ANNUAL WATER QUALITY REPORT

Reporting Year 2023

Presented By
Anne Arundel County, Department of Public Works

PWS ID#: 002004, 0020008, 0020013, 0020017, 0020030, 0020044

County Executive Stuart Pittman's Message

I am proud to share Anne Arundel County's 2023 Consumer Confidence Report with you and let you know that the drinking water produced and delivered to your home is clean and safe for consumption. Providing high-quality drinking water to our communities is the number one goal of the dedicated professionals in the Department of Public Works (DPW) Bureau of Utilities, and this report provides you with important information on the thousands of water quality tests administered over the past year. We have continued our long-standing record of exceeding all federal standards for drinking water quality and safety, and we will continue to provide clean, safe, and reliable water to all who live, work, or visit Anne Arundel County.

Lead in Home Plumbing

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 and removing lead pipes, but we 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, or 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 DPW at (410) 222-7582. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at epa.gov/safewater/lead.

PFAS Monitoring Program

Per- and polyfluoroalkyl substances (PFAS) are a 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 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 the human body and can accumulate in the food chain.

In 2020 MDE initiated a PFAS monitoring program. Perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS)are two of the most prevalent PFAS compounds. Neither of these substances was found above the laboratory detection limit in samples taken from our water system in 2022. U.S. EPA is expected to establish maximum contaminant levels (MCLs) for PFOA and PFOS later this year. This would require additional monitoring as well as certain actions for systems above the MCL. Additional information about PFAS can be found at mde.maryland.gov/PublicHealth/ Pages/PFAS-Landing-Page.aspx.

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. Environmental Protection Agency (EPA)/Centers for Disease Control and Prevention (CDC) 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 water.epa.gov/drink/hotline.

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 (MDE) is the lead agency in developing these assessments, which have been completed for all the county's water systems. To receive more information, contact MDE, Water Supply Division, at water.supply@maryland.gov.

Contact Department of Public Works (DPW)

Justin Akers: 410-222-8225

Visit us online at 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

You can view this report at aacounty.org/public-works/utilities/water-distribution-system/drinking-water-quality-reports.

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 stormwater 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 stormwater 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 stormwater 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.

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 from the Patapsco, Patuxent, and Aquia aquifers. Combined, our treatment facilities provide roughly 12.6 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, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). 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 fifth stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR5) program by performing additional tests on our drinking water. UCMR5 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 to determine if it 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 Contaminant 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			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2023	15	0	6.1[1]	5.1–6.1[1]	5.8[1]	5.8–5.8[1]	4.3[1]	4.3–4.3[1]	ND	NA	No	Erosion of natural deposits
Barium (ppm)	2023	2	2	0.06	0.0071–0.06	0.06	0.007–0.06	0.02[3]	0.02–0.02[3]	0.02[2]	0.02–0.02[2]	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beta/Photon Emitters (pCi/L)	2022	50[4]	0	6.2	5.6–6.2	NA	NA	NA	NA	NA	NA	No	Decay of natural and human-made deposits
Cadmium (ppb)	2023	5	5	4	ND–11	ND[5]	NA	ND[2]	NA	ND[6]	NA	No	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium (ppb)	2023	100	100	5.5	2.8–5.5	3.3	3.3–3.3	NA	NA	NA	NA	No	Discharge from steel and pulp mills; erosion of natural deposits
Combined Radium (pCi/L)	2022	5	0	3.2[1]	3.2–3.2[1]	3.2[1]	3.2–3.2[1]	0.8[1]	0.8–0.8[1]	NA	NA	No	Erosion of natural deposits
Fluoride (ppm)	2023	4	4	1.26	0.07–1.26	1.01	0.1–1.01	0.80	0.31–0.80	0.87	0.22–0.87	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2023	60	NA	1	ND–3.5	NA	NA	ND	NA	1.3	1.3–1.3	No	By-product of drinking water disinfection
Nitrate (ppm)	2023	10	10	1	ND–1.4	ND	NA	ND[3]	NA	ND	NA	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHMs [total trihalomethanes]–Stage 2 (ppb)	2023	80	NA	9	1.2–14.5	NA	NA	ND	NA	3	3–3	No	By-product of drinking water disinfection

REGULATED SUBSTANCES (CONTINUED)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	Herald Harbor Zone AMOUNT DETECTED	Herald Harbor Zone RANGE LOW-HIGH	Gibson Island Zone AMOUNT DETECTED	Gibson Island Zone RANGE LOW-HIGH	Rose Haven Zone AMOUNT DETECTED	Rose Haven Zone RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2022	15	0	ND	NA	NA	NA	0.3[2]	0.3–0.3[2]	No	Erosion of natural deposits
Barium (ppm)	2023	2	2	0.01[2]	0.01–0.01[2]	0.0055	0.0055–0.0055	0.07[2]	0.07–0.07[2]	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beta/Photon Emitters (pCi/L)	2022	50[4]	0	NA	NA	NA	NA	NA	NA	No	Decay of natural and human-made deposits
Cadmium (ppb)	2023	5	5	ND[2]	NA	ND[5]	NA	ND[5]	NA	No	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium (ppb)	2023	100	100	NA	NA	3.3	3.3–3.3	NA	NA	No	Discharge from steel and pulp mills; erosion of natural deposits
Combined Radium (pCi/L)	2022	5	0	0.6[5]	0.6–0.6[5]	0.3	0.3–0.3	ND[5]	NA	No	Erosion of natural deposits
Fluoride (ppm)	2023	4	4	1.01	0.45–1.01	1.16	0.31–1.16	0.99	0.06–0.99	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2023	60	NA	ND	NA	ND	NA	11.6	11.6–11.6	No	By-product of drinking water disinfection
Nitrate (ppm)	2023	10	10	ND	NA	ND	NA	ND	NA	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHMs [total trihalomethanes]–Stage 2 (ppb)	2023	80	NA	2	2–2	3.2	3.2–3.2	40.1	40.1–40.1	No	By-product of drinking water disinfection

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	Glen Burnie Zone AMOUNT DETECTED (90TH %ILE)	Glen Burnie Zone SITES ABOVE AL/TOTAL SITES	Central Zone AMOUNT DETECTED (90TH %ILE)	Central Zone SITES ABOVE AL/TOTAL SITES	Crofton/Odenton Zone AMOUNT DETECTED (90TH %ILE)	Crofton/Odenton Zone SITES ABOVE AL/TOTAL SITES	Broad Creek Zone AMOUNT DETECTED (90TH %ILE)	Broad Creek Zone SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2022	1.3	1.3	0.02	0/55	0.06[5]	0/55[5]	0.02	0/34	0.03	0/30	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	2022	15	0	ND	0/55	ND	0/55	ND	0/34	ND	0/30	No	Lead service lines; corrosion of household plumbing systems, including fittings and fixtures; erosion of natural deposits

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	Herald Harbor Zone AMOUNT DETECTED (90TH %ILE)	Herald Harbor Zone SITES ABOVE AL/TOTAL SITES	Gibson Island Zone AMOUNT DETECTED (90TH %ILE)	Gibson Island Zone SITES ABOVE AL/TOTAL SITES	Rose Haven Zone AMOUNT DETECTED (90TH %ILE)	Rose Haven Zone SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2022	1.3	1.3	0.03	0/10	0.02	0/14	0.23[5]	0/10[5]	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	2022	15	0	ND	0/10	ND[2]	0/14[2]	ND[5]	0/10[5]	No	Lead service lines; corrosion of household plumbing systems, including fittings and fixtures; erosion of natural deposits

SECONDARY SUBSTANCES

				Glen Burnie Zone		Central Zone		Crofton/Odenton Zone		Broad Creek Zone			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Manganese (ppb)	2020	50	NA	17	1.9–17	3.3	ND–3.3	NA	NA	2[2]	2–2[2]	No	Leaching from natural deposits

				Herald Harbor Zone		Gibson Island Zone		Rose Haven Zone			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Manganese (ppb)	2020	50	NA	NA	NA	NA	NA	NA	NA	No	Leaching from natural deposits

UNREGULATED SUBSTANCES

		Glen Burnie Zone		Central Zone		Crofton/Odenton Zone		Broad Creek Zone		
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Chloroethane (ppb)	2022	1.5	1.4–1.5	ND	NA	NA	NA	NA	NA	Discharge from factories and landfills
Chloromethane (ppb)	2022	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lithium (ppb)	2023	NA	NA	NA	NA	NA	NA	11.4	ND–11.4	Naturally occurring metal
Nickel (ppb)	2023	ND	NA	ND	NA	12[2]	12–12[2]	ND[2]	NA	Naturally occurring
Sodium (ppm)	2022	3.9	2.5–3.9	3.9	2.5–3.9	7.7	7.7–7.7	3.6	3.6–3.6	Naturally occurring

		Herald Harbor Zone		Gibson Island Zone		Rose Haven Zone		
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Chloroethane (ppb)	2022	NA	NA	NA	NA	NA	NA	Discharge from factories and landfills
Chloromethane (ppb)	2022	NA	NA	1.4	1.4–1.4	NA	NA	NA
Lithium (ppb)	2023	NA	NA	NA	NA	NA	NA	Naturally occurring metal
Nickel (ppb)	2023	1.0[2]	1.0–1.0[2]	ND[2]	NA	ND[2]	NA	Naturally occurring
Sodium (ppm)	2022	3.8	3.8–3.8	3.5[2]	3.5–3.5[2]	ND[2]	NA	Naturally occurring

[1] Sampled in 2023.
[2] Sampled in 2019.
[3] Sampled in 2022.
[4] The MCL for beta particles is 4 millirems per year. U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.
[5] Sampled in 2021.
[6] Sampled in 2020.

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).

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based