

2004 DRINKING WATER **QUALITY REPORT**



**District of Columbia
Water and Sewer Authority**

Dear Customers,

The District of Columbia Water and Sewer Authority (WASA) is happy to provide you with the 2004 Consumer Confidence Water Quality Report. This report has information on our performance under the national Safe Drinking Water Act and its requirements, as well as the source of your drinking water, how it is treated and what it contains.

This past year was eventful, and even disturbing, for some members of our community who read about elevated lead levels in drinking water in the District of Columbia. It is important for customers to understand that although environmental lead exposure can be very hazardous over a long period of time, large numbers of tests conducted by the DC Department of Health in 2004 have detected no measurable health effects from the potential exposure to lead in drinking water in the District of Columbia.

This complex problem is, nevertheless, a critical concern. It has been the subject of intensive scientific inquiry because we must identify the cause, and more importantly, answer the question: "How do we change the Army Corps of Engineers Washington Aqueduct water treatment process in order to prevent clean drinking water from corroding the lead service line pipes and plumbing fixtures serving approximately 23,000 homes in the District?"

In August 2004, this joint inquiry, involving the Washington Aqueduct (water treatment supplier), WASA, the DC Department of Health and the Environmental Protection Agency, resulted in a change to the treatment plan; the Washington Aqueduct now uses orthophosphate in the treatment process to help prevent drinking water from corroding pipes. Although lead levels remain over the federal Lead and Copper Rule regulatory trigger in 2004, compliance testing indicates steady and strong progress in reducing the lead concentrations in monitoring samples.

Last summer, WASA also issued a public promise – a "Community Water Pledge" to provide more and better information to the public about water quality and our efforts to provide the best service we can. Two examples of our commitment to your high expectations:

- We have created a relationship with the George Washington University Medical Center – an unprecedented partnership – that helps ensure that WASA has access to strong analytical support in understanding potential public health implications of water quality issues;
- WASA is creating an independent expert working group that will focus on the District's distribution system to help WASA and the Washington Aqueduct anticipate and address any potential technical challenges that may arise if treatment changes are proposed by the Washington Aqueduct in the future.

This 2004 Water Quality Report reflects this renewed effort to continuously improve service and to win back the trust of our customers by supplying you with clean and affordable drinking water.

I am confident that you will find the 2004 Water Quality Report informative.



Jerry N. Johnson, General Manager
District of Columbia Water and Sewer Authority

Our Water Treatment and Distribution System

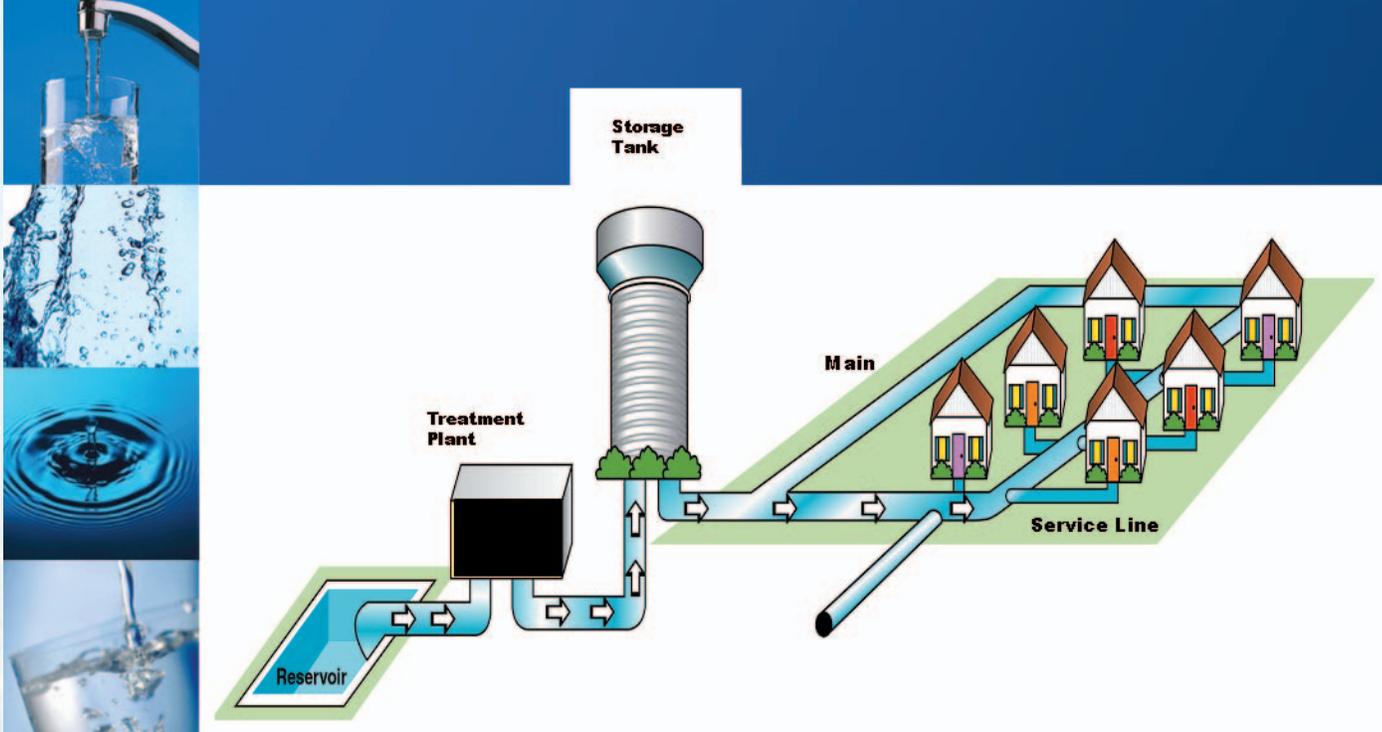
The DC Water and Sewer Authority (WASA) distributes water to residences and businesses throughout the District for drinking, fire fighting and other uses. WASA purchases the drinking water from the US Army Corps of Engineers Washington Aqueduct. The Washington Aqueduct (WA) withdraws approximately 180 million gallons of water each day from the Potomac River at the Great Falls and the Little Falls intakes and then treats the water at the two water treatment plants, Dalecarlia and McMillan (see the water treatment scheme). The key treatment processes at the WA Dalecarlia and McMillan facilities include sedimentation, filtration, fluoridation, pH adjustment, primary disinfection using free chlorine, secondary disinfection with chloramines through the addition of ammonia to convert the chlorine to chloramine, and finally corrosion control with orthophosphate. This orthophosphate treatment process began system-wide in August 2004 to help reduce the tendency of water to corrode certain metals. Compliance water sample analysis through the end of 2004 indicated that the addition of orthophosphate has significantly reduced the corrosive effects of water on service line pipes and other plumbing fixtures that may contain lead.

Chloramines As Our Water Disinfectant

As of November 1, 2000, chloramines are used as a disinfectant to maintain protection against microbial contamination in the water distribution system. The change in disinfectant from chlorine to chloramines is an effort to reduce the concentrations of "disinfection byproducts" called trihalomethanes (THMs) and haloacetic acids (HAAs). This change was an effective response to more stringent national standards established by the U.S. Environmental Protection Agency (EPA). Chronic exposure to high concentrations of these disinfection byproducts is considered potentially carcinogenic. Since the treatment change to chloramines, we have obtained a significant reduction of THMs and HAAs in the drinking water. WASA continues to advise facilities providing kidney dialysis treatment, individuals and businesses maintaining fish tanks, and laboratories and businesses affected by chloraminated water that their pretreatment steps must remove chloramines. WASA will provide fact sheets on chloramines upon request.

The Potomac River – Our Water Supply Source

Drinking water for the District of Columbia comes from the Potomac River, a "surface water" supply. As water travels over land and rocks, through creeks, and into the Potomac River, it



dissolves naturally occurring minerals, leaves and vegetation, and sometimes even radioactive materials. It may also dissolve animal waste, pesticides, and other debris. Rain or other precipitation may also pick up contaminants as it falls through the atmosphere and into the river.

Contaminants that may be present in source water (before treatment) include:

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

The DC Department of Health conducted a Source Water Assessment of the Potomac River watershed, upstream of the water supply intakes for the District. The assessment included the delineation for the District of Columbia source water area, the identification of potential contamination sources, a susceptibility analysis for the intakes, and modeling of contaminant transport within the river system. The key findings of this study were that the most likely source of potential contamination to the water supply are urban runoff, toxic spills, agricultural activities and inadequate wastewater treatment. For more information on this project, contact the DC Department of

Health at **202-535-1603** or visit www.dchealth.dc.gov/services/administration_offices/environmental/services2/water_division/swap.shtm.

Protecting The District Drinking Water Supply

Protect The Watershed – A watershed is an area of land surrounding a river from which water eventually drains into the river. Everyone can help protect the Potomac River from contamination by protecting its watershed:

- Dispose of household wastes and motor oil in a proper manner. You can call the District Recycle Hotline at **202-645-8245** for information regarding proper disposal.
- Never dump anything down a storm drain or catch basin.
- Participate in watershed protection activities by contacting the Interstate Commission on the Potomac River Basin at **301-984-1908**.

Report Fire Hydrant Vandalism – Fire hydrants are used primarily to supply water for fire protection. WASA also issues permits for other specific hydrant uses, with mandatory requirements for the use of a special backflow prevention device when a permit-holder draws water from a hydrant. Unauthorized opening of fire hydrants or causing damage to fire hydrants is a crime punishable by fines and imprisonment. Opening fire hydrants drains thousands of gallons of fresh drinking water into streets. The torrent of water is a safety hazard to traffic and pedestrians and damages roads. In addition, improper use of fire hydrants can increase the flow, causing mineral sediment in the water mains to come loose, resulting in discoloration and potential water quality problems in the neigh-

borhoods around the hydrant. Most importantly, unauthorized hydrant use without a backflow preventor can result in the introduction of contaminants into the system. Anyone seeing someone opening a fire hydrant without authorization should call **202-612-3400** immediately.

Conserve Water – Since water is a limited resource, WASA continues to advocate water conservation activities. There are many ways to save water and they all start with you, the WASA customer. To show our customers how to save water, WASA has adopted the “Water, Use It Wisely” campaign together with other local water utilities and governments in the Metropolitan Washington region. Log on to www.wateruseitwisely.com or www.dcwasa.com to access water saving tips and information.

Changing behavior and installing water efficient fixtures are among the most effective means of conserving water. The “Water, Use It Wisely” web site has an inventory of 100 ways you can save water by making simple changes to your daily routine. You will also learn how much water can be saved by implementing each tip. For example, running your washing machine and dishwasher only when they are full could save you 1,000 gallons a month. The “Water, Use It Wisely” web site also provides information on plumbing fixture changes. Changing a toilet or a showerhead to a low volume water fixture is a great way to reduce water consumption. A low flush toilet could save up 22,000 gallons for a family of four per year. You can save money and potentially add value to your property with water conservative plumbing fixtures. Please visit the local “Water, Use It Wisely” website at www.mwco.org/wisewater to find out about water conservation activities and events in the D.C. area.

Get Involved – Attend any of the **community meetings** WASA periodically conducts with Advisory Neighborhood Commissions, civic associations, schools, libraries, and other groups. And, if you would like a speaker from WASA to make a

presentation to your community group, contact the WASA Public Affairs Office at **202-787-2200**, or email us at info@dcwasa.com.

The **WASA Board of Directors** conducts regular business meetings that are open to the public, generally on the first Thursday of each month. If you’d like to attend and learn more about agency issues, please call the Office of the Board Secretary at **202-787-2330** to confirm the specific meeting time and location.

Lead in the Drinking Water

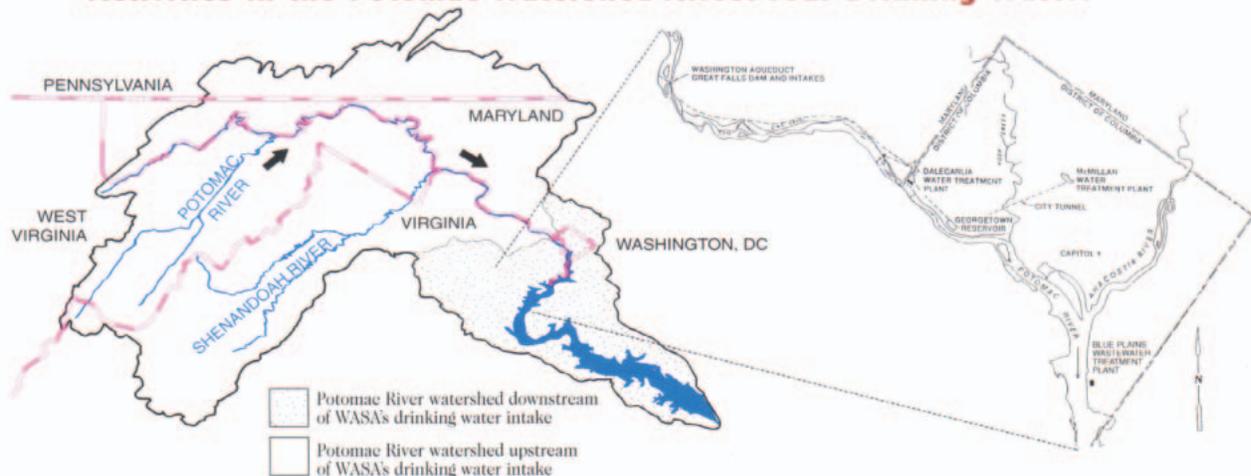
Drinking water for the District is virtually lead-free when it is delivered from our supplier, the Army Corps of Engineers Washington Aqueduct. However, water can have a corrosive effect on pipes and internal plumbing containing lead.

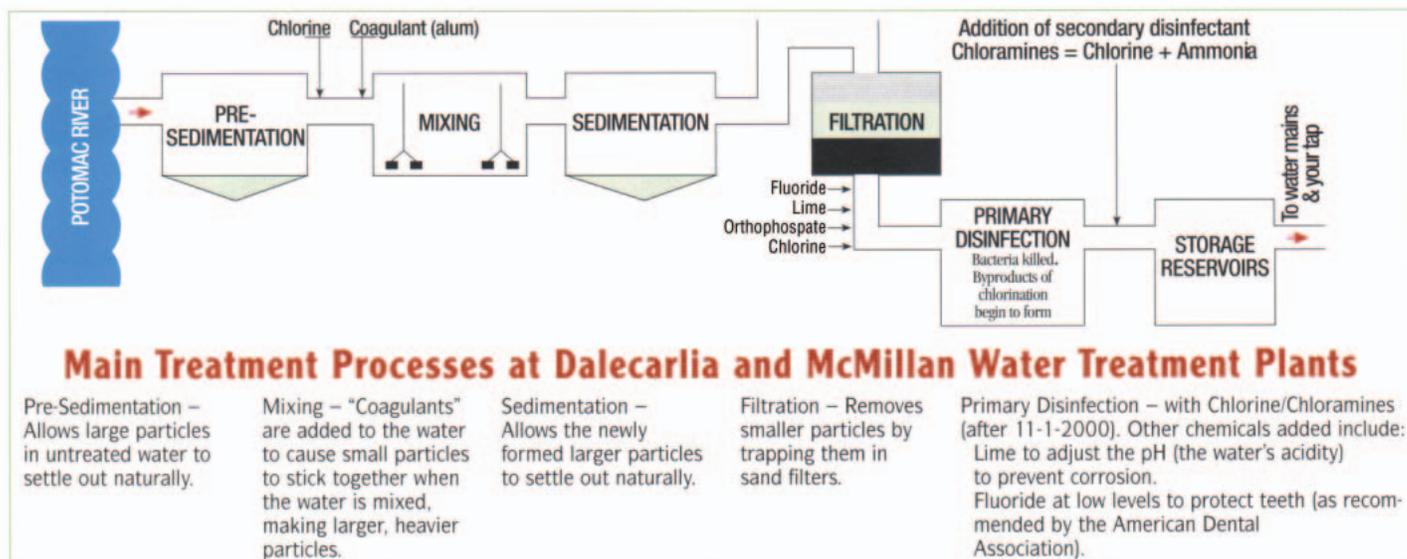
Since the discovery of elevated lead levels in tap water samples of many District homes, WASA has been under an EPA Administrative Order (AO). The AO requires WASA to take measures to comply with the federal Lead and Copper Rule (LCR). The rule allows no more than ten percent of at-the-tap water samples, collected during a monitoring period, to exceed the EPA lead “action level” of 15 parts per billion (ppb).

WASA and the EPA agreed on a set of commitments that WASA would undertake beyond those required by the federal Lead and Copper Rule (LCR). In addition, WASA issued the *Community Water Pledge* last August that promises to keep the public fully informed on progress under the LCR and AO. WASA is fully complying with its commitments under the AO and the *Community Water Pledge*. WASA has made reducing lead levels in drinking water in District homes a top priority.

WASA and the Washington Aqueduct (WA) continue to research the various chemical treatment techniques and their effects on corrosion. In November 2000, the Washington Aqueduct began

Activities in the Potomac Watershed Affect Your Drinking Water!





using a different chemical, chloramines, for disinfecting drinking water. Consistent with EPA goals, this change reduced the levels of disinfection by-products and the public health risks associated with them (see *Chloramines As Our Disinfectant*). However, experts believe that changes in the water chemistry, that resulted from switching disinfectants in 2000, increased the rate at which lead leaches into the drinking water. Orthophosphate was added to the District’s water in 2004 to control lead leaching. Orthophosphate works by building up a thin protective coating inside pipes and plumbing fixtures to prevent water from corroding pipes which causes metals to leach into the water.

This process takes time, but WASA is already seeing major reductions in lead concentrations. For example, samples collected from January to April 2004 averaged 28 ppb, while samples collected from January to April 2005 averaged only 7 ppb. WASA’s most recent test results from 2005 indicate most homes are below the EPA action level of 15 ppb.

Although most homes have very low levels of lead in their drinking water, a few still have elevated lead levels, consequently, the District’s tap water is still considered to exceed the action level. Therefore, WASA continues to encourage customers to follow the recommended flushing advice and use of filtration devices as appropriate:

- Homes with lead service lines should flush the tap for 10 minutes before drawing drinking water.
- All other homes should flush the tap for 60 seconds before drawing drinking water.
- Use only cold water for drinking and cooking.
- Boiling water does not remove lead.

- Remove and clean the strainer/aerator/screen device from your faucet on a regular basis.
- DC Department of Health recommends the use of filtration devices for nursing women, pregnant women, and children under the age of 6. To obtain a filter, call WASA’s Lead Services Hotline at 202-787-2732.

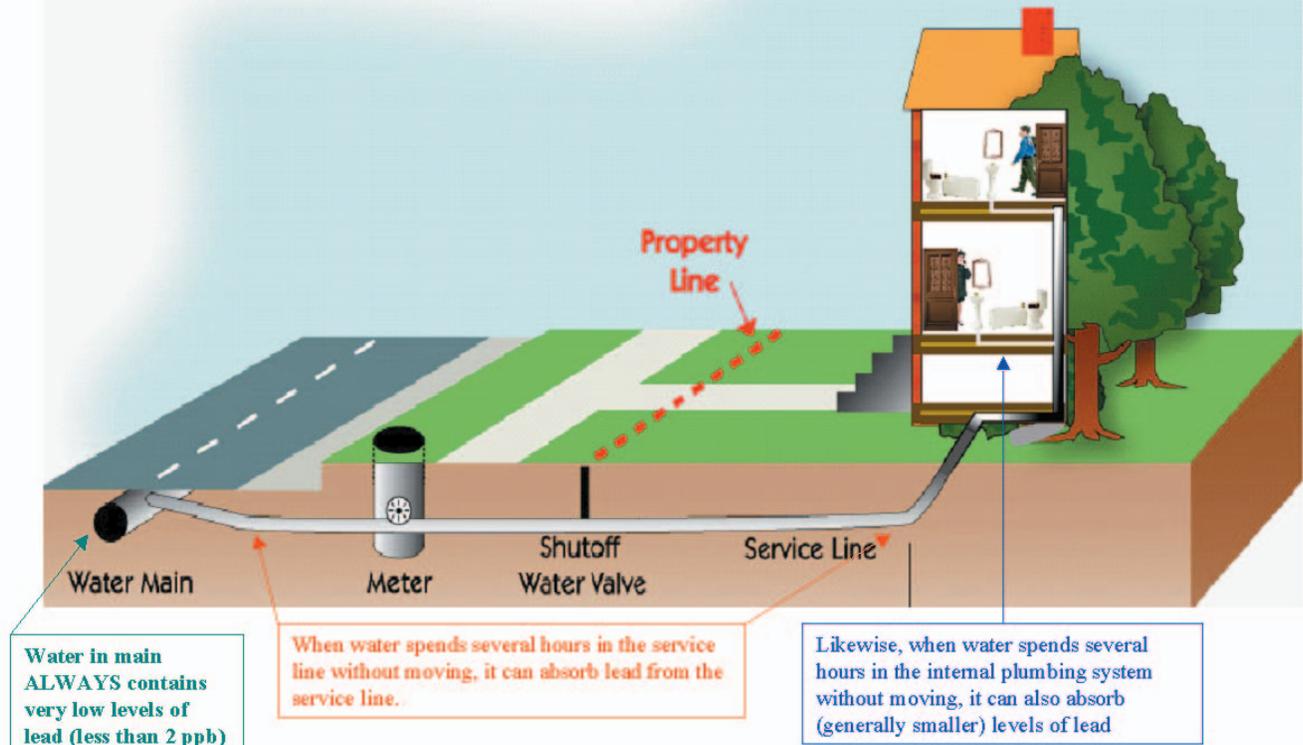
Health Effects of Lead

Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Lead is a common metal found throughout the environment in lead-based paint, soil, especially near highways (because lead was used in gasoline for many years); household dust, especially in older homes with lead-based paint; food to a small degree; certain types of pottery, porcelain, and pewter; and water. Lead can pose a significant risk to your health if too much of it enters your body. *The greatest risk is to young children and pregnant women.* In addition to drinking water, a child at play often comes into contact with sources of lead contamination – like dirt and dust – that rarely affect an adult. It is important to wash children’s hands and toys often and to try to make sure they only put food in their mouths.

For more information about the health effects of lead and how to obtain a blood lead level screening test, contact the Department of Health at **202-671-0733** or www.dchealth.dc.gov.

How Can Lead Enter Your Drinking Water??



NOTE: Water moving through the service line and internal plumbing CAN pick up small amounts of lead as it flows through, but this is likely to be at a MUCH lower level.

Lead Service Line Replacement

The EPA Administrative Order (AO) requires WASA to replace 7 percent of the lead service lines in its distribution system until the District is no longer over the lead action level for two consecutive six-month sampling periods. In 2004, WASA replaced the public portion of approximately 1,700 lead service lines, exceeding the federal requirement of 7 percent. WASA will contact customers before beginning lead service line replacement work in their neighborhood. WASA encourages residents with lead service lines to consider replacing the lead piping on their property at the same time. To pay for private property-side service line and indoor plumbing replacement, financial assistance is available to income-eligible homeowners through low-interest loans from Wachovia Bank or grants from the Department of Housing and

Community Development. Contact the WASA Lead Services Hotline at **202-787-2732** for more information.

To find out if your home has a lead service line, contact the WASA Lead Services Hotline by calling **202-787-2732** or e-mailing WQP2003@dcwasa.com.

Water Quality Enhancement Program

The quality of drinking water is affected as it flows through the distribution system. The Water Quality Division has undertaken a number of programs to protect, maintain and enhance water quality in the distribution system. These programs include extensive water main flushing, cross connection control, as well as the following:

- Monitoring the water supply as it enters the distribution system
- Collecting and analyzing hundreds of samples every month from various locations in the distribution system, including residential properties
- Responding rapidly to customer reports of water quality problems or other water quality episodes

LEAD TESTING

If you would like your water tested for lead please contact us at

202-787-2732 or WQP2003@dcwasa.com.

- Operating small mobile laboratory units to rapidly respond to water quality complaints and emergencies
- Conducting research in conjunction with EPA and national experts regarding the water chemistry in our distribution system

Water Main Flushing – Each spring through fall, WASA conducts an aggressive program to systematically “flush” water mains in the distribution system. The water is released by sequentially opening fire hydrants and flushing water in a unidirectional manner. Some of the water being flushed may flow into the streams and rivers, but chloramines are neutralized in the process to protect aquatic life.

Flushing water through the pipes at high velocities removes potential build-up or “scale” in pipes that may cause discolored water. Sometimes this scale is knocked off the pipe wall but does not make it out of the system during the flushing. This may cause short periods of discolored water in customers’ homes. Turning your faucets on for approximately 15 minutes and flushing the toilet can help minimize the problem. WASA distributes notices in neighborhoods where this work will occur at least 48 hours prior to flushing. You can also find out when WASA will be flushing in your area by calling **202-612-3440** or checking the flushing schedule on our website, www.dcwasa.com. The website is continuously updated throughout the flushing season.

Cross Connection Control Regulation Program – The purpose of WASA’s cross connection control program is to eliminate potential “cross connections”—physical links that could allow contaminants to flow into the District water supply from customers’ facilities. Backflow of contaminating materials may cause serious illness. WASA’s cross connection control regulations are published in *Chapter 54 Title 21 DCMR* under the heading Cross Connections. To protect public health, WASA is requiring local businesses to install backflow prevention devices at the water service connection to prevent contaminants from entering the drinking water supply. WASA is leading this cooperative effort that includes the DC Department of Health, the DC Department of Consumer and Regulatory Affairs, the EPA and consumers.

Cross connection surveyors will conduct inspections of the drinking water supply in commercial, industrial and apartment buildings on a schedule prioritized by hazard potential. We would appreciate your cooperation in assisting our surveyors.

Important Health Information

Certain people may be more vulnerable to microbial contaminants (disease-causing microorganisms), such as *Cryptosporidium*, in drinking water than the general population. Infants, the elderly and immuno-compromised persons, such as those with cancer undergoing chemotherapy; those who have undergone organ transplants; or those who have contracted HIV/AIDS or other immune system disorders can be at greater risk for infection. Persons in these groups should seek advice about drinking water from their health care providers. EPA and Centers for Disease Control and Prevention (CDC) guidelines on reducing the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline **1-800-426-4791**.

Cryptosporidium is a microbial pathogen found in most surface waters in the U.S. The WA routinely monitors the Potomac River for *Cryptosporidium* and has not detected any in the past five years. Although filtration can remove *Cryptosporidium*, it cannot guarantee 100-percent removal. The WA provides a multiple-barrier treatment approach to minimize the risk of all disease-causing microorganisms to the public health through chemical treatment, highly efficient sedimentation and filtration technologies and disinfection.

Ingesting *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea and abdominal cramps. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing a life-threatening illness. WASA encourages immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. EPA and CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at **1-800-426-4791**.

Compliance with EPA Drinking Water Standards

Lead and Copper Rule

In 2004, WASA did not meet the EPA Lead and Copper Rule action level of less than 15 ppb lead in 90 percent of homes tested. In the first six-month compliance period, 74 of 108 samples (69%) exceeded 15 ppb. In the second six-month compliance period, the number exceeding the 15 ppb action level fell to 40 of 133 samples (30%).

That year, WASA agreed to a negotiated Administrative Order (AO). The agreement specified additional water quality monitoring and lead line replacements. A copy of the agreement is located at www.epa.gov/dlead/aowasa617.pdf.

Lead and Copper Rule Violation – The WASA 2003 Water Quality Annual Report reported the replacement of 7 percent of the lead service lines for 2003. However, after publication of that report, WASA was notified by EPA that its testing method did not follow regulations and therefore, did not meet the 7 percent requirement for 2003. WASA agreed through a Supplemental Order, signed in January 2005, to replace an additional 387 lead service lines. A copy of the agreement is located at www.epa.gov/dlead/aowasa_supplement_011905.pdf.

Supplemental Monitoring Violation – Beginning October 2004, WASA initiated a program to enhance its water quality monitoring in order to optimize the lead corrosion treatment in the distribution system. WASA conducts over 1,000 additional tests throughout the District on a monthly basis for this program. It was developed by WASA, but under the agreed upon Administrative Order, EPA monitors and ensures WASA compliance. WASA missed 3 percent of the required tests at the onset of the program due to unexpected facility closures on Election Day.

Total Coliform Rule (TCR) Violation – In September 2004, WASA exceeded the TCR standard of 5 percent or less samples negative for coliform growth for this month. Coliforms were detected in 20 out of 294 samples (7%) in September. For every sample that tests positive for coliform growth, WASA must immediately sample that location again as well as adjacent locations. The repeat samples are also tested for *E.coli* and fecal coliforms, in addition to the total coliform test. All repeat sample tests were negative.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

What's In My Drinking Water?



EPA establishes standards for drinking water to make sure that it is safe for you to drink. The table summarizes District drinking water test results for the year 2004. The water is tested for the presence of over 100 prescribed contaminants; however, for clarity only those detected are listed in the table.

For a complete list of contaminants tested and the results, call **202- 612-3440**.

The table compares the level of each detected contaminant to an allowable upper limit (maximum contaminant level, or MCL) and the ideal goal (maximum contaminate level goal, or MCLG) set by EPA. Note that the concentrations of nearly all detected contaminants in District drinking water were considerably below EPA-established maximum limits.

In addition to the contaminants listed in the table, the Washington Aqueduct and WASA routinely monitor numerous water quality parameters to optimize the quality of water delivered to the customer. The “Unregulated Contaminants” section in the table summarizes some of these contaminants. As part of the Administrative Order from EPA, WASA monitors water quality at 50 locations each month throughout the District. This program and the water quality results are described in more detail at www.dcwasa.com.

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 Safe Drinking Water Hotline at **1-800-426-4791**.

Washington, DC Drinking Water Analysis Data for 2004

Regulated Contaminants

Category of Contaminants	Units	EPA Limits		DC Drinking Water		Typical Sources of Contaminants
		MCLG	MCL or TT	Highest	Range	
Water Treatment Plant Performance						
Turbidity	NTU	NA (TT)	5 (maximum)	0.12	0.04 to 0.12	Soil Runoff.
	% of monthly turbidity readings ≤ 0.3 NTU	NA (TT)	95% (minimum)	100%		
pH		NA	NA	8.5	7.6 to 8.5	
Temperature	F	NA	NA	85	41 to 85	
Alkalinity	ppm	NA	NA	90	52 to 90	
Total Hardness	ppm gpg	NA	NA	148 9	105 to 148 6 to 9	
Total Organic Carbon	ppm	NA	TT	2.11	0.97 to 2.11	Naturally present in the environment.
Orthophosphate (P04)	ppm	NA	NA	3.23	ND to 3.23	
Microbiological Indicators						
Total Coliform Bacteria	% of total-coliform-positive samples	0	5% (maximum)	6.8%	0 to 6.8% ¹	Naturally present in the environment.
Disinfectants and Disinfection Byproducts						
Chlorine	ppm	4 (MRDLG)	4 (MRDL)	3.8	3.3 to 3.8	Water additive that protects against microbiological contamination. Chlorine is combined with ammonia to form Chloramine.
Total Trihalomethanes	ppb (4-quarter running average)	NA	80	30.6 (highest 4-quarter average)	14.3 to 43.5 (lowest and highest single site result)	Trihalomethanes are a by-product of drinking water disinfection.
Haloacetic Acids (5)	ppb (4-quarter running average)	NA	60	21.5 (highest 4-quarter average)	10.3 to 32.4 (lowest and highest single site result)	Haloacetic acids are a by-product of drinking water disinfection.
Inorganic Metal						
Selenium	ppb	50	50	1.0	ND to 1.0	Discharge from petroleum and metal refineries; erosion of natural deposits.
Barium	ppm	2	2	0.045	.030 to .045	Discharge of drilling waste and metal refineries; erosion of natural deposits.
Arsenic	ppb	50	50	0.5	ND to 0.5	Erosion of natural deposits.

continued on next page

Washington, DC Drinking Water Analysis Data for 2004

Regulated Contaminants *(continued)*

Category of Contaminants	Units	EPA Limits		DC Drinking Water		Typical Sources of Contaminants
		MCLG	MCL or TT	Highest	Range	
<i>Inorganic Metal</i>						
Chromium	ppb	100	100	1.3	ND to 1.3	Discharge from steel and pulp mills; erosion of natural deposits.
Copper (at the customer's tap) (Jan.-June 2004 Monitoring Period)	ppb	1300	1300 (AL)	0 samples out of 108 above AL	0.5 to 798 90%=116 ppb	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
(July-Dec. 2004 Monitoring Period)				0 samples out of 133 above AL	6 to 396 90%=143 ppb	
Lead (at the customer's tap) (Jan-June 2004 Monitoring Period)	ppb	0	15 (AL)	74 samples ² out of 108 above AL	0 to 190 90%=59 ppb	Corrosion of household plumbing systems; erosion of natural deposits.
(July-Dec. 2004 Monitoring Period)				40 samples ² out of 133 above AL	0 to 265 90%=54 ppb	
<i>Inorganic Ions</i>						
Fluoride	ppm	4	4	0.96	0.71 to 0.96	Water additive that promotes strong teeth.
Nitrate (as N)	ppm	10	10	2.63	1.36 to 2.63	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits.
Chloride	ppm		250	42	17 to 42	
<i>Synthetic Organic Carbon</i>						
Atrazine	ppb	3	3	0.18	ND to 0.18	Herbicide runoff
di-(2-Ethylhexyl)adipate	ppb	NA	400	0.68	ND to 0.68	
Metolachlor	ppb	NA	NA	0.06	ND to 0.06	
Phenanthrene	ppb	NA	NA	0.03	ND to 0.03	
Simazine	ppb	NA	NA	0.10	ND to 0.10	
<i>Radionuclides³</i>						
Alpha Emitters	pCi/L	0	15	2.1	ND to 2.1	Erosion of natural deposits
Beta Emitters ⁴	pCi/L	0	50	3.0	1.2 to 3.0	Decay of natural and man-made deposits

1. Exceeded Maximum Contaminant Level (MCL). See "TCR Violation" under "Compliance with EPA Drinking Water Standards" for details.

2. EPA regulations require that corrective action be taken if greater than 10 of 100 samples exceed the action level.

3. EPA requirements allow for some contaminants to be monitored less frequently than once per year because the concentrations of these contaminants do not change frequently. The most recent radionuclides data were obtained in 2002.

4. The MCL for beta particles is 4 millirem per year. EPA considers 50 pCi/L to be the level of concern for beta particles.

5. The Washington Aqueduct (WA) used the EPA-approved method to determine the perchlorate levels reported in the table. The WA conducted additional tests with a new laboratory method, not yet approved by EPA, and results ranged from ND to 1.8 ppb. For more information pertaining to these results and general information about perchlorate, go to www.epa.gov/safewater/ccl/perchlorate/perchlorate.html and www.dcwasa.com.

Washington, DC Drinking Water Analysis Data for 2004

Unregulated Contaminants

Contaminant	Units	Range Detected
Sulfate	ppm	34 to 54
Nickel	ppb	0.7 to 1.3
Aluminum	ppb	25 to 76
Iron	ppb	ND to 212
Lithium	ppb	ND to 2.7
Magnesium	ppm	6 to 9
Manganese	ppb	ND to 1.7
Sodium	ppm	10 to 24
Strontium	ppb	110 to 223
Zinc	ppb	ND to 8.5
Perchlorate ⁵	ppb	<4

ABBREVIATIONS AND DEFINITIONS

Action Level (AL) = The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. Other requirements may include additional testing, public notification, or capital improvements.

CDC = Centers for Disease Control and Prevention, located in Atlanta, venting and controlling disease, injury, and disability. CDC is an agency of the U.S. Department of Health and Human Services.

gpg = Grains per gallon.

Haloacetic Acid (5) (HAA5) = The five haloacetic acid species required to be monitored by EPA.

MRDL = Maximum Residual Disinfectant Level. The highest level of a disinfectant that is allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG = Maximum Residual Disinfectant Level Goal. The level of drinking water disinfectant in water below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

MCLG = Maximum Contaminant Level Goal. The level of a contaminant in water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MCL = Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technologies.

NA = Not Applicable.

ND = Non-Detectable.

NR = Not regulated by EPA at this time.

NTU = Turbidity is measured with an instrument called a nephelometer, which measures the intensity of light scattered by suspended matter in the water. Measurements are given in nephelometric turbidity units (NTUs).

pCi/L = Picocuries per liter (a measure of radioactivity)

ppm = parts per million

ppb = parts per billion

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

Turbidity = A measure of the cloudiness of water. We measure turbidity because it is a good indicator of the effectiveness of the water treatment system. Turbidity in excess of 5 NTU is just noticeable to the average person.

"<" = Less than. In some cases, the laboratory's analytical method was not capable of measuring at or below EPA's minimum detection level. In these cases, if the contaminant was not detected, a "less than" result is reported under the "Highest" detected level in DC's drinking water.



DC Water & Sewer Authority
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 Washington, DC 20032

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 Washington, DC
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For More Information or Questions concerning this report call Water Quality Division, at 202-612-3440. For any other aspect please call one of the numbers listed below:

Drinking Water Quality WASA Water Quality	202-612-3440
Other General Information WASA Switchboard	202-787-2000
Lead Hotline WASA Lead Control	202-787-2732
Water Bills Water Bill Action Line	202-354-3600
To Report Pipe Breaks, Leaks, or Open Hydrants WASA Water Operations Emergency (24 Hours per Day)	202-612-3400
Information About WASA WASA Public Affairs Office and WASA's Programs	202-787-2200
Storm Drain Complaints WASA Department of Sewer Services	202-264-3820 or 202-612-3400
Source Water Protection DC Department of Health	202-535-2190
Source Water Protection Interstate Commission on the Potomac River Basin	301-984-1908
Drinking Water Treatment Washington Aqueduct Division, USACE	202-764-2753
Safe Drinking Water Hotline EPA	800-426-4791

Visit Our Website - WASA's annual Water Quality Report and other information about WASA are available on the Internet at: <http://www.dcwasa.com>

Other web sites with information about drinking water are listed below:

EPA's Surf Your Watershed <http://www.epa.gov/surf>

American Water Works Association <http://www.awwa.org>

Glenn S. Gerstell – Chairman of the Board

Jerry N. Johnson – General Manager

Comments can also be e-mailed to info@dcwasa.com or faxed to **202-787-2210**

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

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