



Water Quality Report for 2007 Harford County Government

Last year, as in past years, your drinking water met
all EPA and State health standards.

IS MY WATER SAFE?

In Harford County's system, the answer is yes. However, as with any other public water supply, your water is not 100% H₂O. All drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some contaminants. Technically, a contaminant is anything that is not H₂O. It is important to remember that the presence of these contaminants does not necessarily indicate that the water poses a health risk.

Water, traveling on or in the ground, dissolves naturally occurring minerals, vegetation, and sometimes radioactive material, which can be the result of oil and gas production and mining activities. It can also pick up animal waste, pesticides, and debris from human activity. Rain can also wash waste on impervious surfaces (sidewalks, roads, and etc.) to the rivers and reservoirs.

For more information call the EPA's Safe Drinking Water Hotline (800-426-4791) or go to [EPA: Ground Water and Drinking Water](#)

WHAT IS IN THE WATER?

The tables list all of the drinking water contaminants that we detected. The contaminant levels from other utilities that have provided us with water have been incorporated into the tables. Unless otherwise noted, the data presented in these tables are from January 1st to December 31st, 2007. The [definitions](#) provided may be useful in interpreting the data.

| Inorganic Contaminants (Lead & Copper) | | | | | | | |
|--|------|-------|----------------|-----------|------|---|--|
| Contaminants | AL | 90th% | # Samples > AL | Violation | | Typical Source | |
| Copper (ppm) (2005) | 1.3 | 0.1 | 0 | No | | Erosion, corrosion of plumbing, wood preservatives. | |
| Lead (ppb) (2005) | 15 | 3 | 0 | No | | Erosion of natural deposits, corrosion of plumbing. | |
| Contaminants (units) | MCLG | MCL | CL | Low | High | Violation | Typical Source |
| Inorganic Contaminants (Other) | | | | | | | |
| Antimony (ppb) | 6 | 6 | 3 | 3 | 3 | No | Discharge from petroleum refineries, ceramics, fire retardants, electronics, solder. |
| Barium (ppm) | 2 | 2 | .03 | .03 | .03 | No | Erosion. Drilling waste and metal refineries. |
| Chromium (ppb) | 100 | 100 | 2 | 2 | 2 | No | Discharge from steel mills, pulp mills, erosion of natural deposits. |
| CONTINUED NEXT PAGE | | | | | | | |

| Contaminants (units) | MCLG | MCL | Your Water | | | | Typical Source |
|--|-------------|------------|-------------|---|-------|-----------|---|
| | | | CL | Low | High | Violation | |
| Inorganic Contaminants (Other) continued | | | | | | | |
| Fluoride (ppm) | 4 | 4 | 2.1 | ND * | 2.1 | No | Erosion, water additive, discharge from fertilizer and aluminum factories. (Avg. 1.0) |
| Nitrate (ppm as Nitrogen) | 10 | 10 | 5.0 | 1.0 | 5.0 | No | Natural deposits, runoff from fertilizer use |
| Disinfectants & Disinfection By-Products | | | | | | | |
| Chlorine (as Cl ₂) (ppm) | 4 | 4 | 3.2 | 0.4 | 3.2 | No | Water additive to control microbes. (Avg. 1.4) |
| HAA5 (Total Haloacetic Acids) (ppb) For 2006 & 2007 | n/a ** | 60 | 46 | 37 | 47 | No | By-product of drinking water chlorination. CL = rolling yearly average by quarter. |
| TTHMs For 2006 & 2007 (Total Trihalomethanes) (ppb) | n/a | 80 | 37 | 22 | 46 | No | By-product of drinking water chlorination. CL = rolling yearly average by quarter. |
| Microbiological Contaminants | | | | | | | |
| Total Coliform (% of positive tests) | 0 | < 5% | 4.0% | ND | n/a | No | Naturally present in the environment. See Total Coliform in definitions. |
| Turbidity (NTU) TT ≤ 0.3 in 95% of samples in a month. | n/a | TT | 98.2% | 0.024 | 0.407 | No | From soil runoff. (Avg. 0.040) |
| Organic Contaminants | | | | | | | |
| Carbofuran (ppb) | 40 | 40 | 5 | 5 | 5 | No | Leaching of soil fumigant. |
| Di (2-ethylhexyl) Phthalate (ppb) | 0 | 6 | 0.5 | 0.5 | 0.5 | No | Discharge from rubber and chemical factories. |
| Toluene (ppm) | 0 | 1 | 0.1 | ND | 0.9 | No | Discharge from petroleum factories. |
| Xylenes (ppm) | 10 | 10 | 0.1 | ND | 0.6 | No | Discharge from petroleum and chemical factories. |
| Radioactive Contaminants | | | | | | | |
| Gross Alpha (pCi/L) (2007) | 0 | 15 | 2 | 2 | 2 | No | Erosion of natural deposits. |
| Gross Beta (pCi/L) (2007) | 0 | 50 *** | 5 | 5 | 5 | No | Decay of natural & manmade deposits. |
| Radium-226 (pCi/L) (2007) | 0 | 5 | 0.3 | 0.3 | 0.3 | No | Erosion of natural deposits. |
| Unregulated Contaminants | | | | | | | |
| | Avg. | Low | High | Typical Source | | | |
| Bromodichloromethane (ppb) | 2.9 | ND | 13.8 | By-product of drinking water chlorination. | | | |
| Chloroform (ppb) | 14 | ND | 40 | Industrial discharges; landfills, by-product of water chlorination. | | | |
| Dibromochloromethane (ppb) | 0.5 | ND | 3.0 | By-product of drinking water chlorination. | | | |
| Methomyl (ppb) | 5 | 5 | 5 | Runoff from pesticide used on crops. | | | |
| Nikel (ppb) | 2 | 2 | 2 | Erosion of natural deposits, leaching. | | | |
| Sodium (ppm) | 25 | 8.7 | 69 | Erosion of natural deposits, leaching; water treatment chemicals. | | | |

For questions concerning this report you can contact Talad Said or Allen Webb at 410-638-3939, Monday thru Friday, 7 AM to 3 PM.

For water related emergencies call 410-612-1612, 24 hours a day, 7 days a week.

HEALTH INFORMATION ABOUT WATER CONTAMINANTS

Harford County's water supply met requirements set by the EPA and Maryland Department of Environment. However, Federal and State health organizations want people in special risk groups to understand the following information.

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider. For more information go to [EPA: Consumer Factsheet on Nitrates](#).

Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you should flush your tap for 30 seconds to 2 minutes before consuming the water. Additional information is available from the Safe Drinking Water Hotline (1-800-426-4791) or their web page [EPA: Lead in Drinking Water](#).

Special Precautions - 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 (800-426-4791) or their web page

[EPA: What if I have special health needs?](#)

FOR MORE INFORMATION GO TO

[**EPA: Drinking Water and Health: What you need to know**](#)

[American Water Works Association: Consumer Information](#)

[EPA: Water on Tap - what you need to know](#)

WHERE DOES MY WATER COME FROM?

Harford County's water system has 600 miles of water mains with 13 storage tanks holding more than 12 million gallons of water. We have three water treatment plants: one plant treats surface water from either the Loch Raven Reservoir or the Susquehanna River, another plant treats surface water from the Susquehanna River, and the third plant treats ground water from seven wells. In 2007, we provided 4.4 billion gallons of water to 110,000 consumers for an average of 12 million gallons each day. We obtained 2.4 billion gallons of surface water from the Loch Raven Reservoir, 700 million gallons from the Susquehanna River, and 1.3 billion gallons of groundwater from wells tapping the Potomac Group Aquifer.

The well water treatment includes:

- chemical treatment with granular-activated carbon filters
- chlorine to eliminate health-threatening organisms
- soda ash to raise the pH and make the water less acidic
- a phosphate additive for corrosion prevention in the distribution system
- fluoride to help fight tooth decay for consumers

The surface water treatment includes:

- screening the incoming raw water for debris
- Alum and polymer to condition the water for filtration
- powdered activated carbon to chemically absorb contaminants in the water
- filtration through one layer of coarse filter media (adsorption clarifier)
- filtration through three layers of fine filter media (mixed media filtration)
- chlorine to eliminate health-threatening organisms
- soda ash to raise the pH and make the water less acidic
- a phosphate additive for corrosion prevention in the distribution system
- fluoride to help fight tooth decay for consumers

Surface water requires filtration to remove turbidity from the water. Turbidity is the measure of cloudiness in the water usually attributed to soil runoff. Removing turbidity from the water improves the ability of chlorine to eliminate health-threatening organisms.

Our two surface water plants treat by adsorption clarification and mixed media filtration, with chemical treatment for coagulation. Our well water plant treats by Activated Carbon filtration. All three water plants have chemical treatment for disinfection, pH adjustment, corrosion inhibition, and fluoridation.

Continued demand for more drinking water, along with tougher regulations, will require further capital expenditures in the coming years. A project is under way to expand our largest water plant from 10 to 20 million gallons of water a day. The new design would enhance the plant's multiple barrier protection system. Because of the additional treatment processes, increased construction and engineering costs, along with other related costs; the expansion will probably be more than triple the cost of the original plant, built in 1993 for \$20 million.

WATER SYSTEM INFORMATION CONTINUED NEXT PAGE

Harford County also cooperates with other local water utilities. By the use of interconnections with these other utilities we can exchange water from system to system when needed. These systems include the City of Havre de Grace, Maryland American Water Company (in the Bel Air area), Town of Aberdeen, Greenridge Utilities, and Aberdeen Proving Ground.

FOR MORE INFORMATION GO TO

[Wikipedia: Water Purification](#)

[howstuffworks: How Water Towers Work](#)

SOURCE WATER ASSESSMENTS:

COUNTY'S WELLFIELD

The Maryland Department of the Environment Water Supply Program (WSP) has conducted a Source Water Assessment for Harford County's well water supply. The source for Harford County's well water supply is a semi-confined aquifer in the Coastal Plain known as the Potomac Group. Potential sources of contamination within the assessment area are agricultural land use, underground storage tanks, ground water contamination sites, and commercial/industrial sites. It was determined that the water supply is susceptible to contamination by nitrates, volatile organic compounds (e.g. solvents and gasoline), and radionuclides.

SUSQUEHANNA RIVER

The Susquehanna River Basin Commission conducted a Source Water Assessment of the Susquehanna River. Harford County has two surface water plants that can draw water from the lower Susquehanna Sub-basin. Potential sources of contamination are agricultural land use, urban/residential development, boating activities, sewage effluent, major transportation corridors (highways, railroads) and nuclear power generating plants. It was determined that the water supply is susceptible to contamination by turbidity and sediment, microorganisms, inorganic compounds, organic compounds, disinfection byproducts, and radionuclides.

LOCH RAVEN RESERVOIR

The Maryland Department of the Environment has conducted a Source Water Assessment for Loch Raven Reservoir. The reservoir collects water from a 303 square-mile watershed spanning three Maryland Counties: Baltimore, Carroll, & Harford. Harford County has a surface water plant that can draw from the reservoir. Potential sources of contamination are public & private sewage systems, storm runoff from agricultural and developed areas, and spillage of hazardous materials. It was determined that the water supply is susceptible to contamination by phosphorus, turbidity and sediment, pathogenic protozoans, disinfection byproducts, and Sodium.

FOR MORE INFORMATION ON HARFORD COUNTY'S SOURCE WATER ASSESSMENTS

[Susquehanna River Basin Commission](#)

[MDE: Maryland's Source Water Assessment Program](#)

[EPA: Source Water Protection](#)

