

Data From
Jan. 1 - Dec. 31,
2013



2013 CCR

America's Best



Tasting Water

Annual Water Quality Report for Customers of the Macon Water Authority

Consumer Confidence Report reflects MWA dedication to water quality

Water Quality Report details 2013 laboratory data

The number one priority of the Macon Water Authority (MWA) is to assure that consumers have clean, great tasting and affordable drinking water. Nearly everything the Authority does reflects this mission, so consumers can be assured that MWA water is safe to drink. In fact, the MWA is a utility noted for producing the "Best Tasting Drinking Water in North America," as judged by the American Water Works Association in 2009.

The 2013 MWA Consumer Confidence Report (CCR) includes water quality laboratory data that provides the empirical, scientific

evidence that MWA customers are consuming some of the cleanest, safest and highest quality water possible. The laboratory data provided in this report was gathered during the 2013

calendar year, from Jan. 1 – Dec. 31, 2013. Tests to determine MWA water quality are taken continuously at the source for water production (Javors Lucas Lake and the Ocmulgee River), as well as at the Frank C. Amerson, Jr. Water Treatment Facility and within the MWA water distribution system.

The MWA goes above and beyond the minimum for regulatory compliance in so many areas of its operations, but especially in water quality testing. While Georgia EPD requires the utility to conduct 930 tests of water samples per month, the award-winning water quality laboratory at the Amerson Water Treatment Facility conducts nearly 10 times that many – 8,460 tests per month, in fact.

The MWA has posted this 2013 CCR online at <http://www.maconwater.org/ccr.pdf> well ahead of the July 1st due date, and a hard copy of the report is available for customers at the MWA headquarters (790 Second Street).

No matter the document's means of delivery, the MWA Consumer Confidence Report is intended to educate customers about what is in their water and why, as well as how that impacts their drinking water consumption and subsequent public health.

MWA customers should be confident knowing that their drinking water met all required regulatory limits for detected levels of inorganic contaminants, organic substances, micro-biological contaminants, disinfectants, and disinfectant by-products, with no issues of non-compliance during the 2013 calendar year, except for one monitoring violation.

On Jan. 8, 2013, the Macon Water Authority failed to monitor for chlorine dioxide, which is an inorganic substance, and chlorite, which is a disinfection by-product, as the utility normally does every day. This monitoring violation, according to the U.S. Environmental Protection Agency, had unknown, if any, health effects. This incident also was noted in the 2012 Consumer Confidence Report published last year and also available on the MWA website.



What's in my drinking water and why?

MWA has the highest water quality

In order to ensure that MWA tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain potential contaminants in water provided by any public water system.

The detailed data of the contaminants detected in MWA drinking water during the 2013 calendar year are included in the table titled: "Water Quality Data 2013" on (the next) page 2 of this report.

Contaminants tested by the MWA

Contaminants that may be present in source water BEFORE it is treated at the MWA's Frank C. Amerson, Jr. Water Treatment Facility include: **Microbial contaminants**, such as viruses and bacteria that may come from septic tanks or



systems, agricultural livestock, wildlife, and wastewater treatment plants. **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or 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 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, in addition to coming from gas stations, urban storm water runoff, and septic tanks/systems.

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

What's naturally present in water and what's added during the treatment process?

Of the items listed on page 2 in the "Water Quality Data 2013," Chlorine, Chlorine Dioxide, and Fluoride are added during the treatment process and have known health benefits. Nitrate, Total Organic Carbon, Total Coliform, and Turbidity are naturally present in water at some point during the treatment process, but are not harmful at the detected levels. Chlorite, Haloacetic Acids, and Trihalomethanes are by-products of the treatment process, but are not harmful at the detected levels. Finally, copper and lead are not added during the treatment process, but result primarily from plumbing systems and are not harmful at levels detected by the MWA.

Water Quality Data 2013

SUBSTANCES	UNITS	MCL	MCLG	HIGHEST AMOUNT	RANGE	VIOLATION	TYPICAL SOURCES IN DRINKING WATER
INORGANIC							
Chlorine	ppm	MRDL=4	MRDLG=4	1.50	1.0 – 1.50	No	Water additive used to control microbes.
Chlorine Dioxide	ppb	MRDL=800	MRDLG=800	0.73	0.01 – 0.73	No	Water additive used to control microbes.
Fluoride	ppm	4	4	1.28	0.62 – 1.28	No	Water additive that promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories.
Nitrate	ppm	10	10	0.47	N/A	No	Runoff from fertilizer use; leaching from septic tank sewage; erosion of natural deposits.
ORGANIC							
Total Organic Carbon	Removal Ratio RAA	TT ≥ 1	n/a	1.55	1.11 – 1.55	No	Naturally present in the environment.
DISINFECTION BY-PRODUCTS							
Chlorite	ppm	1	0.8	0.30	0.01 – 0.30	No	By-product of drinking water disinfection.
Haloacetic Acids (HAAs)	ppb	60	n/a	32	6 – 32	No	By-product of drinking water disinfection.
Total Trihalomethanes (TTHMs)	ppb	80	n/a	70	28 – 70	No	By-product of drinking water disinfection.
MICROBIOLOGICAL							
Total Coliform	% of monthly samples	5	0	3	0 – 3	No	Naturally present in the environment, as well as pipe biofilms.
Turbidity	NTU	TT	n/a	0.24	0.05 – 0.24	No	Soil runoff.
COPPER AND LEAD SAMPLED AT CUSTOMER TAPS IN 2011							
Copper	ppm	AL = 1.3	1.3	The 90th percentile = 0.17 There were no samples above		No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead	ppb	AL = 15	0	The 90th percentile = 2.5 There were no samples above		No	Internal corrosion of household plumbing systems; erosion of natural deposits.

This table lists drinking water substances detected at the source, at MWA's treatment plant, or within MWA's distribution system in 2013. In September of 2011, the MWA completed its Lead and Copper testing, which is required to be conducted every three years. All samples met the 90th percentile, as required by the U.S. Environmental Protection Agency.

Required Consumer Confidence Report (CCR) Statement Addressing 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 comes primarily from materials and components associated with service lines and home plumbing. The Macon Water Authority 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 (1-800-426-4791), or at <http://www.epa.gov/safewater/lead>."

HOW TO READ THE REPORT

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. For lead and copper, the reading is the 90th percentile value from the most recent sampling.

≥: greater than or equal to.

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.

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.

n/a: not applicable.

Nephelometric Turbidity Units (NTUs): Used in the measurement of turbidity. Turbidity is a measure of the cloudiness of the water. The MWA monitors turbidity because it is a good indicator of the effectiveness of our filtration system.

parts per billion (ppb): A measurement concentration that is equivalent to micrograms per liter (Ug/L).

parts per million (ppm): A measurement concentration that is equivalent to milligrams per liter (mg/L).

Percent (%) of monthly samples: The percent of samples taken during a month that had the substance present. For total coliforms, the MWA took a minimum of 125 samples per month in 2013.

Removal Ratio RAA: The amount removed in the process expressed as a ratio. The MWA samples monthly the raw water and treated water for total organic carbon, and a removal ratio is then calculated. To meet the requirements, the MWA then calculates on a quarterly basis the RAA, which is the running annual average of the removal ratio.

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

An overview of the MWA Drinking Water System

Our Raw Water Source(s) – Javors Lucas Lake and the Ocmulgee River

The raw water used for drinking water production and distribution at the MWA is obtained from two primary sources – the Ocmulgee River and Javors J. Lucas Lake.

Javors Lucas Lake is a 581-acre reservoir, with an estimated storage capacity of 5.8 billion gallons at full pool.

The Authority uses its intake at the Ocmulgee River to supply the reservoir with raw water, supplementing the surface water collected in Javors Lucas Lake from runoff within its watershed. The MWA also can pump raw water directly from the Ocmulgee River into the Authority's Amerson Water Treatment Plant, bypassing storage in the reservoir, if needed.

Our Water Production Plant – The Amerson Water Treatment Plant

The Frank C. Amerson, Jr. Water Treatment Plant produces all of the finished drinking water for MWA customers. Since opening in the summer of 2000, the Amerson Plant has been selected as the state's "Plant of the Year" by the Georgia Association of Water Professionals (GAWP)



Photo by Mark Strozier

on four occasions (years). Its production capacity is 60 million gallons per day (MGD), with the capability to expand to 90 MGD in the future, if necessary.

Our Water Storage/Distribution – 23 tanks, 36.9 million gallons

The MWA drinking water distribution system includes four clear wells located at the Amerson Plant, with 5 million gallons of storage capacity each, as well as 9 elevated and 10 ground storage tanks, with another 16.9 million gallons of capacity. Collectively, these 23 tanks throughout the MWA system can store up to 36.9 million gallons of finished drinking water.

In addition, the MWA distribution system features approximately 1,664 miles of water lines and 8 pumping stations, which carry 22.59 million gallons of finished drinking water, on average each day, to approximately 51,000 households or metered accounts.

The Authority also uses advanced Supervisory Control and Data Acquisition (SCADA) technology to monitor and control drinking water distribution 24 hours a day, seven days per week.

Notice to Persons with Compromised Immune Systems

Some people – such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly citizens and infants – may be more vulnerable to contaminants, such as Cryptosporidium, in drinking water than others. They can be particularly at risk from infections and 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 via the Safe Drinking Water Hotline at 1-800-426-4791 or <http://www.epa.gov/safewater/hotline/index.html>.

MWA Awards and Accolades in 2013

In 2013, the Macon Water Authority (MWA) enjoyed another successful year of industry accolades that recognized outstanding performances by the utility's water professionals, as well as awards for facilities and projects noted for outstanding achievement. Those honors included:

- ◆ The sewer Collection System Gold Award from the Georgia Association of Water Professionals (GAWP) for achieving a score of 95% or higher on its industry audit.
- ◆ The GAWP Public Education event of the year for the Authority's record breaking, volunteer river cleanup – Ocmulgee Alive!
- ◆ The Georgia section of the American Water Works Association (AWWA) Surface Water Safety Plant of the Year Award for the Amerson Water Treatment Facility.
- ◆ The GAWP Platinum Award for the Rocky Creek Water Reclamation Facility, for 15 consecutive years of 100% permit compliance – one of only three wastewater plants in Georgia to achieve such an honor.
- ◆ The GAWP Gold Award for 100% permit compliance at the Lower Poplar Water Reclamation Facility.
- ◆ The Georgia Engineering Alliance (GEA) Engineering Excellence Award for the Lennox-to-Corbin Interceptor Sewer Project.
- ◆ The Georgia section of the Water Environment Federation (WEF) Arthur Sidney Bedell Award for MWA Executive Director and President Tony Rojas, recognizing extraordinary service to the industry association.
- ◆ GAWP Leadership Academy certification for the Authority's Executive Director Tony Rojas and Laboratory Supervisor A.J. Hopkins.

Year in Review: MWA continued its commitment to water quality

The 2013 calendar year featured a number of projects, events, and accolades at the Macon Water Authority (MWA), which continued to reflect the utility's commitment to water quality, watershed protection, drinking water safety, and public education and outreach.



From Fishing to Finances

The Authority provided another year of access to Javors Lucas Lake for public fishing, highlighted by a successful Kids Fishing Derby on June 1, when 256 children participated in the eighth annual event. The annual fishing tournament provides an opportunity for the Authority to educate consumers on how they can help protect water quality by taking care of our natural resources.

During the spring of 2013, the Authority published its first Popular Annual Financial Report, to help consumers learn how the Authority finances and invests in a system that assures consumers enjoy safe, clean drinking water.

Drinking Water Week, Watershed Protection

The Authority hosted an Open House at its Frank C. Amerson, Jr. Water Treatment Plant, to celebrate national Drinking Water Week during the first week in May. As a result, citizens learned the intricacies of the MWA drinking water production process, which provides them with some of the cleanest and safest public drinking water possible.

In June 2013, the MWA Board of Directors passed the utility's first Watershed Protection Plan, to assess water quality, identify potential sources of water quality impairment or contaminants, and recommend specific strategies for watershed management, monitoring and protection. The data collected during the assessment revealed the water quality in local watersheds is "generally healthy" or acceptable, as are the current efforts in watershed protection.

An eye on the Ocmulgee River

One of the ways the Authority protects its watersheds and source water is through Ocmulgee Alive! This annual river cleanup is affiliated with the statewide Rivers Alive campaign, which is intended to promote awareness of and involvement in the protection of Georgia's water resources.

In 2013, the MWA expanded its role as an advocate for water quality by hosting its first Adopt-A-Stream workshops, which trained approximately 20 participants on how to evaluate local water quality by using chemical and bacterial monitoring methods to determine a stream's health.

Capital Projects, Economic Development

This past year also featured a number of capital projects and system improvements, which will enhance the Authority's ability to deliver safe, reliable drinking water production and sewer treatment services to its customers. Two major sewer system repair and rehabilitation projects totaled more than \$5 million worth of reinvestment in critical MWA infrastructure.

Finally, last year the Authority welcomed a dozen economic development project managers for a Developers' Day, which included a tour of local facilities, concluding with the Amerson Water Treatment Plant. In addition, the Authority has implemented a marketing communications campaign, which highlights MWA water quality and capacity available for prospective commercial and industrial customers.



Opportunities for public involvement

The quest to assure our drinking water is clean and safe is a joint effort between the Macon Water Authority (MWA) and its consumers. Thus, the Authority provides opportunities for public involvement in the protection of drinking water resources.

In 2013, the MWA seized the opportunity to be a premier sponsor of the Amerson River Park Environmental Education Program, which is a partnership of the Authority and NewTown Macon, the Museum of Arts and Sciences, the Bibb County Board of Education, and the Dorothy V. and N. Logan Lewis Foundation.

Through this effort, the Authority is hosting local middle school students for annual field trips at the River Park, featuring lessons in source water and watershed protection, the value of tap water, and the importance of properly disposing of fats, oils, and grease (FOG).

This Environmental Education Program is an extension of the Authority's current efforts in FOG education for its customers, with an ultimate goal to reduce the number of sewer spills and overflows that can harm drinking water resources.

The public's involvement in environmental

protection also is inherent in Macon's annual river cleanup – Ocmulgee Alive! The Authority joins forces with partners and participating organizations each year to encourage the public to aid in the efforts to keep the Ocmulgee River clean, especially because it serves as a primary source for drinking water production and outdoor recreation in the community.

As for the combination of outdoor recreation and environmental education, the MWA hosts an annual Kids Fishing Derby, which promotes the sport of fishing while raising awareness of the importance of protecting fish and wildlife habitat.

The Authority's celebration of national Drinking Water Week features an annual Open House at the Amerson Water Treatment Facility, which is intended to increase the public's understanding of the treatment processes and regulatory oversight that assure safe drinking water production at the Authority's award-winning water treatment facility.

For more information on public involvement at the MWA, contact Jocelyn Hunt, Assistant Manager of Water Operations, at 478-464-5651 or jhunt@maconwater.org.



Questions concerning any of the details of this Consumer Confidence Report, or the MWA Source Water Assessment Plan, should be directed to Gary McCoy, MWA Director of Water, at 478-464-5653 or gmcocoy@maconwater.org.