

# Annual Water Quality Report

## Fayette County Water System

P.O. Box 190, 245 McDonough Road, Fayetteville, Georgia 30214 / 770-461-1146  
*This report includes data collected between January 1, 2014 and December 31, 2014*

**Source of Water:** Fayette County Water System gets its water from several sources. The surface water sources are: Lake Kedron, Lake Peachtree, Lake Horton, Lake McIntosh, Starr's Millpond and the Flint River. The well water source is in the crystalline aquifer. The purchase water sources can be the City of Atlanta and Clayton County Water Authority.

**Treatment Process:** Alum and lime are added to the water taken from the surface water sources to cause the finely divided mud particles to clump together so that the mud and other particles will settle to the bottom of the settling tanks by gravity. The clear water is filtered and disinfected with chlorine to make the water biologically safe. The pH is adjusted by adding lime, phosphate is added to make the water non-corrosive, and fluoride is added to prevent dental cavities. The groundwater from the well is treated with chlorine, soda ash, and phosphate. Fluoride is also added.

BLENDING OF THE WATER SUPPLY		
Supplier	Gallons	Percent
City of Atlanta	7,761,630	0.2%
Clayton County	0	0.0%
Well (1)	13,739,200	0.4%
Water Plants (2)	3,285,226,000	99.4%
<b>Total</b>	<b>3,306,726,830</b>	<b>100.0%</b>

*Copies of the City of Atlanta and Clayton County Water Authority water quality reports are available upon request.*

**Important Information about the Safety of Your Drinking Water:** All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some substances (contaminants). The presence of contaminants does not necessarily indicate the water poses a health risk. Water sources, including lakes such as ours, are fed by water that passes over the surface of the land or through the ground. The water dissolves naturally occurring minerals and materials, and can pick up substances resulting from the presence of animals or from human activity. In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

The Atlanta Regional Commission prepared a Source Water Assessment for potential pollution of surface drinking water supply sources, for the Water System. This assessment showed the Horton Creek watershed, our largest source of drinking water, to be low for pollution susceptibility, and Line Creek, Flat Creek and Whitewater Creek to be medium for pollution susceptibility. The entire report is available for review at our office during regular business hours.

### *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 stormwater 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 stormwater 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 stormwater runoff, and septic systems.

**Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

The table inside shows the drinking water contaminants we detected that are applicable for the calendar year of this report. The Water System exceeded drinking water standards for two contaminants. For more information see the section labeled **Violations and Exceedances**. As health scientists learn more about our environment and the effect of substances in the environment on human health, new standards will continue to be set for drinking water. The Fayette County Water System will continue to add new technology in order to be able to meet present and future standards.

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### **Information about Lead in 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. The Fayette County Water System 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 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>.

## Drinking Water Analysis

Substance	Sample Frequency	MCL, TT, or MRDL	MCLG or MRDLG	Level Found	Range	Likely Sources	Violation
<b>INORGANIC CONTAMINANTS</b>							
Fluoride (mg/L) (a)	Daily 2014	4	4	0.89	0.3 – 1.3	Water additive that promotes strong teeth	NO
Lead (ppb) (b) <i>Water System Brooks</i>	2013	AL = 15	zero	2.5 2.5	0 sample sites above AL	Corrosion of household plumbing systems	NO
Copper (mg/L) (b) <i>Water System Brooks</i>	2013	AL = 1.3	1.3	0.16 0.06	0 sample sites above AL	Corrosion of household plumbing systems	NO
Nitrate (mg/L)	Annually 2014	10	10	0.70	n/d - 0.70	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits	NO
<b>DISINFECTION BY-PRODUCTS, BY-PRODUCT PRECURSORS, AND DISINFECTANT RESIDUALS</b>							
Total Trihalomethanes (TTHMs) (ppb) (c) TTHM Site 501 (ppb) TTHM Site 504 (ppb)	Quarterly 2014	80	n/a	109 (highest LRAA) 109 82	21 – 87  48 – 80 47 – 87	By-product of drinking water chlorination	YES
Haloacetic Acids (HAAs) (ppb) (c)	Quarterly 2014	60	n/a	56 (highest LRAA at site 502)	15 – 60	By-product of drinking water chlorination	NO
Total Organic Carbon (TOC) (d)	Monthly 2014	TT ≥ 1	n/a	0.99	n/a	Naturally present in the environment. Decay of organic matter in the water withdrawn from water sources such as lakes and streams	YES
Chlorite (mg/L)	Monthly 2014	1.0	0.8	0.45	0.01 - 0.51	By-product of drinking water chlorination	NO
Chlorine, free (mg/L)	Daily 2014	4	4	1.34	0.20 - 2.90	Drinking water disinfectant	NO
Chlorine Dioxide (ppb)	Daily 2014	800	800	70	0 – 610	Drinking water disinfectant	NO
<b>MICROBIOLOGICAL CONTAMINANTS AND TURBIDITY</b>							
Total Coliform Bacteria (e)	Daily 2014	5.0%	zero	0%	n/a	Naturally present in the environment	NO
Turbidity (f)	Daily 2014	TT = 1 NTU maximum	n/a	0.43	n/a	Soil Runoff	NO
		TT = 95% of monthly samples ≤ 0.3 NTU		99.7%			

### NOTES

- (a) Fluoride is added during treatment to bring the concentration level to the CDC and the Georgia Department of Community Health optimum of 0.85 mg/L. EPA established the maximum concentration level for natural fluoride in drinking water at 4 mg/L.
- (b) Water from the treatment plants does not contain lead or copper, therefore, water is tested at the tap. See the statement about Lead included on page one of the report.
- (c) The first line of results shows the locational running annual average (LRAA) for the sample site with the highest concentration in the distribution system; the range is the lowest and highest value reported for all sample sites combined. Additional sample sites are listed when more than one site exceeds the TTHM or HAA5 MCL.
- (d) TOC compliance is a calculated removal ratio of 1 (actual removal is equal to or greater than the required removal) and is reported for compliance as a running annual average, computed quarterly. For our source water, 35% removal is required.
- (e) No more than 5.0% of samples can be total coliform-positive in a month. More than 80 samples are tested each month. Coliform bacteria are not a health threat in itself; it is used to indicate whether other potentially harmful bacteria may be present.
- (f) Turbidity is a measure of the cloudiness of the water. We monitor turbidity because it is a good indicator of the effectiveness of our filtration system.

## How to Read the Report

### IMPORTANT DRINKING WATER DEFINITIONS

**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.

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

**Maximum Residual Disinfectant 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.

**Minimum Reporting Level (MRL):** The value and unit of measure at or above which the concentration of the contaminant must be reported to EPA. The MRL is an estimate of the quantitation limit.

**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.

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

**Maximum Residual Disinfectant 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 contamination.

**Locational Running Annual Average (LRAA):** The running annual average calculated for each sample location in the water system.

### DATA TABLE KEY: UNIT DESCRIPTIONS

mg/L	<b>Milligram per liter</b> is the number of milligrams of a substance in one liter of water. One liter is slightly more than a quart.
ppm	<b>Parts per million</b> means 1 part per 1,000,000 (same as milligrams per liter)
ppb	<b>Parts per billion</b> means 1 part per 1,000,000,000 (same as micrograms per liter)
NTU	<b>Nephelometric Turbidity Unit</b>
n/a	<b>Not applicable</b>
n/d	<b>Not detected</b>
≤	<b>Less than or equal to</b>
≥	<b>Greater than or equal to</b>

### VIOLATIONS AND EXCEEDANCES

The Water System did not meet the Total Organic Carbon (TOC) removal ratio for the first quarter of 2014 and exceeded the LRAA for Total Trihalomethanes (TTHMs) at two sample sites during 2014. The TTHM exceedances occurred due to a carryover of the 2013 levels in the 2014 LRAA calculation. Actual TTHM quantities in 2014 averaged 46 percent lower at Site 501 and 23 percent lower at Site 504 compared to 2013 quantities.

TOC has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include Trihalomethanes (THMs) and Haloacetic acids (HAAs). Some people who drink water containing THMs and HAAs in excess of the maximum contaminant level (MCL) over many years experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer. In our system, disinfection byproducts are formed when chlorine, used to disinfect our water for drinking, combines with TOC in the water. Disinfectants are used to protect drinking water from disease-causing organisms, or pathogens.

There is nothing you need to do at this time. These exceedances do not pose a threat to the quality of the water supplied. You should not be alarmed and do not need to seek alternative water supplies. Water treatment methods are being implemented to increase the removal of TOC at the treatment plants and, as a consequence, reduce the levels of TTHM and HAA in the distribution system. These improvements are discussed in the Director's Message on the next page.

#### Notice to Immuno-Compromised People

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people (such as those with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some older adults and infants) may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA and the Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the **Safe Drinking Water Hotline (1-800-426-4791)**.

## From the Director's Desk

Let me thank you all for being loyal Fayette County Water System customers. We all know, water is vital to the success of our community. During 2014 our Water System has charted a new course. We have taken a vow to produce water that not only meets requirements but will exceed all areas of compliance. In recent years the system has struggled with compliance in the areas of Trihalomethane and Haloacetic acid (THM/HAA) results. By improving the technology to effectively target possible contaminants in the raw water, we can produce an excellent quality of water here in Fayette County. In the upcoming year, we will be making some major improvements at our water plants to continue providing exceptional water quality. Please take the time to review our 2014 accomplishments to improve our service to you:

- ◆ Adopted SEMS, a new asset management software, to track preventative maintenance at the water plants, Water System assets, backflow testing, inventory, and fire hydrant flushing
- ◆ Reorganized our Maintenance Team for efficiency
- ◆ Added a new Customer Service Representative to assist with customer service
- ◆ Implementation of Citizen Self-Serve, an online tool for customers to access their account online
- ◆ Implemented a new Leak Protection Program
- ◆ Developed a 5-year Capital Improvement Plan
- ◆ Improved TOC removal from 35% to over 50%
- ◆ THM/HAA results are improving
- ◆ Repaired and reinstalled Particle Counters at South Fayette WTP
- ◆ Added Sodium Permanganate feed system to assist in removal of organics (TOC's) and piped chlorine to the filters at Crosstown WTP to assist with oxidation of manganese
- ◆ Added a Total Organic Carbon (TOC) Analyzer for capability to complete on-site TOC testing at the Crosstown WTP and installed a new state of the art THM Online Analyzer at each water plant (There are only two of these units in the State of Georgia and Fayette County owns both of them)
- ◆ Awarded bid to replace hydraulic oil actuators with new electric actuators at Lake Horton Pump Station.
- ◆ Inspected all five elevated storage tanks in the distribution system
- ◆ Developed Request For Proposal for a Tank Maintenance Program
- ◆ Initiated repairs to the 250K tank in Peachtree City
- ◆ In process of installing Liquid Lime feed system for better efficiency and pH adjustment at both treatment plants and to add a Sodium Permanganate building at Crosstown
- ◆ Replaced benchtop equipment at both water treatment plants for water treatment testing
- ◆ Added additional USGS monitoring stations to allow better management of raw water reservoirs

Please be patient as we continue to take the necessary steps to improve your water systems quality and efficiency. Feel free to contact us with any questions as we chart the course to take care of your demands today and tomorrow.

“My definition of 'innovative' is providing value to the customer” **Mary Barra**

Sincerely,

*Lee Pope*

Lee Pope, Director  
Fayette County Water System

**Additional Information Sources (web sites about water quality):**

- EPA Office of Water - [www.epa.gov/ow](http://www.epa.gov/ow)
- Georgia Department of Natural Resources - [www.gadnr.org](http://www.gadnr.org)
- American Water Works Association - [www.awwa.org](http://www.awwa.org)