

# ANNUAL WATER QUALITY REPORT

*Water testing performed in 2003*



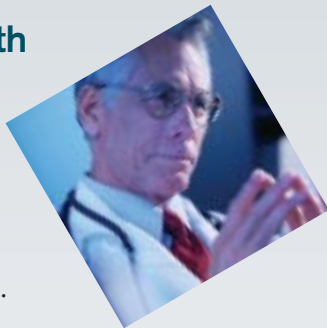
PWS ID#: VA2660345

## Where Does My Water Come From?

**W**e currently have two reliable water supply sources. The Dry River in Rawley Springs is a surface water source. The watershed is small, yet provides up to four million gallons per day and is the highest quality water at the most cost-effective price. The North River in Bridgewater is also a surface water source and provides up to eight million gallons per day. The water level of the North River fluctuates due to runoff conditions at the withdrawal site and is monitored during prolonged dry conditions. Our treatment facilities currently provide roughly ten million gallons of clean drinking water every day. We are in the process of developing a supply line from the South Fork Shenandoah River and expanding our water treatment plant. Once these projects have been completed, we expect to provide a supply of 15 million gallons per day to our customers.

## Important Health Information

**S**ome people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) 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 (800) 426-4791.



## Continuing Our Commitment

**O**nce again we proudly present our annual water quality report. This edition covers all testing completed from January through December 2003. We are pleased to tell you that our compliance with all state and federal drinking water laws remains exemplary. As in the past, we are committed to delivering the best quality drinking water. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.



Contact our Director of Public Utilities, Michael Collins, at (540) 434-9959 if you have questions about this report or have water quality concerns. You may see updates of this report on our Web site: [www.ci.harrisonburg.va.us/](http://www.ci.harrisonburg.va.us/).

## Community Participation

**W**e invite public participation in decisions that affect drinking water quality. The public is welcome to attend the City Council meetings held at the Municipal Building at 345 South Main Street, Harrisonburg, Virginia, on the second and fourth Tuesday of each month at 7:30 p.m.

## Source Water Assessment

**A** Source Water Assessment for the City of Harrisonburg was completed by the Virginia Department of Health on May 24, 2002. This Assessment determined that the city's water sources, North River and Dry River, are surface waters exposed to a wide array of changing hydrologic, hydraulic, and atmospheric conditions. More specific information may be obtained by contacting the Harrisonburg Director of Public Utilities, Michael Collins, at (540) 434-9959.

## Storing Water for Emergencies: Disaster Preparedness

**D**isaster can strike at any time and in any community. Your local water utility takes extraordinary measures to protect both the *availability* and *quality* of your water supply. Although no amount of preparation can prevent a disaster, effective planning can limit its effects. One of the most important supplies to have on hand in the event of a disaster is *safe drinking water*.

### How much water should I have on hand?

A good rule of thumb is to store one gallon (about 4 liters) of water per person a day. You should plan for at least three days. For example, a family of four should store 12 gallons (about 48 liters) of water – one for each person and enough for three days.

Remember, you'll need more water in hot temperatures and for strenuous activities. People with special needs such as nursing mothers, young children, and family members with illnesses also require more water.

If you have advance warning of a disaster or other possible disruption of your water supply, fill bathtubs, sinks, and all available containers with water to supplement the water you have stored. If you are caught unprepared, your hot water heater can supply you with a good amount of water in an emergency.

### How long can I store tap water safely?

As long as disinfected tap water is stored in a clean, airtight container and in a cool location, the water should remain safe indefinitely. As a general rule, change your emergency water supply at least every six months to ensure freshness. Store the water in quality plastic containers instead of glass to minimize breakage. Paper containers such as milk cartons should be avoided as well, because they will weaken over time. Whatever the container, make sure it has been washed well before filling. Do not use containers that once contained chemicals or toxic material.

### What is a Boil Water Order?

A *Boil Water Order* is issued by public health officials when there is a concern that a disaster or other event has the potential to contaminate the water supply. Boiling your water is an effective way to ensure that your water is safe to drink. When a Boil Water Order is issued, you should make sure that any water used for drinking is boiled for at least three minutes (five minutes at higher altitudes) to make sure that the water is safe. If you still have power, refrigerate the water after boiling.

### How will I know when the water is safe again?

Your public health officials will lift the Boil Water Order when they determine the water is safe to drink. Listen to your local news for status and updates. (Source: AWWA)

### Where's the Master Valve?

Do you know where the master water supply valve is in your home? Does everyone else in the family know where it is? If there's an emergency, you'll need to know in a hurry. You can't afford to waste precious minutes searching while the basement floods or the carpets are drenched. You've got to act fast.

*These are the most likely locations:*

- Where the water supply pipe enters your home.
- Near your clothes washer hook-up.
- Near your water heater.

Every home, apartment and business has a master water supply valve. But be sure you've found the right one. Don't make a mistake! Try turning it off briefly and see if all the water faucets in the building are shut off. If they aren't, try again.

Once you've found the right valve, mark it with a tag, a bright ribbon or colorful paint. Make it easy to see. If the worst happens – and we hope it never does – you'll have to find it quickly.

(Source: AWWA)





2003 DRAPER ADEN ASSOCIATES STUDY  
 MARKET ANALYSIS OF WATER AND SEWER RATES  
 AMONG WATER SYSTEMS OF 10,000 -30,000 EQUIVALENT CONNECTIONS  
 5,000 GALLONS WATER AND SEWER CONSUMPTION



UTILITY PROVIDER	EQUIVALENT RESIDENTIAL CONNECTIONS	WATER \$/5000 GAL.	SEWER \$/5000 GAL.	W & S RATE \$/5000 GAL.	UTILITY PROVIDER	EQUIVALENT RESIDENTIAL CONNECTIONS	WATER \$/5000 GAL.	SEWER \$/5000 GAL.	W & S RATE \$/5000 GAL.
City of Martinsville	12,000	\$10.89	\$11.04	\$21.93	Town of Blacksburg	14,107	\$16.16	\$18.19	\$34.35
James City Service Auth.	16,514	\$11.50	\$12.50	\$24.00	City of Winchester	28,500	\$16.29	\$19.55	\$35.84
City of Petersburg	17,534	\$12.24	\$12.24	\$24.48	Abermarle Co. Service Auth.	18,582	\$19.75	\$18.70	\$38.45
Spotsylvania County	30,000	\$10.30	\$14.60	\$24.90	Roanoke County	20,749	\$22.28	\$16.60	\$38.88
<b>City of Harrisonburg</b>	<b>26,505</b>	<b>\$10.88</b>	<b>\$14.06</b>	<b>\$24.94</b>	Fredrick Co. Sanitation Auth.	15,860	\$19.63	\$23.62	\$43.25
City of Danville	32,000	\$12.75	\$14.04	\$26.79	Augusta Co. Service Auth.	12,959	\$19.50	\$24.15	\$43.65
City of Staunton	17,581	\$13.40	\$16.42	\$29.82	City of Charlottesville	18,813	\$25.31	\$21.35	\$46.66
Town of Leesburg	15,678	\$14.68	\$17.38	\$32.06	Town of Keysville	26,667	\$20.00	\$30.00	\$50.00
City of Salem	13,791	\$15.25	\$17.50	\$32.75	Town of Vienna	10,000	\$25.25	\$28.25	\$53.50
Hanover County	18,910	\$10.81	\$22.05	\$32.86	Washington Co. Service Auth.	16,533	\$24.40	\$39.00	\$63.40
Stafford County	27,256	\$11.63	\$21.30	\$32.93					

## Sample Results

We are pleased to report that during the past year, the water delivered to your home or business complied with, or did better than, all state and federal drinking water requirements. For your information, we have compiled a list in the table below showing what substances were detected in our drinking water during 2003. Although all of the substances listed below are under the Maximum Contaminant Level (MCL) set by the U.S. EPA, we feel it is important that you know exactly what was detected and how much of the substance was present in the water. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

### REGULATED SUBSTANCES

SUBSTANCE (UNITS)	YEAR SAMPLED	MCL	MCLG	AMOUNT DETECTED	RANGE (LOW-HIGH)	VIOLATION	TYPICAL SOURCE
<b>Alpha emitters</b> (pCi/L)	2003	15	0	0.5	NA	No	Erosion of natural deposits
<b>Beta/Photon emitters<sup>1</sup></b> (pCi/L)	2003	50	0	2.8	NA	No	Decay of natural and man-made deposits
<b>Fluoride</b> (ppm)	2003	4	4	0.94	NA	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
<b>Haloacetic Acids [HAAs]</b> (ppb)	2003	60	NA	15	NA	No	By-product of drinking water disinfection
<b>Nitrate</b> (ppm)	2003	10	10	2.01	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>TTHMs [Total Trihalomethanes]</b> (ppb)	2003	80	NA	14	NA	No	By-product of drinking water disinfection
<b>Total Organic Carbon</b> (ppm)	2003	TT	NA	0.73	NA	No	Naturally present in the environment
<b>Turbidity</b> (NTU) <sup>2</sup>	2003	TT	NA	0.12	0.04-0.12	No	Soil runoff

### UNREGULATED SUBSTANCES

SUBSTANCE (UNITS)	YEAR SAMPLED	AMOUNT DETECTED	RANGE (LOW-HIGH)	TYPICAL SOURCE
<b>Bromodichloromethane</b> (ppb)	2003	2.6	NA	By-product of drinking water disinfection
<b>Chloroform</b> (ppb)	2003	7.2	NA	By-product of drinking water disinfection
<b>Sulfate</b> (ppm)	2003	10.4	NA	Erosion of natural deposits

<sup>1</sup>The MCL for Beta/photon emitters is written as 4 mrem/year. The U.S. EPA considers 50 pCi/L as the level of concern for beta emitters.

<sup>2</sup>Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. During the reporting year, 100% of all samples taken to measure turbidity met water quality standards.



## Table Definitions

**AL (Action Level):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**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 technology.

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

**NA:** Not applicable

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water.

**pCi/L (picocuries per liter):** A measure of radioactivity.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.

## Substances That Might Be in Drinking Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. 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 these contaminants does not necessarily indicate that the water poses a health risk.

The sources of 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 can acquire naturally occurring minerals, in some cases, radioactive material; and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

**Microbial Contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

**Inorganic Contaminants**, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

**Pesticides and Herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

**Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems;

**Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

