

# Getting the **Lead** out of **DC Tap Water**



## Lead Levels in the District's Tap Water Show a Promising Trend *Residents Should Continue to Flush Taps and Use Filters*

Lead monitoring results in 2005 showed that 90 percent of the 100 homes tested so far had lead levels of 15 parts per billion (ppb) or less. While these samples tested below the level cited in EPA's action level, it is important that District residents continue to follow the consumer advisory for flushing their taps and filtering before drinking the water (see below). The advisory continues because the Federal Lead and Copper Rule requires that lead levels remain below the action level for two consecutive six month periods.

The latest lead testing results are a positive sign that the orthophosphate treatment is working. Testing results have shown a steady decline in the 90th percentile values since last August. From July through September of 2004 (before and right after the orthophosphate treatment began), 90 percent of

the homes tested had lead levels at or below 82 ppb. After the orthophosphate addition, testing began to show declining lead levels. From October through December 2004, 90 percent of homes tested had lead levels at or below 31 ppb and, as mentioned above, 90 percent of homes sampled from January through April 2005 had lead levels at or below 15 ppb.

Laboratory experiments conducted by WASA and the Washington Aqueduct also indicate that the orthophosphate treatment will work. Orthophosphate was added to the District's water City-wide beginning on August 23, 2004. More information on the lead levels is available on EPA's website at [www.epa.gov/dclead](http://www.epa.gov/dclead) and on WASA's web site at [www.dcwasa.com/lead](http://www.dcwasa.com/lead).

### Continuing Consumer Advisory

*Residents in homes known to have or suspected of having lead service lines should continue to:*

**ALWAYS** run the water in your home for 10 minutes to flush the pipes before drinking or using it for cooking. *Showering or washing clothes counts as flushing*, but you should still run each faucet for 60 seconds before use.

**Pregnant women, nursing mothers, and children under 6 years old should only drink filtered tap water. Flush the pipes for 10 minutes as noted above before using your home filter.**

To conserve water and save time after flushing your taps each morning, fill up several clean containers of filtered water that you can store in the refrigerator and use during the day.

### All residents should continue to:

- ▶ Flush water from the tap for 60 seconds before drinking or using it for cooking.
- ▶ Use only **COLD** water for drinking or cooking.
- ▶ Remove and clean the strainer/aerator/screen device on your faucet regularly.
- ▶ Remember that boiling water will not remove lead!

For more information, see EPA's website at <http://www.epa.gov/dclead/#consumer>.

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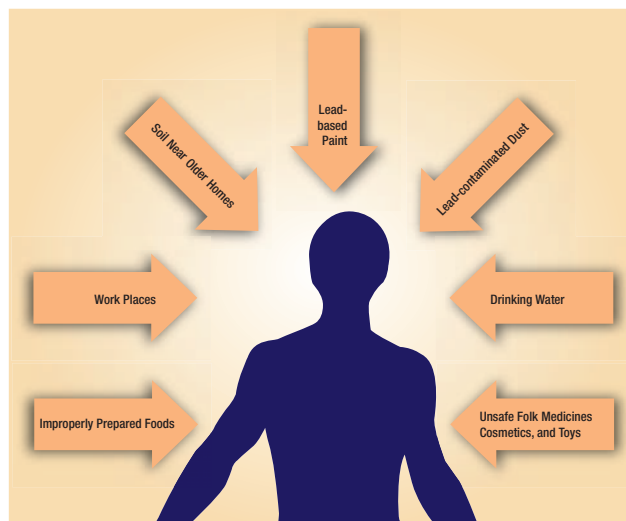
## Testing Shows the Majority of District Residents Have Low Blood Lead Levels

In response to public concerns about the elevated lead levels in tap water, the DC Department of Health (DOH) offered free blood tests to District residents. DOH was most concerned about children under 6 years of age and pregnant and nursing women. Because lead can harm the developing nervous systems of young children and unborn babies, their lead exposure risk is greatest. The level of concern for this group is 10 micrograms ( $\mu\text{g}$ ) of lead per deciliter (dL) of blood ( $\mu\text{g}/\text{dL}$ ).

Of the 1,954 people in this at-risk group whom DOH tested, the vast majority (98 percent) did not have elevated blood lead levels. Forty (40) children under 6 years old and two nursing mothers had lead levels above 10  $\mu\text{g}/\text{dL}$ . None of the pregnant women tested had elevated blood lead levels. See DOH's website (<http://emergencycenter.dc.gov/>) or call (202) 671-0733 for more information.

DOH visited the homes of people with high blood lead levels to determine what lead sources were present. All of these people live in homes that either did not have lead service lines or, if they did have a

### Sources of Lead Exposure



lead service line, other factors, such as elevated soil or dust lead levels may have contributed to their elevated blood lead levels. Research suggests that the primary sources of lead exposure for most children are deteriorating lead-based paint and lead-contaminated dust or soil. (See the graphic on this page.)

### The Lead Action Level Explained

The Lead and Copper Rule aims to protect public health by reducing the likelihood that lead will leach from plumbing materials into tap water. Exceeding the lead action level means that more than ten percent of the samples a water system takes have a lead concentration higher than 15 ppb. This is evidence that lead is leaching into drinking water at higher than usual rates. When the tap water exceeds the action level for lead, Federal law requires the water system to take specific steps, including:

- ▶ study the water chemistry and change the water treatment to reduce lead leaching,
- ▶ remove seven percent of the lead service lines in public space and replace them with copper lines, and
- ▶ begin a public education program, including public service announcements.

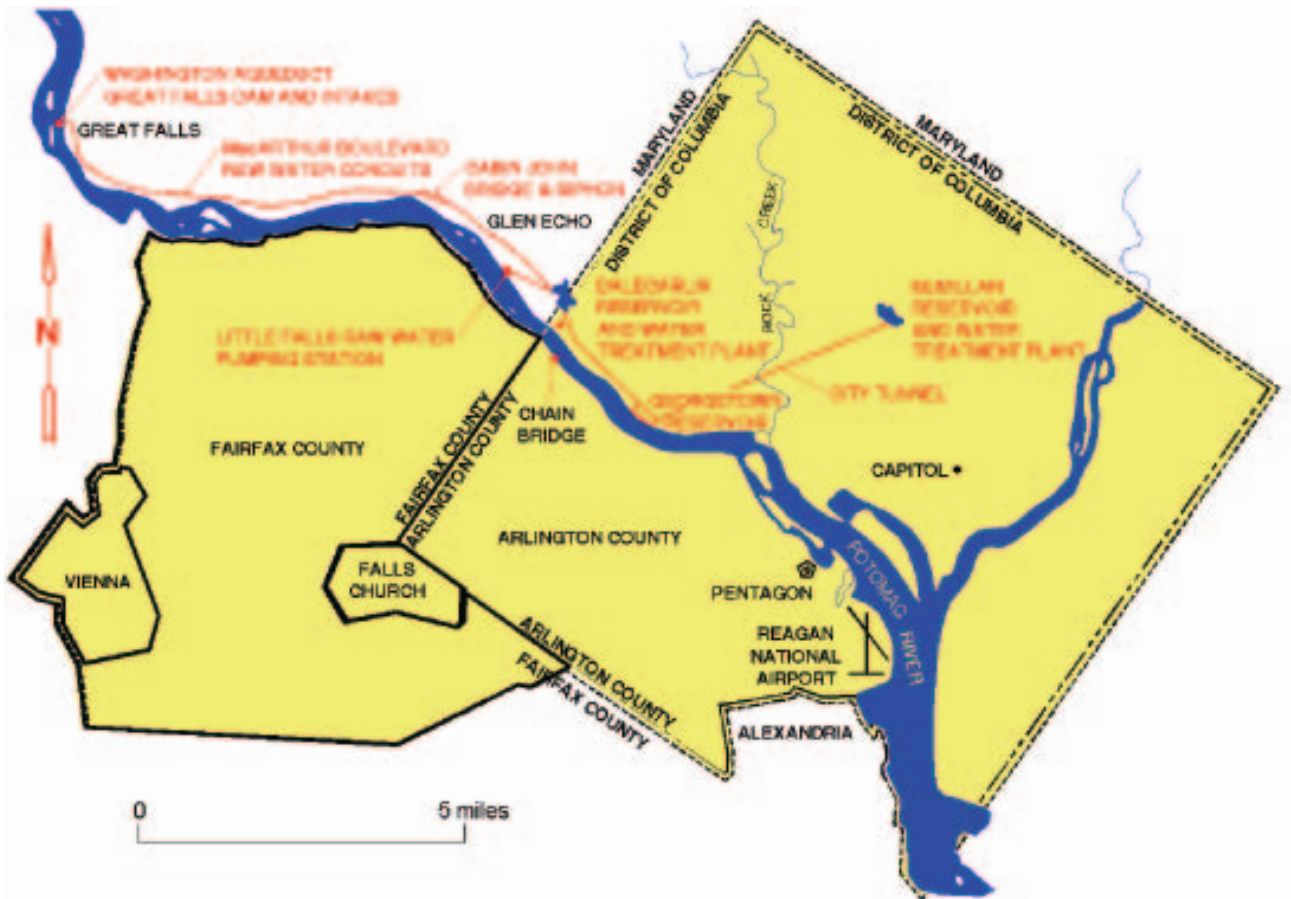
## Where Does DC's Drinking Water Come From?

The **Washington Aqueduct** pumps water from the **Potomac River**. Its treatment plants make the water safe to drink.

The Washington Aqueduct sells the treated water to **WASA** (as well as to **Arlington County** and the **City of Falls Church**). The Aqueduct's service area is shown in yellow on the map.

**WASA** delivers the water to **DC residents** via water mains.

**U.S. EPA** regulates the quality of the drinking water in DC.



## How Lead Gets into Tap Water

The water that District residents drink comes from the Potomac River and is treated by the Washington Aqueduct. The water contains almost no lead until it reaches individual service lines. Because water naturally corrodes metal, lead can leach into the water from lead service lines or household plumbing materials that contain lead.

Under the Federal Lead and Copper Rule, water systems must develop, gain EPA approval of, and implement a treatment plan to help prevent lead from leaching from plumbing materials, from the service lines to faucets.

So, why did lead levels rise in the District? Researchers believe that the lead increase is related to a change in disinfectants. In the past, chlorine in drinking water reacted with the lead and kept it on

the pipes. Chlorine was replaced by chloramines in 2000 to reduce levels of disinfection by-products (DBPs) in drinking water. (EPA regulates levels of DBPs in drinking water to reduce health risks associated with them.) When chlorine was replaced

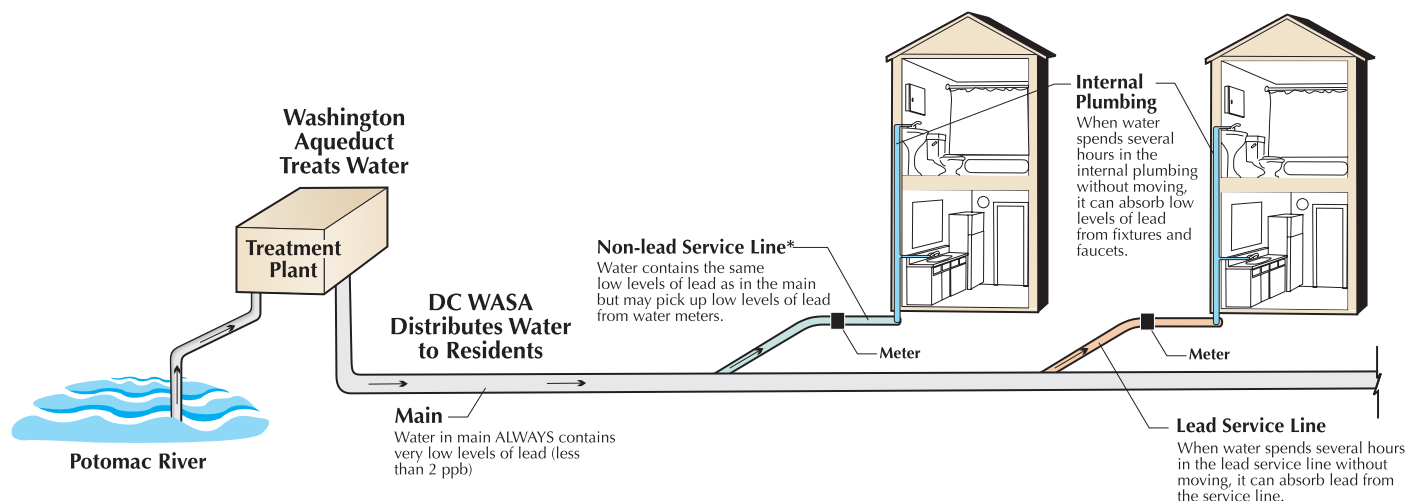
with chloramines, the reaction between the chlorine and the lead was no longer happening, and lead began dissolving very slowly into the water.

Orthophosphate was added to the District's water beginning in August 2004 to control lead leaching. Orthophosphate works by building up a thin protective coating inside pipes and plumbing

fixtures to prevent metals from leaching into the water. This process takes time—experts believe it may take a year or more after the addition of the orthophosphate to reduce lead corrosion.

**Everybody knows that good eating habits are important. But were you aware that eating right may also protect your body from lead? In addition to being good for you, foods that are rich in iron, calcium, and vitamin C may help reduce the amount of lead your body absorbs.**

## How Lead Gets into Tap Water



\*A small fraction of homes have brass service lines that can also contribute low levels of lead.

## WASA Replaced 1,700 Lead Service Lines in 2004

In 2004, WASA replaced the public portion of approximately 1,700 lead service lines. In doing so, WASA more than met the Federal requirement for replacing 7 percent of the lead service lines in its distribution system.

On July 1, 2004, WASA's Board of Directors approved a plan to replace all of the City's 23,000 lead service line pipes on public space by 2010. WASA plans to 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. Wachovia Bank will make loans available to low-income District homeowners to pay for private side service line replacements.

WASA worked with the District of Columbia Department of Housing and Community Development (DHCD) to develop DHCD grants of up to \$5,000 for eligible homeowners to replace lead service lines on their property. To obtain information, call (202) 442-7154 or e-mail [dhcdwaterlines@dc.gov](mailto:dhcdwaterlines@dc.gov).

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](mailto:WQP2003@dcwasa.com).

Of the approximately 130,000 homes in the District, 23,000 have lead service lines, about 80,000 have service lines made from copper or brass, and the composition of about 27,500 is unknown. WASA is undertaking a special effort to identify the composition of service lines at homes where the pipe material is not identified in historical records.

## Spring Switch to Chlorine Cancelled

The Washington Aqueduct recently announced that it cancelled this year's annual spring switch to chlorine as a temporary disinfectant. Many water systems routinely switch disinfectants for a few weeks each year to help remove the harmless bacteria that grow inside of the pipes. Given recent decreases in lead levels, officials opted to skip the disinfectant switch this year to allow the orthophosphate to continue working.

The decision was based on the advice of water quality experts, who felt that the benefits of stable water chemistry outweighed those associated with the chlorine switch. To compensate, WASA will expand its flushing program and other programs, including additional monitoring of bacteria levels.

## Additional Information

The following lead publications are available:

- ▶ *Fight Lead Poisoning With a Healthy Diet* (available in English and Spanish)
- ▶ *Lead in Your Home: A Parent's Reference Guide*
- ▶ *Lead in the District of Columbia* Fact Sheet
- ▶ *Lead and Copper Rule: A Quick Reference Guide*
- ▶ *Lead Poisoning and Your Children* (available in English and Spanish)
- ▶ *Protect Your Family From Lead in Your Home* (available in English and Spanish)
- ▶ *Getting the Lead Out of DC Drinking Water* Tip Sheet (available in English and Spanish)
- ▶ *DC Drinking Water: Finding a Solution to the Lead Problem*
- ▶ Fact sheet: *General Information on Lead in Drinking Water*
- ▶ *Getting the Lead Out of DC Drinking Water* Poster (available in English and English/Spanish bilingual)
- ▶ Fact Sheet: *Health Effects of Lead*
- ▶ *Research Newsletter*
- ▶ Fact Sheet: *Blood Lead Levels in District of Columbia Residents*

To obtain copies of any of these materials, call the Risk Communications Outreach Office at (703) 247-6193, or send an e-mail to [leadoutreach@cadmusgroup.com](mailto:leadoutreach@cadmusgroup.com). Please provide your name, mailing address, and the number and type of materials you are requesting. Information is also available at the phone numbers and web sites below.

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### For more information:

U.S. EPA Safe Drinking Water Hotline ...	800/426-4791	<a href="http://www.epa.gov/dclead/">http://www.epa.gov/dclead/</a>
D.C. Water and Sewer Authority .....	202/787-2732	<a href="http://www.dcwasa.com/">http://www.dcwasa.com/</a>
D.C. Department of Health .....	202/671-0733	<a href="http://dchealth.dc.gov/">http://dchealth.dc.gov/</a>
Washington Aqueduct .....	202/764-2753	<a href="http://washingтонаqueduct.nab.usace.army.mil/">http://washingтонаqueduct.nab.usace.army.mil/</a>