



## 2015 Water Quality Report

Dear WSSC Customer:

The tragedy of what happened to the people of Flint, Michigan, and their drinking water triggered a national conversation about lead in public drinking water. It understandably leaves water utilities like WSSC having to answer the question: Is our drinking water safe?

I am pleased to tell you—and our water quality experts confirm—WSSC's drinking water supply is indeed safe. There are no known lead service lines in our water distribution system and we continuously add a corrosion inhibitor that coats the inside of all pipes, fittings and fixtures to reduce leaching of metals, including lead. Some of our customers may have lead solder and fixtures containing a small percentage of lead in their premise plumbing, but in line with Environmental Protection Agency (EPA) guidelines, WSSC tests the water in a sampling of those homes every three years for lead. The most recent residential tests for WSSC's service area (June–September 2014), showed lead results that were well below the EPA action level of 15 parts per billion (ppb). Customers who are unsure about their personal service lines should contact a WSSC registered plumber to inspect their pipes.

Providing clean, safe, reliable drinking water to our customers in Prince George's and Montgomery counties is paramount to all of us at WSSC. From our raw water sources to your tap, our employees work hard every day to ensure safe delivery of your water.

The 2015 Water Quality Report confirms that good news. **And for the 97th year in a row, I'm proud to say that WSSC has never had a drinking water violation.** In 2015, we once again met or surpassed all federal standards for water cleanliness required by the EPA.

Source water taken from protected regions of the Potomac and Patuxent rivers is first treated by our water filtration plants where it is continuously and thoroughly tested, including tests for lead, before being sent to homes and businesses through our 5,600 miles of distribution pipes. This continuous level of monitoring allows WSSC to rapidly respond to changing conditions to ensure the highest level of water quality.

I want to assure you that what happened in Flint will not happen here. The six commissioners appointed by the county executives of Prince George's and Montgomery counties ensure that we adhere to all regulations set forth by the EPA and the Maryland Department of the Environment. Additionally, the county councils of Montgomery and Prince George's counties as well as your elected senators and delegates closely monitor our performance.

You can find this water quality report online at [www.wsscwater.com/wqr](http://www.wsscwater.com/wqr). For those who desire a mailed hard copy, contact our Communications Office by calling (301) 206-8100 or emailing [communications@wsscwater.com](mailto:communications@wsscwater.com).

At WSSC, quality is the focus of all we do. From the skilled scientists testing water at our Consolidated Laboratory to the Patuxent and Potomac water plant operators and all employees in between, we're committed to providing excellent value and service to our customers.

Because water is life's most precious resource and we never take that for granted.

Sincerely,  
Carla A. Reid, *General Manager/CEO*



### Important Health Information from the U.S. EPA

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily mean that the water poses a health risk.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as cancer patients undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk for infections. These people should seek advice from their health care providers about drinking water.

EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline (1-800-426-4791) or EPA's website at [epa.gov/safewater](http://epa.gov/safewater). More information about contaminants and potential health effects also can be obtained from the EPA hotline or website.

### For More Information



WSSC provides updated information about water quality and other aspects of the service delivery system on our website, [wsscwater.com](http://wsscwater.com), or customers can call WSSC's testing laboratory at 301-206-7575 for more information. A Spanish translation, previous years' reports, and videos providing additional information are also available at [wsscwater.com/waterquality](http://wsscwater.com/waterquality).

The public is invited to a variety of project- and policy-related public hearings and informational workshops throughout the year. Commission meetings are generally held on the third Wednesday of every month, starting at 10:00 a.m. Public hearings on our proposed Capital Improvements Program usually take place in September. Public hearings on the proposed Operating Budget are usually held in early February. Please check our Public Calendars page as the time approaches.

WSSC provides speakers and tours for schools, homeowner associations and service groups. Also every April we organize numerous public events as a celebration of Earth Month. To request a speaker, a tour, or to obtain times and locations of the public hearings and events, please visit our [website](http://www.wsscwater.com) or call 301-206-8100.

This report contains very important information about your drinking water. Please find someone to translate it for you, or speak to someone who understands.

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

此报告包含有关您的饮用水的重要信息。请人帮您翻译出来，或请看懂此报告的人将内容说给您听。

Tài liệu này có tin tức quan trọng về nước uống của quý vị. Hãy nhờ người dịch cho quý vị, hoặc hỏi người nào hiểu tài liệu này.

Water Quality Data

DETECTED REGULATED CONTAMINANTS

SUBSTANCE	UNITS	PATUXENT TAP		POTOMAC TAP		MCL (or TT)	MCLG	VIOLA-TION?	MAJOR SOURCE IN DRINKING WATER
		LEVEL FOUND*	RANGE	LEVEL FOUND*	RANGE				
<b>METALS</b>									
Arsenic	µg/L	n/d	n/d - <2	n/d	n/d - 5	10	0	NO	Erosion of natural deposits; runoff from orchards
Barium	mg/L	0.027	0.023 - 0.033	0.036	0.027 - 0.053	2	2	NO	Discharge of drilling wastes & metal refineries; erosion of natural deposits
Total Chromium	µg/L	n/d	n/d - <2	<2	n/d - 2	100	100	NO	Discharge from steel & pulp mills; erosion of natural deposits
Selenium	µg/L	n/d	n/d - 2	<2	n/d - 13	50	50	NO	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium	µg/L	n/d	n/d - <1	n/d	n/d - n/d	2	0.5	NO	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories.

INORGANIC CONTAMINANTS

Fluoride	mg/L	0.67	0.44 - 0.83	0.68	0.54 - 0.87	4	4	NO	Water additive which promotes strong teeth; erosion of natural deposits
Nitrate	mg/L	1.0	0.3 - 1.7	1.4	0.5 - 2.3	10	10	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite	mg/L	<0.05	n/d - <0.05	n/d	n/d - <0.05	1	1	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

MICROBIAL CONTAMINANTS

Turbidity	NTU	0.03	0.02-0.10 <sup>1</sup>	0.04	0.01 - 0.22 <sup>1</sup>	TT=1 NTU	n/a	NO	Soil runoff
Residual chlorine	% <0.3 NTU	100%	n/a	100%	n/a	TT=95% min	n/a	NO	
Viruses	mg/L	met TT requirements		met TT requirements		TT>=0.2	n/a	NO	Water additive used to control microbes
<i>Giardia lamblia</i>	n/a	met TT requirements		met TT requirements		TT=99.99% removal	0	NO	Human and animal fecal waste
<i>Cryptosporidium</i>	n/a	met TT requirements		met TT requirements		TT=99% removal	0	NO	Human and animal fecal waste

DISINFECTION BYPRODUCT (DBP) PRECURSOR

Total Organic Carbon	n/a	met TT requirements		met TT requirements		TT	n/a	NO	Naturally present in the environment
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PESTICIDES & SYNTHETIC ORGANIC CONTAMINANTS

Atrazine	µg/L	n/d	n/d - <1	n/d	n/d - n/d	3	3	NO	Runoff from herbicide used on row crops
Dalapon	µg/L	n/d	n/d - <1	n/d	n/d - <1	200	200	NO	Runoff from herbicide used on rights of way
Di(2-ethylhexyl)phthalate	µg/L	n/d	n/d - n/d	n/d	n/d - <2	6	0	NO	Discharge from rubber and chemical factories
Simazine	µg/L	n/d	n/d - <1	n/d	n/d - n/d	4	0	NO	Herbicide runoff

VOLATILE ORGANIC CONTAMINANTS

1,2-Dichlorobenzene	µg/L	n/d	n/d - <0.5	n/d	n/d - n/d	600	600	NO	Discharge from industrial chemical factories
1,4-Dichlorobenzene	µg/L	n/d	n/d - <0.5	n/d	n/d - n/d	75	75	NO	Discharge from industrial chemical factories
Total Xylenes	mg/L	n/d	n/d - <0.0005	n/d	n/d - n/d	10	10	NO	Discharge from petroleum factories; discharge from chemical factories

RADIOACTIVE CONTAMINANTS

Gross Alpha	pCi/L	<2	<2 - <2	<2	<2 - <2	15	0	NO	Erosion of natural deposits
Gross Beta	pCi/L	<4	<4 - <4	<4	<4 - <4	50 <sup>2</sup>	0	NO	Decay of natural and man-made deposits
Radium 228	pCi/L	<1	<0.9 - <1	<1	<0.8 - <1	5 <sup>3</sup>	0 <sup>3</sup>	NO	Erosion of natural deposits

SUBSTANCE	UNITS	CUSTOMER TAP <sup>4</sup>		AL	MCLG	VIOLA-TION?	MAJOR SOURCE IN DRINKING WATER
		90th PERCENTILE <sup>5</sup>	# of SITES ABOVE AL				

<b>METALS</b>								
Copper	mg/L	0.0874		0 samples	1.3	1.3	NO	Corrosion of household plumbing systems
Lead	µg/L	1.17		0 samples	15	0	NO	Corrosion of household plumbing systems

SUBSTANCE	UNITS	DISTRIBUTION SYSTEM		MCL (or MRDL)	MCLG (or MRDLG)	VIOLA-TION?	MAJOR SOURCE IN DRINKING WATER
		LEVEL FOUND *	RANGE				

<b>BACTERIOLOGICAL CONTAMINANTS</b>								
Total Coliform	% Positive per month	0.33		0 - 1.05	5	0	NO	Naturally present in the environment
No. of <i>E. coli</i> Positive Samples	Count	0		0 - 0	0	0	NO	Human and animal fecal waste

DISINFECTANT & DBPs

Residual Chlorine	mg/L	1.26 <sup>6</sup>		n/d <sup>7</sup> - 4.50	4 <sup>8</sup>	4 <sup>8</sup>	NO	Water additive used to control microbes
Haloacetic Acids (HAA5)	µg/L	43.4 <sup>9</sup>		2.9 - 87.7	60 <sup>10</sup>	n/a	NO	Byproduct of drinking water chlorination
Total Trihalomethanes (TTHMs)	µg/L	62.1 <sup>9</sup>		16.5 - 94.5	80 <sup>10</sup>	n/a	NO	Byproduct of drinking water chlorination

Terms Defined

**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.

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

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

**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 contamination.

**Turbidity** - A measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our treatment process.

**NTU** - Nephelometric Turbidity Unit

**mg/L** - Milligrams per liter, equal to parts per million (ppm). The equivalent of one minute in 2 years or one penny in \$10,000.

**µg/L** - Micrograms per liter, equal to parts per billion (ppb). The equivalent of one minute in 2,000 years or one penny in \$10 million.

**ng/L** - Nanograms per liter, equal to parts per trillion (ppt). The equivalent of one minute in 2,000,000 years or one penny in \$10 billion.

**pCi/L** - Picocuries per liter (a measure of radiation)

**n/d** - Not detected

**n/a** - Not applicable

**=** Equals

**<** Less than

\* Based on yearly average except as noted.

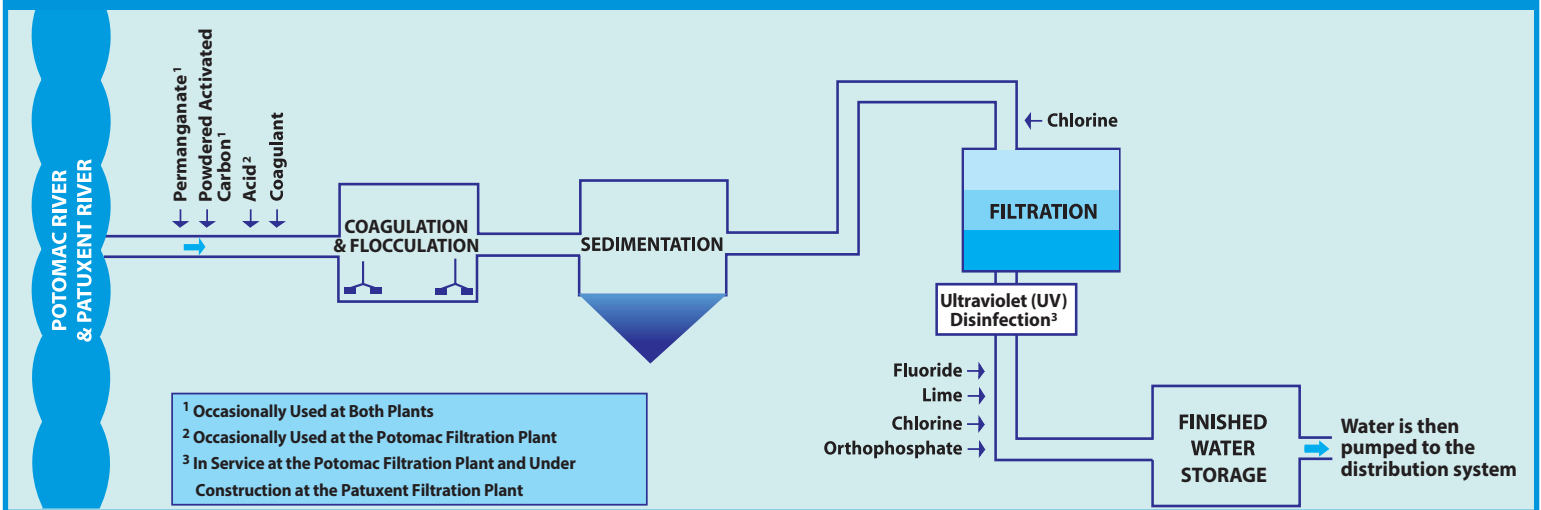
1. Filtered water, maximum of measurements taken every 15 minutes.
2. EPA considers 50 pCi/L to be the level of concern for beta particles.
3. The MCL and MCLG apply to combined Radium 226 and 228.
4. Most recent sampling, between June and September 2014.
5. If more than 10% of sites exceed the action level, system is required to take additional steps to control corrosiveness of their water.
6. Highest running annual average (RAA)
7. All samples deemed to have detectable disinfectant residual.
8. Maximum residual disinfectant level (MRDL), the highest level of a disinfectant allowed in drinking water; based on a running annual average (RAA).
9. Highest locational running annual average (LRAA)
10. Maximum contaminant level based on LRAA
11. Unregulated contaminants were monitored according to State of Maryland legislation requiring WSSC to continue latest cycle of UCMR. Federally required UCMR3 monitoring ended in 2014. For full results and explanations, see <http://www.wsscwater.com/ucmr3>

Water Quality Data (cont'd)

DETECTED UNREGULATED CONTAMINANTS

SUBSTANCE	UNITS	PATUXENT TAP		POTOMAC TAP		MCL (or TT)	MCLG	VIOLATION?	MAJOR SOURCE IN DRINKING WATER
		LEVEL FOUND*	RANGE	LEVEL FOUND*	RANGE				
<b>METALS</b>									
Hexavalent Chromium <sup>11</sup>	µg/L	0.035	n/d - 0.050	0.120	0.074 - 0.220	n/a	n/a	n/a	
Strontium <sup>11</sup>	µg/L	68	67 - 70	162	120 - 220	n/a	n/a	n/a	
Vanadium <sup>11</sup>	µg/L	n/d	n/d - n/d	0.33	n/d - 0.60	n/a	n/a	n/a	
Molybdenum <sup>11</sup>	µg/L	n/d	n/d - n/d	0.30	n/d - 1.20	n/a	n/a	n/a	
<b>INORGANIC CONTAMINANTS</b>									
Chlorate <sup>11</sup>	µg/L	n/d	n/d - n/d	31	n/d - 62	n/a	n/a	n/a	
Sodium	mg/L	16.4	13.0 - 28.0	32.8	17.0 - 220	n/a	n/a	n/a	
SUBSTANCE	UNITS	DISTRIBUTION SYSTEM				MCL (or MRDL)	MCLG (or MRDLG)	VIOLATION?	MAJOR SOURCE IN DRINKING WATER
		LEVEL FOUND *		RANGE					
<b>METALS</b>									
Hexavalent Chromium <sup>11</sup>	µg/L	0.160		0.100 - 0.280		n/a	n/a	n/a	
Strontium <sup>11</sup>	µg/L	148		120 - 220		n/a	n/a	n/a	
Vanadium <sup>11</sup>	µg/L	0.25		n/d - 0.65		n/a	n/a	n/a	
<b>INORGANIC CONTAMINANTS</b>									
Chlorate <sup>11</sup>	µg/L	30		23 - 51		n/a	n/a	n/a	

WSSC Drinking Water Treatment Process



Water is treated to EPA standards

To ensure that tap water is safe to drink, EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. As stewards entrusted to provide safe drinking water to our customers, WSSC treats our water to meet or exceed U.S. EPA standards.

WSSC drinking water undergoes extensive purification and treatment after it arrives at the plant and before it is sent to the distribution system for delivery to half a million homes and businesses. Our water treatment process includes: coagulation and flocculation (to make small particles and microorganisms in the raw source water adhere to each other); sedimentation (to remove most of those particles and microorganisms); filtration (to remove nearly all the remaining particles and microorganisms); chlorination (for disinfection); lime addition (to minimize the potential for dissolving lead solder used in older homes); and fluoridation (to prevent tooth decay). Orthophosphate is also added to help minimize lead corrosion and copper pipe pinhole leaks in home plumbing.

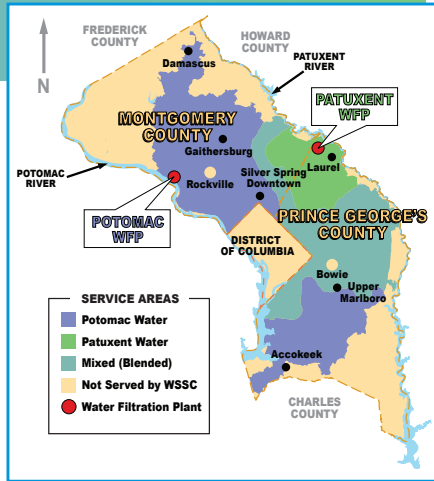
Information on *Cryptosporidium* Health Effects and WSSC Treatment

*Cryptosporidium* is a microbial pathogen found in surface water throughout the U.S. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised adults, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection.

WSSC is currently conducting monitoring of *Cryptosporidium* for a two-year period (March 2015 through February 2017) as required by the EPA. The results to date indicate that our Potomac and Patuxent sources are not affected by *Cryptosporidium*. While our existing treatment processes meet EPA requirements for addressing concerns about *Cryptosporidium*, as an extra precaution, we have installed UV disinfection at the Potomac Plant to provide an extra barrier of protection against *Cryptosporidium*. The UV disinfection upgrade at our Patuxent Plant is underway.

## Where Does My Water Come From?

The Patuxent and Potomac rivers are the sources of all the water we filter and process. The source water treated at the Patuxent Water Filtration Plant (WFP) is held in two reservoirs—Triadelphia and T. Howard Duckett (also known as Rocky Gorge)—and is pumped to the plant. The Potomac WFP draws water directly from the Potomac River. The map shows the approximate service areas of both plants. As indicated, some areas receive blended water, processed at both the Patuxent and Potomac WFPs.



Sewage treatment plants and septic systems, as well as animal waste from pets, agricultural livestock and wildlife may be sources of microbial contaminants. The salts and byproducts from winter road treatments may also be present in source water.

Potential sources of contamination in the Potomac River watershed include runoff from urban and agricultural land uses, and potential spills from highways and petroleum pipelines. Contaminants of particular concern include natural organic matter and disinfection byproduct (DBP) precursors, pathogenic microorganisms (*Cryptosporidium*, *Giardia*, fecal coliform), taste and odor-causing compounds, ammonia, sediment/turbidity and algae.

Potential sources of contamination in the Patuxent Reservoirs watershed include transportation, petroleum pipelines, agriculture, onsite septic systems, developed areas, and minor permitted discharges. Phosphorus runoff from urban/suburban and agricultural land uses is the primary contaminant of concern for this watershed. Sediment/turbidity, DBP precursors, iron, manganese, and pathogenic microorganisms are also concerns.

## Is My Water Hard or Soft?

Hard water contains more dissolved calcium and magnesium. Potomac water tends to be hard (typically averaging about 120–130 milligrams per liter). Patuxent water is soft (typically averaging about 60–65 milligrams per liter).

WSSC works with local agencies to protect the Potomac and Patuxent drinking water supplies, playing key roles in the Potomac Drinking Water Source Protection Partnership and the Patuxent Reservoirs Watershed Protection Group. Partnering with customers and neighbors is crucial to our efforts. If you are interested in learning more about how you can protect your drinking water supplies, please contact us at 301-206-8100.

## An Informational Statement from EPA on Lead

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. WSSC 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 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 or at [epa.gov/safewater/lead](http://epa.gov/safewater/lead).

## Notice of Availability of Unregulated Contaminant Monitoring Data

According to the State of Maryland legislation requiring WSSC to continue the latest cycle of Unregulated Contaminant Monitoring Rule (UCMR), WSSC is conducting monitoring of 28 unregulated contaminants on a quarterly basis. The federally required UCMR3 monitoring program ended in 2014. Samples are collected from two locations in each sampling event—tap water from both the Potomac and Patuxent WFPs. Metals and inorganics samples are also collected at two points in the distribution system. The detected contaminants are listed in this report. Only 6 of the 28 tested contaminants were detected in 2015, and all detections were at low levels (parts per billion range). The EPA has not established maximum contaminant levels for these unregulated contaminants, and the human health effects of these contaminants at the levels they were found is unclear. If you are interested in learning more about the results, please contact us at 301-206-7575 or visit [wsscwater.com/ucmr3](http://wsscwater.com/ucmr3). More information on UCMR3 is also available at the EPA's website (<http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/>).

## Starting at the Source

In 2002 and 2004, WSSC conducted source water assessments in cooperation with the Maryland Department of the Environment (MDE), evaluating the vulnerability of our two drinking water sources (Potomac and Patuxent) to contamination. The reports are available for public review at the main branches of the Montgomery and Prince George's county libraries, or by contacting MDE at 410-537-3714.

Source water from rivers and reservoirs generally picks up contaminants before it reaches water treatment plants. As water travels over the land surface or through the ground on its way to the water body, it dissolves naturally occurring minerals and vegetation/organic matter. It also can pick up pesticides, herbicides and other synthetic/volatile organic chemicals from agricultural land, golf courses, or residential and urban lands. Radioactive contaminants can be naturally occurring or the result of mining activities.

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