

March 2004

A Water Quality Report presented to the Citizens of Gwinnett County
by Gwinnett County Department of Public Utilities

Notes About Contaminants

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, can pick up substances resulting from the presence of animal or human activity. Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria which may come from septic systems, agriculture livestock operations, wildlife and sewage treatment plants.

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.

Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil or gas production, mining or farming.

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

In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which provide the same protection for public health.

Contaminants and Health Risks

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 EPA's **Safe Drinking Water Hotline**, 800-426-4791.

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 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 and other microbial contaminants are available from the **Safe Drinking Water Hotline**, 800-426-4791.

For More Information...

For additional information or questions about this report, contact the Gwinnett County Department of Public Utilities Environmental Laboratory at 770-614-2080. Director of Water Production, Neal C. Spivey, may be reached at 770-932-4420. Tours of the Lanier Filter Plant are available for school groups and individuals by calling 770-932-4420.

A Note About Lead

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in your community as a result of materials used in your home's plumbing.

If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. You may also flush your tap water for 30 seconds to two minutes before using it.

Additional information is available from the **Safe Drinking Water Hotline**, 800-426-4791.

What is Cryptosporidium?

Cryptosporidium (Crypto) is a one-celled parasitic protozoan often found in water sources that receive runoff from animal waste. Crypto can infect humans and have severe impacts on certain people, including organ transplant recipients, immunocompromised persons, young children and persons undergoing cancer treatment.

Public Utilities has a monthly sampling and analysis program for Crypto and Giardia, another protozoan often found in water. Samples of both lake water and finished drinking water are analyzed each month. Crypto and Giardia both form cysts when the environment is unfavorable for their survival. During 2003, one (1) sample of Lake Lanier water tested positive for Giardia, measuring 0.38 cysts per liter. All other samples were "none detected" for both Crypto and Giardia. This test program is ongoing.



Lake Lanier Provides Excellent Water Source

Gwinnett County receives its surface water supply from Lake Sidney Lanier located just north of Buford. Our water intake, located in a protected cove three miles from Buford Dam, provides a uniform raw water supply that is low in suspended materials, bacteria, dissolved organics and metals.

Lake Lanier, formed by Buford Dam holding the Chattahoochee and Chestatee Rivers from North Georgia, is a major recreation area in North Georgia. In fact, it is one of the most-visited Corps of Engineers projects in the country, offering opportunities for boating, fishing and other water pastimes. People throughout the region enjoy Lanier and the plentiful recreation opportunities it offers.



Lake Lanier is key in providing water to Georgia, since more than 60% of Georgia's population receives drinking water from the Chattahoochee system. The Lake Lanier watershed comprises more than 1000 square miles in 10 Georgia counties. The watershed contains heavily forested areas and smaller cities. Additionally, agriculture is the primary activity in the



Public Input Opportunities

The Gwinnett County Water and Sewerage Authority, which owns the Public Utilities water and wastewater system, acts as an advisory agency to the Gwinnett County Board of Commissioners. The Water and Sewerage Authority is composed of five members, appointed by each District Commissioner and the Chairman. The Authority meets monthly at the DPU Central Facility. For a schedule of meetings, call 678-376-7160 or visit the County's website at www.gwinnettcounty.com

Additionally, advisory panels meet to publicly discuss pertinent water and wastewater issues. These panels include representatives from different caucuses in Gwinnett County. Advisory panel meetings are held throughout the year and are open to the public. For more information on meeting dates, please call 678-376-7134.

www.gwinnettcounty.com



Shoal Creek Filter Plant

During 2003, construction continued on the Shoal Creek Filter Plant and a new Raw Water Intake and Pump Station on Lake Lanier. Start-up is anticipated in mid-2004.

These facilities will greatly enhance the redundancy and reliability of the water system, as well as increasing system capacity by 50%. The Raw Water Pump Station has the capability to provide water to both treatment plants. The Shoal Creek Filter Plant is a 75 million gallon per day facility, which will use Ozone disinfection and deep-bed, high rate filtration. A new computer system will monitor and help control plant operation.

The Intake facility is particularly interesting in that it involved constructing a 14' diameter tunnel beneath Lake Lanier to position the intake screens. This minimized environmental impacts to the lake. Information about these new facilities is available at www.LANCOOL.com.

Gwinnett Water Facts:

- Gwinnett County citizens and businesses consumed almost 28 billion gallons of water in 2003, an average of 76 million gallons a day.
- Gwinnett maintains more than 3,000 miles of water pipes.
- Gwinnett's water system currently serves approximately 204,500 accounts.

Detected Contaminants Table

Water Source: Lake Lanier Water System # 1350004 Period Covered: 2003

Lead & Copper Monitoring Results	Action Level	MCLG	Water System Results	# of sample sites found above the Action Level	Violation (yes/no)	Source of substance
Copper	1.3 ppm	1.3 ppm	0.191 ppm	0	no	Corrosion of household plumbing systems, erosion of natural deposits.
Lead	15 ppb	0 ppb	9.2 ppb	1	no	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives.

Primary Inorganic Substance	MCL	MCLG	Water System Results	Range of Detections	Violation (yes/no)	Source of substance
Fluoride	4.0 ppm	4.0 ppm	0.95 ppm	0.88-2.53	no	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate/Nitrite	10.0 ppm	10.0 ppm	0.26 ppm	<0.20-0.26	no	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

Volatile Organic Substances Unregulated	MCL	MCLG	Highest Level Detected	Violation (yes/no)	Source of substance
Bromodichloro-methane	none established	none established	1.7 ppb	no	By-product of drinking water chlorination
Chloroform	none established	none established	3.4 ppb	no	By-product of drinking water chlorination
Chlorodibromo-methane	none established	none established	0.7 ppb	no	By-product of drinking water chlorination

Substance	MCL	MCLG	Average	Violation (yes/no)	Range of Detections	Source of substance
Total Trihalomethanes	80 ppb	0.0	26.8 ppb	no	14.4 - 61.9	By-product of drinking water chlorination
Total Haloacetic Acids	60 ppb	0.0	21.5 ppb	no	12.9 - 78.5	By-product of drinking water chlorination

Substance	MCL	MCLG	Highest Monthly % of Positive Samples	Major Sources in Drinking Water
Total Coliform Bacteria	No more than 5% of monthly samples can test positive for coliforms	0.0	0.8	Naturally present in the environment

Turbidity	Units	MCL	MCLG	Highest Value Reported	Lowest % of Samples Meeting Limits	Violation (yes/no)
Source: Soil Runoff	NTU	TT	n/a	0.369	100.0	no

Water System Security

In 2002, Congress charged USEPA with responsibility for seeing that water systems completed Vulnerability Assessments and Emergency Response Plans by March and September 2003. Gwinnett met the deadlines for these requirements.

The Vulnerability Assessment identified the most vulnerable, critical components of the system, and made recommendations for improving security of facilities. The Emergency Response Plan addresses actions to minimize impact of and recovery from an event of sabotage or physical damage.

Security improvements include Closed Circuit Television cameras at critical locations, intrusion alarms, fence improvements, automatic gates, and card-reader systems with automatically locking doors. Additional water quality monitors will be added in the future.

Source Water Assessment Plan (SWAP)

All Community Water Systems in Georgia were required to have a Source Water Assessment Plan (SWAP) completed by December 2003.

Gwinnett County worked with the Georgia Mountains Regional Development Center and other water utilities using Lake Lanier as their water source to complete this plan.

The SWAP identifies potential sources of contamination within the watershed. Water systems are using this information to develop specific contamination scenarios.

Definitions

What are PPM and PPB?..... Simply put, "ppm" means "parts per million" and "ppb" means "parts per billion." PPM corresponds to one penny in \$10,000 or one minute in two years. PPB corresponds to one penny in \$10,000,000 or one minute in 2,000 years.

Maximum Contaminant Level Goal (MCLG)..... The level of a known contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

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 possible using the best available treatment technology.

Maximum Contaminant Level Action Level (MCLAL)..... The concentration of a contaminant, which requires treatment or other action to reduce the level to a MCL that must be followed.

Nominal Turbidity Units (NTU)..... Turbidity is a measure of suspended particles in water. Turbidity is measured by shining a beam of light through water and measuring the angle at which the light is scattered by the suspended material. An instrument called a Turbiditymeter is used for this purpose.

NTU..... A required process intended to reduce the level of a contaminant in drinking water.