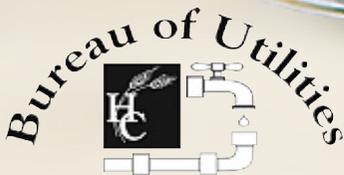


# Your 2012 Water Quality Report



HOWARD COUNTY  
MARYLAND - PSWID 0130002  
JULY 1, 2012

Howard County is pleased to present 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 goal is to provide you with a safe and dependable supply of water each and every day. We offer this report because it's important that you 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, 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.

## CLEAN FRESH WATER



Clean, fresh water is essential to our survival and one of our most precious resources. As consumers, you have the right to be informed about the quality of the water that comes to you through your tap.

This annual Water Quality Report has information about where your water comes from, why we test it and the results of those tests which clearly show that our water is safe.

Protecting Howard County's water supply and maintaining the public water delivery system is a responsibility the men and women of the Bureau of Utilities take very seriously. They do an outstanding job, and I thank them for all they do to make sure your water is of the highest quality.

*Ken Ulman, Howard County Executive*

## DEAR VALUED CUSTOMER,

Howard County residents and guests continue to enjoy a high quality drinking water. The employees of Howard County's Bureau of Utilities, Department of Public Works, labor tirelessly to serve you, our customers, as dedicated stewards of this critical service. Our mission is to provide high quality, safe, and dependable drinking water. Our staff works around the clock, through all weather conditions to assure we meet this mission. Increased efforts are continuing to keep our infrastructure and systems upgraded. We hope you find this report informative and reassuring. Please do not hesitate in contacting your Howard County drinking water team at 410-313-4900 for more information. It is a pleasure serving you.

*Stephen Gerwin, PE*  
Chief, Bureau of Utilities

# WHY WATER IS TESTED:

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. 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, and radioactive substances. 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.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

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. In general, contamination of water supplies can come from several natural and manmade sources. As water travels over the surface of the land it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. The Source Water Assessment Program may be viewed at the MDE web site, [http://www.mde.maryland.gov/programs/water/water\\_supply/source\\_water\\_assessment\\_program/pages/programs/waterprograms/water\\_supply/sourcewaterassessment/index.aspx](http://www.mde.maryland.gov/programs/water/water_supply/source_water_assessment_program/pages/programs/waterprograms/water_supply/sourcewaterassessment/index.aspx).

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.

## TABLE KEY

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-Detects (ND)** - laboratory analysis indicates that the constituent is below the detection lower limit of 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)** - picocuries per liter 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)** - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

**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.

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

**Maximum Contaminant Level** - The "Maximum Allowed" (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.

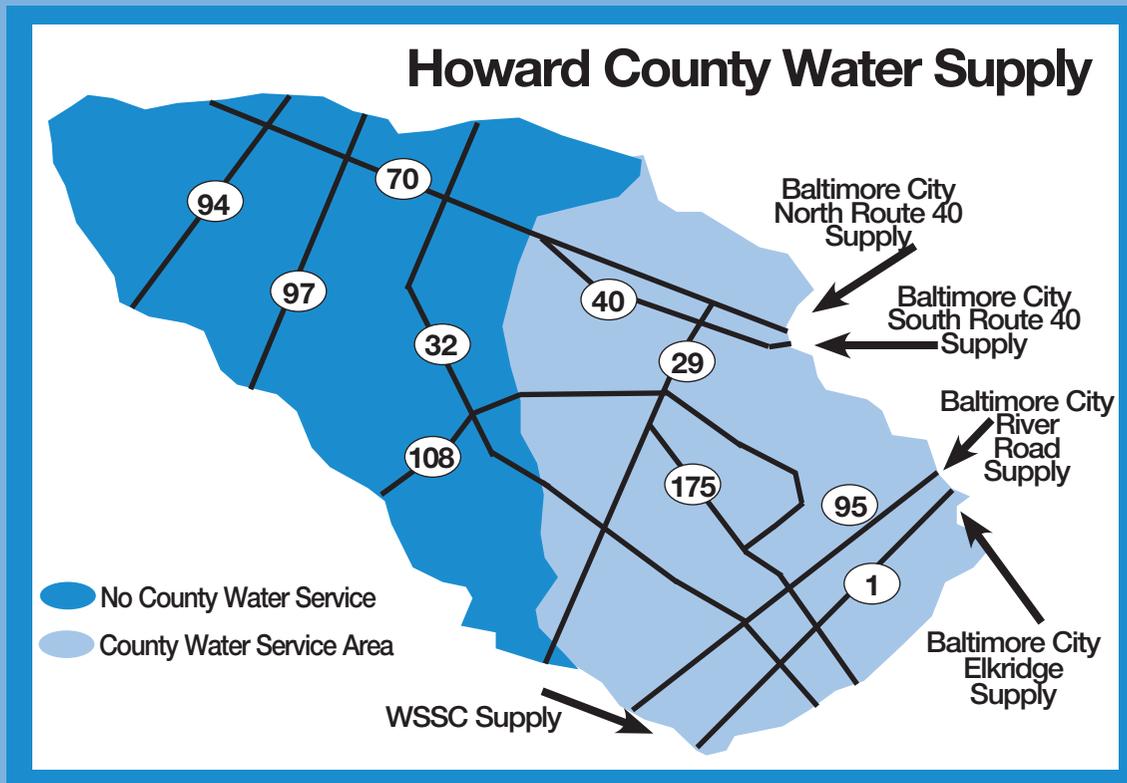
**Maximum Contaminant Level Goal** - The "Goal" (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Variations & 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.

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**.

# TEST RESULTS – HOWARD COUNTY - PSWID 0130002

Contaminant	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination			
<b>Microbiological Contaminants</b>									
Total Coliform Bacteria	N	0.3%	0.0-1.26%	0	presence of coliform bacteria in 5% of monthly samples			Naturally present in the environment	
Fecal Coliform and E.coli	N	ND	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	
<b>TEST RESULTS – OUR SUPPLIERS</b>									
	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
<b>Microbiological Contaminants</b>									
Turbidity NTU	N	0.033	N	0.26	N	0.02	1.00	TT-Filtration	Soil run off
<b>Radioactive Contaminants</b>									
Beta/photon emitters pCi/l	N	<1.5	N	3 ±2	N	4.1	0	50	Decay of natural and man-made deposits
Alpha emitters pCi/l	N	<1	N	<1	N	<2	0	15	Erosion of natural deposits
<b>Inorganic Contaminants</b>									
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	ND	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass And electronics production wastes
Barium – ppm	N	0.02	N	0.03	N	0.025	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	0.018	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride – ppm	N	0.71	N	0.74	N	0.63	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	1.77	N	2.06	N	1.1	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	ND	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	<2	N	ND	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
<b>Synthetic Organic Contaminants including Pesticides and Herbicides</b>									
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	<0.5	N	<0.5	N	ND	0	2	Runoff from herbicide used on row crops
Atrazine – ppb	N	<0.5	N	<0.5	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	<0.5	N	<0.5	N	ND	40	40	Leaching of soil fumigant used on rice and alfalfa
Chlordane ppb	N	<0.5	N	<0.5	N	ND	0	2	Residue of banned termiticide
Dalapon – ppb	N	<0.1	N	<0.1	N	<1.0	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
Di(2-ethylhexyl) Phthalate ppb	N	<0.5	N	<0.5	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	<0.02	N	<0.02	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	<0.05	N	<0.05	N	ND	0	1	Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclopentadiene 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	<2.0	N	<2.0	N	ND		0.2	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	<1.0	N	<1.0	N	ND	500	500	Herbicide runoff
Simazine – ppb	N	<0.5	N	<0.5	N	ND	4	4	Herbicide runoff
<b>Volatile Organic Contaminants</b>									
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 - ppt	N	34.4	N	34.4	N	30.6	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	56	N	56	N	33	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 plastics factories
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



## 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, 2011.

## Reportable Violation of the Safe Drinking Water Act

Howard County is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. For December 2011 we did not report results for Total Coliform by the tenth of the following month (January 2012). This was solely a reporting error and public health was never in danger.

## 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.

## LEAD AND COPPER TESTING - HOWARD COUNTY

The EPA requires the County to sample the water distribution system and test these samples for lead and copper. Under these requirements no more than 10% of samples can have lead and/or copper levels above the Action Level shown below. The results of the County's sampling of 50 sites conducted in 2011 are shown below.

Contaminant	Action Level	90th Percentile Value
Lead	15 ppb	3.2
Copper	1.3 ppm	0.11

"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://www.epa.gov/safewater/lead>."

## 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.