



2012 DRINKING WATER QUALITY REPORT

– Featuring 2011 Water Quality Results



DEAR CUSTOMERS:

I am very pleased to present your 2012 Water Quality Report. You can be confident in how reliable, clean and affordable your drinking water is every time you turn on the tap. For good reason, tap water is subject to more stringent regulations than most products you can use at home – including bottled water.

In the pages that follow, you'll learn how DC Water works to make sure the water we deliver meets those regulations and beyond. This includes the results of the thousands of water quality tests we perform every year. We mail this information to every address in the District. To download this report or view current test results, visit dcwater.com/testresults.

Sincerely,

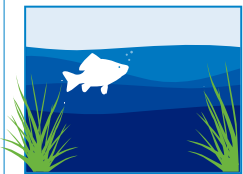
George S. Hawkins, General Manager

YOUR DRINKING WATER QUALITY

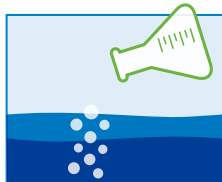
Your high-quality tap water continues to surpass all United States Environmental Protection Agency (EPA) drinking water standards. In 2011, DC Water collected more than 5,600 water samples from hydrants, commercial buildings and household taps throughout the District of Columbia and conducted over 41,000 tests. DC Water maintains about 1,300 miles of pipe and provides drinking water to more than 600,000 residents and businesses throughout the District of Columbia and portions of Maryland and Virginia. This report provides an annual snapshot of regulatory and voluntary water testing programs that help safeguard our drinking water supply.

Drinking water quality is a shared responsibility of DC Water and residents.

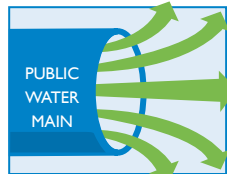
Drinking water is drawn from the Potomac River by the Washington Aqueduct.



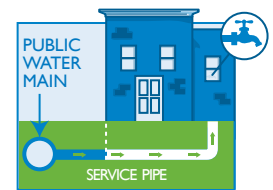
The Washington Aqueduct is responsible for water treatment.



DC Water is responsible for maintaining and monitoring water quality in the distribution system.



Customers are responsible for ensuring that water quality is maintained on private property.



DC Water is committed to safeguarding its water supply. 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 indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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. The US Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.



Drinking water for the District of Columbia comes from the Potomac River, a “surface water” supply. The US Army Corps of Engineers, Washington Aqueduct draws water from the Potomac River and is responsible for treatment to meet safe drinking water standards. DC Water purchases drinking water from the Washington Aqueduct. The Washington Aqueduct is responsible for water quality monitoring in the Potomac River and testing treated water before it enters the distribution system. To view the Washington Aqueduct’s Annual Water Quality Report, visit dcwater.com/wadreport.

As water travels over the surface of the land and into the Potomac River, it dissolves naturally occurring minerals, can pick up substances from the presence of animals or human activity, and in some cases, radioactive material. Prior to water treatment, contaminants that may be present in source water include:

- Microorganisms, such as viruses and bacteria that may come from agricultural livestock operations, septic systems, wastewater treatment plants and wildlife.
- Inorganic chemicals, such as salts and metals that can be naturally occurring or result from urban stormwater runoff, farming, and industrial or domestic wastewater discharges.
- Pesticides and herbicides that may come from agriculture, urban stormwater runoff and residential uses.
- Organic chemicals, including synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and also may come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive chemicals that can be naturally-occurring or the result of mining activities.

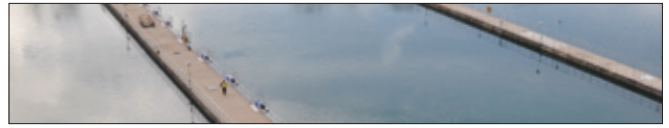
The Interstate Commission on the Potomac River Basin (ICPRB) conducted a source water assessment of the Potomac River watershed in April 2002. The assessment identified urban runoff, toxic spills, agriculture and inadequate wastewater treatment as potential contamination sources to the water supply. The source water assessment report can be found at potomacriver.org/2012/pubs. For more information, contact the ICPRB at (301) 984-1908.

PROTECTING YOUR DRINKING WATER SUPPLY

Protect The Watershed – A watershed is an area of land that drains to a particular point along a stream or river. The best way to protect the Potomac River from contamination is to help protect the watershed. You can help protect your drinking water supply in several ways:

- Prevent trash and debris from entering storm drains and catch basins.
- Dispose of household waste, grease and motor oil properly.
- Report spills that could potentially enter the waterways.
- Do not flush pharmaceuticals down the toilet or drain.

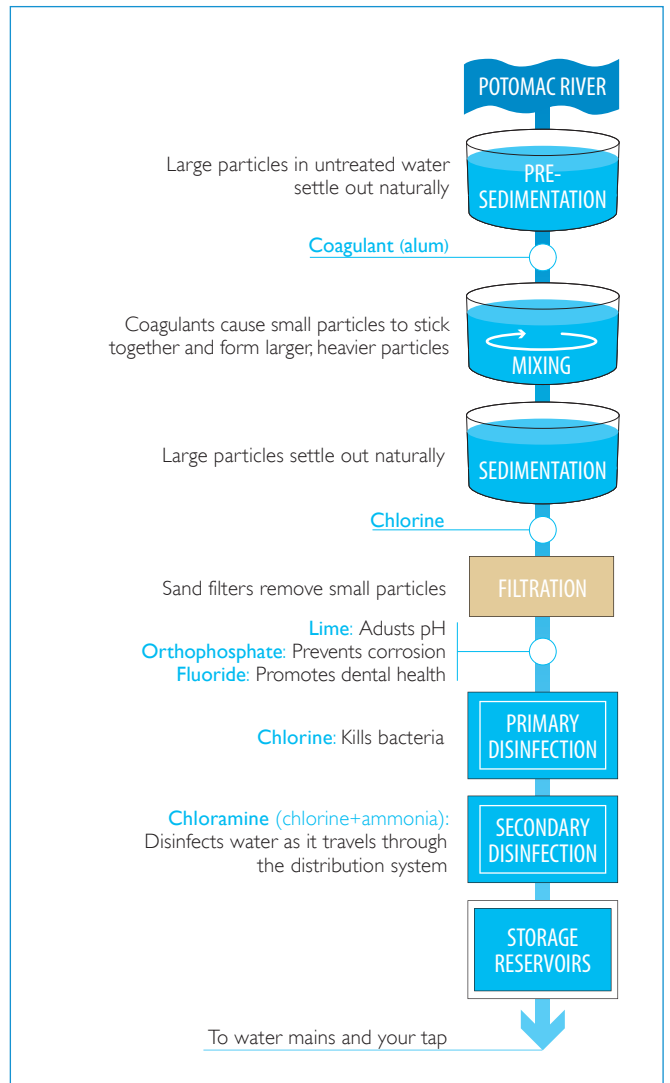
For more information about protecting the Potomac River, visit the Potomac Drinking Water Source Protection Partnership at potomacdwspp.org. Contact the District of Columbia 311 Call Center to report a spill or for information about waste and pharmaceutical disposal.



The Washington Aqueduct draws water from the Potomac River and treats the water at the Dalecarlia and McMillan Treatment Plants. The treatment process includes sedimentation, filtration, fluoridation, pH adjustment, disinfection using free chlorine and chloramine (chlorine + ammonia), and corrosion control using orthophosphate.

Chloramine is a common drinking water disinfectant and helps to ensure the safety of tap water as it travels from the treatment plant to customer taps. However, chloramine must be removed from water used for kidney dialysis and aquariums. Contact your kidney dialysis center, physician or local pet store about water treatment for removing chloramine. For more information about chloramine, visit dcwater.com/water/faqs.

WATER TREATMENT PROCESS
Dalecarlia and McMillan Water Treatment Plants



Regulated Contaminants

WASHINGTON AQUEDUCT WATER TREATMENT PLANT PERFORMANCE						
	Units	EPA Limits		DC Drinking Water		Description / Typical Sources of Contaminants
		MCLG	MCL or TT			
Turbidity	NTU	NA	TT = 1 (maximum)	(maximum) 0.09 (hourly)		Turbidity is often caused by soil runoff
	% of monthly turbidity readings ≤ 0.3 NTU	NA	TT = 95% (minimum)	100%		
Total Organic Carbon (TOC)	% removal	NA	TT 25 % to 35% removal	40% (lowest annual average) 25% to 62% (range of monthly averages)		Naturally present in the environment

WATER ENTERING DC WATER'S DISTRIBUTION SYSTEM						
	Units	EPA Limits		DC Drinking Water		Description / Typical Sources of Contaminants
		MCLG	MCL	Highest	Range	
INORGANIC METAL						
Arsenic	ppb	0	10.	0.9	ND to 0.9	Erosion of natural deposits; runoff from orchards
Barium	ppm	2	2	0.05	0.03 to 0.05	Erosion of natural deposits
Chromium	ppb	100	100	3.5	ND to 3.5	Erosion of natural deposits
Selenium	ppb	50	50	1.3	ND to 1.3	Erosion of natural deposits; discharge from mines
INORGANIC ANIONS						
Fluoride	ppm	4.0	4.0	1.1	0.5 to 1.1	Water additive which promotes strong teeth
Nitrate ¹	ppm	10	10	2.6	0.3 to 2.6	Runoff from fertilizer use; erosion of natural deposits
Nitrite ¹	ppm	1	1	0.03	ND to 0.03	Runoff from fertilizer use; erosion of natural deposits
SYNTHETIC ORGANIC CONTAMINANTS						
Atrazine	ppb	3	3	0.6	ND to 0.6	Runoff from herbicide used on row crops
Simazine	ppb	4	4	0.2	ND to 0.2	Herbicide runoff
VOLATILE ORGANIC CONTAMINANTS						
None Detected						
RADIONUCLIDES						
Combined Radium	pCi/L	0	5	1.2	ND to 1.2	Erosion of natural deposits

DC WATER'S DISTRIBUTION SYSTEM						
	Units	EPA Limits		DC Drinking Water		Description / Typical Sources of Contaminants
		MCLG	MCL or TT	Highest	Range	
MICROBIAL INDICATORS						
Total Coliform Bacteria	% of total coliform-positive samples	0	5% (maximum)	1.7%	0 to 1.7%	Naturally present in the environment
Fecal Coliform or <i>E.coli</i> bacteria	Number positive	0	0	0	0	Human and animal fecal waste
DISINFECTANTS AND DISINFECTION BYPRODUCTS						
Chlorine	ppm	4 (MRDLG) (annual average)	4.0 (MRDL) (annual average)	3.07 (Highest running annual average)	0.0 to 4.2 (Range of single site results)	Water additive used to control microbes; Chlorine is combined with ammonia to form chloramine
Total Trihalomethanes	ppb	NA	80 (4-quarter running average)	41 (Highest 4-quarter running average)	23 to 67 (Range of single site results)	By-product of drinking water disinfection
Haloacetic Acids (5)	ppb	NA	60 (4-quarter running average)	27 (Highest 4-quarter running average)	15 to 36 (Range of single site results)	By-product of drinking water disinfection

continued

Regulated Contaminants *continued*

DC WATER'S DISTRIBUTION SYSTEM <i>continued</i>						
	Units	EPA Limits		DC Drinking Water		Description / Typical Sources of Contaminants
		MCLG	Action Level	Samples above AL	90 th Percentile	
LEAD AND COPPER (at the customer's tap)						
LEAD						
January-June 2011 Monitoring Period	ppb	0	15	1 of 103	5	Corrosion of household plumbing systems; erosion of natural deposits
July-December 2011 Monitoring Period	ppb	0	15	3 of 100	5	
COPPER						
January-June 2011 Monitoring Period	ppm	1.3	1.3	0 of 102	0.1	Corrosion of household plumbing systems; erosion of natural deposits
July-December 2011 Monitoring Period	ppm	1.3	1.3	0 of 100	0.1	

Contaminants without Primary MCLs or Treatment Techniques

WATER ENTERING DC WATER'S DISTRIBUTION SYSTEM			
Parameter	Units	Average	Range
Aluminum	ppb	39	15 to 166
Bromide	ppm	0.003	ND to 0.30
Caffeine	ppb	ND	ND to 0.07
Calcium	ppm	40	24 to 58
Chloride	ppm	34	15 to 146
Chromium-6	ppb	0.06	ND to 0.09
Cobalt	ppb	ND	ND to 0.2
Copper ²	ppb	4.2	0.6 to 23
Iron	ppb	ND	ND to 18
Lead ²	ppb	0.2	ND to 1.1
Lithium	ppb	2.2	1.2 to 5.6
Magnesium	ppm	6.9	0.8 to 15
Manganese	ppb	0.8	ND to 3.5
Metolachlor	ppb	0.06	ND to 0.3
Molybdenum	ppb	0.6	ND to 1.7
Nickel	ppb	2.0	1.6 to 6.6
Orthophosphate	ppm	2.4	1.8 to 2.8
Perchlorate	ppb	0.4	0.2 to 1.9
Potassium	ppm	2.9	2.0 to 3.8
Sodium	ppm	21	7 to 72
Strontium	ppb	159	79 to 270
Sulfate	ppm	52	36 to 79
Thorium	ppb	ND	ND to 0.3
Total Ammonia	ppm	0.7	ND to 1.0
Total Hardness	ppm	127	75 to 180
Total Hardness	Grains per gallon	7.4	4.4 to 11
Vanadium	ppb	0.6	0.2 to 1.6
Zinc	ppb	1.1	ND to 4.6

OTHER WATER QUALITY PARAMETERS—DC WATER'S DISTRIBUTION SYSTEM AND TAP MONITORING RESULTS			
Parameter	Units	Average	Range
Alkalinity	ppm	64	29 to 104
Aluminum - Total	ppm	0.016	0 to 0.302
Ammonia-Free	ppm	0.17	0.04 to 0.32
Calcium Hardness	ppm	99	70 to 142
Calcium Hardness	Grains per gallon	5.8	4.0 to 8.3
Chromium-6	ppb	0.07	ND to 0.14
Dissolved Orthophosphate	ppm	2.20	1.39 to 2.6
Iron ³	ppm	0.31	0 to 15.1
Nitrite	ppm	0.04	0 to 0.352
pH	—	7.58	7.38 to 7.73
Temperature	Degrees Fahrenheit	66	39 to 92
Total Dissolved Solids	ppm	191	126 to 304

¹ The levels shown for this parameter were derived from both compliance data and routine process control data.

² Results represent levels entering DC Water's distribution system and are distinct from lead and copper compliance monitoring conducted in residential homes.

³ The secondary maximum contaminant level (SMCL) for iron is 0.3 ppm. SMCLs are established by EPA only as guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color, or odor. These contaminants are not considered to present a risk to human health at the SMCL.

ABBREVIATIONS AND DEFINITIONS

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.

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.

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.

NA: Not applicable.

ND: Not detected

NTU (Nephelometric Turbidity Units): Turbidity measurement using an instrument called a nephelometer, which measures the intensity of light scattered by suspended matter in the water.

pCi/L: picocuries per liter (a measure of radioactivity)

ppm: parts per million

ppb: parts per billion

ppt: parts per trillion

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

IMPORTANT HEALTH INFORMATION

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.

The U.S. Environmental Protection Agency (EPA) and the Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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. DC Water 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 at least 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. If you are pregnant or have children under age six, you should use filtered tap water for drinking and cooking until all sources of lead in drinking water have been removed. This includes water used for making infant formula, beverages and ice. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800-426-4791), epa.gov/safewater/lead and dcwater.com/lead.

Cryptosporidium

Cryptosporidium is a microbial pathogen found in most surface water in the U.S. The Washington Aqueduct monitors for *Cryptosporidium* in the Potomac River every month. *Cryptosporidium* has not been detected in a single sample since October 2005.

Ingesting *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing a life-threatening illness. DC Water encourages immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection.

DC WATER CONTACT INFORMATION

dcwater.com

Drinking Water Division.....	(202) 612-3440
Customer Service.....	(202) 354-3600
24-Hour Command Center.....	(202) 612-3400
External Affairs.....	(202) 787-2200

Additional contacts:

US Army Corps of Engineers Washington Aqueduct.....	(202) 764-2753 washingтонаqueduct.nab.usace.army.mil
EPA Safe Drinking Water Hotline.....	(800) 426-4791 epa.gov
District Department of the Environment.....	(202) 535-2600 ddoe.gov
Interstate Commission on the Potomac River Basin.....	(301) 984-1908 potomacriver.org

이 안내지에는 귀하께서 드시는 식수의 질에 대한 중요한 정보가 들어있습니다. 이해하시는데 도움이 필요하시거나 질문이 있으시면 한인봉사센터 (Korean Community Service Center: KCSC) 에서 도와드릴 것이오니, 240-683-6663 으로 연락 주시기 바랍니다.

本手冊備有有關飲用水的信息，若在閱讀的過程中需要幫忙解釋請與美京中華基督教會聯絡。電話是：202-898-0061

Copias en español de estos folleto están a la disposición en las bibliotecas públicas y en las clínicas del Departamento de Salud del District of Columbia, o llamando a la Oficina de Asuntos Públicos de la Autoridad de Agua y Desagües al teléfono (202) 787-2200.

GET INVOLVED

The DC Water Board of Directors conducts business meetings that are open to the public, generally on the first Thursday of each month at the Blue Plains Facility, 5000 Overlook Ave, SW, Washington, DC 20032. Please visit dcwater.com or contact the Office of the Board Secretary at (202) 787-2330 to confirm a meeting time and location.

HOUSEHOLD WATER QUALITY TIPS

- When water is not used for several hours, flush the cold tap for two minutes before using water for drinking or cooking.
- Do not use hot tap water for drinking and cooking.
- Routinely clean aerator strainers located at the tip of your faucets.

For more tips, download DC Water's Household Water Quality Guide at dcwater.com/homeguide or call 202-787-2200 and request a mailed copy.



2012 DRINKING WATER QUALITY REPORT

District of Columbia Water and Sewer Authority
5000 Overlook Avenue, SW
Washington, DC 20032

William M. Walker – *Chairman of the Board*
George S. Hawkins – *General Manager*

PRST STD
U.S. Postage
PAID
Washington, DC
Permit # 00050



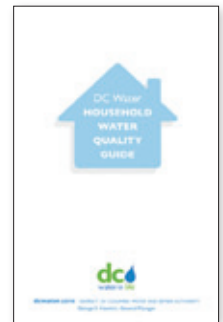
TapIt is a network of more than 160 DC locations providing free, public access to refill your reusable water bottle.

FIND A MAP OF CURRENT DC LOCATIONS AT:

tapitwater.com/dc

drink tap TapIt

NOW AVAILABLE
DC Water's
HOUSEHOLD WATER QUALITY GUIDE



Download:
dcwater.com/homeguide
or call 202-787-2200 and request a mailed copy.

