

ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2020



Presented By
**Anne Arundel County
Department of Public Works**



Few commodities are as precious and vital to the public as an abundant supply of clean, safe drinking water. So, it is with great pleasure that I present to you the 2020 Drinking Water Quality Report for your public water system. This report brings to you a synopsis of thousands of tests and analyses on the more than 12 billion gallons of water produced and distributed by our dedicated Department of Public Works' Bureau of Utility Operations' employees. Their dedication is reflected in each and every drop of drinking water that flows from your taps. Once again this year, our public water met all state and federal standards. Although we are indeed blessed to have an abundant supply of clean, safe drinking water, we must be diligent in protecting those supplies and planning for the needs of future generations. Please use water wisely and teach your children the importance of this precious resource. The Department of Public Works and I are proud to present this information about your water system to you. I encourage you to read this report to understand how the Department of Public Works ensures our county residents have access to the highest quality water.

Lead in Home Plumbing

If present, elevated levels of 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. We are responsible for providing high-quality drinking water, but we 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 30 seconds to 2 minutes before using 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 you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or at www.epa.gov/safewater/lead.

Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Water treatment is a complex, time-consuming process. Because tap water is highly regulated by state and federal laws, water treatment plant and system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified. Our licensed water professionals have a basic understanding of a wide range of subjects, including mathematics, biology, chemistry, and physics. Some of the tasks they complete on a regular basis include:

- Operating and maintaining equipment to purify and clarify water;
- Monitoring and inspecting machinery, meters, gauges, and operating conditions;
- Conducting tests and inspections on water and evaluating the results;
- Maintaining optimal water chemistry;
- Applying data to formulas that determine treatment requirements, flow levels, and concentration levels;
- Documenting and reporting test results and system operations to regulatory agencies; and
- Serving our community through customer support, education, and outreach.

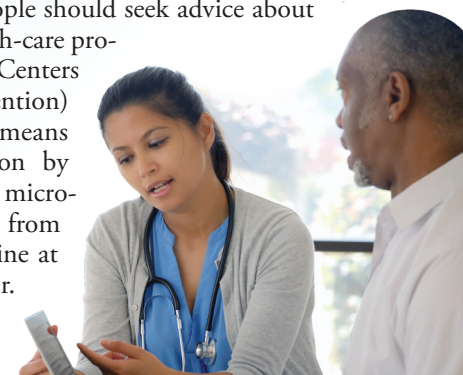
So, the next time you turn on your faucet, think of the skilled professionals who stand behind each drop.

Source Water Assessment

Source Water Assessment is a process for evaluating the vulnerability to contamination of the source of a public drinking water supply. The assessment does not address the treatment or distribution aspects of the water system, which are covered under separate provisions of the Safe Drinking Water Act. The Maryland Department of the Environment is the lead agency in developing these Assessments, which have been completed for all of the County's water systems. To receive more information, contact the Maryland Department of the Environment, Water Supply Division, at water.supply@maryland.gov.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health-care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



CONTACT DPW

Visit us online at: www.DPWandYou.com

24 Hour Emergency Hotline: (410) 222-8400;

(from South County): (410) 451-4118

Billing Office: (410) 222-1144

DPW Customer Relations: (410) 222-7582

DPW General Information: (410) 222-7500

2020 CCR URL link:

www.aacounty.org/departments/public-works/utilities/forms-and-publications/WaterQuality2020.pdf

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban storm-water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban storm-water runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban storm-water runoff, and septic systems;

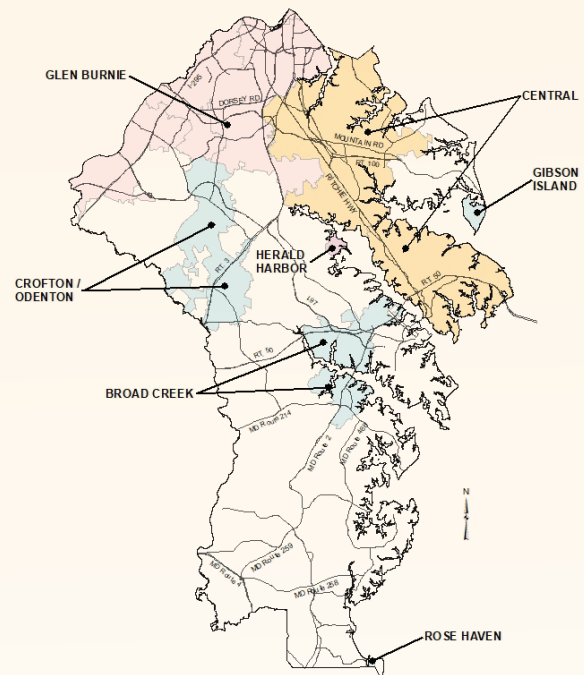
Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Anne Arundel County Water Service Areas

Central
Glen Burnie
Crofton / Odenton
Broad Creek

Herald Harbor
Gibson Island
Rose Haven



Where Does My Water Come From?

Anne Arundel County DPW customers enjoy an abundant water supply from four deep aquifers. Our 12 water treatment facilities draw water from the Patapsco, Patuxent, and Aquia aquifers. Combined, our treatment facilities provide roughly 12.0 billion gallons of clean drinking water every year.



Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. Also, the water we deliver must meet specific health standards. Here, we show only those substances that were detected in our water. Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The State recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 4th stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if U.S. EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES																			
				Glen Burnie Zone		Central Zone		Crofton/Odenton Zone		Broad Creek Zone		Herald Harbor Zone		Gibson Island Zone		Rose Haven Zone			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2020	15	0	9.4	1.2–9.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Erosion of natural deposits
Arsenic (ppb)	2019	10	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0	1.0–1.0	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2020	2	2	0.02	0.01–0.02	0.07 ¹	0.01–0.07 ¹	0.01 ¹	0.01–0.01 ¹	0.02 ¹	0.02–0.02 ¹	1 ¹	0.001–0.001 ¹	0.01 ¹	0.01–0.01 ¹	0.07 ¹	0.07–0.07 ¹	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Cadmium (ppb)	2020	5	5	2.0	2.0–2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; Runoff from waste batteries and paints

				Glen Burnie Zone		Central Zone		Crofton/Odenton Zone		Broad Creek Zone		Herald Harbor Zone		Gibson Island Zone		Rose Haven Zone			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Combined Radium (pCi/L)	2020	5	0	3.6	1.8–3.6	2.4	2.4–2.4	NA	NA	NA	NA	0.6	0.6–0.6	NA	NA	NA	NA	No	Erosion of natural deposits
Ethylbenzene (ppb)	2018	700	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5	0.5–0.5	No	Discharge from petroleum refineries
Fluoride (ppm)	2020	4	4	1.03	0.10–1.03	0.97	0.11–0.97	0.87	0.21–0.87	1.06	0.11–1.06	0.99	0.16–0.99	1.10	0.08–1.10	0.98	0.21–0.98	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] (ppb)	2020	60	NA	4.6	1.0–4.6	NA	NA	1.13	1.3–1.3	NA	NA	3.9	3.9–3.9	1.1	1.1–1.1	16.6	16.6–16.6	No	By-product of drinking water disinfection
Nitrate (ppm)	2020	10	10	1.4	1.4–1.4	0.12	0.12–0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2020	80	NA	8.5	0.6–8.5	NA	NA	2.0	2.0–2.0	7.4	7.4–7.4	3.6	3.6–3.6	3.1	3.1–3.1	27.5	27.5–27.5	No	By-product of drinking water disinfection
Xylenes (ppm)	2020	10	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.62	0.62–0.62	No	Discharge from petroleum factories; Discharge from chemical factories

Tap Water Samples Collected for Copper and Lead Analyses from Sample Sites throughout the Community

				Glen Burnie Zone		Central Zone		Crofton/Odenton Zone		Broad Creek Zone		Herald Harbor Zone		Gibson Island Zone		Rose Haven Zone			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2019	1.3	1.3	0.06	0/50	0.06 ¹	0/50 ¹	0.02 ¹	0/30 ¹	0.025 ¹	0/31 ¹	0.114 ¹	0/12 ¹	0.01 ¹	0/10 ¹	0.24 ²	0/10 ²	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2019	15	0	ND	0/50	ND ¹	0/50 ¹	ND ¹	0/30 ¹	ND ¹	0/31 ¹	NA	NA	NA	NA	NA	NA	No	Lead services lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits

UNREGULATED AND OTHER SUBSTANCES

				Glen Burnie Zone		Central Zone		Crofton/Odenton Zone		Broad Creek Zone		Herald Harbor Zone		Gibson Island Zone		Rose Haven Zone			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	TYPICAL SOURCE	
Bromochloroacetic Acid (ppb)	2018	NA	NA	NA	NA	0.58	ND–0.58	3.5 ¹	ND–3.5 ¹	NA	NA	NA	NA	NA	NA	NA	NA	By-product of drinking water disinfection	
Dichloroacetic Acid (ppb)	2019	NA	NA	NA	NA	NA	NA	0.87	ND–0.87	NA	NA	NA	NA	NA	NA	NA	NA	By-product of drinking water disinfection	
Manganese (ppb)	2020	17.0	1.91–17.0	3.3	3.3–3.3	7.45 ²	1.43–7.45 ²	1.98 ¹	1.98–1.98 ¹	NA	NA	NA	NA	NA	NA	NA	NA	Naturally occurring	
Nickel (ppb)	2019	15.0	5–15	22.0	22.0–22.0	12.0	12.0–12.0	NA	NA	1.0	1.0–1.0	NA	NA	NA	NA	NA	NA	Nickel is a natural element of the earth's crust; therefore, small amounts are found in food, water, soil, and air	
Sodium (ppm)	2019	4.5	4.5–4.5	6.2 ²	6.2–6.2 ²	6.9	6.9–6.9	5.2	5.2–5.2	NA	NA	3.5	3.5–3.5	NA	NA	NA	NA	Naturally occurring	

¹ Sampled in 2019.

² Sampled in 2018.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

MCL (Maximum Contaminant Level): 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.

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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

Addendum to the 2020 Printed CCR

		Glen Burnie/Broadneck					
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AVERAGE	RANGE LOW-HIGH				
HAA5 (ppb)	2020	0.838	0 - 4.323				
HAA6Br (ppb)	2020	0.167	0 - 1.445				
HAA9 (ppb)	2020	0.992	0 - 5.555				
Manganese (ppm)	2020	6.809	0.696 - 17.0				
		Glen Burnie/Broadneck					
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	HIGHEST LEVEL	RANGE LOW-HIGH				
Beta/Photon Emitters (pCi/l)	2020	5.8	0 - 5.8				
		Glen Burnie/Broadneck		Crofton/Odenton		Rose Haven	
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH	HIGHEST LEVEL	RANGE LOW-HIGH
Gross Alpha (pCi/l)	2020	9.4	0 - 9.4	1.1	1.1 - 1.1	0.3	0.3 - 0.3