



Greenville Water



2017 Water Quality Report

Quality Water | Sustainable Future

## PROVIDING HIGH QUALITY DRINKING WATER

Greenville Water is pleased to present our 2017 Water Quality Report. Each year, the team at Greenville Water works diligently to protect our watersheds, ensure our treatment practices are highly effective, and provide you, our customers, with safe drinking water. Once again, we are happy to report that Greenville Water meets all of the strict drinking water standards established by the Environmental Protection Agency (EPA) and the South Carolina Department of Health and Environmental Control (SCDHEC). In order to protect its customers, Greenville Water and SCDHEC collected over 29,000 samples and performed more than 60,000 tests for parameters during 2017. Greenville Water ensures your water quality by testing water samples collected during the treatment process and as the water is delivered to customers through approximately 3000 miles of pipeline. The Water Quality Report indicates that our water is safe to drink.

## WHERE DOES MY DRINKING WATER COME FROM?

Greenville Water draws water from three sources: Table Rock Reservoir, North Saluda Reservoir, and Lake Keowee. Table Rock and North Saluda Reservoirs are both located in the foothills of the Blue Ridge Mountains in northern Greenville County. Greenville Water owns 100 percent of both watersheds. Greenville Water regularly patrols and carefully maintains these uninhabited, pristine lands. The properties are further protected by a Conservation Easement with The Nature Conservancy. Lake Keowee is owned by Duke Energy. In 2013, Greenville Water obtained three South Carolina Surface Water Withdrawal permits: 4,650 million gallons per month (MGM) for Lake Keowee, 2,077 MGM for Table Rock Reservoir and 1,860 MGM for North Saluda Reservoir.

## SOURCE WATER PROTECTION IS IMPORTANT

To raise awareness about the ways in which water pollution can impact your drinking water, the SC Department of Health and Environmental Control has identified potential sources of contamination for each drinking water source in the state. More information on source water assessment can be found at: [www.scdhec.gov/HomeAndEnvironment/Water/SourceWaterProtection/](http://www.scdhec.gov/HomeAndEnvironment/Water/SourceWaterProtection/) and Greenville Water's Source Water Assessment can be obtained upon request.

## HOW IS MY WATER TREATED?

All water supplied to you is thoroughly treated and disinfected. The Adkins Filter Plant, a conventional filtration plant with a current capacity of 90 MGD, draws water from Lake Keowee. This plant uses coagulation, filtration, sedimentation and disinfection to treat the water. Alum is used in the coagulation step along with small amounts of sodium hydroxide for pH adjustment. Chlorine, combined with ammonia, is used for disinfection to protect against water-borne diseases and an ortho/polyphosphate blend is added for corrosion control. Fluoride is provided to prevent tooth decay.

The Stovall Filter Plant was placed in service in July 2000, to provide filtration for all water drawn from the Table Rock and North Saluda Reservoirs. This 75 MGD plant is one of the largest in the United States to use Dissolved Air Flotation (DAF) in the treatment process. The Stovall Plant uses an innovative flotation process for particle removal rather than sedimentation. The remaining processes and chemicals used for water treatment are similar to those at the Adkins Treatment Facility.

All treatment plants are maintained and monitored by State Certified Environmental Systems Operators who are thoroughly trained to perform routine chemical and physical testing for treatment control.

## PRIMARY DRINKING WATER STANDARDS - REGULATED SUBSTANCES DETECTED IN 2017

INORGANIC COMPOUNDS							
Parameter	Unit	MCL	MCLG	Range	Highest Level Detected	Possible Sources	Violation
Fluoride	ppm	4	4			Drinking water additive Fluoride added during treatment to prevent tooth decay	
Stovall Plant				NA	0.52		NO
Adkins Plant				NA	0.62		NO
Distribution System				0.43-0.79	0.79		NO
Nitrate/Nitrite (as nitrogen)	ppm	10	10			Erosion of natural deposits; fertilizer runoff, By-products of nitrification	
Stovall Plant				NA	<0.020		NO
Adkins Plant				NA	0.054		NO
Distribution System				0.03-0.27	0.27		NO
ORGANIC COMPOUNDS							
TOC (Total Organic Carbon)		Average Percent Removal		Range			
Stovall Plant (samples collected monthly)		TT: 29%		13-44%		Occurs naturally in the environment	NO*
Adkins Plant (samples collected monthly)		TT: 17%		1-38%			NO*
*Due to low raw water TOC levels, Adkins and Stovall plants remain in compliance even when the percent removal is less than the required 35%.							
DISINFECTANTS AND BYPRODUCTS							
Parameter	Unit	MCL	MCLG	Range	Average	Possible Sources	Violation
Chloramine	ppm	MRDL=4	MRDLG=4	0.67-3.00	2.32	Water disinfectant	NO
Total Trihalomethanes	ppb	80	0	5.1-16.9	LRAA = 11.8	By-products of disinfection	NO
Total Haloacetic Acids	ppb	60	0	6.1-19.8	LRAA = 14.9	By-products of disinfection	NO

## MICROBIAL AND PHYSICAL CHARACTERISTICS

Parameter	Units	MCL	Results	Possible Sources	Violation
Total Coliform	% positive per month	Less than 5% positive per month	0.66% maximum	Common in the environment; human and animal waste	NO
Turbidity		95% of samples below MCL	100% of samples below MCL		
Stovall Plant	NTU	< 0.3	Maximum=0.07; Average= 0.04	Soil Runoff	NO
Adkins Plant	NTU	< 0.3	Maximum= 0.09; Average= 0.05		NO
Distribution System	NTU	NA	Average=0.15		NA

### Terms and Abbreviations

**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.

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

**SU** (Standard Units): Unit of measure to indicate water acid/base scale (pH).

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

**ppm** (parts per million): This is the same as milligrams per liter, or one penny out of \$10,000.

**ppb** (parts per billion): This is the same as micrograms per liter, or one penny out of \$10,000,000.

**NA** (Not Applicable): Does not apply. Ranges are not applicable for sampling conducted by SC DHEC.

**ND** (Not Detected): Not detected or below detection limits.

**NTU** (Nephelometric Turbidity Units): Units of measure to indicate water clarity.

**MRDL** (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water without an unacceptable possibility of adverse health effects. There is convincing evidence that addition of a disinfectant is necessary for the 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 the disinfectants to control microbial contaminants.

**LRAA** (Locational Running Annual Average): The highest average concentration for 4 consecutive quarters at all sampling locations.

**Turbidity**: Measure of water clarity and filtration effectiveness.



## LEAD AND COPPER RULE (2015 Results)

Parameter	Units	Action Level (AL)	90th Percentile Value	Sample Sites Exceeding Action Level	Possible Sources	Violation
Lead- Customer's Plumbing	ppb	15	0.0	0	Corrosion of household plumbing	NO
Copper- Customer's Plumbing	ppm	1.3	0.051	0	Corrosion of household plumbing	NO

**Lead & 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 materials and components associated with service lines and home plumbing. Greenville Water 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 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your drinking water, you may wish to have the water inside your home 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>.

## FINISHED WATER SECONDARY STANDARDS

Parameter	Units	MCL	Average	Range	Sources
Chloride	ppm	250	4.6	3.4-6.0	Soil runoff
Iron	ppb	300	ND	ND	Soil runoff, pipe material
Manganese	ppb	50	ND	ND	Soil runoff
pH	SU	6.5-8.5	7.6	7.0-8.7	Controlled at treatment plant
Totally Dissolved Solids	ppm	500	33	20-46	Soil runoff
Zinc	ppm	5	ND	ND	Drinking water additive
Sulfate	ppm	250	4.4	3.4-5.5	Drinking water additive
Aluminum	ppm	0.05-0.20	ND	ND	Drinking water additive

## NEED WATER FOR COMMUNITY EVENTS?

*GREENVILLE WATER HAS THE SOLUTION!*

Greenville Water provides drinking water for outdoor community events held in our service area. We do this as a public service to support the community and share information about tap water.



The Water Buffalo is designed to dispense 400 gallons of clean, refreshing tap water into cups or reusable bottles. It is an environmentally friendly way to serve water at your event!

Just as important, we can also provide hand wash stations for outdoor events. Our staff will deliver the

stations, fill them with water and stock the station with paper towels and soap. We have six stations available.



*To view guidelines and reserve the Water Buffalo and/or Hand Wash Stations for your event, please visit [www.greenvillewater.com/water-for-community-events](http://www.greenvillewater.com/water-for-community-events).*

## IMPORTANT INFORMATION FROM THE EPA

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.

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 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 runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. 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).

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. 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 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 or other microbial contaminants are available from the Safe Drinking Water Hotline (800.426.4791).

### WHAT IF I HAVE QUESTIONS?

If you would like more information about water treatment techniques or about our water quality, contact Greenville Water's Laboratory at (864) 241-7838. You can visit our website at [www.greenvillewater.com](http://www.greenvillewater.com) or contact us by email at [laboratory@greenvillewater.com](mailto:laboratory@greenvillewater.com).

## GREENVILLE WATER

***Greenville Water provides service to nearly 500,000 residents of the Upstate region of South Carolina. Recognizing that water service is critical to the health and well-being of its customers and for the growth and economic vitality of the community, Greenville Water ensures the reliable delivery of high-quality water through careful stewardship of its resources. Greenville Water is committed to providing exceptional service and utilizing safe and effective methods for providing water, while adhering to and surpassing health and safety standards. Governed by an elected Commission of Public Works, Greenville Water is the state's largest water utility.***

## Commissioners of Public Works

Phillip A. Kilgore - Chair  
James W. Bannister - Vice Chair  
Debra M. Sofield - Commissioner  
Knox White - Mayor,  
City of Greenville; Ex-Officio Member  
George Fletcher - Councilman,  
City of Greenville; Ex-Officio Member

## Contact Us

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(864) 241-6100

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## Commission Meetings

Unless otherwise noted, Greenville Water Commission meetings are held on the 1st Tuesday of each month at 8:15am. Meeting agendas, minutes and schedule are posted online at [www.greenvillewater.com](http://www.greenvillewater.com).

QUALITY  
WATER



SUSTAINABLE  
FUTURE

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