



2020  
BALTIMORE CITY  
DEPARTMENT OF PUBLIC WORKS  
**Water Quality Report**



[publicworks.baltimorecity.gov](https://publicworks.baltimorecity.gov)

## About the Report

The excellent quality, great-tasting water that the Baltimore City Department of Public Works (DPW) provides to its residential and commercial customers meets or exceeds regulatory standards!

This report, covering Jan. 1, 2020, to Dec. 31, 2020, for DPW water system (PWSID#:MD0300002) contains data on the quality of DPW water, educational information and important public health notices and contacts. The information in this Annual Water Quality Report, also known as the Consumer Confidence Report, is being provided as required by the U.S. Environmental Protection Agency.

This is the 23rd edition of the DPW Annual Water Quality Report, and is available on the DPW website at: [publicworks.baltimorecity.gov/waterreport](https://publicworks.baltimorecity.gov/waterreport).

Printed copies of the report can be requested by calling 311 or (410) 396-5352 for Baltimore County residents. Questions about this report, drinking water quality and information on source water assessments should be directed to one of the City's Water Quality Laboratories:  
Montebello - 410-396-6040  
Ashburton - 410-396-0150

## Important Health Information

Uncovered reservoirs used to store treated drinking water can be open to contamination from animals, such as birds or insects. Inadequately treated water may contain disease-causing organisms including bacteria, viruses, and parasites that can result in such symptoms as nausea, cramps, diarrhea, and associated headaches. Some people may be more vulnerable to contaminants in drinking water than the general population.

Immunocompromised people, such as those undergoing chemotherapy or 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 from their health care providers.

Guidelines from the U.S. Environmental Protection Agency and Centers for Disease Control and Prevention regarding appropriate means to lessen the risk of infection from Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Helpline at 1-800-426-4791. If you have specific health concerns, consult your doctor.

## Learn More About Your Drinking Water

**View previous years' water quality reports:**

<https://publicworks.baltimorecity.gov/water-quality-reports>

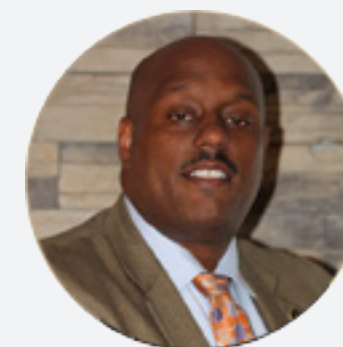
**Access Water and Wastewater billing information:**

[https://publicworks.baltimorecity.gov/waterbilling\\_Information](https://publicworks.baltimorecity.gov/waterbilling_Information)

**View Your Water Account Online**

<https://waterbillportal.baltimorecity.gov/#Login>

## Message from the Acting Director



### Protecting the Region's Drinking Water Supply

While addressing the ongoing challenges posed by the COVID-19 pandemic, the Baltimore City Department of Public Works (DPW) continues to make strides on important infrastructure projects that will support the delivery of safe drinking water for generations to come.

These infrastructure improvements are crucial for the Department to continue to provide safe, high-quality drinking water to the 1.8 million people that DPW serves in the Baltimore region.

In addition, the City of Baltimore's water system must support and keep pace with Mayor Brandon M. Scott's priorities for a cleaner, safer, and growing City.

At the City's iconic Druid Hill Park, DPW has made strides installing two massive underground tanks to hold the finished drinking water. These tanks will replace an open-air reservoir that holds treated drinking water, adding another layer of protection to the City's drinking water system (*Please see page 10 for more information on Druid Tank Project.*) Guilford Reservoir and Lake Ashburton are also having underground tanks installed at this time.

In addition, the Department is making improvements to the historic Montebello Water Filtration Plant, which is over 100 years old. This \$44.4 million project (Water Contract 1328) is 50 percent complete and scheduled to finish in early 2022.

As the data included in this report indicate, we continue to have good reason to be confident in our water system. Our water meets or exceeds regulatory standards.

If you have questions, concerns, or suggestions about this report, please contact us at (410) 545-6541 or email us at [publicworks@baltimorecity.gov](mailto:publicworks@baltimorecity.gov).

**Jason W. Mitchell**

Acting Director

Baltimore City Department of Public Works



## Water Quality Testing

To ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water. 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 EPA's Safe Drinking Water Helpline (1-800-426-4791).

**Microbiological Contaminants**, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural and livestock operations, and wildlife.

**Turbidity**, a measure of the cloudiness of the water. It is used to indicate water quality and filtration effectiveness (such as whether disease-causing organisms are present).

**Radioactive Contaminants** can be naturally-occurring, or the result of oil and gas production and mining activities.

**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.

**Chlorine** is added to water to control the growth of bacteria and viruses.

**Arsenic**, a gray, semi-metallic element that occurs naturally, can be found in certain types of rock and soil. Arsenic can also enter the environment through agricultural and industrial processes.

**Lead and Copper** enter drinking water primarily through plumbing materials. Exposure to lead and copper may cause health problems ranging from stomach distress to brain damage. Fluoride is a mineral added to water to prevent tooth decay.

**Volatile Organic Chemicals** are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

**Lead and Copper Testing:** DPW conducted monitoring for lead and copper content in 2018. We sent letters to identified households, inviting 50 residents to participate in the monitoring. The results of the sampling found that none of the locations tested had lead and copper concentrations above the EPA action level of 15 parts per billion for lead, and 1,300 parts per billion for copper. In June 2021, DPW will begin its next Lead and Copper study, and report the results in the 2021 Water Quality Report.

Lead in drinking water is caused primarily by materials associated with service lines and home plumbing. Lead can be released when the water comes in contact with plumbing fixtures that contain lead. That is why DPW carefully treats its water with lime, an anticorrosive agent which helps to prevent lead from leaching out of household plumbing. DPW is required by State and Federal laws to periodically test our drinking water for lead and copper.

Baltimore initially was required to monitor at least 100 different homes once every year. Because the City's water quality consistently exceeds the standards, our lead and copper sampling frequency was reduced to 50 homes every three years.

## How to Read the Water Quality Table

EPA establishes the safe drinking water regulations that limit the amount of contaminants in drinking water. The table on **pages 6 and 7** shows the concentrations of detected substances, in comparison to regulatory limits. Substances not detected are not included in the data table. A footnote and an explanation for the data table are located on **page 8**.

The following are definitions of key terms referring to standards and goals of water quality noted on the data table:

### MCL

Maximum Contaminant Level. The highest level of a contaminant allowed by health regulations established by the Environmental Protection Agency.

### MCLG

Maximum Contaminant Level Goal. 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.

### AL

Action Level. The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a system must follow.

### HLD

Highest Level Detected of a substance.

### PPB

Parts per Billion; (or 1 drop in 1 billion gallons)

### PPM

Parts per Million; (or 1 drop in 1 million gallons)

### NTU

Nephelometric Turbidity Units of measurement, which is used to report the level of turbidity or "cloudiness" in the water.

### pCi/L

Picocuries per Liter. A measure of the level of radioactivity in the water.

### Total COLIFORMS/ E.COLI

Indicator bacteria: this type of bacteriological test is routinely used to determine if contamination has occurred in a drinking water system.

### LRAA

Locational Running Annual Average is calculated by averaging the results of all the samples collected at a single site within a quarter and then averaging the quarterly averages for the last four quarters at that same site.

2020 CCR Detected Regulated Contaminants Table								
LEAD AND COPPER – Tested at customer’s taps. Testing is done every 3 years. 2018 was a compliance year for testing.								
Contaminant	EPA’s Action Level		Ideal Goal (EPA’sMCLG)	90% of Test Levels Were Less Than	# of Tests With Levels Above EPA’s Action Level		Violation	Typical Sources
Lead	90% of homes tested less than 15 ppb		0 ppb	3.06 ppb	0		No	Corrosion of household plumbing
Copper	90% of homes tested less than 1,300 ppb		1,300 ppb	112.5 ppb	0		No	Corrosion of household plumbing
INORGANIC CHEMICALS								
Contaminant	Highest Level Allowed (EPA’s MCL)	Ideal Goal (EPA’s MCLG)	Ashburton Plant		Montebello Plants		Violation	Typical Sources
			Highest Result	Range of Test Results	Highest Result	Range of Test Results		
Arsenic	0.010 ppm	0.010 ppm	<0.003	<0.003 - <0.003	<0.003	<0.003 - <0.003	No	Erosion of natural deposits
Barium	2 ppm	2 ppm	0.0225	0.0197-0.0225	0.041	0.031-0.041	No	Discharges from drilling wastes
Chlorine	4 ppm	4 ppm	1.18	0.60 – 1.18	1.49	0.53-1.49	No	Water additive to disinfect supply
Fluoride	4 ppm	4 ppm	0.90	0.23 - 0.90	1.57	0.08 -1.57	No	Water additive that promotes strong teeth
Nitrate	10 ppm	10 ppm	2.24	1.40 – 2.24	1.91	0.96 – 1.91	No	Runoff from fertilizer use
RADIOACTIVE CONTAMINANTS								
Contaminant	Highest Level Allowed (EPA’s MCL)		Ideal Goal (EPA’s MCLG)	Highest Level Detected	Range of Levels Detected	Violation	Major Sources	
Combined Radium 226/228	5pCi/L		0	1.6	0.2 – 1.6	No	Erosion of natural deposits	

2020 CCR Detected Regulated Contaminants Table								
VOLATILE ORGANIC CHEMICALS								
Contaminant	Highest Level Allowed (EPA’s MCL)		Ideal Goal (EPA’s MCLG)	City of Baltimore		Violation*	Major Sources	
				Highest Result (Locational Running Annual Average)	Range			
Total THMs	80 ppb		NA	80	32 – 122	No	By-product of drinking water chlorination	
HAA(5)	60 ppb		NA	55	7 – 72.5	No	By-product of drinking water chlorination	
TURBIDITY								
Contaminant	Highest Level Allowed (EPA’s MCL)	Ideal Goal (EPA’s MCLG)	Ashburton Plant		Montebello Plants		Violation	Major Sources
Turbidity	Treatment Technique (TT)	None	Highest Result	Lowest %	Highest Result	Lowest %		Soil Run-off
	Filtration	NA	0.12 NTU	100 %	0.14 NTU	100 %	No	Soil Run-off
BACTERIA IN TAP WATER								
Contaminant		Highest Level Allowed (EPA’s MCL)	Ideal Goal (EPA’s MCLG)	Highest Monthly Percentage of Samples With Total Coliform Present		Violation	Typical Sources	
Total Coliform (for systems that collect ≥ 40 samples/month)		5% of monthly samples are positive	0	1.69%		No	Naturally present in the environment	
CHLORINE		4 ppm	4 ppm	Running Annual Average of Samples Computed Quarterly		No	Water additive to disinfect supply	
				0.56 ppm (Based on 4,785 distribution system samples collected in 2020)				

## Data Table Footnote / Explanation

\*Violations for Stage 2 THMs and HAAs are based on a locational running annual average. Therefore, unless this exceeds the MCL, there is no violation.

EPA's MCL and MCLG for fluoride is 4ppm, but Maryland has set a lower MCL and MCLG which may improve public health protection.

### Health Effects: Cryptosporidium, Sodium

**CRYPTOSPORIDIUM** is a microorganism commonly found in lakes and rivers which is highly resistant to disinfection, and can cause gastrointestinal problems. DPW's monitoring results indicate that our water sources are not affected by Cryptosporidium.

#### CRYPTOSPORIDIUM RESULTS RANGE

Liberty: 0.0 - 0.10 Oocyst/Liter

Loch Raven: 0.0 – 0.09 Oocyst/Liter

Susquehanna River: 0.0 – 0.09 Oocyst/Liter

**SECONDARY CONTAMINANTS** Sodium naturally occurs in raw waters but the concentration can be increased due to the influence of run-off from road surfaces treated with rock salt during snow and ice removal efforts. During the year 2020, the average sodium concentrations measured in the finished water from the Ashburton and Montebello Water Treatment Plants were 17.3 ppm and 17.0 ppm respectively and are considered low.

### Need help paying your water bill?

Find out if you're eligible for Baltimore City's Water Bill Discount Program. This program reduces water bills by an average of \$40.

Learn more and apply today:

<https://www.bmorechildren.com/residents/#water>



### You Can Help with Water System Security

Water system security continues to be an enormously important issue. If you notice suspicious activities in or around local water utilities, such as persons cutting, or climbing facility fencing, loitering, tampering with equipment or other similar activities, please contact your local law enforcement agency immediately by dialing 911. For other suspicious activities that may appear non-threatening such as persons videotaping or photographing facilities, equipment or structures, please call 410-517-3600.



### Protecting the Baltimore Region's Water

Baltimore uses surface water from rainfall and snowmelt as its water source. This water, approximately 75 billion gallons at available capacity, is collected and stored in the City's Liberty, Loch Raven, and Prettyboy reservoirs. The City water supply is also linked to the Susquehanna River, which flows from Cooperstown, N.Y., to Havre de Grace, Md. Water from the Susquehanna River is only used in time of drought. The reservoirs are surrounded by mostly native woodlands, which filter out pollutants and prevent soil erosion and runoff. These watershed lands were established for the sole purpose of protecting our drinking water supply. Although the reservoirs are the property of the City, all the surrounding jurisdictions have a stake in their well-being.



## Building the World's Biggest Water Tanks



The City's iconic Druid Lake holds filtered and treated water that is ready to be delivered to consumers. At this site, two massive underground tanks are being built to protect this drinking water supply.

The tanks – one 500 feet in diameter and the second 450 feet in diameter – will each be just over 20 feet tall and hold 52 million gallons of water combined. They will be buried underground and topped with landscaped green space in the western edge of the lake. The 500-foot wide tank will be the largest of its kind in the world. The project is 90 percent complete and is on budget and on target for completion in 2022.

After the underground tank project is completed, most of Druid Lake area will remain a recreational amenity. Water will be aerated to keep it fresh, though instead of being drinking water it will be mostly stormwater runoff from Druid Park.



## Baltimore's Water System By the Numbers

**1.8 million**

people served by Baltimore City's water system

**3 reservoir watersheds**

Loch Raven, Liberty and Prettyboy

**3 water filtration plants**

Montebello I, Montebello II, and Ashburton

**20 Drinking Water pumping stations**

&  
one raw water pumping station.

**3,800 miles of water mains maintained**

**700 miles of public water connections**

in Baltimore City and County

**9,100 fire hydrants**

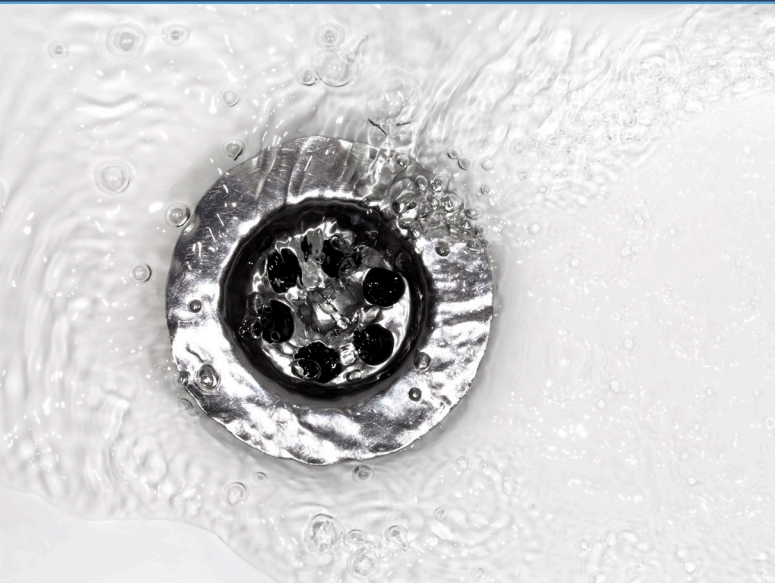
maintained in Baltimore City

**13,750 fire hydrants**

maintained in Baltimore County



**Abel Wolman Building  
200 Holliday Street  
Baltimore MD 21202**



## **Keep Your Drains Clean!**

**Wipe loose food and grease from dishes before washing them in the sink.**

**Pour grease and cooking oil into a covered container and dispose of it in the garbage.**

**Flush only the three Ps: pee, poop, and toilet paper! Flushable does not mean biodegradable!**

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