# 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, 2013 and December 31, 2013*

**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, City of Fayetteville 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 | 17,944,519 | 0.6% |
| Fayetteville | 120,430 | 0.0% |
| Clayton County | 0 | 0.0% |
| Well (1) | 21,657,500 | 0.8% |
| Water Plants (2) | 2,839,721,000 | 98.6% |
| Total | 2,879,443,449 | 100.0% |

*Copies of the City of Atlanta, City of Fayetteville 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).

***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 Atlanta Regional Commission prepared a Source Water Assessment, an 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.

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 several 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.

### 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 |
|---|---|---|---|---|---|---|---|
| **INORGANIC CONTAMINANTS** | | | | | | | |
| Fluoride (mg/L) (a) | Daily 2013 | 4 | 4 | 0.86 | 0.4 – 1.3 | Water additive that promotes strong teeth | NO |
| Lead (ppb) (b)<br>*Water System*<br>*Brooks* | 2013 | AL = 15 | zero | <br>2.5<br>2.5 | 0 sample sites above AL | Corrosion of household plumbing systems | NO |
| Copper (mg/L) (b)<br>*Water System*<br>*Brooks* | 2013 | AL = 1.3 | 1.3 | <br>0.19<br>0.06 | 0 sample sites above AL | Corrosion of household plumbing systems | NO |
| Nitrate (mg/L) | Annually 2013 | 10 | 10 | 0.82 | n/d - 0.82 | Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits | NO |
| **DISINFECTION BY-PRODUCTS, BY-PRODUCT PRECURSORS, AND DISINFECTANT RESIDUALS** | | | | | | | |
| Total Trihalomethanes (TTHMs) (ppb) (c)<br>TTHM Site 501 (ppb)<br>TTHM Site 504 (ppb) | Quarterly 2013 | 80 | n/a | 120.9 (highest LRAA)<br>120.9<br>91.0 | 41.5 – 136.2<br>93.6 – 136.2<br>79.3 – 100.0 | By-product of drinking water chlorination | YES |
| Haloacetic Acids (HAAs) (ppb) (c) | Quarterly 2013 | 60 | n/a | 65.9 (highest LRAA at site 504) | 21.0 – 126.0 | By-product of drinking water chlorination | YES |
| Total Organic Carbon (TOC) (d) | Monthly 2013 | TT ≥ 1 | n/a | 0.98 | 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 2013 | 1.0 | 0.8 | 0.16 | 0.01 - 0.27 | By-product of drinking water chlorination | NO |
| Chlorine, free (mg/L) | Daily 2013 | 4 | 4 | 1.36 | 0.20 - 2.30 | Drinking water disinfectant | NO |
| Chlorine Dioxide (ppb) | Daily 2013 | 800 | 800 | 30 | 0 – 180 | Drinking water disinfectant | NO |
| **MICROBIOLOGICAL CONTAMINANTS AND TURBIDITY** | | | | | | | |
| Total Coliform Bacteria (e) | Daily 2013 | 5.0% | zero | 1.3% | n/a | Naturally present in the environment | NO |
| Turbidity (f) | Daily 2013 | TT = 1 NTU maximum<br>TT = 95% of monthly samples ≤ 0.3 NTU | n/a | 0.33<br>98% | n/a | Soil Runoff | NO |

**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 localized 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.

| Substance | Sample Frequency | Reporting Level (MRL) | Level Found | Range Minimum | Range Maximum | Likely Sources |
|---|---|---|---|---|---|---|
| **UNREGULATED CONTAMINANTS*** | | | | | | |
| Chlorate (ppb) | Quarterly 2013 | 20 | 191 | 93 | 280 | Disinfection byproduct and used in production of chlorine dioxide |
| Total Chromium (ppb) | Quarterly 2013 | 0.2 | 0.33 | 0.26 | 0.48 | See chromium-6 for use or source information. |
| Chromium-6 (ppb) | Quarterly 2013 | 0.03 | 0.16 | 0.08 | 0.28 | Naturally-occurring element |
| Strontium (ppb) | Quarterly 2013 | 0.3 | 37 | 28 | 47 | Naturally-occurring element |
| Vanadium (ppb) | Quarterly 2013 | 0.2 | 1.0 | 0.41 | 7.4 | Naturally-occurring elemental metal |

*Unregulated contaminants are those for which EPA has not established drinking water standards. Unregulated contaminant monitoring helps EPA to determine where certain contaminants occur and whether the Agency should consider regulating those contaminants in the future.

## *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.

**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.

**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.

**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.

**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.

### DATA TABLE KEY: UNIT DESCRIPTIONS

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

### VIOLATIONS AND EXCEEDANCES

The Water System did not meet the Total Organic Carbon (TOC) removal ratio for the third quarter and received notices of violations for exceeding the LRAA for trihalomethanes during 2013. Notices dated June 17 and September 16 were mailed to all customers as required for each Notice of Violation received.

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 trihalomethanes and haloacetic acids 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.

We told you in the notices there is nothing you need to do at this time. These violations 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. The Water System conducted studies and 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.

**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).**

## ABOUT FAYETTE COUNTY WATER SYSTEM

The Fayette County Water System (ID# 1130001) is operated as an enterprise fund by the Fayette County Board of Commissioners. The revenue generated by the Water System from water payments and meter charges is used to operate the Water System to ensure safe and adequate drinking water for Fayette County customers. The Board has appointed a Water Committee to review and make recommendations concerning the Water System. The Water Committee meets on the 2nd and 4th Wednesday of each month at 8:00 a.m. at 245 McDonough Road, Fayetteville. Approval of the budget, projects and operations of the Water System is by the Board of Commissioners at their regularly scheduled meetings, which are on the 2nd and 4th Thursday of each month at 7:00 p.m.

The Water System currently has 61 employees managed by the Director and a staff of assistants. State certified operators and lab analysts perform a variety of laboratory tests to ensure the safety of our drinking water. The Distribution team maintains and repairs a variety of different size water lines in the County. They also install new services and run water line extensions as necessary. The administrative office handles all customer related issues such as payment collection, processing and mailing bills to our more than 28,100 customers, answering customer questions and complaints and tracking construction projects. Meter reading and billing are done monthly. All residential meters are read by our drive-by radio read system.

The Water System purchased water from the City of Atlanta and Fayetteville in 2013. Copies of their Water Quality Reports will be available at the Water System office for public information. The Water System's largest customer is the City of Fayetteville, which purchased over 7.5% of our total production.

The Water System operates three reservoirs and a historic site that are open to the public. Lake Kedron and Lake McIntosh are in Peachtree City, Lake Horton is in south Fayette County and Starr's Millpond is on Highway 85 South of Fayetteville. Sailboats, row boats and canoes are allowed in Lake Kedron, Lake McIntosh and Lake Horton. Only electric motors are allowed. Georgia fishing license and boat registration information are available at http://www.georgiawildlife.com/boating http://www.georgiawildlife.com/fishing. Docks and boat ramps are available at Lake Kedron, Lake McIntosh and Lake Horton. There are scenic walking trails at Lake Horton and Lake McIntosh. The parks at Lake Horton and Lake McIntosh provide the only public access to the lakes.

The Water System is preparing to meet future demand. Production was increased at the South Fayette Water Treatment Plant to 9.3 million gallons per day. A site was chosen to erect a one million gallon water tank in northwest Fayette County. Lake McIntosh, our new 650 acre reservoir on Line Creek, was at full pool in February, 2013. The lake will yield 10.4 million gallons of water per day for treatment at the Crosstown Water Plant.

The Georgia Water Stewardship Act went into effect statewide on June 2, 2010. It allows daily outdoor watering for purposes of planting, growing, managing, or maintaining ground cover, trees, shrubs, or other plants only between the hours of 4 p.m. and 10 a.m. by anyone whose water is supplied by a water system permitted by the Environmental Protection Division. To learn more about water conservation and answers to frequently asked questions please go to the EPD web site at www.georgiaepd.com.

To encourage customers to replace older inefficient toilets the Fayette County Water System is participating in the Metropolitan North Georgia Water Planning District Residential Toilet Rebate Program. Rebates are limited and will be issued on a first-come, first serve basis. To view rebate information and find out if you are eligible, go to www.northgeorgiawater.org/toiletrebate. The application for the rebate can be downloaded from this address.

The Water System will schedule tours of both water plants for school groups and others. Additional information about the Water System is available on the Fayette County website at www.fayettecountyga.gov. If you have questions about this Water Quality Report, you can call Lee Pope at 770-320-6016 or Customer Service at 770-461-1146, option 5.

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

- **EPA Office of Water - www.epa.gov/ow**
- **Georgia Department of Natural Resources - www.gadnr.org**
- **American Water Works Association - www.awwa.org**