2014 Consumer Confidence Report

We're pleased to present to you the 2014 Annual Quality Water Report. This report is designed to inform you about the quality water and services we deliver to you every day and is a **requirement of the U.S. Environmental Protection Agency (EPA).** Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our water source is a 254-acre surface water supply known as Lake Pelham located in Culpeper County.

This report shows our water quality and what it means.

If you have any questions about this report, please contact **John Morgan at 212-8845.** We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled Light & Power and Water & Wastewater Committee meetings. They are normally held on the last Monday of every month at 8:30 a.m. in the third floor conference room of the Municipal Building at 400 South Main St.

Este informe contiene informacion muy importante sobre la calidad de su agua beber. Traduscalo o hable con alguien que lo entienda bein.

Lake Pelham, 2010

Source Water Background Information:

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 dissolves naturally-occurring minerals and, in some cases, radioactive material, and can 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 storm water runoff, Industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

3.) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

4.) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

5.)Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in 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.

The Virginia Department of Health conducted a source water assessment of our system during 2002. Lake Pelham was determined to be of High susceptibility to contamination using the criteria developed by the state in its approved Source Water Assessment Program. The assessment report consists of maps showing the source water assessment area, an inventory of known land use activities of concern and documentation of any known contamination in the last 5 years.

Regulated Contaminants Test Results for 2014

The Town of Culpeper routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period ending December 31, 2014.

Contaminant	Violation (Y/N)	Level Detected	Range	Unit Measurment	MCLG or MRDLG	MCL, TT, or MRDL	Likely Source of Contamination
Turbidity	N	0.04	0.01-0.19	NTU	N/A	TT, 0.3 NTU max; 95% ≤ 0.3 NTU	Soil Runoff 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 sys-
Fluoride	N	0.83	0.56-1.12	ppm	4	4	Erosion of natural deposits; water additives which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate/ Nitrite	N	0.27	N/A	ppm	10	10	Runoff from fertilizer use, leeching from septic tanks; sewage; erosion of natural deposits.
TOC	N	1.41	0.75-1.51	ppm	N/A	TT	Naturally present in the environment.
TTHM	N	66	11-126	ppb	N/A	80	Byproduct of drinking water chlorination
HAA5	N	28	4-44	ppb	N/A	60	Byproduct of drinking water chlorination
Barium	N	0.017	N/A	ppm	N/A	2	Discharge of drilling wastes, discharge from metal refineries; erosion of natural deposits
Chlorine	N	1.0	0.2-2.40	ppm	MRDL = 4	MRLD = 4	Water additive used to control microbes

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

Mountain Run Lake 2011

Definitions

Lead and Copper Testing (2014)

Contaminant	Action Level Exceedence (Y/N)	Level Detected	# of Sites Exceeding Action LvL	Units of Measurment	MCLG	Action Level	Likely Source of Contamination
Copper (Tested in 2014)	N No sites exceeded the action level	0.230	0	ppm	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead (Tested in 2014)	N No sites exceeded the action level	2.74	1	ppb	0	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits.

In this table you will find many terms and abbreviations you might not be familiar with that are used in this report. To help you better understand these terms we've provided the following definitions:

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

Parts per million (ppm) or Milligrams per liter (mgll) - one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Picocuries per liter (pCiL) - picocuries per liter is a measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level (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 Contaminant Level Goal - The "Goal"(MCLG) is the level of a contaminant in drinking water disinfectant below which there is no known or expected risk to health. MCLGs allow for a margin of safety and do not reflect the benefits of the use of disinfectants to control microbial contaminants

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

Maximum residual disinfection level goal (MRDLG): The level of a drinking water disinfectant 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

Non Detects (ND) - laboratory analysis indicates that the constituent is not present.

Additional Information

In addition, EPA required all users of surface waters for drinking water, including the Town of Culpeper, to screen for a microorganism called *Cryptosporidium*. *Cryptosporidium* is a microbial pathogen found in surface water throughout the US. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Cryptosporidium was not detected in our source water and/or finished water. If the *Cryptosporidium* pathogen were present in the source water, ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can 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 doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

The Town of Culpeper conducted a *Cryptosporidium* analysis in 2008/2009. No organisms were detected.

Cross Connections:

Did you know...?

Cross connections can occur anywhere

- Lawn chemicals backflowing through a garden hose
- Backsiphonage of "blue water" from a toilet into a building's water supply
- Backpressure of boiler water into an office building water supply
- Backflow from a fire sprinkler system

What is a "cross-connection?"

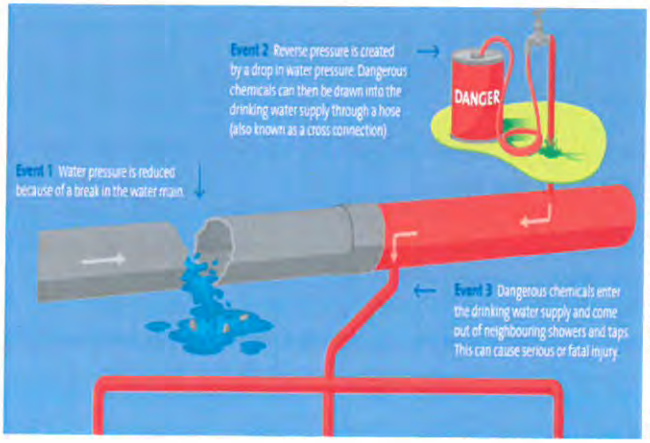
A cross-connection is a permanent or temporary piping arrangement which can allow your drinking water to be contaminated if a backflow condition occurs.

What is "backflow"?

It's just what it sounds like: the water is flowing in the opposite direction from its normal flow. With the direction of flow reversed, due to a change in pressures, backflow can allow contaminants to enter our drinking water system through cross-connections.

A potentially hazardous cross-connection occurs every time someone uses a garden hose sprayer to apply insecticides or herbicides to their lawn. Another cross-connection occurs when someone uses their garden hose to clear a stoppage in their sewer line.

Without a backflow prevention device between your hose and hose bib (spigot or outside faucet), the contents of the hose and anything it is connected to can backflow into the piping system and contaminate your drinking water.



This hazardous situation sometimes can affect more than a single home. In 1977, an entire town in North Dakota had to be rationed drinking water from National Guard water trucks while the town's water distribution system was flushed and disinfected following contamination by DDT. Investigation determined that two residents spraying DDT had made direct cross-connections to their homes. A backflow condition had occurred, sucking the DDT through the home piping systems and out into the town's water distribution system.

Backflows due to cross-connections are serious plumbing problems. They can cause sickness and even death. However, they can be avoided by the use of proper protection devices. Each spigot at your home should have a hose-bib vacuum breaker installed. This is a simple, inexpensive device which can be purchased at any plumbing or hardware store. Installation is as easy as attaching your garden hose to a spigot. (taken from http://www.nobackflow.com/hose-txt.htm)

Water Conservation Information

In 1990, 30 states in the US reported 'water-stress' conditions. In 2000, the number of states reporting water-stress rose to 40. In 2009, the number rose to 45. There is a worsening trend in water supply nationwide. Taking measures at home to conserve water not only saves you money, it also is of benefit to the greater community. Here are a few tips to reduce the amount of water used in your home, save some money and conserve water:

1. Check faucets and pipes for leaks

A small drip from a worn faucet washer can waste 20 gallons of water per day. Larger leaks can waste hundreds of gallons.

2. Check your toilets for leaks

Put a little food coloring in your toilet tank. If, without flushing, the color begins to appear in the bowl within 30 minutes, you have a leak that should be repaired immediately. Most replacement parts are inexpensive and easy to install.

3. Take shorter showers.

One way to cut down on water use is to turn off the shower after soaping up, then turn it back on to rinse. A four-minute shower uses approximately 20 to 40 gallons of water.

4. Turn off the water after you wet your toothbrush

There is no need to keep the water running while brushing your teeth. Just wet your brush and fill a glass for mouth rinsing.

5. Rinse your razor in the sink

Fill the sink with a few inches of warm water. This will rinse your razor just as well as running water, with far less waste of water.

6. Use your dishwasher and clothes washer for only full loads

Automatic dishwashers and clothes washers should be fully loaded for optimum water conservation. Most makers of dishwashing soap recommend not pre-rinsing dishes which is a big water savings.

With clothes washers, avoid the permanent press cycle, which uses an added 20 liters (5 gallons) for the extra rinse. For partial loads, adjust water levels to match the size of the load. Replace old clothes washers. New Energy Star rated washers use 35 - 50% less water and 50% less energy per load. If you're in the market for a new clothes washer, consider buying a water-saving frontload washer.

7. Put a layer of mulch around trees and plants

Mulch will slow evaporation of moisture while discouraging weed growth. Adding 2 - 4 inches of organic material such as compost or bark mulch will increase the ability of the soil to retain moisture. Press the mulch down around the dripline of each plant to form a slight depression which will prevent or minimize water runoff

8. Water during the early parts of the day; avoid watering when it's windy

Early morning is generally better than dusk since it helps prevent the growth of fungus. Early watering, and late watering, also reduce water loss to evaporation. Watering early in the day is also the best defense against slugs and other garden

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What does this all mean?

Town of Culpeper Department of Environmental Services

15038 Service Lane
Culpeper, VA 22701

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jmorgan@culpeperva.gov

WWW.CULPEPERVA.GOV/DEPARTMENTS/DES/INDEX.HTM

We are proud that your drinking water meets or exceeds all other Federal and State requirements. We have learned through our monitoring and testing that some constituents, as expected, have been detected. This is normal and the EPA has determined that your water **IS SAFE** at these levels. We are also pleased to report to you that there were no detections of total coliforms or fecal coliforms, in the monthly samples collected during the calendar year 2013. The Town of Culpeper also did not have any reported violations during the 2013 calendar year.

The Town of Culpeper Water Treatment Facility conducted the required lead and copper tap monitoring program in 2014. The 90th percentile lead concentration for our waterworks is 2.7 ppb. The 90th percentile copper concentration for our waterworks is 0.086 mg/L. The Town of Culpeper is please to inform you that the facility is below the Action Levels for both lead and copper. 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 material and components associated with service lines and home plumbing. The Town of Culpeper is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 15-30 seconds or until it becomes cold or reaches a steady temperature before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotlines office at http://www.epa.gov/safewater/lead. The Town will be conducting another lead and copper analysis in 2015.

We at the Town of Culpeper work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

If you have any questions about this report, please contact **John Morgan at 212-8845.** We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our

Town of Culpeper Operation Center
15038 Service Lane
Culpeper, VA 22701

Water Treatment Plant
816Woodview Rd.
Culpeper, VA 22701

Water Plant and Account Information:

The Town of Culpeper Water Treatment Plant is a 4 million gallon a day surface water plant that services approximately 16,000 residents. The plant is run and maintained by the Department of Environmental Services for the Town of Culpeper. The director for the department is Christopher Hively. The water plant has a chief operator; Robert Hester, and 6 full-time operators. Normal operating hours for the plant is 6 A.M to 10 P.M. Monday thru Friday and 6 A.M. to 6 P.M. on weekends.

Account setup and payments can be made Monday thru Friday 8:00 A.M. to 5:00 P.M. at Town Hall, located at 400 S. Main St., Culpeper, Virginia.