



*We are
family!*

Fairfax Water

2011
ANNUAL WATER
QUALITY REPORT

TO MY FELLOW FAIRFAX WATER CUSTOMERS:



CHAIRMAN PHIL ALLIN SPEAKS TO EMPLOYEES AT THE ANNUAL FAIRFAX WATER AWARDS CEREMONY.

As Fairfax Water customers, we are all family. Not the kind of family who share holidays and memories of grandma's apple pie, but the kind of family defined as a group of people who are significant to each others' well-being. I can't think of anything more significant to our well-being, as individuals and as a community, than safe drinking water.

This common sense of purpose is what led to the creation of Fairfax Water in 1957. Since then our family has grown to include 1.7 million customers who use about 167 million gallons of our water every day. Please take a few minutes to read through this report and you'll be reassured that your family is drinking water that consistently surpasses all federal and state standards for quality.

But there is more to guarding your well-being than providing quality water. As a family, we need to guard our financial as well as our physical well-being and we need to plan for the future. For this reason, the Board of Directors focuses much

of its attention on Fairfax Water's financial stability. As a result, your water rates are the lowest in the Washington metropolitan area and, even with these low rates, we have been able to plan ahead so our water system can be maintained and expanded as needed without the hefty rate increases other water utilities' customers are suffering.

You may be wondering why you have received this report. One reason is that we are required to send this information under the right-to-know provisions of the 1996 Amendments to the Safe Drinking Water Act. But the truth is, it is kind of like one of those annual family letters that arrive during the holidays where the relatives brag about their kids. In this letter, we have a chance to brag about the exceptional water quality we provide to our family of customers. As you read this report, I hope you will be as pleased about the quality of your drinking water as we are proud to provide it.

I CAN'T THINK OF ANYTHING MORE SIGNIFICANT TO OUR WELL-BEING, AS INDIVIDUALS AND AS A COMMUNITY, THAN SAFE DRINKING WATER.

I want to offer a special thank you to the customers who responded to our call for family photos. The photos that were submitted are featured throughout this report and show how integral water is to our lives. If you would like to share your comments, questions, suggestions or concerns about this report or Fairfax Water, we would enjoy hearing from you.

Sincerely,

A handwritten signature in cursive script that reads "Philip W. Allin".

Philip W. Allin
Chairman
Fairfax Water Board of Directors

DEAR FAIRFAX WATER CUSTOMERS:

“If he’s not fishing, he’s mending his nets.” This old Irish saying about the importance of good planning came to mind often in 2010. It was a year that challenged all utility providers with weather extremes from record-breaking snow to scorching summer temperatures. On one of those scorches, July 7, 2010, the daily Fairfax Water customer demand for water reached a record 259 million gallons.

Meeting this demand without sacrificing water quality or cost effectiveness requires constant planning. We “mend our nets” by looking ahead to determine future water demands and designing and constructing critical facilities and systems to meet this demand. And all this must take place while we are “fishing,” which in our case means supplying water to almost 1.7 million customers every day without fanfare or fuss - no matter what the demand or the weather.

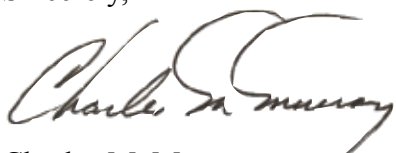
ON ONE OF THOSE SCORCHERS, JULY 7, 2010, THE DAILY FAIRFAX WATER CUSTOMER DEMAND FOR WATER REACHED A RECORD 259 MILLION GALLONS.

Now I’m sure there is an Irish proverb that warns against bragging, but since I want to share some of our 2010 accomplishments, I’ll quote Walt Whitman instead - “if you done it, it ain’t bragging!” So here is just a sampling of what we’ve done:

- Initiated major improvements to the High Dam on the Occoquan Reservoir;
- Improved the reliability of our system with new storage, transmission pipelines, and backup power at certain pump stations;
- Rolled out a new fuel-management system to improve the cost effectiveness of our vehicle fleet management;
- Provided mobile-computing capability to our field personnel so they can complete much of their work without having to return to the office throughout the day, and
- Implemented a valve-exercise program to find and fix small problems before they become big problems.

I hope you will take a few minutes to read the information in this report and let us know if you have any questions, concerns or suggestions. I always like to hear from our customers, whether you think we’re doing a good job or have a suggestion about how we can improve. Please save the contact information on the back cover of this report so you can keep in touch.

Sincerely,



Charles M. Murray
General Manager



GENERAL MANAGER
CHUCK MURRAY SERVES WATER TO
THIRSTY CUSTOMERS AT CELEBRATE FAIRFAX.

UNDERSTANDING YOUR WATER QUALITY

HOW IS MY WATER QUALITY?

Your water quality is excellent. As a Fairfax Water customer, the water you drink consistently surpasses federal and state standards. Of the almost 300 contaminants for which we test, very few were found in our drinking water. Those we found were in negligible amounts well below the Environmental Protection Agency's (EPA) maximum contaminant levels.

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. Chlorine, pH, and temperature testing is also performed at sample location sites throughout the system using portable instrumentation. The results for much of the 2010 testing are included in the tables on pages 8 and 9 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 uses 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. Ozone is used to reduce odors and organic material. The water is then filtered through sand and activated carbon 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.

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

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 văn đề này.

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

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. These people should seek advice about drinking water from their health care providers. 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.

INFORMATION ABOUT OUR SOURCE WATER

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, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;
2. 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;

UNDERSTANDING YOUR WATER QUALITY (CONTINUED)

3. Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;
4. Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and also come from gas stations, urban stormwater runoff, and septic systems;
5. Radioactive contaminants, which can be naturally occurring, 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. Our treatment facilities are located at opposite ends of Fairfax County and feed an interconnected distribution system. The James J. Corbalis Jr. Treatment Plant, at the northern tip of Fairfax County, draws water from the Potomac River. The Occoquan Reservoir, on the southern border of Fairfax County, supplies the Frederick P. Griffith Jr. Treatment Plant near the Town of Occoquan.

Source-Water Assessment and Protection

Under the provisions of the federal Safe Drinking Water Act, states are required to develop comprehensive source-water assessment programs that do the following: identify the watersheds that supply public tap water, provide an inventory of contaminants present in the watershed, and assess susceptibility to contamination in the watershed. Source-water assessments for the watersheds were conducted by the Virginia Department of Health. 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 of other surface waters (rivers, lakes, streams) throughout the Commonwealth of Virginia. 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. A secure version of the report is available by visiting our Web site at www.fairfaxwater.org and clicking on Water Quality or by calling Fairfax Water at 703-698-5600, TTY 711.

WATER QUALITY ISSUES

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. Food and Drug Administration 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. 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.

Emerging Water Quality Issues

Protecting the health of our customers through the delivery of high-quality drinking water is a great responsibility that Fairfax Water takes very seriously. An emerging water quality issue of particular interest continues to be a group of compounds that includes Pharmaceuticals and Personal Care Products (PPCP) and Endocrine Disrupting Compounds (EDC).

WATER, WATER - EVERYWHERE!

THROUGHOUT THIS REPORT, YOU'LL FIND MANY REFERENCES TO WATER IN DIFFERENT STAGES OF THE TREATMENT PROCESS. TO HELP CLARIFY THESE REFERENCES, HERE'S THE 411 ON WATER TERMINOLOGY:



RAW OR 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.

UNDERSTANDING YOUR WATER QUALITY (CONTINUED)

While we understand that PPCPs and EDCs in source and drinking water have been of interest recently, to date, research has not demonstrated an impact on human health from these compounds at the trace levels discovered in drinking water.

There are tens of thousands of compounds that are considered EDCs or PPCPs. It would be impossible to test for all of them, but Fairfax Water felt it was an important issue to research to determine if testing was feasible. We carefully researched a suitable list of compounds. We looked at influences in the Potomac and Occoquan River Watersheds (industrial, agricultural uses, etc.) to determine which compounds are most likely to be present. We then looked at our treatment process

to determine which compounds would not be readily removed through treatment. Finally, we looked at which compounds can be measured in water. This gave us a list of 20 compounds that were most likely to be present. In 2010, Fairfax Water again performed a comprehensive review that included the current project results as an additional part of the database of information. Based on this review, an updated list of 23 compounds is currently being tested on a routine basis.

We test our source waters, the Potomac River and the Occoquan Reservoir, and our treated water, which is the water delivered to homes and businesses. Samples are sent to an independent laboratory skilled in this type of analysis. As expected, we found trace amounts of a few compounds in our source waters, the Potomac River and Occoquan Reservoir. We also found trace amounts of three compounds in the treated water at a very low frequency. To date, research shows no indication of human health concern at the levels found in our source or treated waters. To view the results from Fairfax Water's monitoring of these compounds and learn more about emerging water quality issues, visit the Fairfax Water Web site at www.fairfaxwater.org and click on Water Quality or call 703-698-5600, TTY 711.

The analytical methods used in this study have very low detection levels, typically 100 to 1,000 times below the state and federal standards and guidelines for protecting water quality. Detections, therefore, do not necessarily indicate a concern to human health but rather help to identify the environmental presence of a wide variety of chemicals not commonly monitored in water resources. These findings

complement ongoing drinking-water monitoring required by federal and state regulations.

Fairfax Water uses a highly advanced process to treat the water we serve our customers. A study conducted by the Water Research Foundation concluded that using a combination of ozone and granular activated carbon is very effective in removing broad categories of EDCs and PPCPs. Fairfax Water uses both ozone and granular activated carbon at both of its treatment plants as part of its multi-barrier water-treatment approach, which also includes coagulation, sedimentation, filtration, and disinfection. Additional information about our treatment process and water quality is available at www.fairfaxwater.org/water/index.htm.

Cryptosporidium

Cryptosporidium is a microbial pathogen sometimes found in surface water throughout the United States. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Fairfax Water maintains its filtration process in accordance with regulatory guidelines to maximize removal efficiency. Our monitoring indicates the occasional presence of these organisms in the source water. Current test methods do not allow us to determine whether the organisms are dead or are capable of causing disease.



Rhianen and Skylar enjoy watering the plants - and each other.

UNDERSTANDING YOUR WATER QUALITY (CONTINUED)

Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals 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. We encourage immuno-compromised individuals to consult their doctors regarding appropriate precautions to take to avoid infection.

Cryptosporidium must be ingested in order to cause disease. It may be spread through means other than drinking water, such as people, animals, water, swimming pools, fresh food, soils, and any surface that has not been sanitized after exposure to feces.

Fairfax Water has completed monitoring the Potomac River and Occoquan Reservoir for compliance with the EPA Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR). The EPA created this rule to provide for increased protection against microbial pathogens, such as *Cryptosporidium*, in public water systems that use surface-water sources. Fairfax Water's monitoring program began in 2004 and involved collecting two samples from water-treatment-plant sources each month for two years. Although monitoring for compliance with the LT2ESWTR is complete, Fairfax Water continues to monitor for *Cryptosporidium* at water-treatment-plant sources.

Continued on page 10

UNDERSTANDING THE WATER QUALITY TEST RESULTS

In the water quality test results on pages 8 and 9 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.

Action Level - The concentration of a contaminant that, if exceeded, requires a water system to carry out an additional treatment or other action.

Maximum Contaminant Level Goal or MCLG - 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.

Maximum Contaminant Level or MCL - 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 Disinfectant Level or MRDL - The highest level of a disinfectant allowed in drinking water.

Maximum Residual Disinfectant Level Goal or MRDLG - The level of a disinfectant in drinking water below which there is no known or expected risk to health.

Not Applicable or N/A - Does not apply to this subject or scenario

Non-detect or ND - A level at which there is an inability to detect an analyte because it is indistinguishable from the background signal.

No Regulatory Limit or NRL - Analyte does not currently have a regulatory limit or concentration

Picocuries per liter or pCi/L - A radioactivity concentration unit

Parts per billion or ppb - One ppb corresponds to one penny in \$10,000,000

Parts per million or ppm - One ppm corresponds to one penny in \$10,000

Quarterly Running Annual Average or QRAA - An ongoing annual average calculation of data from the most recent four quarters

Total Trihalomethanes - A group of organic chemicals that are formed in the water-treatment process by the reaction of the disinfectant chlorine with natural organic matter.

Total Coliform - A bacteria that indicates other potentially harmful bacteria may be present.

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.

Turbidity - A measure of the clarity of water. Turbidity is measured in Nephelometric Turbidity Units (NTU). Turbidity in excess of five NTU is just noticeable to the average person. Turbidity has no health effects; however, turbidity can interfere with disinfection and provide a medium for microbial growth.

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

The Fairfax Water Water Quality Laboratory monitors for almost 300 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 2010, 67,000 data points were gathered from 15,000 samples of water for these 300 parameters. Lots of data to ensure a great product!

The tables on pages 8 and 9 show the results of the monitoring that is required by state and federal regulations. The monitoring was conducted between Jan. 1 and Dec. 31, 2010, unless otherwise noted. Additional parameter data can be found on the Fairfax Water Web site at www.fairfaxwater.org/water/index.htm.

2010 Water Quality Tables



SUMMARY OF FINISHED WATER CHARACTERISTICS

Griffith and Corbalis Water Treatment Plants

Components	MCLG	MCL	Average	Minimum	Maximum	Violation	Major Source in Drinking Water
Barium (ppm)	2	2	0.0257	ND	0.0481	No	Discharge of drilling wastes; discharge from metal refineries; erosion from natural deposits
Beta/photon emitters ¹ (pCi/L) ²	0	50	2.3	ND	4.3	No	Decay of manmade and natural deposits
Bromodichloromethane (ppb)	NRL	NRL	10.3	1.0	12.7	No	By-product of drinking water disinfection
Bromoform (ppb)	NRL	NRL	0.2	ND	0.6	No	By-product of drinking water disinfection
Chlorodibromomethane (ppb)	NRL	NRL	4.4	1.0	5.4	No	By-product of drinking water disinfection
Chloroform (ppb)	NRL	NRL	17.4	0.8	22.1	No	By-product of drinking water disinfection
Fluoride (ppm)	4	4	1.0	0.8	1.2	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate [as Nitrogen] (ppm)	10	10	1.0	ND	2.0	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite [as Nitrogen] (ppm)	1	1	ND	ND	0.02	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

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

² Results for the Beta/photon emitters are an average of Corbalis 2008 and Griffith 2007 data points.

Bromate (ppb)	MCLG	MCL	Highest Quarterly Running Annual Average	System Range (Individual Results)	Violation	Major Source in Drinking Water
	0	10	0.9	ND - 6	No	By-product of drinking water disinfection

The Bromate MCL is based on the Highest Quarterly Running Annual Average (QRAA) of all monitored sites. The QRAA reported above is a mathematical average and is below the detection level for any individual sample result.



SUMMARY OF PROCESS WATER CHARACTERISTICS

Total Organic Carbon (ratio)	MCLG	MCL	Quarterly Running Annual Average	Minimum	Maximum	Violation	Major Source in Drinking Water
	N/A	TT	1.3	0.9	1.7	No	Naturally present in the environment
Total Organic Carbon has no health effects. However, it provides a medium for the formation of disinfection by-products. These by-products include trihalomethanes and haloacetic acids. Compliance with the treatment technique (TT) reduces the formation of these disinfection by-products. Quarterly Running Annual Average (QRAA) refers to the monthly ratio of actual Total Organic Carbon removal to the required Total Organic Carbon removal between source and treated waters. QRAA is to be greater than 1 to be in compliance.							
Turbidity (NTU)	MCLG	MCL	Average Annual Turbidity	Highest Single Measurement	Lowest Monthly % Samples Meeting Treatment Technique Turbidity Limit	Violation	Major Source in Drinking Water
	TT	TT	0.04	0.26	100%	No	Soil runoff
Turbidity levels are measured during the treatment process after the water has been filtered, but before disinfection. 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.							



SUMMARY OF DISTRIBUTION SYSTEM WATER QUALITY

Microbial Results	MCLG	MCL		Result	Violation	Major Source in Drinking Water	
Total Coliform Bacteria	0	Positive samples not to exceed 5% of monthly total		0.36% positive	No	Naturally present in the environment	
Fecal Coliform Bacteria	0	MCL is exceeded when a routine sample and repeat sample are Total Coliform positive, and one is also Fe- cal Coliform or E.coli positive.		Zero occurrences	No	Human and animal fecal wastes	
Metals	Action Level	90th Percentile	Number of Sites Above Action Level		Violation	Major Source in Drinking Water	
Copper (ppm)	1.3	0.064	0		No	Corrosion of household plumbing systems; erosion of natural deposits	
Lead (ppb)	15	0.77	0		No	Corrosion of household plumbing systems; erosion of natural deposits	
Copper and Lead results are based on testing performed in 2008.							
Disinfection By-Products	Quarterly Running Annual Average		Highest Quarterly System Running Annual Average	System Range (Individual Results)	Violation	Major Source in Drinking Water	
	MCLG	MCL					
Total Trihalomethanes (ppb)	0	80	24	5 - 71	No	By-product of drinking water disinfection	
Haloacetic Acids (5) (ppb)	0	60	12	2 - 23	No	By-product of drinking water disinfection	
Disinfectant	MRDLG	MRDL	Highest Quarterly Average	Minimum (Individual Results)	Maximum (Individual Results)	Violation	Major Source in Drinking Water
Total Chlorine (ppm)	4	4	2.7	0.7	3.8	No	Water additive used to control microbes

UNDERSTANDING YOUR WATER QUALITY (CONTINUED)

Under the LT2ESWTR, the average *Cryptosporidium* concentration determines whether additional treatment measures are needed. A *Cryptosporidium* concentration of 0.075 oocysts per Liter will trigger additional water-treatment measures. Fairfax Water's raw water *Cryptosporidium* concentrations consistently remain below this threshold. The results for 2010 are as follows:

Source (Before treatment)	Average <i>Cryptosporidium</i> Concentration (oocysts/Liter)
Potomac River	0
Occoquan Reservoir	0

Chromium

A report released by the Environmental Working Group in 2010 spurred interest in chromium in drinking water. Chromium is a naturally occurring metal found in soils, plants, rocks, water, and animals.

There are two common forms of chromium: chromium III and chromium VI. Chromium III is an essential human dietary element found in vegetables, meats, fruits, grains, and yeast. Chromium VI, also known as hexavalent chromium, is generally produced by industrial processes such as steel manufacturing and pulp mills. It can also be generated by converting natural deposits of chromium III to chromium VI.

Total chromium, which is a measure of the sum of both chromium III and chromium VI, is a regulated compound in drinking water. The current maximum level of total chromium allowed in drinking water is 100 parts per billion (ppb). Fairfax Water routinely monitors for total chromium. The tests to date show that our water is consistently below the detection limit of five ppb. A ppb is equivalent to one penny in \$10,000,000.



Olivia (center) makes new pool buddies every summer.

In January 2011, Fairfax Water began conducting quarterly testing for hexavalent chromium in our raw, finished, and distribution waters. We will share this information with you as data becomes available. To learn more about hexavalent chromium, visit our Web site at www.fairfaxwater.org/water/chromium.htm. Fairfax Water's total chromium test results are available on our Web site at www.fairfaxwater.org/water/imar.htm.

LEAD IN DRINKING WATER

What is the EPA standard for lead in drinking water?

The EPA has established an Action Level for lead in water of 15 ppb. When lead testing is performed as required by 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 (LCR) Rule since 1992 and has consistently tested below the Action Level established in the LCR. In the most recent tests, performed in 2008 as required by the EPA, the 90th percentile value for lead was 0.77 ppb compared to the EPA action level of 15 ppb. The next EPA-required monitoring will be conducted from June to September in 2011.

UNDERSTANDING YOUR WATER QUALITY (CONTINUED)

Where does lead in drinking water come from?

Although some utilities use raw source waters that contain lead, Fairfax Water's sources, the Potomac River and the Occoquan Reservoir, do not contain lead. In 1986, lead was banned from use in pipe and solder in home construction.



Braedy makes the most of his backyard "pool"!

In older homes, where lead is present in pipe and solder connections, it may dissolve into the water after the water sits for long periods of time. Some household plumbing components may contain a small amount of lead and can contribute to lead concentrations at the tap. Fairfax Water adds a corrosion inhibitor during the treatment process to slow this dissolution process.

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, you may wish to have your water tested. In addition to the tips below, information about lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at www.epa.gov/safewater/lead or by calling the Safe Drinking Water Hotline at 800-426-4791, TTY 711.

If you have lead in your household plumbing, following these tips can help minimize the potential for lead exposure:

- Use only cold water for cooking and making baby formula.
- When your water has been sitting for several hours, flush your tap for 15 to 30 seconds or until it becomes cold or reaches a steady temperature before using the water for drinking or cooking.
- Some people choose to install a filter in their home. If you choose a water filter, follow these three rules:
 1. Choose one designed for the specific filtration desired (chlorine, lead, *Cryptosporidium*, etc.).
 2. Make sure the filter is approved by the National Sanitation Foundation (www.nsf.org).
 3. Maintain the filter as directed.

How can Fairfax Water assist in having the water in my house tested?

For information about having a lead-level test conducted, call our Customer Service Department at 703-698-5800, TTY 711. The charge for lead-level testing of your home's water is \$35.00 per faucet.



Cocoa Latte is not sure about this bath idea!

Where can I find more information about my water quality?

Visit the Fairfax Water Web site at www.fairfaxwater.org and click on Water Quality or call 703-698-5600, TTY 711.

WE'RE GLAD YOU ASKED!

EACH YEAR, WE RECEIVE HUNDREDS OF QUESTIONS FROM OUR CUSTOMERS. WE THOUGHT IT WOULD BE A GOOD IDEA TO INCLUDE SOME OF THE MOST FREQUENTLY ASKED QUESTIONS IN THIS REPORT ALONG WITH THE ANSWERS. IF YOU HAVE A QUESTION, CONCERN OR COMPLIMENT ABOUT FAIRFAX WATER, WE WOULD LIKE TO HEAR FROM YOU. YOU CAN REACH US BY CALLING 703-698-5600, TTY 711 OR SENDING AN E-MAIL TO PR@FAIRFAXWATER.ORG.



Ryan and Sean's grandmother says all boys should help with the dishes!

WHY DOES FAIRFAX WATER ADD FLUORIDE TO OUR DRINKING WATER?

Most water contains naturally occurring fluoride. Fluoride is added to public-drinking water through a process known as fluoridation. Fairfax Water adds fluoride to your drinking water at the urging of the Virginia Department of Health and at the request of the communities we serve. Fairfax Water adds fluoride at an average of 0.7 parts per million, which is considerably lower than the EPA's maximum of 4.0 parts per million.

The addition of fluoride to drinking water was identified by the Centers for Disease Control and Prevention (CDC) as one of the top 10 health achievements of the 20th century. Even today, with other sources of fluoride available, the CDC reports that a person who drinks appropriately fluoridated water from birth will experience up to 25 percent less tooth decay over a lifetime. You can read more about the CDC's perspective by visiting www.cdc.gov/fluoridation/. You can view Fairfax Water's data on fluoride levels in drinking water in our Water Quality Analytical Reports found at www.fairfaxwater.org/water/imar.htm.

WHY DOES MY WATER SOMETIMES HAVE A CHLORINE TASTE AND ODOR?

During the months of April, May, and June, you may notice the taste and odor of chlorine in your water. That is because during this time we use free chlorine instead of the less noticeable combined chlorine, called chloramines. Free chlorine provides the best method of disinfection during the water main flushing done each spring to maintain a high level of water quality. Keeping an open container of drinking water in the refrigerator allows the chlorine to dissipate, which usually improves the taste of the water. Change the water in your refrigerated container weekly.

WHY DOES TAP WATER SOMETIMES LOOK MILKY OR OPAQUE?



Oxygen escaping as air bubbles can make water look milky.

During the time of year when the water coming into the house is colder than the temperature inside the house, this phenomenon can occur. Cold water holds more oxygen than warm water does, consequently when the cold water from the water mains outside comes inside our warm homes and the water begins to warm, the oxygen must escape. It does so by bubbling out in air bubbles, which make the water look milky.

To determine if this is why your water looks milky or opaque, run water into a clear container and watch the container for a few minutes. If the water clears from the bottom to the top of the container, as you see here in the photos, then the phenomenon described is occurring. The air bubbles are moving from the bottom to the top of the container to escape into the open atmosphere.

CAN I STORE DRINKING WATER INDEFINITELY?

No. Drinking water has a shelf life. The disinfectant in drinking water will eventually dissipate even if it is stored in a closed container. Some experts believe that water can be stored safely in a closed container up to six months.

WE'RE GLAD YOU ASKED! (CONTINUED)

IF I DISPOSE OF UNWANTED MEDICINE IN THE TRASH, AS RECOMMENDED, WILL IT END UP LEACHING INTO THE RIVERS AND STREAMS WHEN TAKEN TO THE LANDFILL?

No. In Fairfax County, we are fortunate to have an energy resource recovery facility that burns 3,000 tons of waste each day. The facility reduces pharmaceuticals to ash that will not leach into the soil, and it is designed to comply with the Clean Air Act's regulations on emissions. The facility is managed by the Fairfax County Department of Public Works and Environmental Services' Solid Waste Disposal Division. To learn more, visit the Fairfax County Web site at www.fairfaxcounty.gov/dpwes/trash/disposmsf.htm or call 703-324-5230, TTY 711.

CAN YOU PLEASE TELL ME IF PRIVATE LANDSCAPING COMPANIES ARE AUTHORIZED TO HOOK INTO THE FIRE HYDRANTS IN OUR SUBDIVISION AND WATER THE COMMON AREAS?

Many customers are surprised to learn that Fairfax Water owns and maintains the fire hydrants in Fairfax County. We do allow the use of hydrants when a company or individual has applied for and received a hydrant permit and meter. The hydrant meter and permit allow Fairfax Water to control the use of hydrants. Hydrant meter users are required to report their use on a monthly basis and are billed accordingly. A hydrant being used properly should display a current permit and have a brass attachment that allows the hydrant hose to be connected to the permitted meter. If a hydrant is being used with the hose hooked directly to the hydrant, it indicates an illegal use of our hydrant, except of course for the Fairfax County Fire Department! If you have concerns about a hydrant being used without a permit, call 703-698-5600, TTY 711 or send an e-mail to pr@fairfaxwater.org.

WHOM DO I CONTACT ABOUT A SEWER PROBLEM NEAR MY HOUSE?

Although your sanitary sewer charge appears on the Fairfax Water bill, the Fairfax County Department of Public Works and Environmental Services' Wastewater Division is responsible for the wastewater system. The Wastewater Collection Division's 24-Hour Trouble Response Center provides assistance to homeowners facing a sewer backup. If sewage is backing up in your home or if you observe sluggish flow in a sink, toilet, or tub, call 703-323-1211, TTY 711. An inspector will be dispatched to determine whether the backup is caused by blockage in the county sewer line. If you observe an overflowing sanitary sewer manhole or wish to report an odor related to the sanitary sewer system, call 703-323-1211, TTY 711. For more information, visit the Fairfax County Web site at www.fairfaxcounty.gov/dpwes/wastewater/.

I LOOKED AT MY METER THE OTHER DAY AND SAW TWO PLACES WHERE I CAN SHUT OFF THE WATER SUPPLY VALVE. DO THEY CONTROL TWO DIFFERENT WATER SUPPLIES TO MY HOUSE OR IS THERE JUST ONE SUPPLY LINE?

Typically, the main water supply shut-off valve is located on the water pipe as it enters the house through the foundation. Your water meter could be located outside or inside your home. If you have an inside meter, the main water supply shut-off valve will be on the water pipe just after the water meter valve. The water meter has shut-off valves on both sides of the device so that it can be removed for maintenance or repair. The water meter valves are to be operated only by Fairfax Water personnel.



Their grandparents' garden is a magical place for Kelby, Dylan, and Ella.



UNDERSTANDING YOUR WATER SERVICE

IMPORTANT RATE INFORMATION

On December 9, 2010, Fairfax Water approved revisions to the Commodity Charge from \$1.93 to \$2.04 per 1,000 gallons, effective with meter readings taken on or after April 1, 2011. The approved changes to the commodity and billing service charges increase the average household quarterly bill by \$3.69. Even with this increase, Fairfax Water's rates remain the lowest in the Washington metropolitan region, but we understand the impact even this small increase has on you and your family.



Some of our younger customers took a break for a glass of ice water at Celebrate Fairfax.

As a non-profit public utility, Fairfax Water is mandated to charge only for the actual cost of providing water service to our customers. That includes any anticipated cost increases in goods and services and the cost to maintain and expand our water system as needed to meet current and future demands. The recent increase was necessary because Fairfax Water shares many of the same challenges as you and your family - increases in costs for the materials we need, protecting our credit rating, and planning for the future in uncertain times. Over the past few years, we have experienced significant cost increases for fuel, power, chemicals, and construction materials. Increases for many of these products have far outpaced normal inflation.

One of the most important considerations for the Fairfax Water Board of Directors is to safeguard our credit rating. Debt cost is our largest single expense because water utilities are among the most capital-intensive industries. For this reason, maintaining our AAA ratings from the three leading rating services is a top priority. This rating translates directly to lower debt costs, which translates to lower costs for our customers. We are one of only a handful of water utilities in the country to receive this AAA rating and we work hard to maintain this high level of confidence in our financial management.

Another challenge we all share is planning for the future. We have plans in place to meet water demands through 2040 and we're working on plans to ensure our distribution system remains strong through this century. This long-range planning allows us to make changes in our rates, fees, and charges in small increments to keep our system strong and prevents us from finding ourselves with a system that cannot meet water demands and a lack of funding to expand as needed.

An example of this planning is the recent expansion of the James J. Corbalis Jr. Water Treatment Plant, which increased our water-treatment capabilities to meet customer demands through 2025. Improvements to our system over the past several years cost \$500 million, with another \$600 million anticipated over the next 10 years. Ongoing improvements include those at the Occoquan Dam, the Fox Mill water main, and the Penderwood water storage tank.

It is always our priority to provide our customers with the best quality water. It is a privilege to do so at the lowest rates in the region. For more information about rates and billing and to see a comparison of regional water rates, visit our Web site at www.fairfaxwater.org and click on Customer Service or call 703-698-5800, TTY 711.

PEAK USE CHARGES

The Peak Use Charge helps to recover the costs of ensuring that our treatment facilities can meet peak capacity demands. Only those customers whose quarterly water-use patterns place peak capacity demands on the water system are subject to the Peak Use Charge. Peak Use Charges apply to summer water use greater than 1.3 times the Winter Quarter Consumption or 6,000 gallons above the Winter Quarter Consumption. Only two of the four quarterly bills Fairfax Water customers receive each year are subject to Peak Use Charges - those based on meter readings taken in June through November. Peak Use is billed at a rate of \$2.95 per 1,000 gallons. This is in addition to the Water Usage Charge of \$2.04 per 1,000 gallons that applies to all water consumption. Winter Quarter Consumption, which appears on all bills and is updated annually on June 1, serves as the basis for calculating the Peak Use Charge. Winter Quarter Consumption is based on consumption during the quarterly billing period ending in February, March, or April of each year.

UNDERSTANDING YOUR WATER SERVICE (CONTINUED)

YOUR HOME'S PLUMBING

Customers are often unsure about where Fairfax Water's system ends and their home plumbing begins. Water meters and their settings are owned and maintained by Fairfax Water. In most cases, your plumbing includes all of the pipes and fixtures on your property, from the meter or valve near the street to the faucets inside your home. Here are two important components to be familiar with:

Main Water Valve

This valve is normally located where the water line enters your home through the foundation. You can use it to shut off the water in an emergency or when you are making plumbing improvements. It can also be turned off while the property is vacant to prevent water damage from unforeseen leaks. To make sure this valve works properly, turn it off and verify that the water flow to your fixtures has stopped completely. When the valve is turned back on, it should be opened fully to allow unrestricted water flow. If you are turning off the main valve due to freezing temperatures, be sure to consult a plumber to understand the steps necessary to protect your water and wastewater pipes as well as appliances such as your hot water heater.

Water Service Lateral

This is the pipe that runs underground from the meter or valve near the street to the main water valve inside the house. It is typically made of copper, plastic, or sections of both.

USING WATER WISELY

If you experience a higher-than-normal water bill, leaks are often the culprit. A leaking toilet can waste more than 1,000 gallons of water a day. Fortunately, repairing toilet leaks is usually easy and inexpensive. Checking for leaks elsewhere in your plumbing system may reveal other sources of water loss. High bills can also result from increased water use, such as watering a new lawn or using a new sprinkler system. Read your water meter before and after watering to determine how much you are using.

Finally, if you suspect that your meter has been misread, call our Customer Service Department at 703-698-5800, TTY 711. We will gladly check the reading and make any necessary billing corrections. You can find important information about detecting leaks and using water wisely by visiting our Web site at www.fairfaxwater.org and clicking on Customer Service.

SANITARY SEWER BILLING

The Fairfax County Division of Wastewater Management operates and maintains the sewer system. As a cost-saving measure and a convenience to our customers, Fairfax Water provides a sewer billing and collection service for them, which is why your sanitary sewer fees are included with your water bill. This allows most Fairfax Water residential customers to pay for both water and sewer services with one payment.

As of July 1, 2011, residential customers are billed for use of the sanitary sewer system at a rate of \$6.01 per 1,000 gallons. Sewer usage is based on water consumption during the current billing period or the preceding winter quarter billing period, whichever is lower. This prevents residential customers from being charged sewer rates on water used outdoors during the warmer months. For more information about sanitary sewer billing, call 703-324-5015, TTY 711, or visit Fairfax County's Web site at www.fairfaxcounty.gov/dpwes/wastewater/sewerrate.htm.



Inneke tends her beautiful garden.

Every day around 1.7 million people use an average of 167 million gallons of our water – that’s more than two and a half billion eight-ounce glasses of water every day! And that is why at Fairfax Water, we’re committed to bringing safe, high-quality drinking water from the source to your tap. Using the treatment process outlined below, our drinking water consistently surpasses all federal and state water quality standards. To learn more about drinking water, visit our Web site at www.fairfaxwater.org/education/education.htm.



Intake – Fairfax Water draws raw water from the Occoquan Reservoir to the Frederick P. Griffith Jr. Water Treatment Plant and from the Potomac River to the James J. Corbalis Jr. Water Treatment Plant.



Coagulation – In the first step of the process, chemicals called coagulants are added to the raw water, which causes small particles to adhere to one another. This process is called coagulation.



Flocculation – As the particles coagulate, they create larger particles called floc. As the water is slowly mixed, the floc particles continue to group together, becoming heavier and heavier.



Sedimentation – During the next step, the heavy floc settles to the bottom of the sedimentation basins. Once the floc has settled, it’s cleared away, leaving the cleaner water behind.



Ozonation – At this point, Fairfax Water adds an extra step in the process – ozonation. This step infuses the water with ozone, a gas produced by subjecting oxygen molecules to high electrical voltages. Ozone destroys bacteria and other micro-organisms, and improves tastes or odors.



Filtration – Filtering the water using granular activated carbon (GAC) filters removes the remaining fine particles. Research has shown that GAC is one of the most effective filter materials, especially when used in combination with ozone.



Disinfection and Distribution – The final step is to add fluoride to protect teeth and chlorine to protect the water as it travels through the distribution system to your tap. A corrosion inhibitor is added to help prevent lead from leaching into your water from household plumbing. Fairfax Water does not have lead in its distribution system.

IMPORTANT CONTACT INFORMATION FOR FAIRFAX WATER

If you have comments or suggestions about this publication, please e-mail us at pr@fairfaxwater.org, call us at 703-698-5600, TTY 711, or write to the address below.

Editor of Water Quality Report

Fairfax Water Office of Public Affairs

8570 Executive Park Avenue, Fairfax, VA 22031

Questions about water service: 703-698-5800, TTY 711

After-hours water emergencies: 703-698-5613, TTY 711

Questions about billing: 703-698-5800, TTY 711

All other Fairfax Water departments: 703-698-5600, TTY 711

To send an inquiry via e-mail, visit us online at

www.fairfaxwater.org and click on “Contact Us.”