



CAROLINE COUNTY PUBLIC UTILITIES

PWSID # 6033085

ANNUAL DRINKING WATER QUALITY REPORT

2021

Carmel Church/Ladysmith Water System



A Few Words About Your Drinking Water

“We are pleased to once again report that our drinking water is safe and has met all federal and state requirements.” Joseph C. Schiebel - Director, Department of Public Utilities

We are pleased to provide to you the 2021 Calendar Year Annual Quality Water Report. The quality of your drinking water must meet state and federal requirements administered by the Virginia Department of Health. This report is designed to inform you about the quality of water and services we deliver to you every day.

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 pleased to once again report that our drinking water is safe and has met all federal and state requirements.

Last year, as in years past, your tap water met all U.S. Environmental Protection Agency (EPA) and state drinking water health standards. Local Water vigilantly safeguards its water supplies and, as in previous

years, we are proud to report that our system has not violated a maximum contaminant level or any other water quality standard.

Our water source consist of ten (10) deep groundwater wells in the Carmel Church and Ladysmith areas. Chlorination is introduced into the system at each well. Caroline County continues to invest in new

well locations and has, for many years, been developing long range solutions to our future drinking water needs.

In 2018 the Virginia Department of Health - Division of Drinking Water completed a Source Water assessment of your waterworks; the sources were determined to be of a 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 your Public Utilities Department at (804) 633-4390.

“Thousands have lived without love, not one without water.”

W. H. Auden



Contaminants In Drinking Water

Drinking water, including bottled 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 about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Hotline at 800-426-4791.

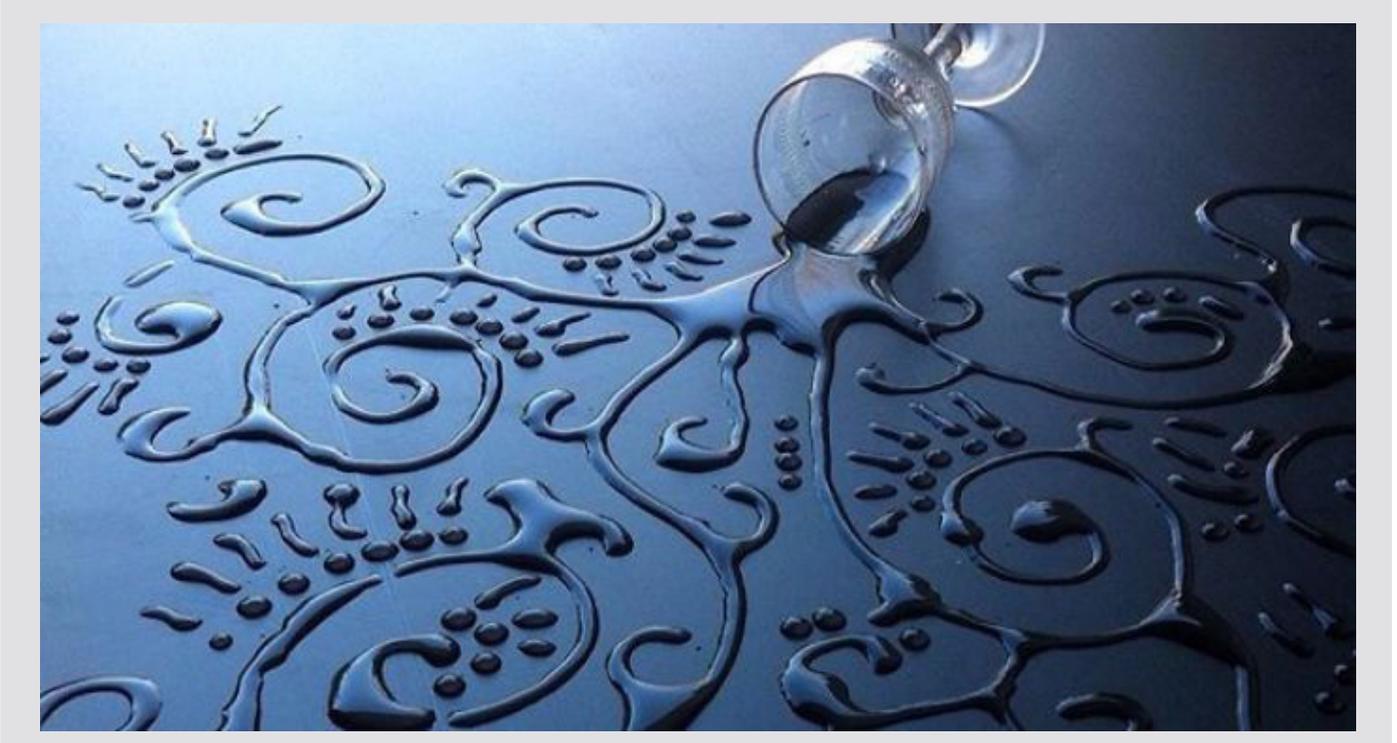
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk for 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).

Source Water Protection TIPS

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- * Eliminate excess use of lawn and garden fertilizers and pesticides - they contain hazardous chemicals that can reach your drinking water source.
- * Pick up after your pets.
- * If you have your own septic system, properly maintain your system to reduce leaching to water sources or consider connecting to a public water system.
- * Dispose of chemicals properly; take used motor oil to a recycling center.
- * Volunteer in your community. Find a watershed or wellhead protection organization in your community and volunteer to help. If there are no active groups, consider starting one. Use EPA's Adopt your Watershed to locate groups in your community, or visit the Watershed Information Network's How to Start a Watershed Team.
- * Organize a storm drain stenciling project with your local government or water supplier. Stencil a message next to the street drain reminding people "Dump No Waste - Drains to River" or "Protect Your Water". Produce and distribute a flyer for households to remind residents that storm drains dump directly into your local water body.

***LESS THAN 1% OF THE WATER SUPPLY ON EARTH IS
FRESH WATER***



Water Conservation

Did you know that the average U. S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low cost and no cost ways to conserve water. Small changes can make a big difference. Try one today and soon it will become second nature.

- * Take short showers - a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- * Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- * Use a water efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.
- * Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- * Water plants only when necessary.
- * Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new more efficient model can save up to a 1000 gallons a month.
- * Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- * Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!
- * Visit www.epa.gov/watersense for more information.

The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

The sources of drinking water (both tap and bottled) include wells, rivers, lakes, and springs. As water travels over the surface of the land or through the ground, it may pick up substances, including: microbial contaminants (bugs), inorganic chemical contaminants (salts and metals), organic chemical contaminants (natural and synthetic), and/or radioactive contaminants. To ensure that tap water is safe to drink, the US EPA prescribes and the Virginia Department of Health enforces regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration and Virginia Department of Agriculture address bottled water.

Microbiological Contaminants						
Contaminant	MCLG	MCL	No. of Samples Indicating Presence of Bacteria	Violation Y/N	Sampling Year	Typical Source of Contamination
Total coliform bacteria	0	Presence in more than 1 sample each month	0	N	2021	Naturally present in the environment
Escherichia coli (E. coli) bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal positive	0	N	2021	Human and animal fecal waste

Contaminants	MCLG or MRDLG	MCL, TT or MRDL	Your Water	Range Low	Range High	Sample Date	Violation	Typical Source
Disinfectants & Disinfectant By-Products								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Chlorine (as Cl ₂) (ppm)	4	4	2.43	0.41	2.43	2021	No	Water additive used to control microbes
TTHMs [Total Trihalomethanes] (ppb)	NA	80	ND	ND	ND	2021	No	By-product of drinking water disinfection
Haloacetic Acids (HAA5) (ppb)	NA	60	ND	ND	ND	2021	No	By-product of drinking water chlorination
Inorganic Contaminants								
Fluoride (ppm)	4	4	<0.50	<0.50	<0.50	2021	No	Erosion of natural deposits; Discharge from fertilizer & aluminum Factories
Nitrate-Nitrite	10	10	<0.30	<0.30	<0.30	2021	No	Found in fertilizer; also sewage and sanitary waste from humans & animals
Barium (mg/l)	4	4	0.080	0.049	0.080	2021	No	Erosion of natural deposits

Contaminants	MCLG or MRDLG	MCL, TT or MRDL	Your Water	Range Low	Range High	Sample Date	Violation	Typical Source
Radioactive Contaminants								
Alpha emitters (pCi/L)	0	15	13.2	2.7	13.2	2021	No	Erosion of natural deposits
Radium (combined 226/228) (pCi/L)	0	5	1.48	1.19	1.48	2021	No	Erosion of natural deposits
Beta/photon emitters (pCi/L)	0	50	7.8	5.7	7.8	2021	No	Decay of natural and man-made deposits. The EPA considers 50 pCi/L to be the level of concern for Beta particles

Metal Contaminant	MCLG or MRDLG	MCL, TT or MRDL	Your Water	Range Low	Range High	Sample Date	Typical Source
Sodium (ppm)	0 Secondary Contaminant Level	20 Secondary contaminant Level	140.80	72.4	140.80	2021	Erosion of natural deposits

***People on strict sodium intake diets should avoid consuming water with sodium concentrations higher than 20 ppm. If you are on a sodium restricted diet, you should consult your physician about the level of sodium in the drinking water. ***

Contaminants	MCLG or MRDLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
Lead & Copper							
Copper - action level at consumer taps (ppm)	1.3	1.3	.79	2019	0	0	Corrosion of household plumbing systems; Erosion of natural deposits
Lead - action level at consumer taps (ppb)	0	15	4	2019	0	0	Corrosion of household plumbing systems; Erosion of natural deposits

Additional Information About Lead

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. Caroline County/Carmel Church Water System is responsible for providing high quality drinking water, but cannot control the variety of materials used in your plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes 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 or at <http://www.epa.gov/safewater/lead>.

Unit Descriptions	
Term	Definition
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (ug/L)
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)
NA	NA: not applicable
ND	ND: not detected
NR	NR: monitoring not required, but recommended
Important Drinking Water Definitions	
MCLG	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.
MCL	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.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum residual disinfection level goal. 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.
MRDL	MRDL: Maximum residual disinfectant level. The highest level of a disinfectant allowed in drinking water.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level
BDL	Below Detectable Limit: Is the lowest detectable quantity of a substance.
NOV	Notice of Violation



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