



Dear Customer,

The Washington Suburban Sanitary Commission is pleased to inform you that once again WSSC drinking water meets or exceeds U.S.

Environmental Protection Agency (EPA) standards for safety and quality. As we come to the end of a year of commemorating our 90th anniversary, we can again boast proudly that we have never had a drinking water violation.

WSSC delivers safe and reliable water to nearly 1.8 million people in Prince George's and Montgomery Counties. We have grown to become the eighth largest public water and wastewater system in the country. But WSSC's over 5,500 miles of drinking water pipeline is aging and requires immediate attention for repair and rehabilitation.

Many miles of WSSC's water pipe are nearing the end of their useful life. As we have seen in the past year there have been more breaks with serious consequences, including three Boil Water Advisories. In January WSSC recorded 611 breaks and leaks...the most ever in a single month. And many of us saw the dangerous situation caused by the rupture of a 66-in main on River Road in Montgomery County.

WSSC needs to systematically replace our aging infrastructure. Our engineers are working on a 30-Year Infrastructure Plan to increase the pace that we replace the pipes, but we do not yet have the resources to fund the program. We are working with officials from both counties to determine how we can raise the money. Infrastructure renewal is a costly task, one that is facing utilities all across our nation.

We ask for your support and understanding as we face this difficult undertaking. To facilitate your understanding of the infrastructure issue and other WSSC issues, we have developed a presentation on WSSC's water and wastewater infrastructure plan that our senior managers are sharing with groups throughout our service area. If you are a member of a civic or community group with ten or more members, we would be delighted to talk to your group. Contact the Communications and Community Relations Office at (301) 206-8100 to schedule the presentation.

We hope that you find the information in The Water Quality Report useful in illustrating our commitment to our mission to provide our community with safe and reliable water, which is life's most precious resource. We are working hard to ensure we will continue to fulfill that mission for generations to come.

Sincerely,

Teresa D. Daniell  
Interim General Manager



## 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 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 microbial contaminants are available from the EPA's Safe Drinking Water Hotline (1-800-426-4791) or EPA's website at [www.epa.gov/safewater](http://www.epa.gov/safewater). More information about contaminants and potential health effects can also be obtained from the Hotline or EPA's website.

## For more information

WSSC provides updated information about water quality and other aspects of the service delivery system at our website, [www.wsscwater.com](http://www.wsscwater.com), or customers can call 301-206-8100 for more information. This report and previous years' water quality reports are also available on our website at <http://www.wsscwater.com/info/QandA.cfm>.

The public is also invited to a variety of project- and policy-related public hearings and informational workshops throughout the year. Commissioners' meetings are generally held on the third Wednesday of every month, from 8:30 am to 5 pm. Public hearings on our proposed capital improvements program are held in September, in Rockville and in Largo. Budget hearings are usually scheduled to begin in February.

WSSC provides speakers and tours for schools, homeowner associations and service groups. We also organize numerous public events each April as a month-long celebration of Earth Day.

To request a speaker, a tour, or to obtain times and locations of the public hearings and events, please visit our website or call 301-206-8100.

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

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

SUBSTANCES	UNITS	PATUXENT TAP		POTOMAC TAP		MCL (OR TT)	MCLG	VIOLA- TION?	MAJOR SOURCES IN DRINKING WATER
		LEVEL FOUND*	RANGE	LEVEL FOUND*	RANGE				
PHYSICAL									
pH	S.U.	7.4	7.2 - 8.0	7.4	7.2 - 7.7	n/a	n/a	NO	Soil runoff
Turbidity	NTU	0.10 <sup>1</sup>	n/a	0.19 <sup>1</sup>	n/a	TT=1 NTU	n/a	NO	
	%<0.3 NTU	100	n/a	100	n/a	TT=95% min	n/a	NO	
METALS									
Antimony	µg/L	n/d	n/d - <2	n/d	n/d - <2	6	6	NO	Fire retardants; ceramics; electronics; solder Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Arsenic	µg/L	n/d	n/d - <2	n/d	n/d - <2	10	0	NO	
Barium	mg/L	0.026	0.019 - 0.072	0.036	0.025 - 0.065	2	2	NO	Discharge of drilling wastes & metal refineries; erosion of natural deposits
Chromium	µg/L	n/d	n/d - 2	<2	n/d - 4	100	100	NO	Discharge from steel & pulp mills; erosion of natural deposits
Copper	mg/L	0.012	0.002 - 0.018	<0.002	n/d - 0.002	n/a	n/a	n/a	Erosion of natural deposits; algae control treatment chemicals
Thallium	µg/L	n/d	n/d - <1	n/d	n/d	2	0.5	NO	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories
INORGANICS									
Residual Chlorine	mg/L	1.8	1.5 - 2.4	2	1.4 - 3.8	TT=>0.2	n/a	NO	Water additive used to control microbes
Fluoride	mg/L	1.03	0.38 - 1.46	0.92	0.50 - 1.26	4	4	NO	Water additive which promotes strong teeth; erosion of natural deposits
Nitrate	mg/L	0.95	0.63 - 2.30	1.56	0.51 - 3.07	10	10	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite	mg/L	n/d	n/d - 0.03	n/d	n/d - <0.02	1	1	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
DISINFECTION BYPRODUCT (DBP) PRECURSOR									
Total Organic Carbon	n/a	met TT requirements		met TT requirements		TT	n/a	NO	Naturally present in the environment
PESTICIDES & SYNTHETIC ORGANIC CHEMICALS									
Dalapon	µg/L	<1	n/d - 1	<1	n/d - <1	200	200	NO	Runoff from herbicide used on rights of way
Di(2-ethylhexyl) phthalate	µg/L	n/d	n/d - <2	<2	n/d - <2	6	0	NO	Discharge from rubber & chemical factories
VOLATILE ORGANIC CHEMICALS (VOCs)									
1,2,4-Trichlorobenzene	µg/L	n/d	n/d - <0.5	n/d	n/d	70	70	NO	Discharge from textile-finishing factories
1,2-Dichlorobenzene	µg/L	n/d	n/d - <0.5	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 - <0.5	75	75	NO	Discharge from industrial chemical factories
Toluene	mg/L	n/d	n/d-<0.0005	n/d	n/d	1	1	NO	Discharge from petroleum factories
RADIONUCLIDES									
Gross Alpha	pCi/L	1	<1 - 2	<1	<1 - 2	15	0	NO	Erosion of natural deposits
Gross Beta	pCi/L	3	2 - 4	4	3 - 4	50 <sup>2</sup>	n/a	NO	Decay of natural and man-made deposits
Radium 228	pCi/L	<1.0	<0.7 - <1.0	<0.9	<0.7 - <1.0	n/a	n/a	NO	Erosion of natural deposits
SUBSTANCES	UNITS	CUSTOMER TAP <sup>3</sup>				AL	MCLG	VIOLA- TION?	MAJOR SOURCES IN DRINKING WATER
		90 th PERCENTILE <sup>4</sup>		# of SITES ABOVE AL					
METALS									
Copper	mg/L	0.122		0 sample		1.3	1.3	NO	Corrosion of household plumbing systems
Lead	µg/L	2.5		1 sample		15	0	NO	Corrosion of household plumbing systems
SUBSTANCES	UNITS	DISTRIBUTION SYSTEM				MCL (or MRDL)	MCLG (or MRDLG)	VIOLA- TION?	MAJOR SOURCES IN DRINKING WATER
		LEVEL FOUND <sup>7</sup>		RANGE					
BACTERIOLOGICAL									
Total Coliform	% positive per month	0.30		0.00 - 1.77		5	0	NO	Naturally present in the environment
<i>E. coli</i>	% positive per month	0		n/a		n/a	n/a	NO	Human and animal fecal waste
No. of <i>E. coli</i> Positive Repeat Samples	Count	0		n/a		0	0	NO	
DISINFECTANT & DBPs									
Residual Chlorine	mg/L	1.33 <sup>5</sup>		<0.1 - 4.40		4 <sup>6</sup>	4 <sup>6</sup>	NO	Water additive used to control microbes
Haloacetic Acids	µg/L	32.6 <sup>7</sup>		12.1 - 61.3		60 <sup>8</sup>	n/a	NO	By-product of drinking water chlorination
Trihalomethanes, Total	µg/L	42.0 <sup>7</sup>		10.4 - 90.0		80 <sup>8</sup>	n/a	NO	By-product of drinking water chlorination

## DETECTED UNREGULATED CONTAMINANT

SUBSTANCES	UNITS	PATUXENT TAP		POTOMAC TAP		MCL (OR TT)	MCLG	VIOLA- TION?	MAJOR SOURCES IN DRINKING WATER
		LEVEL FOUND*	RANGE	LEVEL FOUND*	RANGE				
INORGANICS									
Perchlorate +++	µg/L	n/a	n/a	0.48	0.28 - 0.93	n/a	n/a	n/a	Rocket fuels, explosives, fireworks
VOCs									
2,2-Dichloropropane	µg/L	n/d	n/d - <0.5	n/d	n/d - <0.5	n/a	n/a	n/a	
Bromomethane	µg/L	n/d	n/d - <0.5	n/d	n/d - <0.5	n/a	n/a	n/a	
Chloromethane	µg/L	n/d	n/d - <0.5	n/d	n/d - <0.5	n/a	n/a	n/a	
Naphthalene	µg/L	n/d	n/d - <0.5	n/d	n/d	n/a	n/a	n/a	
SPECIAL VOLUNTARY MONITORING +++									
Atrazine	µg/L	0.3	n/a	0.1	n/a	3	3	NO	Runoff from herbicides used on row crops
Carbamazepine	µg/L	<0.001	n/a	0.010	n/a	n/a	n/a	n/a	Pharmaceutical usage

+++ - see section entitled "Note on three special monitoring studies"

## TERMS DEFINED

<b>MCL</b>	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.	<b>MRDLG</b>	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.	=	Equals
<b>MCLG</b>	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.	<b>Turbidity</b>	A measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our treatment process.	<	Less than
<b>TT</b>	Treatment Technique. A required process intended to reduce the level of a contaminant in drinking water.	<b>S.U.</b>	Standard Unit	*	Based on yearly average except as noted.
<b>AL</b>	Action level. The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.	<b>NTU</b>	Nephelometric Turbidity Unit	1	Hourly maximum
<b>MRDL</b>	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.	<b>mg/L</b>	Milligrams per liter, equal to parts per million (ppm). The equivalent of one minute in 2 years or one penny in \$10,000.	2	EPA considers 50 pCi/L to be the level of concern for beta particles.
		<b>µg/L</b>	Micrograms per liter, equal to parts per billion (ppb). The equivalent of one minute in 2,000 years or one penny in \$10 million.	3	Most recent sampling, between June and September 2008
		<b>pCi/L</b>	Picocuries per liter (a measure of radiation)	4	If more than 10% of qualified customer taps exceed the action level, water system is required to take additional steps to control corrosiveness of their water.
		<b>n/d</b>	Not detected	5	Running annual average
		<b>n/a</b>	Not applicable	6	MRDL or MRDLG; based on running annual average.
				7	Highest running annual average
				8	Based on running annual average

## Water is treated to EPA standards

To ensure that our water is safe to drink, we treat and disinfect it to meet or do better than standards set by the U.S. EPA.

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); filtration (to remove nearly all the remaining particles); 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 copper pipe pinhole leaks in home plumbing.

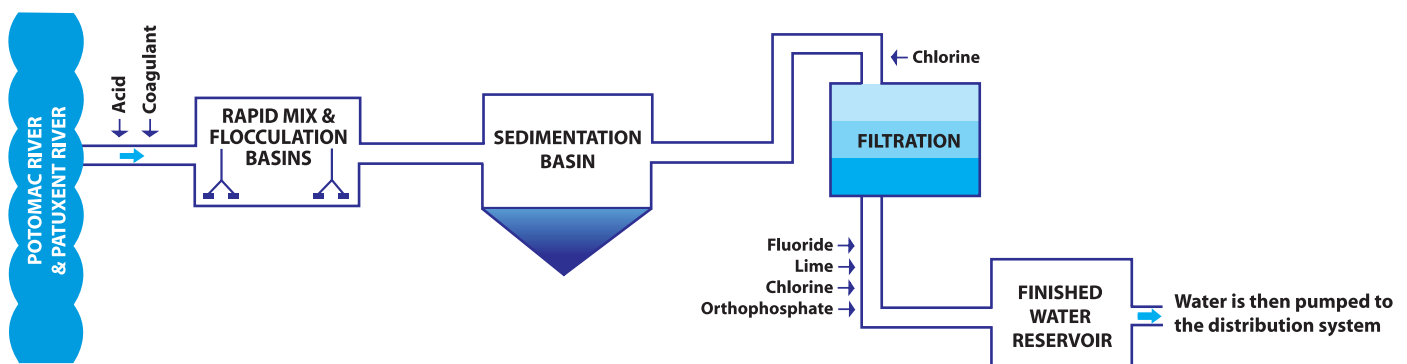
## An Informational Statement from EPA on Lead

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 <http://www.epa.gov/safewater/lead>.

## Information on Cryptosporidium monitoring and health effects

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Cryptosporidium was not detected in our required source water monitoring in 2008. Based on our Cryptosporidium monitoring results, our existing treatment processes meet pending EPA requirements for addressing concerns about Cryptosporidium; nevertheless, as an extra precaution, we are proceeding with the installation of UV disinfection to provide an extra barrier of protection against Cryptosporidium.

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 people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. As stated above, our existing treatment is considered adequate for addressing concerns about Cryptosporidium, and the addition of UV disinfection will soon provide an additional safeguard. Nevertheless, we encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection.





## Where does my water come from?

Two rivers, the Patuxent and Potomac, 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 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.

## Is my water hard or soft?

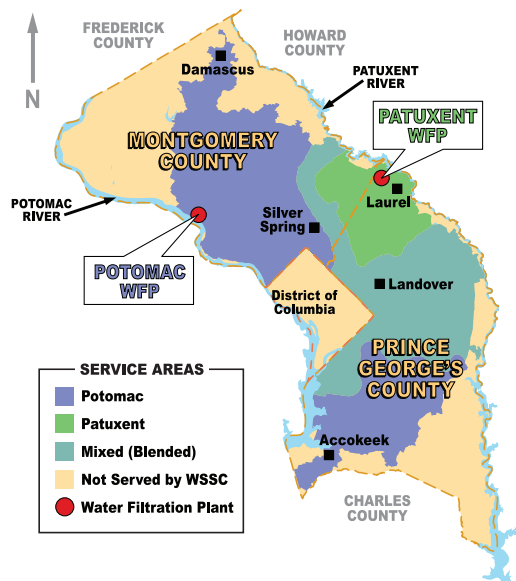
Potomac water tends to be hard (averaging about 120-130 milligrams per liter). Patuxent water is soft (averaging about 60-65 milligrams per liter). (Hard water contains more dissolved calcium and magnesium.)

## Note on three special monitoring studies

Perchlorate is a naturally occurring as well as a manmade compound. Its presence in drinking water is currently unregulated and utilities are not required to monitor for it. However, WSSC voluntarily participated in a non-regulatory perchlorate sampling project for the Potomac River funded by the U.S. EPA. We participated because of a concern that high enough exposure to perchlorate can impact thyroid functions, and through our participation we confirmed that perchlorate presence in our water was well below the 15 part per billion (ppb) level currently considered by EPA as a threshold for health concerns. The samples collected in 2008 from our Potomac water filtration plant source and treated water showed trace occurrence of perchlorate at levels far below the EPA threshold level. Furthermore, the perchlorate levels in the 2008 samples were also below the much more stringent 1 ppb advisory level currently recommended by the Maryland Department of the Environment (MDE). The amounts were so small that they could only be detected by methods that didn't exist a decade ago. We thus consider the occurrence of perchlorate at levels observed in our Potomac plant water to be insignificant and not a health concern. However, if you have special health concerns, you may want to get additional information from the EPA at <http://www.epa.gov/safewater/ccl/perchlorate/perchlorate.html> or contact the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

WSSC also tested our source and drinking water during the second quarter of 2008 for 19 "emerging contaminants" (EC) in cooperation with regional partners. ECs are commonly described as chemicals or materials that have a real or perceived threat to human health or the environment or have a lack of published health standards. They include endocrine disrupting compounds (EDCs) and pharmaceutical drugs and personal care products (PPCPs). Only two EC compounds (carbamazepine and atrazine) were detected in the treated water (see table on 2nd page for results). WSSC drinking water is considered safe to consume because the best research to date does not demonstrate that there is a human health risk due to the extremely low levels of ECs that were found in WSSC's drinking water. An important recent study by the Water Research Foundation affirms that the levels of ECs in our water do not suggest a human health risk, see <http://www.waterresearchfoundation.org/research/TopicsAndProjects/projectProfile.aspx?pn=3085> for details. More detailed information on our 2008 monitoring study is available at <http://www.wsscwater.com/info/EmergingContaminantsInfo.pdf>.

Finally, in 2008, WSSC also participated in the second cycle of EPA's Unregulated Contaminant Monitoring Regulation (UCMR2). None of the monitored contaminants were detected in our treated water from either plant or in the distribution system. The UCMR2 results can be obtained from the 2008 "Tap Water Analysis" report on our website (<http://www.wsscwater.com/info/tap.cfm>) or by calling us at 301-206-8064.



## Starting at the source

In 2002 and 2004, WSSC conducted source water assessments in cooperation with the 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 can also pick up pesticides, herbicides, and other synthetic/volatile organic chemicals from agricultural land, golf courses, or residential and urban lands. 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 urban and agricultural land uses, and potential spills from highways and petroleum pipelines. Contaminants of particular concern include natural organic matter and disinfection by-product (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, on-site septic systems, developed areas, and minor permitted discharges. Phosphorus is the primary contaminant of concern for this watershed, while turbidity, DBP precursors, iron, manganese, and pathogenic microorganisms are also concerns.

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.



**Washington Suburban  
Sanitary Commission**

14501 Sweitzer Lane, Laurel MD 20707  
301-206-WSSC (9772)

[www.wsscwater.com](http://www.wsscwater.com)