

# ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017



*Presented By*  
**Town of Clayton**

## Safeguarding Public Health and Natural Resources for Now and Tomorrow

We are proud to present once again our annual water quality report, covering all water testing performed between January 1 and December 31, 2017. We appreciate your patience and continued support as we continually strive to improve our water system. Our ongoing mission is to deliver the best-quality drinking water at the highest level of customer service possible to all of our customers. As we continue to meet the requirements of the SDWA, we are ensuring a future of healthy, clean drinking water for years to come.

Thanks again for your continued support and remember that we are always available to assist you, and we encourage you to share with us your thoughts about the information provided in this report.

Should you ever have any questions or concerns about your water, feel free to contact us. After all, well-informed customers are our best allies.



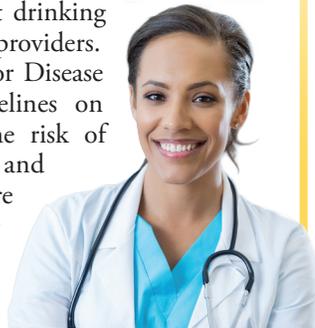
### Source Water Assessment

According to the completed Source Water Assessment, the susceptibility rating for the source water was determined to be in the moderate category. The susceptibility rating does not refer to the actual water quality but rather to the potential of the source water to become contaminated. Information about the Source Water Assessment can be obtained by contacting the Public Water Supply Section by email at [SWAP@ncmail.net](mailto:SWAP@ncmail.net), or by regular mail at SWAP, Public Water Supply Section, 1634 Mail Service Center, Raleigh, NC 27699-1634. You may also contact the Source Water Assessment staff by phone at (919) 715-2633.

Water treatment is a complex, time-consuming process.

### Important Health Information

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 <http://water.epa.gov/drink/hotline>.



### Lead in Home 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. 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/lead](http://www.epa.gov/lead).

### Where Does My Water Come From?

The Town of Clayton purchases all of our water from Johnston County Public Utilities. The Johnston County water treatment facility is located one-half mile east of the Town of Wilsons Mills. The Johnston County water treatment facilities' source water is surface water from the Neuse River. Johnston County also purchases bulk water into their distribution system from the Town of Smithfield and Harnett County. To learn more about our watershed on the Internet, go to the U.S. EPA's "Surf Your Watershed" at <https://epa.gov/waterdata/surf-your-watershed>.

## QUESTIONS?

For more information about this report or for any questions relating to your drinking water, please contact Byron W. Poelman, Distribution and Collection System Superintendent, at (919) 553-1530 or [bpoelman@townofclaytonnc.org](mailto:bpoelman@townofclaytonnc.org).

## Substances That Could Be in 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 dissolves 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 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 may also come from gas stations, urban storm-water 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.

## Tip Top Tap

The most common signs that your faucet or sink is affecting the quality of your drinking water are discolored water, sink or faucet stains, a buildup of particles, unusual odors or tastes, and a reduced flow of water. The solutions to these problems may be in your hands.

### Kitchen Sink and Drain

Hand washing, soap scum buildup, and the handling of raw meats and vegetables can contaminate your sink. Clogged drains can lead to unclean sinks and backed up water in which bacteria (i.e., pink- and black-colored slime growth) can grow and contaminate the sink area and faucet, causing a rotten egg odor. Disinfect and clean the sink and drain area regularly. Also, flush regularly with hot water.

### Faucets, Screens, and Aerators

Chemicals and bacteria can splash and accumulate on the faucet screen and aerator, which are located on the tip of faucets, and can collect particles such as sediment and minerals, resulting in a decreased flow from the faucet. Clean and disinfect the aerators or screens on a regular basis.

Check with your plumber if you find particles in the faucet screen as they could be pieces of plastic from the hot water heater dip tube. Faucet gaskets can break down and cause black, oily slime. If you find this slime, replace the faucet gasket with a higher-quality product. White scaling or hard deposits on faucets and showerheads may be caused by hard water or water with high levels of calcium carbonate. Clean these fixtures with vinegar or use water softening to reduce the calcium carbonate levels for the hot water system.

### Water Filtration/Treatment Devices

A smell of rotten eggs can be a sign of bacteria on the filters or in the treatment system. The system can also become clogged over time, so regular filter replacement is important. (Remember to replace your refrigerator filter!)

## Community Participation

Additional information may be obtained, or your comments received, at the bimonthly Town Council meetings that you are welcome to attend. These meetings are on the first and third Mondays of every month at 6:00 p.m. in the Clayton Center Council Chambers, at 111 East Second Street, Clayton, NC. You can also visit our website at [www.ClaytonNC.org](http://www.ClaytonNC.org) and search "water quality", email us at [info@TownofClaytonNC.org](mailto:info@TownofClaytonNC.org), or follow us on Facebook and Twitter @TownofClayton for news and information regarding our drinking water.

## Water Conservation Tips

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So, get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you can save more than 30,000 gallons a year.



- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

## To the Last Drop

The National Oceanic and Atmospheric Administration (NOAA) defines drought as a deficiency in precipitation over an extended period of time, usually a season or more, resulting in a water shortage causing adverse impacts on vegetation, animals, and/or people. Drought strikes in virtually all climate zones, from very wet to very dry.

There are primarily three types of drought: Meteorological Drought, which refers to the lack of precipitation, or the degree of dryness and the duration of the dry period; Agricultural Drought, which refers to the agricultural impact of drought, focusing on precipitation shortages, soil water deficits, and reduced ground water or reservoir levels needed for irrigation; and Hydrological Drought, which pertains to drought that usually occurs following periods of extended precipitation shortfalls that can impact water supply (i.e., stream flow, reservoir and lake levels, ground water).

Drought is a temporary aberration from normal climatic conditions, thus it can vary significantly from one region to another. Although normally occurring, human factors, such as water demand, can exacerbate the duration and impact that drought has on a region. By following simple water conservation measures, you can help significantly reduce the lasting effects of extended drought.

## FOG (fats, oils, and grease)

You may not be aware of it, but every time you pour fat, oil, or grease (FOG) down your sink (e.g., bacon grease), you are contributing to a costly problem in the sewer collection system. FOG coats the inner walls of the plumbing in your house as well as the walls of underground piping throughout the community. Over time, these greasy materials build up and form blockages in pipes, which can lead to wastewater backing up into parks, yards, streets, and storm drains. These backups allow FOG to contaminate local waters, including drinking water. Exposure to untreated wastewater is a public health hazard. FOG discharged into septic systems and drain fields can also cause malfunctions, resulting in more frequent tank pump-outs and other expenses.

Communities spend billions of dollars every year to unplug or replace grease-blocked pipes, repair pump stations, and clean up costly and illegal wastewater spills. Here are some tips that you and your family can follow to help maintain a well-run system now and in the future:

### NEVER:

- Pour fats, oil, or grease down the house or storm drains.
- Dispose of food scraps by flushing them.
- Use the toilet as a waste basket.

### ALWAYS:

- Scrape and collect fat, oil, and grease into a waste container such as an empty coffee can, and dispose of it with your garbage.
- Place food scraps in waste containers or garbage bags for disposal with solid wastes.
- Place a wastebasket in each bathroom for solid wastes such as disposable diapers, creams and lotions, and personal hygiene products, including nonbiodegradable wipes.

## Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected; our goal is to keep all detects below their respective maximum allowed levels. Remember that detecting a substance does not mean the water is unsafe to drink. In some cases, the State recommends monitoring for certain substances less than annually because the concentrations do not change frequently. In those cases, the most recent sample data are included, along with the year in which the samples were taken.

The Town of Clayton participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

### REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	Town of Clayton		Johnston County Utilities		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Chloramines (ppm)	2017	[4]	[4]	2.18	0.7–4.4	2.78	0.0–3.98	No	Water additive used to control microbes
Chlorine (ppm)	2017	[4]	[4]	0.48	0.0–2.9	0.49	0.0–2.74	No	Water additive used to control microbes
Fluoride (ppm)	2017	4	4	NA	NA	0.26	NA	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2017	60	NA	39.2	19.3–41.7	38	10–52	No	By-product of drinking water disinfection
Simazine (ppb)	2017	4	4	NA	NA	0.2	NA	No	Herbicide runoff
TTHMs [Total Trihalomethanes] (ppb)	2017	80	NA	46.7	26.7–67.9	56	20–76	No	By-product of drinking water disinfection
Total Organic Carbon [TOC] (removal ratio)	2017	TT	NA	NA	NA	1.36	1.28–1.48	No	Naturally present in the environment
Turbidity (NTU)	2017	TT = 1 NTU	NA	NA	NA	0.169 <sup>1</sup>	0–0.169	No	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	2017	TT = 95% of samples meet the limit	NA	NA	NA	100	NA	No	Soil runoff

### Tap Water Samples Collected for Lead and Copper Analyses from Sample Sites throughout the Community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Town of Clayton			Johnston County Utilities			VIOLATION	TYPICAL SOURCE
		AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL		
Copper (ppm)	2017	1.3	1.3	0.102	0/31	0.077 <sup>2</sup>	0 <sup>2</sup>	No	Corrosion of household plumbing systems; Erosion of natural deposits

### SECONDARY SUBSTANCES <sup>3</sup>

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Town of Clayton		Johnston County Utilities		VIOLATION	TYPICAL SOURCE		
		SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH			AMOUNT DETECTED	RANGE LOW-HIGH
pH (Units)	2017	6.5–8.5	NA	7.95	7.26–8.58	6.1	NA	No	Naturally occurring

### UNREGULATED SUBSTANCES <sup>4</sup>

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Town of Clayton		Johnston County Utilities		TYPICAL SOURCE
		AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	
Sodium (ppm)	2017	NA	NA	39.1 <sup>3</sup>	NA	Naturally occurring

<sup>1</sup>Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU.

<sup>2</sup>Sampled in 2015.

<sup>3</sup>Secondary Contaminants, required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic contaminants normally do not have any health affects and normally do not affect the safety of your water.

<sup>4</sup>Unregulated contaminants are those for which U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist U.S. EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulations are warranted.

## Definitions

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

**LRAA (Locational Running Annual Average):** 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 Disinfection Byproducts Rule.

**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.

**MRDL (Maximum Residual Disinfectant Level):** 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.

**MRDLG (Maximum Residual Disinfectant 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.

**NA:** Not applicable.

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**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).

**removal ratio:** A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

**SMCL (Secondary Maximum Contaminant Level):** SMCLs are established to regulate the aesthetics of drinking water like appearance, taste and odor.

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