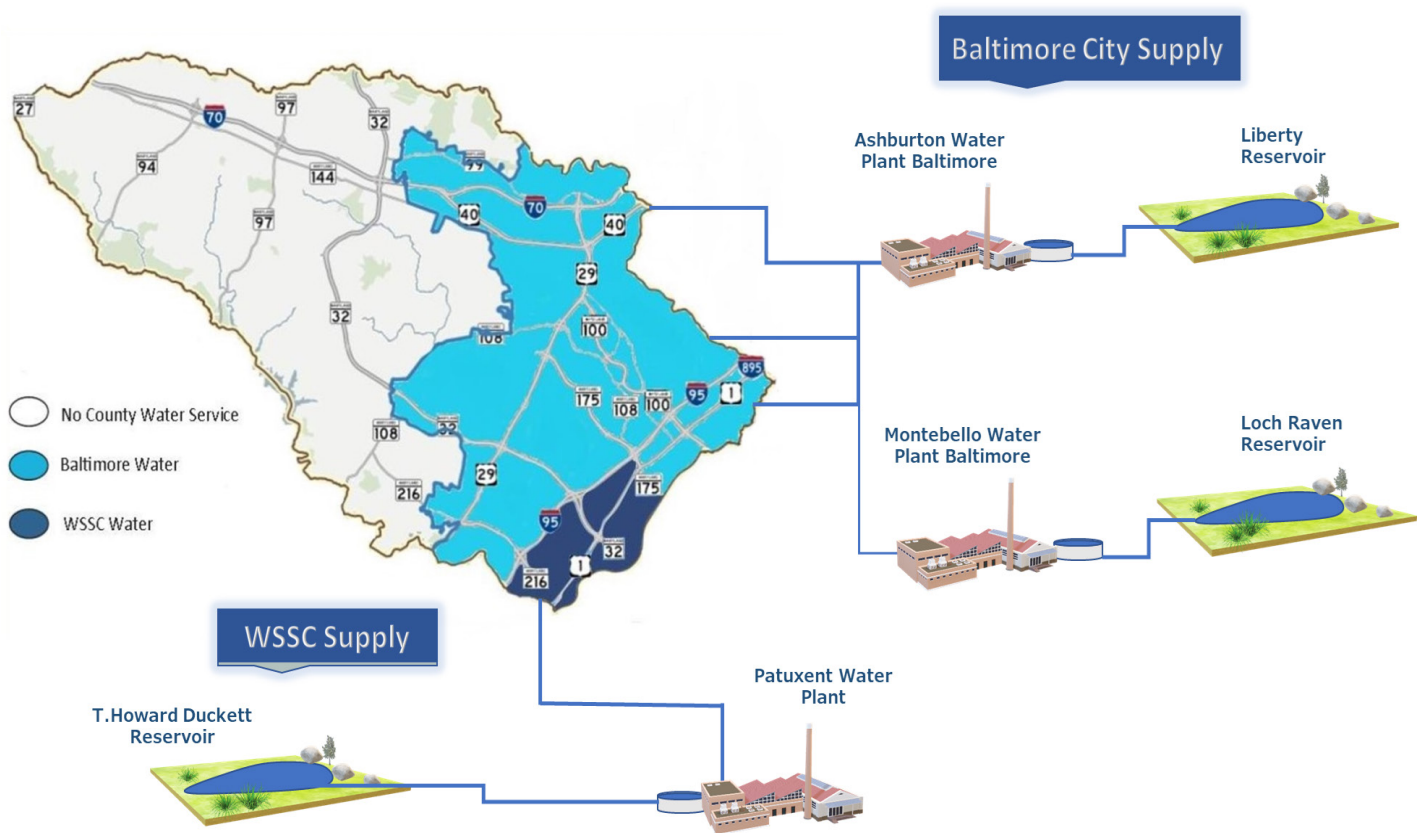
WHY WATER IS TESTED



All sources of drinking water, whether 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 trace 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 (1-800-426-4791).



Where Your Water Comes From



As a “Consecutive Water System,” Howard County purchases water from Baltimore City and Washington Suburban Sanitary Commission (WSSC). Howard County residents living east of Interstate 95 and south of Patuxent Range Road receive their water supply WSSC in Laurel. Residents in all other parts of Howard County who are connected to the public water system receive their water from Baltimore City.

Here are some key facts about how water is cleaned to make it safe for drinking:

- 1. Coagulation & Flocculation** – Chemicals like alum are added to the water to make smaller particles stick together into larger clumps (called flocs), which can then be easily removed.
- 2. Sedimentation** – The flocs settle at the bottom of a tank, allowing cleaner water to be separated from the sludge.
- 3. Filtration** – Water passes through layers of sand, gravel, or activated carbon to remove dirt, debris, and larger particles.
- 4. Disinfection** – Chlorine, ozone, or ultraviolet (UV) light is used to kill bacteria, viruses, and other harmful microorganisms.
- 5. Reverse Osmosis** (for some systems) – In some cases, water is pushed through a special membrane to remove dissolved salts, chemicals, and contaminants.
- 6. Activated Carbon Treatment** – Helps remove bad tastes, odors, and certain chemicals like pesticides or industrial pollutants.
- 7. pH Adjustment** – Chemicals like lime or soda ash might be added to balance the water’s acidity and prevent pipe corrosion.
- 8. Fluoridation** (Optional) – Some water treatment plants add fluoride to help promote dental health.

Once treated, the water is tested to ensure it meets safety standards before being delivered to homes and businesses.

Important Health Information



Cryptosporidium 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.

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.

MDE has also completed a Source Water Assessment of the water supplies that serve Baltimore City and WSSC. The Source Water Assessment Program is available on MDE's website 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

Bottled Water

To ensure that tap water is safe to drink, the 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. 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 EPA's Safe Drinking Water Hotline (1-800-426-4791).



Fun Facts about Drinking Water



Below are some more facts about the benefits of drinking water

- **Cold Water Burns Calories** – Drinking cold water makes your body work harder to warm it up, which can slightly boost your metabolism and burn a few extra calories!
- **Water Can Improve Your Mood** – Even mild dehydration can affect your mood, making you feel more anxious or tired. Staying hydrated helps keep your brain functioning at its best!
- **You Can "Overhydrate"** – While rare, drinking too much water too quickly can lead to a condition called water intoxication (hyponatremia), which dilutes sodium levels in your blood. Balance is key!

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.

POE:
Point of Entry.

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

Non-Detects (ND or n/d):
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.

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

Total coliform bacteria are a group commonly present in soil, water, and the intestinal tracts of humans and animals. This group includes fecal coliforms, which originate specifically from fecal matter.

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

90th percentile:
The 90th percentile for lead and copper in drinking water refers to the level at which 90% of samples are equal to or below that concentration. If the 90th percentile level exceeds the "action level" for lead (0.015 mg/L) or copper (1.3 mg/L), it triggers specific regulatory actions for public water systems.

Violation - Howard County had no violations in 2024.

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.

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. 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	Samples from customers tap				Violation
		90th Percentile Value	Sample Sites	Range	Number Exceeding AL	
Lead	15 ppb	4 ppb	58	<0.5 - 6.6 ppb	0	No
Copper	1.3 ppm	0.1 ppm	58	0.001 - 0.2 ppm	0	No

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.

Radioactive Contaminants

Substance	MCL	MCLG	Highest Level Detected	Range - Levels Detected	Violation	Source
Baltimore City Supply						
Combined Radium pCi/l	5	0	1.6	0.2-1.6	N	Erosion of natural deposits
WSSC Water Supply						
Gross Alpha pCi/l	15	0	n/d	n/d - n/d	N	Erosion of natural deposits
Gross Beta pCi/l	50	0	5.5	n/d - 5.5	N	Decay of natural and manmade deposits
Radium 228 pCi/l	5	0.3	1.8	0.1 - 1.8	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, can be naturally-occurring or be the result of oil and gas production and mining activities.

Water Quality 2024 Monitoring- Howard County

Disinfection Byproducts, Disinfectant Residual

Substance	MCLG	MCL	Range - Levels Detected	Level Detected	Violation	Major Sources
Chlorine	MRDLG = 4	MRDL = 4	0.05 - 1.04 ppm	0.40 ppm	No	Water additive used to control microbes
HAA(5)	n/a	60 ppb	16 - 43 ppb	33 ppb	No	Byproduct of drinking water disinfection
Total THM's	n/a	80 ppb	26 - 70 ppb	55 ppb	No	Byproduct of drinking water disinfection

Contaminant	Violation Y/N	Total Samples Collected	Total Coliform* Positive	E-coli** Positive	E-coli MCLG	Likely Source of Contamination
-------------	---------------	-------------------------	--------------------------	-------------------	-------------	--------------------------------

Microbiological Contaminants

Routine Samples	N	1800	16	0	0	Naturally present in the environment
Repeat Samples	N	48	2	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.

A review of the sites that tested positive for Total Coliform determined that they should be classified as contaminated and are no longer considered viable. A revised drinking water site plan has been approved by the Maryland Department of the Environment, and all Drinking Water Samplers have completed retraining.

	Baltimore City Supply				WSSC Supply				
	Ashburton Plant		Montebello Plant		Patuxent Plant				
Contaminant Units	Level Detected	Violation Y/N	Level Detected	Violation Y/N	Level Detected	Violation Y/N	MCLG	MCL=TT	Source
Turbidity									
NTU	0.08 NTU	N	0.26 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 direct 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.

TEST RESULTS – OUR SUPPLERS

	Baltimore City Supply				WSSC Supply				
	Ashburton Plant		Montebello Plant		Patuxent Plant				
Contaminant Units	Level Detected	Violation Y/N	Level Detected	Violation Y/N	Level Detected	Violation Y/N	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants									
Antimony-ppb	ND	N	2.87	N	ND	N	6	6	Erosion of natural deposits
Arsenic-ppb	ND	N	ND	N	ND	N	0	10	Erosion of natural deposits
Barium-ppm	0.0250	N	0.0395	N	0.03	N	2	2	Discharge from drilling waste
Fluoride-ppm	0.83	N	1.17	N	0.7	N	4	4	Water additive that promotes strong teeth
Nitrate-ppm	1.58	N	1.70	N	1.4	N	10	10	Runoff from fertilizer use
Residual Chlorine ppm	1.15	N	1.24	N	1.4	N	4	4	Water additive to disinfect supply

Inorganic contaminants, such as salts and metals, 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	ND	N	0.2	0.5	Erosion of natural deposits
Calcium- ppm	ND	N	ND	N	ND	N	n/a	n/a	Erosion of natural deposits
Copper-ppm	ND	N	ND	N	ND	N	1.3	AL=1.3	Corrosion of household plumbing systems
Sodium-ppm	18.3	N	17.9	N	13	N	n/a	n/a	Runoff from road salt

Metals in drinking water are a type of inorganic chemical contaminant that occur naturally and can also enter the water supply through sources such as plumbing materials and industrial activities.

Contaminant	Ashbuton Lake Reservoir	Druid Lake Reservoir	Patuxent	MCL	MCLG	Likely Source of Contamination
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	
	Violation - N	Violation - N	Violation - N			

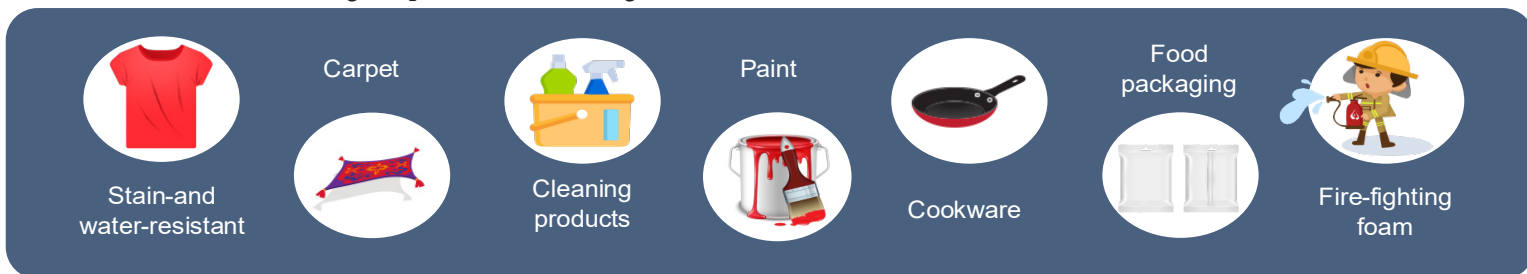
Unregulated Contaminant Monitoring Rule (UCMR5)

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 EPA. Information from this study can help develop regulatory decisions for any contaminants that reach an unsafe level of exposure in the public drinking water supply. The 5th UCMR5 began testing for 29 PFAS compounds and lithium in 2023, and testing will run through 2025. UCMR5 sampling for Howard County began in June of 2023 and concluded in March of 2024 at two points of entry accepting water from Baltimore City and WSSC - Route 40 and All Saints Road. The detected contaminants are listed below.

UCMR 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	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.



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.

MDE conducted a PFAS monitoring program for Community Water Systems from 2020 to 2022. The results are available on MDE's website:

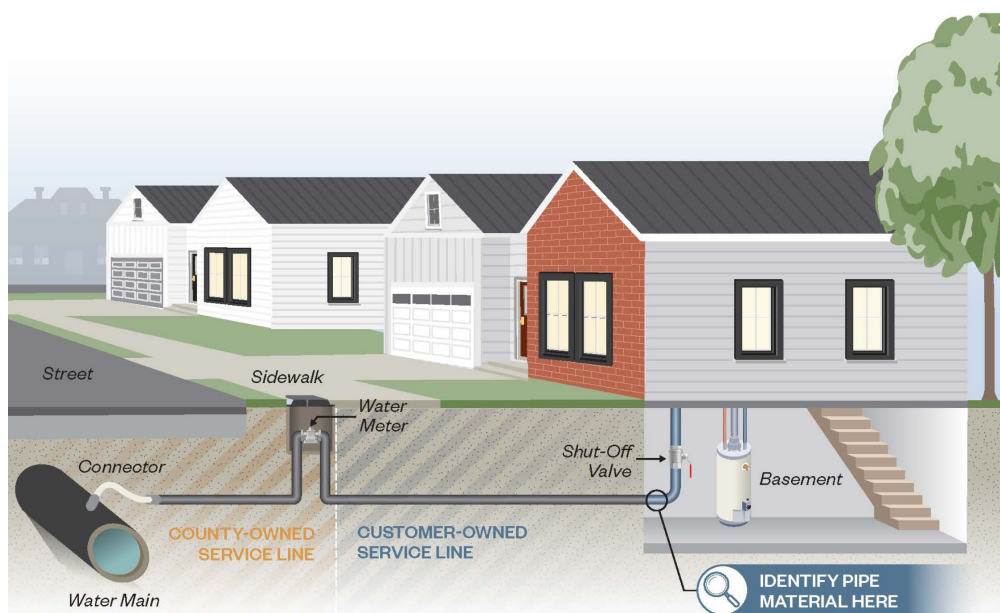
<https://mde.maryland.gov/PublicHealth/Pages/PFAS-Landing-Page.aspx>.

Service Line Stewardship Program

The EPA launched the Lead and Copper Rule Revisions (LCRR) in January 2021 to mitigate health risks stemming from lead exposure in drinking water. Impacting all water distribution systems nationwide, the regulations require utilities for the first time to develop a comprehensive service line material inventory, implement new compliance sampling standards, and make the results publicly available. To meet the requirements of the LCRR, Howard County has launched the Service Line Stewardship Program (SLSP).

The Service Line Stewardship Program is a comprehensive approach to comply with the LCRR. The goal is to engage with our customers during every step of the compliance process, providing transparency, trust, and honest answers to your questions. As part of that commitment, we want to first assure our customers that the water provided by Howard County does not contain lead when it leaves the City of Baltimore and WSSC water treatment facilities, which provide our drinking water. The water distributed to our customers consistently meets state and federal regulatory standards. Importantly, the likelihood of finding lead service lines in our water distribution system is low, since Maryland prohibited lead water pipe construction in 1972.

One of the main goals of the Service Line Stewardship Program is to establish a complete service line material inventory. Although Maryland has not used lead as a piping material since 1972, there are still properties listed as having service lines made of an unknown material. We need your help in identifying these “unknowns” by taking a short survey and confirming the absence of lead to help complete our inventory. Only customers with unknown service lines will be asked to take the self-reporting survey and will receive requests from the Service Line Stewardship Program via the mail.



What is a Service Line?

A service line is an underground pipe linking your home to the public water main, supplying water to faucets, bathtubs, showers, and other outlets. Please refer to the picture to help you locate where you can find your service line.

The County recently completed the initial service line material inventory, which can be viewed by [clicking here](#). Customers can search for their home either by zooming in or by entering the address in the upper left.

An initial inventory of service line pipe materials located within our service area was required to be submitted to MDE by October 16, 2024. Our initial inventory was submitted to MDE on 6/15/2024 and is available upon request.

FOR MORE INFORMATION

If you have any questions about the Service Line Stewardship Program, please contact Howard County's Department of Public Works at 410-313-7577. 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.

Message from the Public Works Director

To Our Valued Customer,

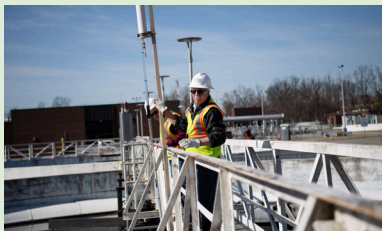
On behalf of the Howard County Department of Public Works' (DPW) Bureau of Utilities and its exceptionally skilled and dedicated staff, we are pleased to issue the 2025 Consumer Confidence Report (CCR). The CCR is an annual publication that provides our drinking water customers with useful information demonstrating the reliability of our essential services and the high quality of our drinking water. Unlike other jurisdictions in the region, Howard County distributes drinking water that is purchased wholesale, as opposed to produced within the County. Our two wholesale suppliers are Baltimore City and the Washington Suburban Sanitary Commission (WSSC). Both Baltimore City and WSSC have excellent source water that they treat to meet Environmental Protection Agency (EPA) drinking water standards, before distributing to Howard County.

Once purchased water enters Howard County's distribution system, DPW closely monitors the flow of water through a network of pressurized pipes, pumping stations, and storage tanks. We also sample and analyze the water at regular intervals. This added layer of quality assurance is necessary to confirm that every private water line connected to our system is reliably delivering high quality drinking water to customers. In the event there are reliability or quality issues, the DPW team responds quickly to troubleshoot and resolve.

We hope this CCR is informative and confirms the commitment of DPW to enhancing our customers' quality of life. If you have any questions or require more information, please contact the Bureau of Utilities team at 410-313-4900 or visit our website: <https://www.howardcountymd.gov/public-works/bureau-utilities>

Yosef Kebede, P.E., Director
Department of Public Works
Howard County Government

Our Team



Howard County Government
Department of Public Works Bureau of Utilities
8250 Old Montgomery Road
Columbia, MD 21045



DPW enhances the quality of life of our customers
by providing best-in-class essential services

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