

Winter 2012

## Cleaner Water! More Savings! Happier Fish?



We all know that oxygen is a good thing - right? But did you know that water needs it as much as we do? This past summer Fairfax Water put in place a new system that uses pure oxygen in a unusual way - injecting it into the raw water we draw from the Occoquan Reservoir. The reservoir, along with the Potomac River, provides raw water to Fairfax Water's treatment plants.

raw water. The HOS provides a more robust and consistent pre-treatment for our raw water supply.

"The name of this system is certainly complicated," agrees Prelewicz, "But the principle is actually quite simple."

Since 1970 Fairfax Water has used 7,500 feet of submerged tubing spread out like fingers on the reservoir bottom near the water intake at the Occoquan Dam. This system used an air compressor to aerate the water with natural air before it was pumped to the treatment plant. Water aeration helps improve the water's quality by reducing the buildup of certain minerals and controlling algae growth. It even improves the habitat for fish.

According to Greg Prelewicz, chief of Source Water Planning and Protection at Fairfax Water, the new Hypolimnetic Oxygenation System (HOS) that replaced an air injection system is proving to be a vast

improvement in the initial stage of treating

"This is what happens when you add an air tube to your aquarium, but on a larger and more complicated scale," Prelewicz explains.

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### Preparing for Emergencies

## You Can Fight Mother Nature!

This time of year we usually talk about winter preparedness, and this past fall Hurricane Sandy reminded us of Mother Nature's unpredictability. Fortunately Fairfax Water did not experience any interruptions in service or problems with water quality. But we heard from a few customers who wondered if we had prepared for Sandy's wrath.

The short answer is that we never stop preparing. Although we can't guarantee that our system won't be affected by inclement weather, we do everything we can to minimize the possibility. Since we monitor the water system 24/7, we always have staff on site and ready to respond in an emergency.

Here are some of the long-term preparations we have made:

- We invested \$25 million in capital improvements to ensure that our system can provide an uninterrupted water supply even if there is a power outage like the one during Hurricane Isabel in 2003. The Griffith treatment plant is tied directly to the National Transmission Grid. Underground dedicated power lines were installed from the Corbalis plant in Herndon to the Dominion Power substation. These precautions greatly reduce the chance of a power outage.

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## Cleaner Water! More Savings! Happier Fish? (cont.)

The new system employs only one 2,500-foot tube suspended off the reservoir bottom near the dam that injects oxygen into the water. The HOS uses pure oxygen instead of natural air and provides greater reliability than the old system. The former system was expensive to operate and maintain and offered little control over what depth in the reservoir was aerated. Having the ability to control the depth of the water that is oxygenated means we can treat less water and do it more effectively.

“This system infuses pure oxygen in correct amounts at specific water levels. It works with Mother Nature by keeping active areas of water that could become ‘dead zones,’” Prelewicz points out. “The improved system also gives us the ability to respond much more rapidly to water-quality changes caused by severe weather events.”

Fairfax Water conducted testing before the HOS was installed and after it began operating. So what are the tests showing?

“The new hypolimnetic oxygenation system is meeting all of our expectations,” says Jamie Hedges, director for Engineering and Planning. “Our early data indicates that mineral levels in the water have dropped.”

“We will continue testing the HOS to ensure it is working at maximum efficiency.” Hedges continues, “Based on the testing to date we feel confident this system is a more cost-effective tool to enhance the quality of our drinking water and protect the Occoquan Reservoir.”

So, you can smile knowing the latest technology is being used to ensure the quality of your water. And the fish can smile, too! 💧



Fairfax Water has received the 2012 Platinum Award for Exceptional Utility Performance from the Association of Metropolitan Water Agencies. The award evaluates a variety of areas including strategic business planning, product quality, customer satisfaction, financial viability, infrastructure stability, and community sustainability.

## We're All In This Together! (cont.)

- We are fortunate to have two water treatment plants in our system. If we have an outage at one plant during an emergency, a limited supply of water can still be supplied to customers using the remaining treatment plant. The plants also can be operated from multiple locations.
- Improvements to our storage and pumping stations included construction of an additional 5.5 million gallons of storage and the installation of backup power generation at key pumping stations.

Here are some of the preparations we make when a storm is approaching:

- Activate the Emergency Operations Center adjacent to our Control Center to coordinate and manage Fairfax Water's response actions.
- Fill clearwells and all storage tanks to ensure the system is full. This helps to maintain pressure throughout the distribution system in the event of local power outages.
- Prepare to deploy portable generators and staff distribution stations.
- Establish a back-up water-quality laboratory at the Griffith plant for distribution collection and bacteriological analysis.
- Secure sand bags for areas prone to flooding to protect the entrances to critical equipment and facilities.
- Test all normal and emergency communication equipment, perform two-way public service radio system tests between the plants and Control Center, and perform roving radio tests.
- Identify and schedule emergency operations and emergency response crews and assign essential staff to critical facilities to respond in the event of operational problems.
- Establish contact with Fairfax County to offer support in the Emergency Operations Center, if needed.

During an emergency situation we provide updates on our Web site at [www.fairfaxwater.org](http://www.fairfaxwater.org). If there is a threat to your water service or water quality, information will be provided on our Web site, through the local media, and through Fairfax County's Community Emergency Alert Network. (For more information and to sign up, visit [www.fairfaxcounty.gov/cean/](http://www.fairfaxcounty.gov/cean/))

As the winter weather approaches, find out how to protect your family at [www.fairfaxwater.org/current/winter\\_tips.htm](http://www.fairfaxwater.org/current/winter_tips.htm). We may not always win when we fight Mother Nature, but at least we can be ready for battle! 💧

# New Board Member Appointed

Joseph Cammarata has been appointed by the Fairfax County Board of Supervisors to serve on the Fairfax Water Board of Directors. Mr. Cammarata will serve as the Mount Vernon District member.

A partner in the law firm of Chaikin, Sherman, Cammarata & Siegel, P.C. based in Washington, D.C., Mr. Cammarata is a board-certified civil trial attorney and focuses his practice on personal injury and wrongful death cases.



Publisher Thomson Reuters has named him a "Super Lawyer" of the Washington, D.C. area every year since 2007. He has been honored by Washingtonian magazine as one of the Washington, D.C. area's top attorneys in every survey year since 1997.

Mr. Cammarata founded the Brain Injury Association of D.C., Inc., a not-for-profit organization devoted to assisting persons suffering from brain injuries. He drafted legislation that became the law known as the "Athletic Concussion Protection Act of 2011," enacted to protect youth athletes from the known risks of a concussion.

He served as chairman of Fairfax County's Criminal Justice Advisory Board, the Community Initiative to Reduce Youth Violence, and the Public Safety Committee of the Visioning Task Force of Mount Vernon, and as a member of the Mount Vernon Area Plan Review Task Force and the Ad Hoc Committee on Continued Use of the Meadowood Facility in Lorton.

He is a graduate of St. John's University School of Law and holds a Masters of Law in Taxation from Georgetown University Law School. Mr. Cammarata is also a certified public accountant. ♦

# Glad You Asked!

Q.

Why does tap water sometimes look milky or opaque?

A.

During the time of year when the water coming into the house inside the house, your tap water may look cloudy. 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 tiny 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 in the photos below, 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. ♦

## News from the Fairfax County Wastewater Management



### Sanitary Sewer Back Up Insurance

Heavy rains have the potential to cause a sanitary sewer back up in your basement. Buildings that have sump pumps or areaway, roof, or foundation drains can allow rain water to enter the sanitary sewer system through private sewer lines.

Since the sanitary sewer system in Fairfax County is separate from the storm drainage system, the sanitary sewer system is designed to accept only wastewater, not rainwater. If rainwater is diverted into the system during a heavy storm, it can overload the wastewater system and back up into basements. For this reason, connections to the sanitary sewer system are not allowed from sump pumps or areaway, roof, or foundation drains.

Damages caused by a sewer back up in a building basement are the responsibility of the property owner. If you are a property owner, you should disconnect sump pumps or areaway, roof, or foundation drains from your private sewer lines and repair breaks to private sewer lines.

Property owners are also strongly encouraged to review their homeowner's or business insurance policy to determine if their property is covered in the event of a sewer backup.

For more information, call 703-324-5030, TTY 711. To report a sewer back up, call the 24-hour trouble response center at 703-239-1211, TTY 711.

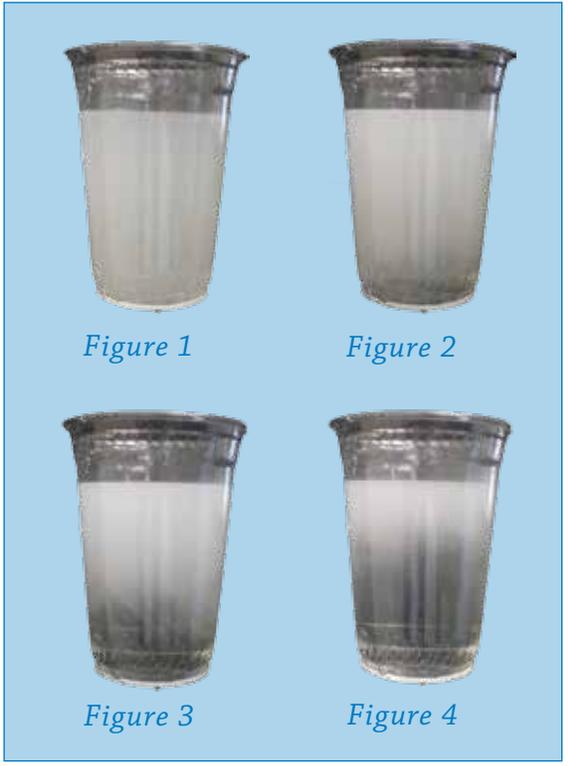


Figure 1

Figure 2

Figure 3

Figure 4

If you have a question, concern, or compliment, contact us at [pr@fairfaxwater.org](mailto:pr@fairfaxwater.org) or call 703-698-5600, TTY 711.



**We Want to Know...**

If you have comments or suggestions about this publication, please e-mail us at [pr@fairfaxwater.org](mailto:pr@fairfaxwater.org), call us at 703-698-5600, or write to the address below:

*Straight From the Tap* Editor  
Fairfax Water  
8570 Executive Park Ave.  
Fairfax, VA 22031

**Important Numbers**

**Fairfax Water Services**

Questions about water service:  
703-698-5800

After Hours/Emergencies:  
703-698-5613

To report a water main break:  
703-698-5613 or send an e-mail to [watermainbreak@fairfaxwater.org](mailto:watermainbreak@fairfaxwater.org).

Questions about billing:  
703-698-5800

All other Fairfax Water departments: 703-698-5600

**Fairfax County Services**

24-hour trouble-response center for sewer back ups or sluggish flow in a sink, toilet, or tub: 703-323-1211

Sanitary sewer back ups and line maintenance: 703-250-2003

**Dig with C.A.R.E.**

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

Use TTY 711 (*Virginia Relay*) for all numbers unless otherwise stated.

**Kids' Corner**

**Water Quiz**

Test your knowledge of water, then check your answers below.

1. Water is made up of what two elements?
2. The solid state of water is known as what?
3. How long can you survive without water?
4. Nimbus, cumulus, and stratus are types of what?
5. Water freezes at what temperature?
6. When water freezes, does it contract or expand?
7. Does water cover more or less than 50 percent of the earth's surface?
8. What is the longest river on earth?
9. What is the chemical formula of water?
10. What is the biggest ocean on earth?



The Science Guy

|                            |                       |
|----------------------------|-----------------------|
| 1. Hydrogen and oxygen     | 2. Ice                |
| 3. A few days              | 4. Clouds             |
| 5. 32 degrees Fahrenheit   | 6. Expand             |
| 7. More - about 70 percent | 8. The Nile River     |
| 9. H <sub>2</sub> O        | 10. The Pacific Ocean |

Answers

Source: Science Kids  
[www.sciencekids.co.nz/](http://www.sciencekids.co.nz/)

**MARK YOUR CALENDAR**

**Mon., Dec. 24**

Fairfax Water offices closed at noon for Christmas Eve

**Tues., Dec. 25**

Fairfax Water offices closed for Christmas Day

**Tues., Jan. 1**

Fairfax Water offices closed for New Year's Day



**Wed., Jan. 2**

NVSWCD Bare Root Native Tree and Shrub Seedling Sale begins. For more information, visit [www.fairfaxcounty.gov/nvswcd/seedlingsale.htm](http://www.fairfaxcounty.gov/nvswcd/seedlingsale.htm) or call 703-324-1460, TTY 711.

**Mon., Jan. 21**

Fairfax Water offices closed for Martin Luther King Jr.'s Birthday

**Mon., Feb. 18**

Fairfax Water offices closed for Washington's Birthday

**Sat., April 6**

Annual Potomac River Watershed Cleanup - To volunteer, visit [fergusonfoundation.org/trash-free-potomac-watershed-initiative/potomac-river-watershed-cleanup/](http://fergusonfoundation.org/trash-free-potomac-watershed-initiative/potomac-river-watershed-cleanup/) or call 202-973-8203, TTY 711

**Mon., May 27**

Fairfax Water offices closed for Memorial Day



Fairfax Water is a public, non-profit water authority serving nearly 1.7 million people in the Northern Virginia communities of Fairfax, Loudoun, Prince William, Fort Belvoir, Herndon, Dulles, Vienna, and Alexandria.



**Water-Saving Tip**

This is the time of year for those wonderful comfort foods! To save water - and keep food safe - defrost food in the refrigerator instead of using running water. For more information and tips on saving water, visit [www.wateruseitwisely.com](http://www.wateruseitwisely.com).