Annual
WATER
QUALITY
REPORT
Reporting Year 2017

Presented By _____

Warren County Public Utilities

PWS ID#: 02-93-015

Maintaining High Standards For Our Customers

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is a snapshot of last year's water quality. Included are details about your source of water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water.

Community Participation

You are invited to attend Warren County Board of Commissioners meetings. They are held the first Monday of each month at 6:00 PM. Call the County Manager's Office at 252-257-3115 for meeting location.

Your Water Source

The source of your water is Kerr Lake. WCPU purchases treated water from the Kerr Lake Regional Water System (KLRW).

Our Revenue Sources

Our services are funded with fees and charges for the services we provide. Most of our revenue comes from our monthly bills for water and sewer service. We do not receive property taxes as a part of our revenue, however we do occasionally receive State or Federal grants for improvements or expansion of our systems.

Questions?

For any questions or concerns relating to your drinking water or water service, please contact Warren County Public Utilities at 252-257-3645. For more information about this report, contact Macon Robertson, Utilities Director at 252-257-3645, or email at maconrobertson@warrencountync.gov

Important Health Information

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 Safe Drinking Water Hotline (800-426-4791).

Some 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 or www.epa.gov/safewater/hotl

Source Water Assessment Program (SWAP) Results

The North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessment for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of each source for the Kerr Lake Regional Water System (KLRW) was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e. characteristics or existing conditions of the well or watershed and its delineated assessment area). According to the Source Water Assessment Plan dated September 12, KLRW had a susceptibility rating of "moderate".

The complete SWAP Assessment report for Kerr Lake Regional System may be viewed on the Web at: http://www.ncwater.org/pws/swap. To obtain a printed copy of this report, please mail a written request to: Source Water Assessment Program– Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email request to swap@ncdenr.gov. Please indicate your system name, PWSID, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact our office during normal business hours at 252-257-3645.

It is important to understand that a susceptibility rating of "higher" DOES NOT imply poor water quality, only the system's potential to become contaminated by PCS's in the assessment area.

Help Protect Your Source Water

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source(s) in several ways: (examples: dispose of chemicals properly; take used motor oil to a recycling center, volunteer in your community to participate in group efforts to protect your source, etc.).

What You Should Know About Lead and Drinking Water

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. We are 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 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 www.epa.gov/safewater/lead.

What EPA Wants You to Know

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 microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; 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; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production 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. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

What Are We Doing to Increase Water Quality?

You may see our staff flushing fire hydrants on a regular basis in order to deliver you the best quality drinking water possible. We have installed automatic flushing devices on several lines throughout Warren County. Normally, the automatic flushers are programmed to operate at night and will run from ten to thirty minutes. Automatic flushing devices increase water quality while saving time, water, and money.

Sampling Results

During the past year Kerr Lake Regional Water has taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water.

The state does not require us to monitor for certain substances every year because the concentrations of these substances do not change frequently. In these cases, the most recent sample dates are included, along with the year in which the sample was taken.

Regulated Substances - Sampling Conducted by Kerr Lake Regional Water System (KLRW)

Substance (Unit of Measure)	Year Sampled	MCL [MRDL]	MCLG [MRDLG]	Amount Detected	Range Low-High	Violation	Typical Source
Chlorine (ppm)	2017	[4]	[4]	1.58	0.78-2.34	No	Water additive used to control microbes
Fluoride (ppm)	2017	4	4	0.52	0.52-1.0	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids (HAA5) ppb	2017	60	NA	26	40-58	No	By-product of drinking water disinfection
TTHMs (total trihalome-thanes) ppb	2017	80	NA	84	1-84	No	By-product of drinking water disinfection
Total Organic Carbon [TOC] (ppm)	2017	TT	NA	1.8	1.5-2.2	No	Naturally present in the environment
Turbidity (NTU)	2017	TT = 1 NTU	NA	0.4	0.02-0.4	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2017	95%of samples< 0.3 NTU	NA	100	NA	No	Soil runoff

Turbidity is a measure of the cloudiness of the water. The staff at Kerr Lake Regional Water monitors it because it is a good indicator of the effectiveness of their filtration system. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU.

Unregulated Substances - Samples Collected by Kerr Lake Regional Water (KLRW)

Substance (Unit of Measure)	Year Sampled	SMCL	MCLG [MRDLG]	Amount Detected	Range Low-High	Violation	Typical Source
Sulfate (ppm)	2017	250	NA	18.9	NA	No	Runoff/leaching from natural deposits; Industrial wastes
Sodium	2017	NA	NA	15.9	NA	No	Naturally occurring

Warren County Water System Test Results - Regulated Substances

Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

Substance (Unit of Measure)	Year Sampled	AL	MCLG	Amount Detected (90th%TILE)	Sites Above AL/Total Sites	Violations	Typical Source
Copper (ppm)	2016	1.3	1.3	0.351	0/40	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2016	15	0	0.000	0/40	No	Corrosion of household plumbing systems; Erosion of natural deposits

Disinfection Byproducts Compliance—Based upon Locational Running Annual Average (LRAA)

Substance (Unit of Measure)	Year Sampled	MCL [MRDL]	MCLG [MRDLG]	Your Water (highest LRAA)	Range Low-High	MCL Violation Y/N	Typical Source
TTHM (ppb) [Total Trihalomethanes] Location B01	2017	80	N/A	82	72-82	No	By-product of drinking water disinfection
TTHM (ppb) [Total Trihalomethanes] Location B02	2017	80	N/A	64	60-64	No	By-product of drinking water disinfection
HAA5 (ppb) [Total Haloacetic Acids] B01	2017	80	N/A	48	34-48	No	By-product of drinking water disinfection
HAA5 (ppb) [Total Haloacetic Acids] B02	2017	60	N/A	41	30-41	No	By-product of drinking water disinfection
Chlorine (ppm)	2017	[4]	[4]	.82	0.21-1.41	No	Water additive used to control microbes

A Word About Water Conservation

Fix that leak! If your toilet has a leak, you could be wasting about 200 gallons of water every day. That would be like flushing your toilet more than 50 times for no reason!

Use a bowl of water to clean fruits & vegetables rather than running water over them. You can reuse this water for your house plants.

An automatic dishwasher uses 9 to 12 gallons of water while hand washing dishes can use up to 20 gallons.

The average 5-minute shower takes 15-25 gallons of water--around 40 gallons are used in 10 minutes.

Ask for more conservation tips when visiting our office at:

712 Hwy 158 Business West - Warrenton, NC 27589

You can view information on all county departments, download forms, etc. by visiting Warren County's web site at:
www.warrencountync.com

During 2017, or during any compliance period that ended in 2017, we received a *monitoring* violation that covered the time period of *1/1/2017 to 3/31/2017*. We have changed sampling procedures to assure this does not happen again.

NOTICE TO THE PUBLIC

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Violation Awareness Date: April 21, 2017

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the compliance period specified in the table below, we did not complete all monitoring or testing for the contaminants listed and therefore cannot be sure of the quality of your drinking water during that time.

CONTAMINANT GROUP**	FACILITY ID NO./ SAMPLE POINT ID	COMPLIANCE PERIOD BEGIN DATE	NUMBER OF SAMPLES/ SAMPLING FREQUENCY	WHEN SAMPLES WERE TAKEN (Returned to Compliance)
TTHM AND HAA5	D01	1/1/2017	QUARTERLY	4/1/2017

(HAA5)- Haloacetic Acids - include Monochloroacetic Acid, Dichloroacetic Acid, Trichloroacetic Acid, Monobromoacetic Acid,

(TTHM) - Total Trihalomethanes - include Chloroform, Bromoform, Bromodichloromethane, and Dibromochloromethane.

What should I do? There is nothing you need to do at this time.

What is being done? We have changed sampling procedures to make sure this doesn't happen again.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

For more information about this violation, please contact the responsible person listed in the first paragraph of this report.

Important Drinking Water Definitions:

Not-Applicable (N/A) – Information not applicable/not required for that particular water system or for that particular rule.

Non-Detects (ND) - Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.

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 (ug/L) - One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

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.

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

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

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.

Maximum Residual Disinfection 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 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 (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.

Local Running Annual Average (LRAA) - The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfections Byproducts Rule.

IMPORTANT MESSAGE BELOW:

Damage To Our Water Meter Could Cost You Money

Most automatic meter reading devices mount through the meter box lid. From the top, it looks like a black or silver disc about seven inches in diameter. It sticks up ½ inch to ¾ inch above the top of the meter box lid. The center part of the unit is made of hard plastic that is hard enough to support the weight of a car, but not able to survive an encounter with a lawn mower blade or a lawn aerator spike. Please be careful when you are aerating or mowing around water meter pits. Never run your aerator over the top of a meter pit, and check the clearance between your mower blade and the top of the meter box. The 2017 standard charge for replacing the entire meter is approximately $400.00.

While doing landscape projects, be sure the meter box lid remains exposed, level with the ground, and outside any fences or walls. Never put rocks, flower pots or other objects on the meter box.