

An aerial photograph of a river with rapids, surrounded by a dense forest. A large, dark teal, downward-pointing arrow shape is overlaid on the top half of the image, containing the title text.

2016 ANNUAL WATER QUALITY REPORT

Fairfax Water



Letter from the Chairman Philip W. Allin

Dear Fellow Customer:

Water is essential to life. No community can grow and thrive without a clean, reliable source of drinking water. As Chairman of the Board, and a customer of Fairfax Water, I have the great honor and responsibility of ensuring that our community always has an abundant supply of high-quality water. You have probably heard of the devastating water crisis in Flint, Michigan. There are no easy or quick fixes. The Board and I have followed and studied this issue and we are confident that the situation in Flint will not happen in our service area. Water Quality has always been a top priority of your Board.

Over the past year, we have worked with Fairfax Water staff on developing a new Strategic Plan for the next five years that reflects our larger, more diverse, and urbanized service area. Topping our list of goals is our Quality Service Goal. This Water Quality Report shows the consistency of our excellent water quality. I hope that you learn and understand more about your water quality by reading this report and I encourage you to let us know if you have any questions, comments, or suggestions.

Philip W. Allin
Chairman
Fairfax Water Board of Directors



Letter from the General Manager Charles M. Murray

Dear Fairfax Water Customers:

I am proud to once again report that the water you drink meets and surpasses all drinking water regulations. As General Manager, I feel that water-quality monitoring is one of the most important aspects of our work. I started out my own career in the laboratory and understand the importance of a reliable, high-functioning laboratory.

Today more than ever, water utilities are expected to have state-of-the-art equipment and well-trained employees who are able to monitor water quality and address potential concerns. I am very pleased that Fairfax Water has the resources to stay at the cutting edge of water-quality technology and innovation.

While we continue to maintain compliance with all current regulations, we are also anticipating new regulations that may be coming in the future. The data in this report is collected in response to current regulations, but our website features more data for analytes that are not currently regulated. Visit our website, www.fairfaxwater.org, and click on the water quality tab to learn more. Thank you for taking time to read this vital report.

Charles M. Murray
General Manager
Fairfax Water

Fairfax Water's Board of Directors typically meets the first and third Thursday of each month at 6:30 p.m. in the Board Room of the Fairfax Water offices at 8570 Executive Park Avenue in Fairfax. Notices of public hearings and other opportunities for public participation are posted in the lobby and on the website at www.fairfaxwater.org. If you plan to attend a meeting or need more information, contact Fairfax Water at 703-289-6017, TTY 711, to confirm the date and time for the meeting.

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Griffith and Corbalis Water Treatment Plants
SUMMARY OF FINISHED WATER CHARACTERISTICS

Components	MCL ¹	MCL	Average	Minimum	Maximum	Violation	Major Source in Drinking Water
Alpha particles (pCi/L) ¹	0	15	1.79	ND	3.01	No	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation.
Barium (ppm)	2	2	0.031	ND	0.042	No	Discharge of drilling wastes; discharge from metal refineries; erosion from natural deposits.
Beta/photons particles ¹ (pCi/L) ²	0	50	3.18	ND	5.98	No	Decay of natural and man-made deposits.
Fluoride (ppm)	4	4	0.7	0.6	0.7	No	Water additive which promotes strong teeth.
Nitrate [as Nitrogen] (ppm)	10	10	1.07	0.48	2.03	No	Runoff from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits.
Nitrite [as Nitrogen] (ppm)	1	1	ND	ND	0.01	No	Runoff from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits.
Radium 226 (pCi/L) ²	0	5	0.294	ND	0.691	No	Erosion of natural deposits.

1. The MCL for the Beta particles is written as 4 mrem/year. The EPA considers 50 pCi/L to be the level of concern for Beta particles.

Water Quality Tables

Lab results for legacy and City of Fairfax, City of Falls Church, and Arlington Special Area service areas.

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Additional Resources

Important phone numbers and website links.

This report contains very important information about your drinking water. Please translate it or speak with someone who understands it. If you are a landlord, please share a copy of this report with your tenants.

이 보고서에는 귀하가 거주하는 지역의 수질에 관한 중요한 정보가 들어 있습니다. 이것을 번역하거나 충분히 이해하시는 친구와 상의하십시오.

Bản báo cáo có ghi những chi tiết quan trọng về phẩm chất nước trong cộng đồng quý vị. Hãy nhờ người thông dịch, hoặc hỏi một người bạn biết rõ về vấn đề này.

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

Finding Your Water Quality

Service Area Map and Source Details



This water quality report provides information for all customers whose drinking water is provided by Fairfax Water. Our raw water comes from two different sources and is treated at four different treatment plants. You can use the map shown here to determine where your water comes from and what water quality data applies to your drinking water.

Note the color of the map in the area where you live. Use this color coding throughout the report to identify the information that relates to your drinking water.

If you are still uncertain which quality area is yours, you can use the interactive map on our website. Go to www.fairfaxwater.org/water, enter your address in the search field located in the upper right corner of the map, and the map will zero in on your address.

The legend beside the map explains the raw water source of your drinking water and where it is treated.

MONITORING FOR YOUR HEALTH - Contaminants

In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in the water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water that 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 the water poses a health risk.

More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800-426-4791, TTY 711.

Have a
question?

Visit www.fairfaxwater.org
or call 703-698-5800, TTY 711



Customers in this service area receive water from the Potomac River and Occoquan Reservoir that is treated at the James J. Corbalis Jr. or Frederick P. Griffith Jr. treatment plants, owned and operated by Fairfax Water



Customers in this service area receive water from the Potomac River that is treated at the McMillan and Dalecarlia water treatment plants, part of the Washington Aqueduct system, owned and operated by the U.S. Army Corps of Engineers

Customers in this service area receive water from the Potomac River that is treated at the Dalecarlia water treatment plant, part of the Washington Aqueduct system, owned and operated by the U.S. Army Corps of Engineers

Understanding Your Water Quality Treatment and Sourcing

How is My Water Quality?

Your water quality is excellent. As a Fairfax Water customer, the water you drink consistently surpasses all federal and state standards. We have tested for over 170 regulated and non-regulated compounds. These compounds are tested for a variety of reasons such as public health needs, maintaining aesthetic quality, and optimizing corrosion control.

How is the Water Tested and by Whom?

Fairfax Water's state-certified Water Quality Laboratory performs or manages the testing required by federal and state regulations. In addition to regulatory testing, many other analyses are performed to monitor the quality of Fairfax Water's raw water sources, water within the treatment process, and water within the distribution system. Water undergoing the treatment process is continuously monitored for pH, turbidity, coagulation efficiency, and disinfectant residuals using technically advanced online monitoring systems. Testing is also performed at sample location sites throughout the system using portable instrumentation. Our trained laboratory staff also collect samples for additional analysis in the laboratory. The results for much of the 2015 testing are included in the tables on pages 14-19 of this report.

For additional analytical reports, visit www.fairfaxwater.org and click on Water Quality or call 703-698-5600, TTY 711.

How is Our Water Treated?

Fairfax Water provides water treated at four treatment plants. The James J. Corbalis Jr. and the Frederick P. Griffith Jr. Treatment Plants are owned and operated by Fairfax Water. The Dalecarlia and McMillan Treatment Plants, part of the Washington Aqueduct, are owned and operated by the U.S. Army Corps of Engineers. All four locations use advanced technologies and practices in drinking water treatment, which is the process of cleaning raw water to make it safe for you to drink.

When untreated water enters the treatment plant, coagulants are added to cause small particles to adhere to one another, become heavy, and settle in a sedimentation basin. The water is then filtered through activated carbon and sand to remove remaining fine particles and disinfected with chlorine to kill harmful bacteria and viruses. A corrosion inhibitor is added to help prevent leaching of lead and copper that might be in household plumbing. Fluoride is added to protect teeth. Powdered activated carbon and potassium permanganate may also be added to the treatment process to remove taste or odor-causing compounds. In addition to these treatment steps, the Corbalis and Griffith plants use ozone to further reduce odors and organic material.

Sources of Drinking Water

The sources of all 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. It can also pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

1. Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
2. Inorganic contaminants, such as salts and metals, that can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
3. Pesticides and herbicides, which may come from a variety of sources such as agriculture or residential uses and urban stormwater runoff.
4. Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production and also come from gas stations, urban stormwater runoff, and septic systems.
5. Radioactive contaminants that can be naturally occurring or the result of oil and gas production or mining activities.

Fairfax Water's Sources of Drinking Water

Fairfax Water draws raw water from two primary sources: the Potomac River and the Occoquan Reservoir, which is fed by the Occoquan River. The four facilities that treat your water feed an interconnected distribution system. The Corbalis Treatment Plant and the Dalecarlia and McMillan Treatment Plants treat water from the Potomac River. The Frederick P. Griffith Jr. Treatment Plant treats water from the Occoquan Reservoir.

Sourcewater Assessment and Protection

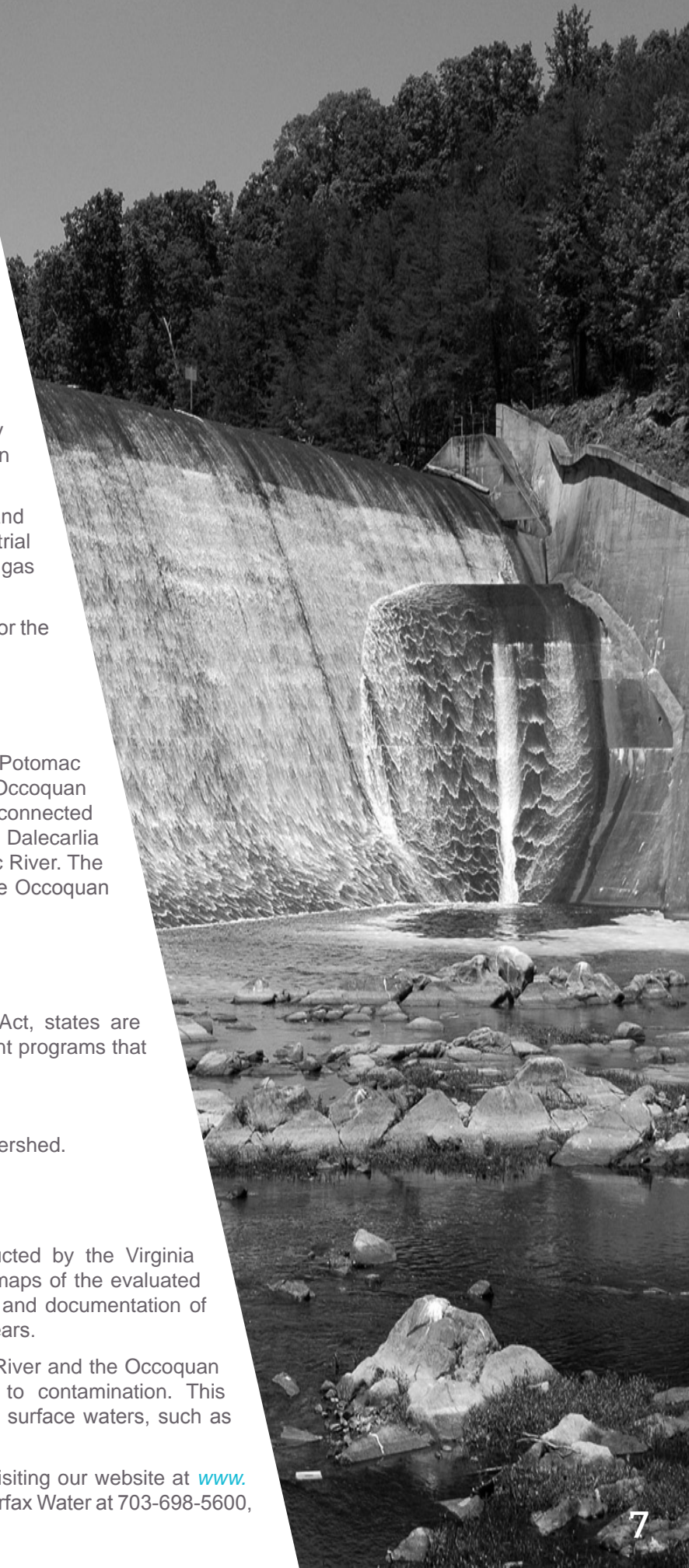
Under the provisions of the federal Safe Drinking Water Act, states are required to develop comprehensive source-water assessment programs that meet the following requirements:

- Identify the watersheds that supply public tap water.
- Provide an inventory of contaminants present in the watershed.
- Assess susceptibility to contamination in the watershed.

Source-water assessments for the watersheds are conducted by the Virginia Department of Health (VDH). The assessment consists of maps of the evaluated watershed area, an inventory of known land-use activities, and documentation of any known source-water contamination within the last five years.

Based on the criteria developed by the state, the Potomac River and the Occoquan Reservoir were determined to be of high susceptibility to contamination. This determination is consistent with the state's finding for other surface waters, such as rivers, lakes, and streams, throughout Virginia.

A secure version of the assessment report is available by visiting our website at www.fairfaxwater.org and clicking on Water Supply or by calling Fairfax Water at 703-698-5600, TTY 711.





Reducing Exposure to Lead

Latest Information

There are no public lead service lines in the system that distributes your drinking water. It is possible that the plumbing in your home contains lead depending on when it was constructed. The level of lead in water can increase when the water stands in contact with lead-based plumbing. Keep reading for important information about safe lead levels and how to reduce your exposure to lead.

What is the EPA standard for lead in drinking water?

The EPA has established an Action Level for lead in drinking water of 15 ppb. When lead testing is performed as required by the EPA,

90 percent of the samples must contain less than 15 ppb. This is usually referred to as the 90th percentile results being less than 15 ppb.

The Action Level was not designed to measure health risks from water represented by individual samples. Rather, it is a statistical trigger value that if exceeded may require more treatment, public education, and possibly lead service line replacement where such lines exist. Fairfax Water does not have any lead service lines in its system.

Fairfax Water has been testing for lead in accordance with the EPA's Lead and Copper Rule (LCR)

since 1992 and has consistently tested below the Action Level established in the LCR. In the most recent tests performed as required by the EPA, 100 percent of the Fairfax Water samples contained less than 1.5 ppb of lead. The next EPA-required monitoring will be conducted in 2017.

Where does lead in drinking water come from?

Although some utilities use raw source waters that contain lead, the Potomac River and the Occoquan Reservoir - Fairfax Water's sources, do not contain lead.



In 1986 lead was banned from use in pipe and solder in home construction. In older homes where lead is present in pipe and soldered connections, lead may dissolve into the water after the water sits for long periods. Some household-plumbing components may contain a small amount of lead and can contribute to lead concentrations at the tap. Fairfax Water adds a phosphate-based corrosion inhibitor during the treatment process to slow this dissolution process.

Our website, www.fairfaxwater.org/water/lead.htm, provides more information on lead in your water.

What can I do in my home to reduce exposure to lead in the drinking water?

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. Fairfax Water is responsible for

providing high-quality drinking water but cannot control the variety of materials used in plumbing components in home construction.

If you are concerned about lead in your water, following these tips can help minimize the potential for lead exposure:

1. Use only fresh cold water for cooking and making baby formula.
2. When your water has been sitting for several hours, flush your tap for 15 to 30 seconds until the water becomes cold or until it reaches a steady temperature before using the water for drinking or cooking.
3. Do not boil water to remove lead. Boiling water will not reduce lead.
4. Some people choose to install a filter in their home. If you choose a water filter, follow these three rules:
 - Choose a filter designed for the specific filtration desired (chlorine, lead, *Cryptosporidium*, etc.).

- Make sure the filter is approved by the NSF International (www.nsf.org).

- Maintain the filter as directed.

5. Fairfax Water's certified drinking water laboratory does offer lead testing to its customers for a fee. To make arrangements to have your water tested for lead, contact our Customer Service Department at 703-698-5800, TTY 711.

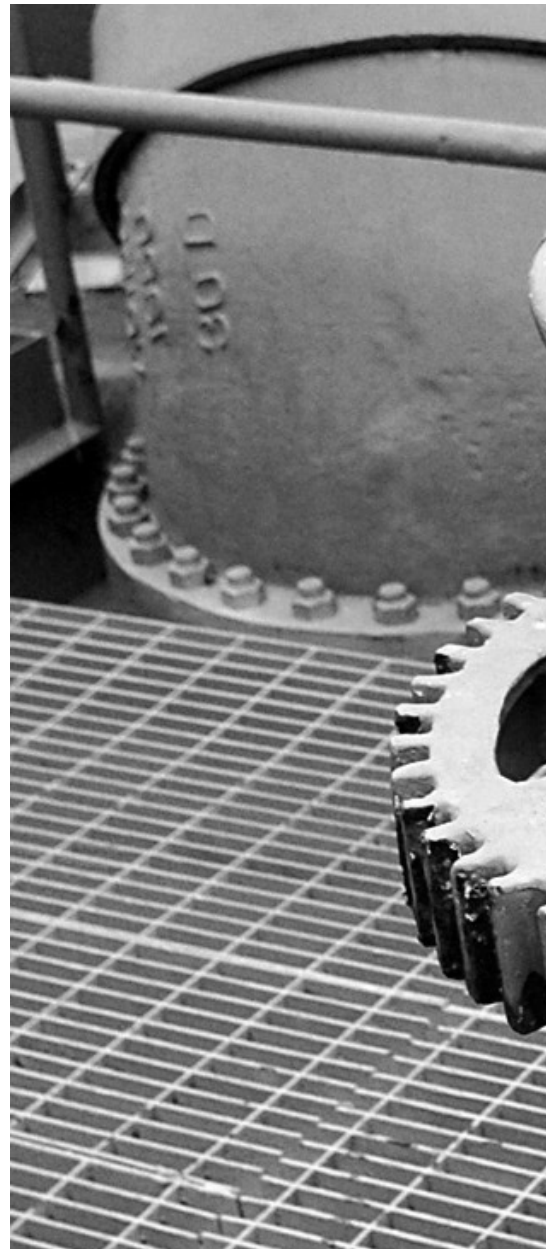
6. Regularly clean your faucet aerator. This removes particles from your household plumbing that may contain lead.

7. Replace older fixtures with fixtures certified as "lead free."

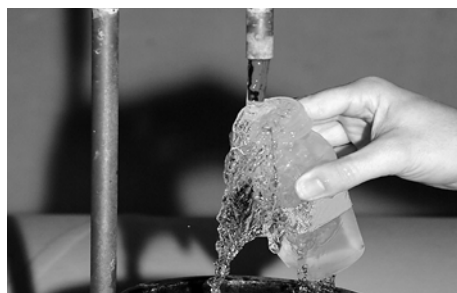
Visit www.nsf.org to learn more.

For More Information . . .

In addition to the tips above, information about lead in drinking water, testing methods, and steps you can take to minimize exposure can be found at www.epa.gov/safewater/lead or by calling the Safe Drinking Water Hotline at 800-426-4791, TTY 711.



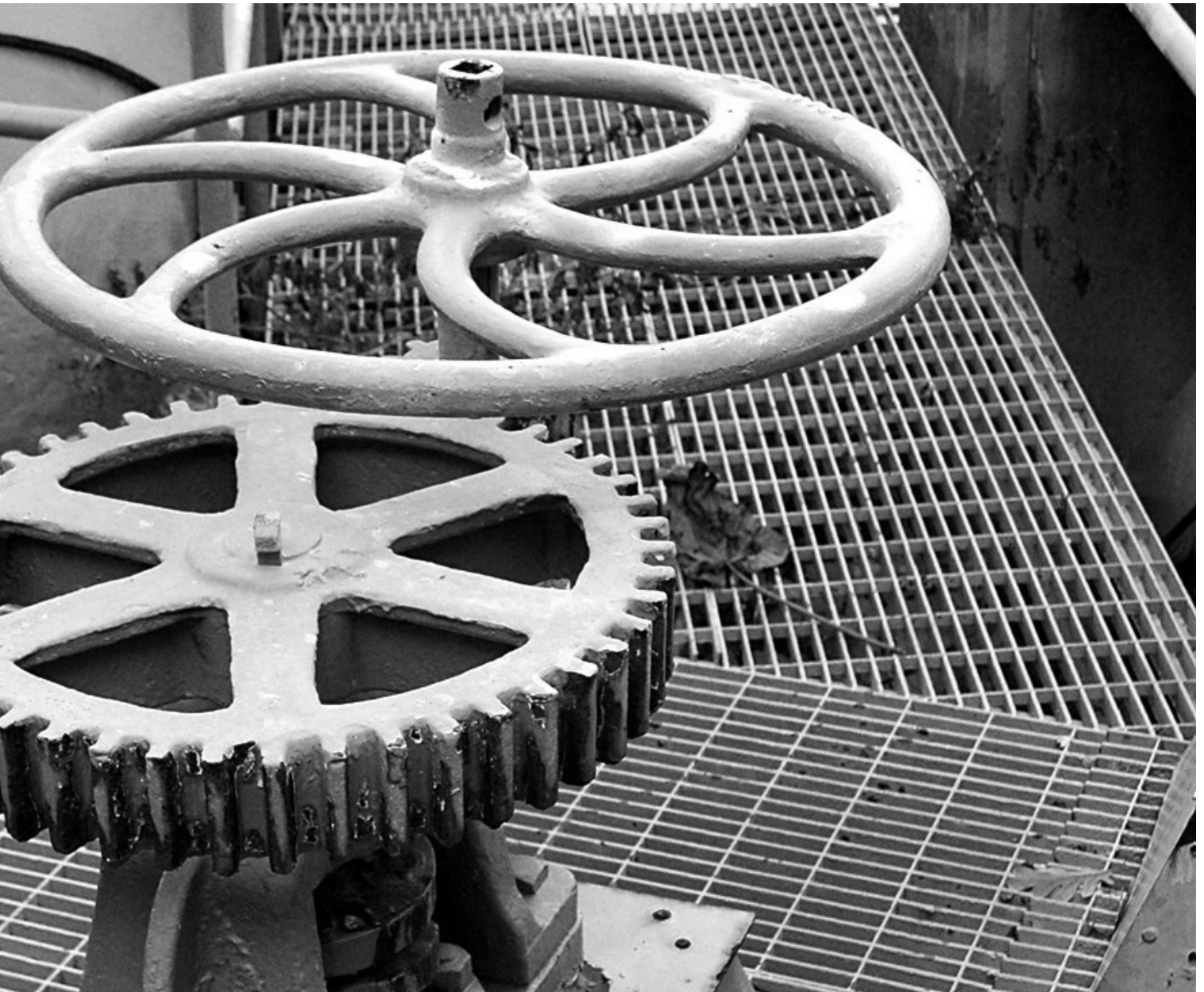
“Supplying potable water is an essential human activity, a great responsibility, and a vocation of distinction”
- J.B. Mannion





“Water is the driving force
of all nature”

- Leonardo da Vinci



Understanding the Water Quality Test Results

Key Terminology

In general, drinking water standards are regulated by a maximum contaminant level (MCL) or a treatment technique (TT). For parameters with an MCL, the utility must sample at the required frequency and results must be below the MCL. Depending on the parameter, the MCL may apply to individual results, an average of all results in a calendar year, or an average of all results in a calendar year for a specific site.

For parameters with a TT, the utility must sample at the required frequency and is required to take action (such as a change in treatment) if specified conditions are not met. Specified conditions vary per regulation.

In the water quality test results on pages 14 - 19 and elsewhere in this report, you may find terms and abbreviations with which you are not familiar. Here is a quick reference guide to help you better understand any unfamiliar terms and abbreviations.

- **AL or Action Level** - The concentration of a contaminant that, if exceeded, requires a water system to carry out an additional treatment or other action.
- **LRAA or Locational Running Annual Average** - An ongoing annual average calculation of data at 1 specific location; not based on an individual result.
- **MCLG or 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.

IMPORTANT INFORMATION FROM THE ENVIRONMENTAL PROTECTION AGENCY

Drinking Water and People with Weakened Immune Systems

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those with cancer who are undergoing chemotherapy, those who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. If you are in this at-risk group, you should seek advice about drinking water from your healthcare provider. The Environmental Protection Agency (EPA) and Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection from *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791, TTY 711.

- **MCL or 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.
- **MRDL or Maximum Residual Disinfectant Level** – The highest level of a disinfectant allowed in drinking water.
- **MRDLG or Maximum Residual Disinfectant Level Goal** – The level of a disinfectant in drinking water below which there is no known or expected risk to health.
- **N/A or Not Applicable** – Does not apply to this subject or in this scenario.
- **ND or Non-detect** – A level at which there is an inability to detect an analyte because it is indistinguishable from the background signal.
- **pCi/L or Picocuries per liter** - Radioactivity concentration unit.
- **ppb or parts per billion** – One ppb corresponds to one penny in \$10,000,000.
- **ppm or parts per million** – One ppm corresponds to one penny in \$10,000.
- **QRAA or Quarterly Running Annual Average** – An ongoing annual average calculation of data from the most recent four quarters.
- **90th Percentile** - Represents the highest value found out of 90 percent of the samples taken in a representative group. If the 90th percentile is greater than the action level, it will trigger a treatment or other requirements that a water system must follow.
- **NTU or Nephelometric Turbidity Units** - A measure of the clarity of water.
- **TT or Treatment Technique** - A required process intended to reduce the level of a contaminant in drinking water.

Water, Water Everywhere!

Throughout this report, you will find many references to water in different stages of the treatment process. To help clarify these references, here is the scoop on water terminology:



Raw Water Source is water in its natural state that feeds into our treatment plants



Process is water at various points during the different treatment procedures



Finished is water leaving the treatment plant for distribution or storage



Distribution is treated water piped from our facilities to your home or business

2015 Water Quality Tables

Fairfax Water Customers in the Legacy and City of Fairfax Service Areas

The Water Quality Laboratory at Fairfax Water monitors for over 170 different parameters - from alkalinity to zinc! Some of the monitoring is required for regulatory purposes, some for process and emerging technology, and even more for customer information. In 2015, 53,000 data points were gathered from 15,000 samples of water for these 172 parameters.

The tables on pages 14 and 15 show the results of the monitoring that is required by state and federal regulations. The monitoring was conducted between Jan. 1 and Dec. 31, 2015, unless otherwise noted.

For more water-quality information, visit the Fairfax Water website at www.fairfaxwater.org/water

Griffith and Corbalis Water Treatment Plants SUMMARY OF FINISHED WATER CHARACTERISTICS

Components	Ideal Goal (EPA MCLG)	Highest Level Allowed (EPA MCL)	Range (Individual Results)	Violation	Common Sources in Drinking Water
Alpha Emitters (pCi/L) ²	0	15	ND - 3.01	No	Decay of natural and man-made deposits
Barium (ppm)	2	2	ND - 0.043	No	Discharge of drilling wastes; discharge from metal refineries; erosion from natural deposits
Beta/photon particles (pCi/L) ^{1, 2}	0	50	ND - 5.99	No	Decay of natural and man-made deposits
Fluoride (ppm)	4	4	ND - 0.8	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate [as Nitrogen] (ppm)	10	10	0.52 - 1.59	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite [as Nitrogen] (ppm)	1	1	ND - 0.02	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Radium 226 (pCi/L) ²	0	5	ND - 0.691	No	Decay of natural and man-made deposits

¹ The MCL for the Beta particles is written as 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for Beta particles.

² As granted by the State, Fairfax Water is on reduced monitoring for this parameter based upon historical results. The results above are taken from the last monitoring period of 2014 for the Corbalis plant and 2013 for the Griffith plant.

SUMMARY OF PROCESS WATER CHARACTERISTICS

	Treatment Technique (TT) ³	Range (QRAA of Monthly Ratio)	Violation	Common Source in Drinking Water
Total Organic Carbon	Monthly Ratio QRAA > 1	1.4 - 1.6	No	Naturally present in the environment

Total Organic Carbon (TOC) has no health effects, however it provides a medium for the formation of disinfection by-products. These by-products include trihalomethanes and haloacetic acids.

³ Compliance is based upon a Quarterly Running Annual Average (QRAA) of the monthly ratios of actual Total Organic Carbon removal between the source water and the treated water in a calendar year (not based on an individual result).

	Ideal Goal (EPA MCLG)	Highest Level Allowed (EPA MCL) ⁴	Range (QRAA)	Violation	Common Source in Drinking Water
Bromate (ppb)	0	QRAA = 10	0.4 - 0.4	No	Naturally present in the environment

⁴ Compliance is based upon a Quarterly Running Annual Average (QRAA) of all the regulatory bromate results in a calendar year (not based on an individual result).

Turbidity	Highest Level Allowed (EPA MCL*)	Highest Individual Result for Year	Violation	Common Source in Drinking Water
	1 NTU	0.23 NTU	No	Soil runoff
	Treatment Technique (TT)	Lowest Monthly % of Samples Meeting ≤0.3 NTU Limit	Violation	Common Source in Drinking Water
	Turbidity of filtered water must be ≤0.3 NTU in 95% or more samples	100%	No	Soil runoff

Turbidity levels are measured during the treatment process after the water has been filtered, but before disinfection.

SUMMARY OF DISTRIBUTION SYSTEM WATER QUALITY

Microbial Results	Highest Level Allowed (EPA MCL)	Highest Monthly Total Coliform Positive %	Violation	Common Source in Drinking Water
Total Coliform Bacteria	Monthly Total Coliform positive sample percentage = 5%	0.65%	No	Naturally present in the environment
	Highest Level Allowed (EPA MCL)	# of Positive Fecal Coliform or <i>E.coli</i> Samples This Year	Violation	Common Source in Drinking Water
Fecal Coliform / <i>E.coli</i> Bacteria	0 positive	0	No	Human and animal fecal wastes

Metals	Action Level §	90th Percentile Results §	Number of Sites Above Action Level §	Violation	Common Source in Drinking Water
Copper (ppm) ⁵	1.3	0.171	0	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) ⁵	15	0.78	0	No	Corrosion of household plumbing systems; erosion of natural deposits

§ Refer to definitions for full description of terms

⁵ As granted by the State, Fairfax Water is on reduced monitoring for these parameters based upon historical results. The results above are taken from the most recent monitoring period in 2014.

Disinfection Byproducts	Ideal Goal (EPA MCLG*)	Highest Level Allowed (EPA MCL*) ⁶	Highest Locational Running Annual Average	Range (Individual Results)	Violation	Common Source in Drinking Water
Total Trihalomethanes (ppb)	0	LRAA = 80	54.4	7.5 - 81.8	No	Byproduct of drinking water disinfection
Haloacetic Acids [5] (ppb)	0	LRAA = 60	28.0	1.1 - 42.6	No	Byproduct of drinking water disinfection

⁶ Compliance is based upon site-specific LRAA

Disinfectant	Ideal Goal (EPA MRDLG)	Highest Level Allowed (EPA MRDL)	Highest QRAA	Range (Individual Results)	Violation	Common Source in Drinking Water
Total Chlorine (ppm)	4	QRAA = 4	2.8	0 - 4.0	No	Water additive used to control microbes

* Unless otherwise specified, MCLG and MCL applies to an individual result.

2015 Water Quality Tables

Fairfax Water Customers in the City of Falls Church Service Area

Even though you are a Fairfax Water customer, your water is supplied by the Washington Aqueduct Division of the U.S. Army Corps of Engineers. The tables on pages 16 and 17 show the results of the monitoring that is performed by the Washington Aqueduct and Fairfax Water as required by state and federal regulations. Unless otherwise noted, the monitoring was conducted between Jan. 1 and Dec. 31, 2015.

For more information about your water quality, visit www.nab.usace.army.mil/Missions/WashingtonAqueduct/WaterQuality

McMillan and Dalecarlia Water Treatment Plants SUMMARY OF FINISHED WATER CHARACTERISTICS

Components	Ideal Goal (EPA MCLG)	Highest Level Allowed (EPA MCL)	Range (Individual Results)	Violation	Common Sources in Drinking Water
Alpha Emitters (pCi/L) ¹	0	15	ND - 9.0	No	Decay of natural and man-made deposits
Antimony (ppb)	6	6	ND - 0.3	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (ppb)	0	10	ND - 0.4	No	Erosion of natural deposits; runoff from orchards, runoff from glass and electronics production wastes
Atrazine (ppb)	3	3	ND - 0.1	No	Runoff from herbicide used on row crops
Barium (ppm)	2	2	0.03 - 0.04	No	Discharge of drilling wastes; discharge from metal refineries; erosion from natural deposits
Cyanide (ppm)	0.2	0.2	ND - 0.007	No	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	4	4	0.5 - 0.9	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate [as Nitrogen] (ppm)	10	10	0.5 - 2.0	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite [as Nitrogen] (ppm)	1	1	ND - 0.01	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

¹ As granted by the regulatory agency, the Washington Aqueduct is on reduced monitoring for this parameter based upon historical results. The results above are taken from the last monitoring period in 2014.

SUMMARY OF PROCESS WATER CHARACTERISTICS

	Treatment Technique (TT) ²	Range (QRAA of Monthly Ratio)	Violation	Common Source in Drinking Water
Total Organic Carbon	Monthly Ratio QRAA > 1	1.4 - 1.6	No	Naturally present in the environment

Total Organic Carbon (TOC) has no health effects but it provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes and haloacetic acids.

² Compliance is based upon a Quarterly Running Annual Average (QRAA) of the monthly ratios of actual Total Organic Carbon removal between the source water and the treated water in a calendar year (not based on an individual result).

Turbidity	Highest Level Allowed (EPA MCL*)	Highest Individual Result for Year	Violation	Common Source in Drinking Water
	1 NTU	0.11 NTU	No	Soil runoff
	Treatment Technique (TT)	Lowest Monthly % of Samples Meeting ≤0.3 NTU Limit	Violation	Common Source in Drinking Water
	Turbidity of filtered water must be ≤0.3 NTU in 95% or more samples	100%	No	Soil runoff

Turbidity levels are measured during the treatment process after the water has been filtered, but before disinfection.

SUMMARY OF DISTRIBUTION SYSTEM WATER QUALITY

Microbial Results	Highest Level Allowed (EPA MCL)	Highest Monthly Total Coliform Positive %	Violation	Common Source in Drinking Water
Total Coliform Bacteria	Monthly Total Coliform positive sample percentage = 5%	0.65%	No	Naturally present in the environment
	Highest Level Allowed (EPA MCL)	# of Positive Fecal Coliform or <i>E.coli</i> Samples This Year	Violation	Common Source in Drinking Water
Fecal Coliform / <i>E.coli</i> Bacteria	0 positive	0	No	Human and animal fecal wastes

Metals	Action Level §	90th Percentile Results §	Number of Sites Above Action Level §	Violation	Common Source in Drinking Water
Copper (ppm) ³	1.3	0.171	0	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) ³	15	0.78	0	No	Corrosion of household plumbing systems; erosion of natural deposits

§ Refer to definitions for full description of terms

³ As granted by the State, Fairfax Water is on reduced monitoring for these parameters based upon historical results. The results above are taken from the most recent monitoring period in 2014.

Disinfection Byproducts	Ideal Goal (EPA MCLG*)	Highest Level Allowed (EPA MCL*) ⁴	Highest Locational Running Annual Average	Range (Individual Results)	Violation	Common Source in Drinking Water
Total Trihalomethanes (ppb)	0	LRAA = 80	54.4	7.5 - 81.8	No	Byproduct of drinking water disinfection
Haloacetic Acids [5] (ppb)	0	LRAA = 60	28.0	1.1 - 42.6	No	Byproduct of drinking water disinfection

⁴ Compliance is based upon site-specific LRAA

Disinfectant	Ideal Goal (EPA MRDLG)	Highest Level Allowed (EPA MRDL)	Highest QRAA	Range (Individual Results)	Violation	Common Source in Drinking Water
Total Chlorine (ppm)	4	QRAA = 4	2.8	0 - 4.0	No	Water additive used to control microbes

* Unless otherwise specified, MCLG and MCL applies to an individual result.

2015 Water Quality Tables

Fairfax Water Customers in the Arlington Special Service Area

Even though you are a Fairfax Water customer, your water is supplied by the Washington Aqueduct Division of the U.S. Army Corps of Engineers. The tables on pages 18 and 19 show the results of the monitoring that is performed by the Washington Aqueduct and Fairfax Water as required by state and federal regulations. Unless otherwise noted, the monitoring was conducted between Jan. 1 and Dec. 31, 2015.

For more information about your water quality, visit www.nab.usace.army.mil/Missions/WashingtonAqueduct/WaterQuality

Dalecarlia Water Treatment Plant SUMMARY OF FINISHED WATER CHARACTERISTICS

Components	Ideal Goal (EPA MCLG)	Highest Level Allowed (EPA MCL)	Range (Individual Results)	Violation	Common Sources in Drinking Water
Alpha Emitters (pCi/L) ¹	0	15	ND - 9.0	No	Decay of natural and man-made deposits
Antimony (ppb)	6	6	ND - 0.2	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (ppb)	0	10	ND - 0.4	No	Erosion of natural deposits; runoff from orchards, runoff from glass and electronics production wastes
Atrazine (ppb)	3	3	ND - 0.09	No	Runoff from herbicide used on row crops
Barium (ppm)	2	2	0.03 - 0.04	No	Discharge of drilling wastes; discharge from metal refineries; erosion from natural deposits
Cyanide (ppm)	0.2	0.2	ND - 0.007	No	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	4	4	0.5 - 0.8	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate [as Nitrogen] (ppm)	10	10	0.5 - 2.0	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite [as Nitrogen] (ppm)	1	1	ND - 0.01	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

¹ As granted by the regulatory agency, the Washington Aqueduct is on reduced monitoring for this parameter based upon historical results. The results above are taken from the last monitoring period in 2014.

SUMMARY OF PROCESS WATER CHARACTERISTICS

Treatment Technique (TT) ²	Range (QRAA of Monthly Ratio)	Violation	Common Source in Drinking Water
Total Organic Carbon Monthly Ratio QRAA > 1	1.4 - 1.6	No	Naturally present in the environment

Total Organic Carbon (TOC) has no health effects but it provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes and haloacetic acids.

² Compliance is based upon a Quarterly Running Annual Average (QRAA) of the monthly ratios of actual Total Organic Carbon removal between the source water and the treated water in a calendar year (not based on an individual result).

Turbidity	Highest Level Allowed (EPA MCL*)	Highest Individual Result for Year	Violation	Common Source in Drinking Water
	1 NTU	0.08 NTU	No	Soil runoff
	Treatment Technique (TT)	Lowest Monthly % of Samples Meeting ≤ 0.3 NTU Limit	Violation	Common Source in Drinking Water
	Turbidity of filtered water must be ≤ 0.3 NTU in 95% or more samples	100%	No	Soil runoff

Turbidity levels are measured during the treatment process after the water has been filtered, but before disinfection.

SUMMARY OF DISTRIBUTION SYSTEM WATER QUALITY

Microbial Results	Highest Level Allowed (EPA MCL)	Highest Monthly Total Coliform Positive %	Violation	Common Source in Drinking Water
Total Coliform Bacteria	Monthly Total Coliform positive sample percentage = 5%	0%	No	Naturally present in the environment
	Highest Level Allowed (EPA MCL)	# of Positive Fecal Coliform or <i>E.coli</i> Samples This Year	Violation	Common Source in Drinking Water
Fecal Coliform / <i>E.coli</i> Bacteria	0 positive	0	No	Human and animal fecal wastes

Metals	Action Level §	90th Percentile Results §	Number of Sites Above Action Level §	Violation	Common Source in Drinking Water
Copper (ppm) ³	1.3	0.025	0	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) ³	15	< 0.78	0	No	Corrosion of household plumbing systems; erosion of natural deposits

§ Refer to definitions for full description of terms

³ As granted by the State, Fairfax Water is on reduced monitoring for these parameters based upon historical results. The results above are taken from the most recent monitoring period in 2015.

Disinfection Byproducts	Ideal Goal (EPA MCLG*)	Highest Level Allowed (EPA MCL*) ⁴	Highest Locational Running Annual Average	Range (Individual Results)	Violation	Common Source in Drinking Water
Total Trihalomethanes (ppb)	0	LRAA = 80	46.5	24.0 - 59.5	No	Byproduct of drinking water disinfection
Haloacetic Acids [5] (ppb)	0	LRAA = 60	28.3	12.1 - 39.4	No	Byproduct of drinking water disinfection

⁴ Compliance is based upon site-specific LRAA

Disinfectant	Ideal Goal (EPA MRDLG)	Highest Level Allowed (EPA MRDL)	Highest QRAA	Range (Individual Results)	Violation	Common Source in Drinking Water
Total Chlorine (ppm)	4	QRAA = 4	2.7	1.9 - 3.5	No	Water additive used to control microbes

*Unless otherwise specified, MCLG and MCL applies to an individual result.

Fairfax Water

8570 Executive Park Avenue, Fairfax, VA 22031

www.fairfaxwater.org

Additional Resources

Fairfax Water Services

Questions about water service:

703-698-5800

After Hours/Emergencies:

703-698-5613

To report a water main break:

www.fwnotifications.org/public

703-698-5613

watermainbreak@fairfaxwater.org

Questions about billing:

703-698-5800

All other Fairfax Water departments:

703-698-5600

Public Affairs

If you have comments or suggestions about this report, please contact us at:

pr@fairfaxwater.org

703-698-5600

Sewer Services

Fairfax County

Department of Public Works Wastewater Trouble Response Center: 703-323-1211

www.fairfaxcounty.gov/dpwes/wastewater

City of Falls Church

Department of Public Works

703-248-5350

www.fallschurchva.gov

City of Fairfax

Department of Public Works

703-385-7810

www.fairfaxva.gov

Dig with C.A.R.E.

Miss Utility at 1-800-552-7001 or 811

<http://va811.com/homeowners/how-to-when-to>