TAZEWELL COUNTY
PUBLIC SERVICE AUTHORITY

Annual Drinking Water Quality Report 2018

Daw Road Waterworks (1185769)

This Annual Drinking Water Quality Report for calendar year 2018 is designed to inform you about your drinking water quality. Our goal is to provide you with a safe and dependable supply of drinking water, and we want you to understand the efforts we make to protect your water supply. The quality of your drinking water must meet state and federal requirements administered by the Virginia Department of Health (VDH). **We at the Tazewell County Public Service Authority are pleased to report to you that your drinking water is safe and meets federal and state requirements.**

If you have questions about this report, please contact: **Mike Dowdy at 276-964-4711 or Benny McGhee at 276-964-2960.**

If you want additional information about any aspect of your drinking water or want to know how to participate in decisions that may affect the quality of your drinking water, please contact: **Dahmon Ball at 276-988-2243.**

The times and location of regularly scheduled board meetings are as follows: **The Tazewell County PSA Board of Directors meetings are scheduled for the first Monday of each month at 5:30pm. The meetings are held at the Tazewell County PSA office in Tazewell, VA.**

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 stormwater 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 stormwater 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 stormwater 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.

All drinking water, including bottled drinking 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 can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

The sources of your drinking water are surface water taken from the Clinch River. Daw Road water is bulk purchased from the Town of Richlands.

A source water assessment of our system was conducted in 2002 by the Virginia Department of Health. The Clinch River 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 within the last 5 years. The report is available by contacting the **Richlands Water Treatment Plant at 276-964-2578.**

Is there any treatment of your drinking water supply? **Yes** If yes, describe it: Treatment of these sources consists of chemical addition, coagulation, flocculation, dissolved air floatation, filtration, fluoridation and chlorination.

Under a new program being developed by VDH, a detailed source water assessment will be conducted within the next few years to find ways to better protect our water sources. After the assessment is conducted, we will provide you with information about potential sources of contamination and measures to reduce or eliminate the sources of contamination.

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. The table on the next page shows the results of our monitoring for the period of January 1st to December 31st, **2018**. In the table and elsewhere in this report you will find many terms and abbreviations you might not be familiar with. **The following definitions are provided to help you better understand these terms:**

Maximum Contaminant Level, or 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, or MCLG - 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.

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

Non-detects (ND) - lab analysis indicates that the contaminant is not present

Parts per million (ppm) or Milligrams per liter (mg/l) - 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 (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

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

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity, or cloudiness, of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is monitored because it is a good indicator of the effectiveness of our filtration system.
Level 1 assessment - a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 assessment - a very detailed study of the waterworks to identify potential problems and determine (if possible) why an *E. coli* PMCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

MCL's are set at very stringent levels by the U.S. Environmental Protection Agency. In developing the standards EPA assumes that the average adult drinks 2 liters of water each day throughout a 70-year life span. EPA generally sets MCLs at levels that will result in no adverse health effects for some contaminants or a one-in-ten-thousand to one-in-a-million chance of having the described health effect for other contaminants.

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High Nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agriculture activity. If you are caring for an infant, you should ask for advice from your health care provider.

Certain contaminants (such as, arsenic, nitrate, and lead), if present in your drinking water, may be of special concern to consumers. Are any of those contaminants present at levels of concern that must be reported? **No**

Did any MCL or TT violations occur during the year? **Yes** (See Additional Information under **Violations and Exceedances**, below)

Did any monitoring, reporting, or other violations occur during the year? **No**

WATER QUALITY RESULTS

1. Regulated Contaminants

Contaminant (units)	MCLG	MCL	Level Detected	Violation (Y/N)	Range	Date of Sample	Typical Source of Contamination
Turbidity (NTU)	-	TT, 1 NTU max	0.8	No	0.02 – 0.8	2018	Soil runoff
		TT, ≤ 0.3 NTU 95% of the time	99%	No			
Fluoride (mg/l)	4	4	0.2	No	ND – 0.2	2018	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Barium (ppm)	2	2	0.052	No	NA	2018	Discharge of drilling waste. Discharge from metal refineries. Erosioin of natural deposits
Gross Alpha (pCi/l)	0	15	ND	No	NA	2014	Erosion of natural deposits
Gross Beta (pCi/l)	0	50	2.70	No	NA	2014	Decay of natural and man-made deposits
Nitrate (ppm)	10	10	0.62	No	0 – 0.62	2018	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Total Organic Carbon Removal Ratio	NA	TT In compliance if >= 1.0	1.43	No	1.19-1.90	2018	Naturally present in the environment
Chlorine (ppm)	MRDLG = 4	MRDL = 4	1.24	No	0.2 – 1.8	2018	Water additive used to control microbes
Haloacetic Acids (ppb)	NA	60	66	Yes	18 - 107	2018	By-product of drinking water disinfection
Total Trihalomethane (ppb)	NA	80	65	No	20 - 108	2018	By-product of drinking water disinfection

2. Lead and Copper Contaminants

Contaminant (units)	MCLG	Action Level	90th Percentile	Date of Sampling	# of Sampling Sites Exceeding Action Level	Typical Source of Contamination
Copper (ppm)	1.3	AL=1.3	ND	2016	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	0	AL=15	9.0	2016	1	Corrosion of household plumbing systems; Erosion of natural deposits

It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. 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 materials and components associated with service lines and home plumbing. The Tazewell County Public Service Authority 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 to 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 Hotline (800-426-4791) or at http://www.epa.gov/safewater/lead.

Microbiological Contaminants - No samples taken for 2018 tested positive for Total Coliform or E.coli bacteria.

The water quality results in tables 1 and 2 are from testing done in 2018. However, the state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, is more than one year old.

Violations and Exceedances - **Haloacetic Acids (HAA5)**

Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer. The HAA5 Locational Running Annual Average (LRAA) exceeded the MCL of 60 mg/L in the third quarter of 2018. The exceedance was caused by high detections in both the Fourth Quarter of 2017 and Third Quarter 2018 detections (October through December 2017 and July – September, 2018, respectively). The slightly elevated levels caused the LRAA of Total HAA5 to exceed the MCL, resulting in a violation being issued for the third quarter of 2018 (July – September, 2018). No action on your part is necessary at this time. We are working with the Health Department to determine why the HAA5s were elevated while also flushing the distribution system to reduce the HAA5 levels. Quarterly samples continue to be taken.