

2018 Annual WATER QUALITY REPORT

Arlington's High-Quality Water

This annual "Consumer Confidence Report," required by the Safe Drinking Water Act, tells you where your water comes from, what our tests show about it and other things you should know about drinking water.

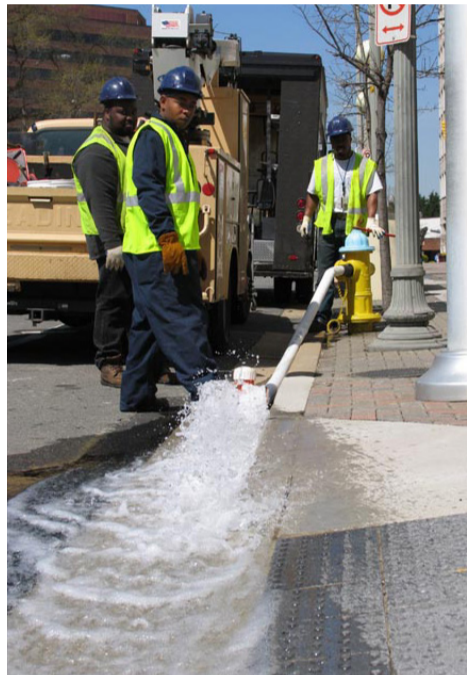
Arlington's Department of Environmental Services (DES) provides residents with a safe and reliable supply

of high-quality drinking water. DES tests County water using sophisticated equipment and advanced procedures. Our water meets all state and federal standards for quality.

For more information about Arlington County's water, visit: water.arlingtonva.us.

Notice to building managers for office, commercial and multifamily residential buildings: Please share the information in the Water Quality Report with all occupants of your facility. Contact the Water Control Center at 703-228-6555 for additional information or copies of this report.

Aviso a los administradores de edificios de oficinas, propiedades comerciales y unidades residenciales: Por favor comparta la información de este informe sobre la Calidad del Agua con los ocupantes de su establecimiento. Comuníquese con el Centro Para Control del Agua al 703-228-6555 para mayor información o para recibir copias de este informe.



Where Arlington's Water Comes From

Arlington County purchases water from the Washington Aqueduct Division of the Army Corps of Engineers. The Washington Aqueduct operates two water treatment plants in the District of Columbia. The plants treat water from a surface water source, the Potomac River.

Arlington's water is treated at the Dalecarlia Treatment Plant located on MacArthur Boulevard in Northwest Washington. The Interstate Commission on the Potomac River Basin conducted the 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. Contact the Interstate Commission on the Potomac River Basin at 301-984-1908 for more information.

Arlington County maintains water quality assurance through our regular water distribution and storage evaluation and routine water sampling analysis.

What's in the Water?

The sources of drinking water – both tap water and bottled water – include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material. The water also can pick up substances resulting from animals or human activity.

Contaminants that may be present in water sources 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 stormwater 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 stormwater 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 stormwater runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

The water treatment process removes contaminants, making Arlington's water safe to drink.

Water and Sewer Rates

FY 2020 Rate Increase

Effective July 1st, 2019 the water rate will increase to \$4.70 per 1,000 gallons of metered water consumption and the sewer rate will increase to \$9.10, for a combined rate of \$13.80 per 1,000 gallons. The last rate increase was in May 2017. Water/sewer fees are the main source of revenue for the Utilities Fund, which pays for the operations and maintenance of the County's water distribution and sewage collection systems and the Water Pollution Control Plant, as well as wholesale water purchases from the Washington Aqueduct. Utilities Fund revenues also pay for debt service and a transfer to the utilities capital fund to finance projects that maintain, upgrade, and expand the County's water, sewer and wastewater infrastructure.

Measuring the Rates

Each year, the County Board approves the water rate and a separate sanitary sewer rate. Both charges are based on the amount of water registered on the water meter that is adjacent to a residence or business. Every three months, residents in duplex and single-family homes receive utilities bills from the County.

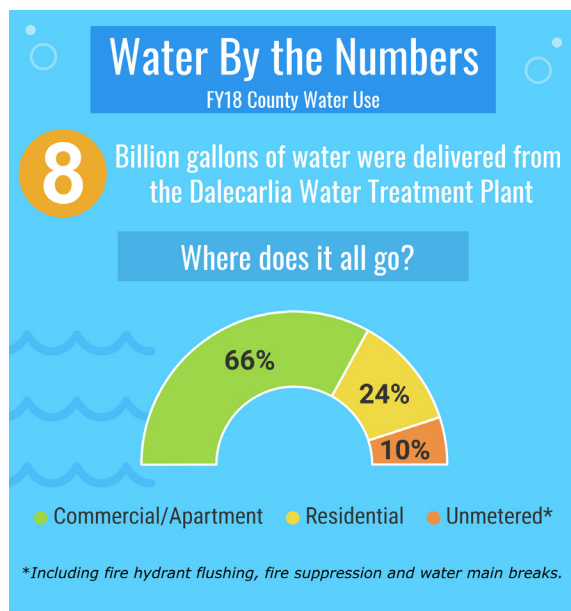
Simple Steps to Save Water and Lower Your Bill

- Repair leaks in faucets, toilets and hoses.
- Install more efficient water fixtures, such as aerators and low volume toilets.
- Run your clothes washer and dishwasher only when full.
- Take shorter showers.
- Turn off the water while you brush your teeth, shave and shampoo your hair.
- Conserve when watering your lawn — use only what is needed, prevent run-off and avoid watering during the heat of the day. Reminder: There are no credits available to sewer charges for water used for irrigation.

The utilities bills include charges for water, sewer and refuse services. Need more information? Call 703-228-6570 with questions about your water and sewer bills. Or go to water.arlingtonva.us; click "customer service."

Average Levels of Compounds in Arlington Drinking Water

Compound	Level
Calcium	37 mg/L
Chloramine Residual	2.8 mg/L
Chloride	29 mg/L
Fluoride	0.7 ppm
Total Hardness	118 mg/L or 7 grains/gal
Magnesium	6 mg/L
Nickel	1 ppb
pH	7.6
Sodium***	20 ppm
Sulfate	38 mg/L



*** Although sodium is not regulated by an MCL, the EPA's Fall 2009 Drinking Water Advisory Table identified 20mg/L as a health-based value for a person on a 500 mg/day restricted sodium diet.

Important Health Information

Source water is tested for cryptosporidium, a parasite that has caused outbreaks of intestinal disease in the United States and overseas. It is common in surface water, difficult to kill, and even the best water system will contain some live parasites. The Environmental Protection Agency (EPA) is currently working to improve the control of microbial pathogens, namely the protozoan cryptosporidium, in drinking water. Cryptosporidium was monitored in the Potomac River source water on a monthly basis in 2018 and was detected in eight samples collected at the Little Falls and/or Great Falls Intakes in February, March, April, June, and November 2018 with concentrations ranging from 0.093 to 0.350 Oocysts/L. Giardia was also monitored in the source water monthly in 2018 and was detected in ten samples collected at the Little Falls and/or Great Falls Intakes in February, March, April, June, October, November, and December 2018 with concentrations ranging from 0.091 to 1.143 Cysts/L. No precaution about County drinking water is currently necessary for the general public.



How to Read This Table

It's easy! Our water is tested to ensure it's safe and healthy. Test results from 2018 are presented in the table (footnotes below).

The column marked **Goal** shows the Maximum Contaminant Level Goal or **MCLG**. This 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.

The column marked **Maximum Allowed** is the Maximum Contaminant **Level** or **MCL**. This 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 Residual Level (MRDL) is the highest level of a residual disinfectant that is allowed in drinking water.

Maximum Residual Disinfectant Level Goal (MRDLG) is the level of residual disinfectant below which there is no known or expected risk to health. MRDLGs allow for a margin of safety.

Non-Detects (ND) – lab analysis indicates the contaminant is not present.

Nephelometric Turbidity Unit (NTU) is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Summary of 2018 Water Quality Data Finished water characteristics, treatment plant monitoring¹

Substance	Unit	Goal (MCLG)	Maximum Allowed (MCL)	Detected Level	Range of Levels Detected	Source of Substance
Arsenic	ppb	0	10	0.4	ND - 0.4	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium ²	ppm	2	2	0.04	0.02 - 0.04	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/photon emitters ^{3**}	pCi/L	0	50*	3	ND - 3	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation.
Combined Radium-226/228 ³	pCi/L	0	5	2	ND - 2	Erosion of natural deposits
Dapalon	ppb	200	200	1	ND-1	Herbicide runoff
Fluoride	ppm	4	4	0.8	0.4 – 0.8	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)	ppm	10	10	3	0.8 – 3	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite (as Nitrogen)	ppm	1	1	0.01	ND - 0.01	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Organic Carbon (TOC)	ppm	n/a	TT	Running annual average removal ratio is required to be equal to or greater than 1.00. Removal ratio actually achieved: ≥1.32 based on running annual averages.		Naturally present in the environment
Turbidity ⁴	NTU	n/a	TT	0.10 = highest single hourly measurement. Lowest monthly percentage of samples meeting turbidity requirements = 100%.		Soil runoff

NOTE: Arlington County had six positive samples from 1,494 samples for total coliform in calendar year 2018. There were no detections of E.coli in any of the monthly samples during CY 2018.

Finished water characteristics, Arlington County distribution system monitoring

Substance	Unit	Goal (MCLG)	Maximum Allowed (MCL)	Detected Level	Range of Levels Detected	Source of Substance
Copper ⁵	ppm	1.3	AL – 1.3	0.077	0.01 – 0.19	Leaching from wood preservatives, corrosion of household plumbing ²
Lead ⁶	ppb	0	AL – 15	1.97	0.0 – 7.33	Runoff from fertilizer use; leaching from septic tanks, corrosion of household plumbing ²
Revised Total Coliform Rule ⁷	n/a	0	< 5% of monthly samples contain coliform bacteria	2%	ND – 2%	Naturally present in the environment.
Chloramines ⁸	ppm	(MRDLG) 4	(MRDLG) 4	2.8	ND – 4	Water additive used to control microbes
TTHM ⁸	ppb	n/a	80	44	22-58	By-product of drinking water chlorination
HAA5 ⁸	ppb	n/a	60	29	9-49	By-product of drinking water chlorination

Table Footnotes

- ¹ All test results are from 2018, unless otherwise noted.
- ² Erosion of natural deposits or products.
- ³ Triennial radionuclide monitoring was performed in 2017.
- ⁴ Turbidity is the measure of cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of the filtration process. The turbidity level of filtered water shall be less than or equal to 0.3 NTU in at least 95% of the measurements taken each month, and shall at no time exceed 1 NTU.
- ⁵ The Detected Level represents the 90th percentile value. None of the 55 samples tested for copper exceeded the current Action Level of 1.3 ppm. Most recent testing for this parameter was 2016.
- ⁶ The Detected Level represents the 90th percentile value. None of the 55 samples tested for lead exceeded the current Action Level of 15 ppb. Most recent testing for this parameter was 2016.
- ⁷ The Detected Level represents the highest monthly percentage of positive results taken between January 1, 2018 – December 31, 2018.
- ⁸ The Detected Level represents the highest running annual compliance average during the calendar year.
- ^{**} The MCL for beta and photon emitters is 4 mrem/year and EPA considers 50 pCi/L to be the level of concern for beta/photon emitters. Because the beta particle results were below 50 pCi/L, no testing for individual beta particle constituents was required.
- ^{***} The contribution to gross beta (pCi/L) from naturally occurring K-40 isotope is 0.82 times the potassium concentration (mg/L). The concentration of potassium monitored at the Dalecarlia and McMillan WTPs ranged from 2 - 4 mg/L at both WTPs when sampled at the same time as the beta/photon emitter samples. Therefore, all detects of gross beta in 2017 may be attributed to naturally occurring K-40.

NOTICE ABOUT PERCHLORATE

Perchlorate is a naturally occurring as well as man-made compound. Its presence in drinking water is currently unregulated and utilities are not required to monitor for it. The Washington Aqueduct has been voluntarily monitoring for perchlorate since 2002. The EPA initially established a reference dose of 24.5 parts per billion (ppb) for perchlorate and beginning in 2009 has proposed an interim health advisory of 15 ppb. A reference dose is a scientific estimate of daily exposure level that is not expected to cause adverse health effects in humans. The reference dose concentration was used

in EPA's efforts to address perchlorate in drinking water and to establish the interim health advisory.

The source and treated water samples collected in 2018 from the Dalecarlia treatment plant found an average of .4 ppb. The highest level detected was 0.9 ppb. If you have special health concerns, you may want to get additional information from the EPA at water.epa.gov/drink/contaminants/unregulated/perchlorate.cfm or contact the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Advice for Special Populations

Some people may be more vulnerable to containments 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 at risk from 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, Giardia, and other microbial contaminants are available from the Safe Drinking Water Hotline, 1-800-426-4791.

EPA Regulations

To ensure tap water is safe to drink, the EPA mandates regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

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.

Call the EPA's Safe Drinking Water Hotline at 1-800-426-4791 for information about contaminants and potential health effects.

Lead in Drinking Water

The EPA finalized the Lead and Copper Rule Short-Term Regulatory Revisions and Clarifications in October 2007, with one of its goals being to improve customer awareness. Hundreds of water samples have been taken throughout Arlington County to determine the lead concentration in our water. Historically, these concentrations have been below the action level for 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. Arlington County 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 the 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 (1-800-426-4791) or at epa.gov/safewater/lead.