Howard County
Department of Public Works

Reporting Period January 1, 2016 to December 31, 2016

Howard County Drinking Water

Howard County residents depend on reliable, quality drinking water. To ensure safety and availability, the county Bureau of Utilities tests our water regularly to comply with high standards and we make those results readily available to our residents.

This Annual Water Quality Report presents an important overview of where our water comes from, the monitoring being done and the safety measures required for the water you and your family consume. Maintaining water quality is an ongoing process which we take very seriously.

This full-time effort involves dozens of county staff whose job is to ensure that residents have clean, safe drinking water on tap at any time. I appreciate those employees who make sure water is available and respond immediately when weather or other issues occur.

Allan Kittleman, Howard County Executive

DEAR VALUED CUSTOMER,

Howard County residents and guests continue to enjoy the highest quality drinking water in the region. In response to the historic and tragic flood in Ellicott City our staff was on the ground the next day, Sunday July 31, 2016, returning fire protection to the majority of the flood damaged area. Our core responsibility is to ensure critical services related to water are provided on a 24/7 basis. Our mission is to provide high quality, safe and dependable drinking water to each of our valued customers. We hope you find this report informative and reassuring. In cooperation with our water suppliers, the City of Baltimore and the Washington Suburban Sanitary Commission, we strive to deliver the highest quality water supply service. The heightened focus on the state of critical infrastructure nationally is taken seriously and in Howard County our drinking water systems are adequately funded and expertly maintained to the highest standards. Please do not hesitate in contacting your Howard County Bureau of Utilities team at 410-313-4900 for more information, or check out our updated web page at https://www.howardcountymd.gov/Departments/Public-Works/Bureau-Of-Utilities

***Stephen Gerwin*, PE**
Chief, Bureau of Utilities

Centennial Park
Photo by Rodney Bailey

Howard County is pleased to present to you this year's Water Quality Report. 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. We are committed to ensuring the quality of your water. Our water sources are surface water from the Liberty Reservoir on the North Branch of the Patapsco River, and the Loch Raven Reservoir on the main stream of the Gunpowder Falls purchased from Baltimore City, and surface water from the Patuxent River purchased from the Washington Suburban Sanitary Commission.

2016 Water Quality Report

Howard county
PSWID 0130002
July 1,2017

WHY WATER IS TESTED:

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or manmade. These substances can be microbes, inorganic or organic chemicals and radioactive substances. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, as well as 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 some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk.

Contaminants 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, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or 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 can also come from gas stations, urban storm water runoff, and septic systems.

To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) sets regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations set limits for contaminants in bottled water that must provide the same protection for public health.

The Maryland Department of the Environment (MDE) has completed a Source Water Assessment of the water supplies that serve the City of Baltimore. The Source Water Assessment Program may be viewed at the MDE web site, http://www.mde.state.md.us/programs/Water/Water_Supply/ConsumerConfidenceReports/Documents/CCR2015/Howard/0130002_Howard_County.pdf.

More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

FOR MORE INFORMATION

If you have any questions about this report or concerning your water utility, please contact Howard County Utilities at 410-313-4900. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled Department of Public Works Board meetings. Please call 410-313-2330 for further information about these meetings.

Employees at Howard County 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.

TEST RESULTS – HOWARD COUNTY - PSWID 0130002

Contaminant	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Total Coliform Bacteria	N	0.33 % All repeat samples were negative	0.0 – 0.66 %	0	presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment
Fecal Coliform and *E.coli*	N	0	0	0	a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or *E.coli* positive	Human and animal fecal waste

TEST RESULTS – OUR SUPPLIERS

	Baltimore City Supply				Washington Suburban Sanitary Commission Supply				
	Ashburton Plant		Montebello Plant						
Contaminant - Units	Violation Y/N	Level Detected	Violation Y/N	Level Detected	Violation Y/N	Level Detected	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants									
Turbidity - NTU	N	0.11	N	0.25	N	0.03	1.00	TT= Filtration	Soil runoff
Radioactive Contaminants									
Beta/photon emitters pCi/l	N	<1.5	N	<4	N	4.8	0	50	Decay of natural and man-made deposits
Alpha emitters pCi/l	N	<1	N	<2	N	3.0	0	15	Erosion of natural deposits
Inorganic Contaminants									
Antimony - ppb	N	<5	N	<5	N	ND	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic – ppb	N	<2	N	<2	N	0.82	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass And electronics production wastes
Barium – ppm	N	0.02	N	0.036	N	0.035	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium – ppb	N	<0.5	N	<0.5	N	ND	4	4	Discharge from metal refineries And coal-burning factories; discharge from electrical, aerospace, And defense industries
Cadmium — ppb	N	<0.5	N	<0.5	N	ND	5	5	Erosion of natural deposits; runoff from orchards, runoff from glass & electronics production wastes
Chromium – ppb	N	<2	N	<2	N	ND	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Copper – ppm	N	<.002	N	<.002	N	0.002	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride – ppm	N	0.74	N	0.71	N	0.68	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead – ppb	N	<2	N	<2	N	ND	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Mercury (inorganic) ppb	N	<0.5	N	<0.5	N	ND	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen) ppm	N	1.46	N	1.46	N	1.2	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) ppm	N	<0.01	N	<0.01	N	<0.05	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium – ppb	N	<5	N	<5	N	ND	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium – ppb	N	<1	N	<1	N	ND	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
Synthetic Organic Contaminants including Pesticides and Herbicides									
2,4-D – ppb	N	<1.0	N	<1.0	N	ND	70	70	Runoff from herbicide used on row crops
2,4,5-TP (Silvex) - ppb	N	<1.0	N	<1.0	N	ND	50	50	Residue of banned herbicide
Alachlor – ppb	N	<2	N	<2	N	ND	0	2	Runoff from herbicide used on row crops
Atrazine – ppb	N	<3	N	<3	N	ND	3	3	Runoff from herbicide used on row crops
Benzo(a)pyrene – ppb	N	<0.2	N	<0.2	N	ND	0	0.2	Leaching from linings of water storage tanks and distribution lines
Carbofuran - ppb	N	<1.0	N	<1.0	N	ND	40	40	Leaching of soil fumigant used on rice and alfalfa
Chlordane - ppb	N	<2	N	<2	N	ND	0	2	Residue of banned termiticide
Dalapon – ppb	N	<4.0	N	<4.0	N	ND	200	200	Runoff from herbicide used on rights of way
Di(2-ethylhexyl) Adipate - ppb	N	<0.5	N	<0.5	N	ND	400	400	Discharge from chemical factories

KEY TABLE
In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms, we've provided the following definitions:

Non-Detect (ND) - laboratory analysis indicates that the constituent is not detectable by the analytical instrument used

Parts per million (ppm) or milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or micrograms per liter (ug/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Parts per trillion (ppt) or nanograms per liter (nanograms/l) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.

Parts per quadrillion (ppq) or picograms per liter (picograms/l) - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in $10,000,000,000,000.

Picocuries per liter (pCi/L) - is a measure of the radioactivity in water.

Millirems per year (mrem/yr) - measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) - is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

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

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

Maximum Contaminant Level Goal - The "Goal"(MCLG) is 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.

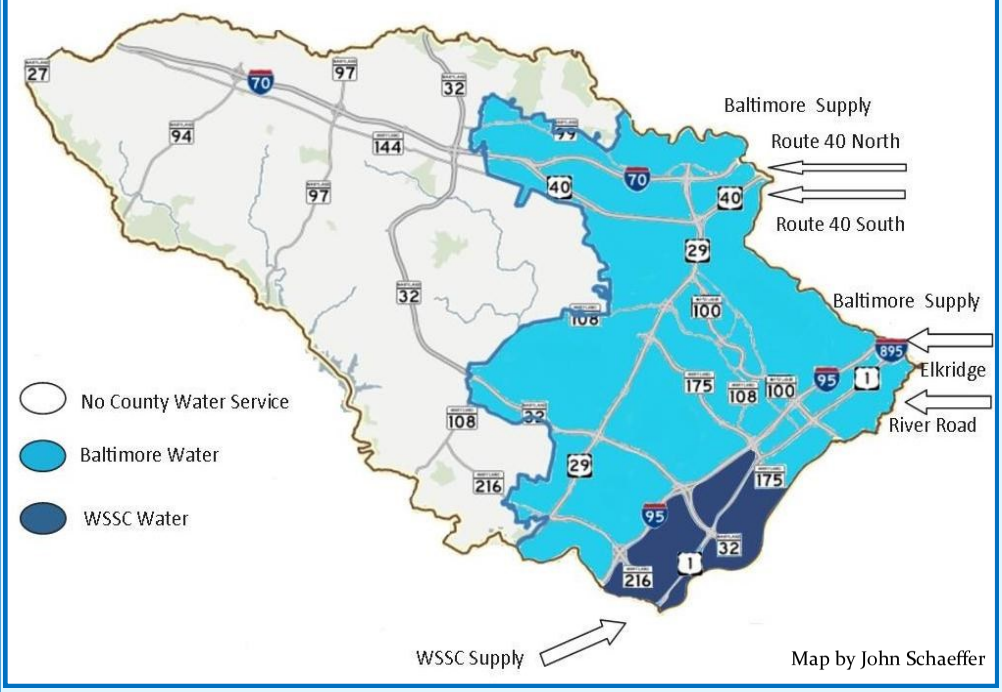
Maximum Contaminant Level - (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Variances & Exemptions (V&E) - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

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

Di(2-ethylhexyl) Phthalate - ppb	N	<0.96	N	<0.96	N	ND	0	6	Discharge from rubber and chemical factories
Dibromochloropropane -ppb	N	<0.02	N	<0.02	N	ND	0	0.2	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb – ppb	N	<1.0	N	<1.0	N	ND	7	7	Runoff from herbicide used on soybeans and vegetables
Endrin – ppb	N	<0.5	N	<0.5	N	ND	2	2	Residue of banned insecticide
Ethylene dibromide - ppb	N	<0.05	N	<0.05	N	ND	0	0.05	Discharge from petroleum refineries
Heptachlor - ppb	N	<0.4	N	<0.4	N	ND	0	0.4	Residue of banned termiticide
Heptachlor epoxide - ppb	N	<0.2	N	<0.2	N	ND	0	0.2	Breakdown of heptachlor
Hexachlorobenzene - ppb	N	<0.5	N	<0.5	N	ND	0	1	Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclo-pentadiene - ppb	N	<0.5	N	<0.5	N	ND	50	50	Discharge from chemical factories
Lindane-ppb	N	<0.2	N	<0.2	N	ND	0.2	0.2	Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor - ppb	N	<0.5	N	<0.5	N	ND	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Oxamyl [Vydate]-ppb	N	<1.0	N	<1.0	N	ND	200	200	Runoff from Landfills; discharge of waste chemicals
Pentachlorophenol - ppb	N	<0.2	N	<0.2	N	ND	0	1	Discharge from wood preserving factories
Picloram – ppb	N	<2.0	N	<2.0	N	ND	500	500	Herbicide runoff
Simazine – ppb	N	<0.5	N	1.4	N	ND	4	4	Herbicide runoff
Volatile Organic Contaminants									
Benzene – ppb	N	<0.5	N	<0.5	N	ND	0	5	Discharge from factories; leaching from gas storage tanks and Landfills
Carbon tetrachloride - ppb	N	<0.5	N	<0.5	N	ND	0	5	Discharge from chemical plants And other industrial activities
Chlorobenzene – ppb	N	<0.5	N	<0.5	N	ND	100	100	Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene - ppb	N	<0.5	N	<0.5	N	ND	600	600	Discharge from industrial chemical factories
p-Dichlorobenzene - ppb	N	<0.5	N	<0.5	N	ND	75	75	Discharge from industrial chemical factories
1,2 – Dichloroethane - ppb	N	<0.5	N	<0.5	N	ND	0	5	Discharge from industrial chemical factories
1,1 – Dichloroethane - ppb	N	<0.5	N	<0.5	N	ND	7	7	Discharge from industrial chemical factories
cis-1,2-Dichloroethene - ppb	N	<0.5	N	<0.5	N	ND	70	70	Discharge from industrial chemical Factories
trans-1,2 Dichloroethene - ppb	N	<0.5	N	<0.5	N	ND	100	100	Discharge from industrial chemical factories
Dichloromethane– ppb	N	<0.5	N	<0.5	N	ND	0	5	Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane ppb	N	<0.5	N	<0.5	N	ND	0	5	Discharge from industrial chemical factories
Ethylbenzene – ppb	N	<0.5	N	<0.5	N	ND	700	700	Discharge from petroleum refineries
Haloacetic Acids, Total– ppb	N	35.0	N	32.0	N	42.0	0	60	By-product of drinking water chlorination
Styrene – ppb	N	<0.5	N	<0.5	N	ND	100	100	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene – ppb	N	<0.5	N	<0.5	N	ND	0	5	Leaching from PVC pipes; discharge from factories and dry cleaners
1,2,4-Trichlorobenzene - ppb	N	<0.5	N	<0.5	N	ND	70	70	Discharge from textile-finishing factories
1,1,1 – Trichloroethane - ppb	N	<0.5	N	<0.5	N	ND	200	200	Discharge from metal degreasing sites and other factories
1,1,2 –Trichloroethane - ppb	N	<0.5	N	<0.5	N	ND	3	5	Discharge from industrial chemical factories
Trichloroethene – ppb	N	<0.5	N	<0.5	N	ND	0	5	Discharge from metal degreasing sites and other factories
TTHM - ppb [Total trihalomethanes]	N	41.0	N	53.0	N	44.0	0	80	By-product of drinking water chlorination
Vinyl Chloride - ppb	N	<0.5	N	<0.5	N	ND	0	2	Leaching from PVC piping; discharge from
Toluene – ppb	N	<0.5	N	<0.5	N	ND	1000	1000	Discharge from petroleum factories
Xylenes – ppb	N	<0.5	N	<0.5	N	ND	10000	10000	Discharge from petroleum factories; discharge from chemical factories

TEST RESULTS - HOWARD COUNTY—PSWID 0130002						
Volatile Organic Chemicals						
Substance	MCLG	MCL	Range (LRAA)	Average	Violation	Major Sources
Total THM's	n/a	**80 ppb**	17.6 - 56.0 ppb	37 ppb	No	Byproduct of drinking water chlorination
HAA(5)	n/a	**60 ppb**	17.7 - 46.3 ppb	28 ppb	No	Byproduct of drinking water chlorination



WHERE YOUR WATER COMES FROM

If you live in the North Laurel area, east of Interstate 95 and south of Patuxent Range Road, your water originates from the Washington Suburban Sanitary Commission in Laurel. If you live anywhere else in Howard County and are connected to the public water supply, your water originates from Baltimore City. As a "Consecutive Water System", Howard County purchases water from Baltimore City and the Washington Suburban Sanitary Commission. Most of the analyses are performed at their water quality laboratories. The table inside this brochure shows the results of monitoring for the period of January 1st to December 31st, 2016.

LEAD AND COPPER TESTING - HOWARD COUNTY

Water is below detection levels when it leaves the water treatment plant for lead and copper, but lead and copper can be released when the water comes in contact with pipes and plumbing fixtures in homes and buildings that contain lead and/or copper. The USEPA requires testing of the water distribution system for lead and copper at the tap. Howard County is required to sample 54 sites and of these 54 sites, 90% of the samples must have lead and copper levels less than the Action Level set by 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 2014 are shown below. Howard County's lead and copper levels are consistently below the Action Level set by EPA. The next scheduled sampling for Lead and Copper will be performed during the summer of 2017. Check out our web page specific to lead in drinking water at: https://www.howardcountymd.gov/Departments/Public-Works/Bureau-Of-Utilities/Customer-Service-Division/Lead-in-Drinking-Water

Contaminant	Action Level	90th Percentile Value
Lead	15 ppb	2.2 ppb
Copper	1.3 ppm	0.10 ppm

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. Howard County's Bureau of Utilities is responsible for providing high quality drinking water, but 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 drinking 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 EPA Safe Drinking Water Hotline at 1-800-426-4791 or at http://water.epa.gov/drink/info/lead/."

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.

Waivers

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