

**Annual
Water
Quality
Report
Reporting Year 2018**



**Presented By
Gadsden Water Works & Sewer Board
PWS ID#: AL0000577**

Meeting the Challenge

The Water Works & Sewer Board of the City of Gadsden (GWWSB) is proud, once again, to present our annual water quality report covering all testing performed between January 1 and December 31, 2018. Over the years we have dedicated ourselves to producing drinking water that meets all state and federal standards, continually striving to adopt new methods for delivering the best quality drinking water to our customers. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education, while continuing to serve the needs of all our water customers. Please share with us your thoughts or concerns about the information in this report. After all, well-informed customers are our closest allies.

Conclusion of Source Water Assessment

A susceptibility analysis identified several contaminant sources that potentially could affect the quality of the source water, as well as affect the operation of the C. B. Collier Water Treatment Plant. To help address these concerns, the GWWSB developed a Water Supply Contingency Plan. In addition, the GWWSB monitors numerous sampling points along Neely Henry Lake each month. These data results are used to track the water quality in the lake/river and to identify contaminant sources. These data will continue to be gathered and used for monitoring contamination to the lake/river. The GWWSB realizes that protection of its water resources is vital to providing high-quality drinking water to our community. In an effort to protect our drinking water source, the GWWSB is an active member of the Coosa River Basin Clean Water Partnership, Keep Etowah Beautiful, and several other environmental groups dedicated to protecting and restoring water quality and biological integrity in the Coosa River Basin.

Source Water Description

The Gadsden Water Works' customers are fortunate because we enjoy an abundant water supply from the Coosa River. Our water source comes from the Middle Coosa Basin. This watershed contains 23 rivers and

streams, as well as 420 lakes and ponds, for a total of 31,285.7 acres. There are approximately 3,359.6 total river miles within the basin, which is fed from the Upper Coosa Basin and multiple aquifers, including Pennsylvanian aquifers, Valley and Ridge aquifers, and Valley and Ridge carbonate-rock aquifers. All of the sources provided an average flow of approximately 5.5 billion gallons per day through the Gadsden area in 2018. From this source, our water treatment facilities can treat and supply up to 24 million gallons of clean drinking water every day for the City of Gadsden and surrounding water distribution systems. To learn more about our watershed, go to http://cfpub.epa.gov/surf/huc.cfm?huc_code=03150106.

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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.

Lead in Home Plumbing

As required by federal and state agencies, the GWWSB has an outside laboratory monitor samples that are collected within our distribution system for lead. Lead levels in our system have historically been well below the minimum standard. Even though test results show we do not have lead problems within our distribution system, the following information about lead is required as a part of this report: 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 GWWSB is responsible for providing high-quality drinking water, however, we cannot control the

variety of materials used in plumbing components. When water has been sitting stagnant for several hours, you can minimize the potential for lead exposure by flushing, or running, your tap 30 seconds to two (2) minutes before using the 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 www.epa.gov/safewater/lead.

Gadsden Water Works Treatment Facilities

C. B. Collier Water Treatment Plant (WTP)

24 MGD Conventional water treatment plant, with the largest MIEX® Pretreatment plant in North America, and Granular Activated Carbon (GAC).

Gadsden West River WWTP

11.320 MGD Trickling Filter Wastewater Treatment Plant

Gadsden East River WWTP

6.184 MGD Trickling Filter Wastewater Treatment Plant

Substances That Could Be in Water

In order to ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. All 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 it can pick up substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities. For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Residential Meter Replacement

The GWWSB would like to make you aware that a scheduled residential meter change out/replacement will occur during the next twelve (12) months. If you have any questions, please call our office.

Blue Water?

Water has a natural blue color that becomes more noticeable in ambient lighting. The deeper the water, the more noticeable the blue tint becomes.

Community Participation

If interested, you are invited to participate in our public forum/Board meeting. We meet the third Monday of each month, beginning at 4 p.m. in the Robert W. Echols, Jr. Executive Boardroom at the Administration Building, 515 Albert Rains Blvd., Gadsden, AL.

Questions?

For more information about this report, or for any questions relating to your drinking water, please contact Chad Hare, General Manager, by email at chare@gadsdenwater.org, or by phone at (256) 543-2884, ext. 222.

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

Based on a study conducted by ADEM with the approval of the EPA, a statewide waiver for the monitoring of asbestos and dioxin was issued; thus, monitoring for these contaminants was not required.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2018	[4]	[4]	1.38	0.22 - 2.20	No	Water additive used to control microbes
Fecal coliform and E. coli (# positive samples)	2018	0	0	0	NA	No	Human and animal fecal waste
Fluoride (ppm)	2018	4	4	0.79	0.28 - 1.46	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum plants
Haloacetic Acids [HAAs] (ppb)	2018	60	NA	9.83	5.29 - 16.72	No	By-product of drinking water disinfection
Nitrate (ppm)	2018	10	10	0.28	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2018	80	NA	23.16	7.10 - 43.70	No	By-product of drinking water disinfection
Total Coliform Bacteria (% positive samples)	2018	5% of monthly samples are positive	0	0	NA	No	Naturally present in the environment
Total Organic Carbon (ppm)	2018	TT	NA	0.95	0.36 - 1.10	No	Naturally present in the environment
Turbidity (NTU)	2018	TT	NA	0.050	0.028 - 0.096	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2018	TT	NA	100	NA	No	Soil runoff

*Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90 th PERCENTILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCES
Copper (ppm)	2018	1.3	1.3	0.034	0/30	No	Corrosion of Household Plumbing Systems; Erosion of natural deposits
Lead (ppb)	2018	15	0	<5	0/30	No	Corrosion of Household Plumbing Systems; Erosion of natural deposits
SECONDARY SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2018	250	NA	28.4	NA	No	Runoff/leaching from natural deposits
Color (Units)	2018	15	NA	3.77	<3.0 - 13.0	No	Naturally occurring organic materials
Iron (ppb)	2018	300	NA	10	<10 - 30	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2018	50	NA	7	<5.0 - 22	No	Leaching from natural deposits
pH (Units)	2018	6.5-8.5	NA	7.52	7.0 - 8.3	No	Naturally occurring
Sulfate (ppm)	2018	250	NA	1.54	NA	No	Runoff/leaching from natural deposits; Industrial wastes
Total Dissolved Solids [TDS] (ppm)	2018	500	NA	96	NA	No	Runoff/leaching from natural deposits
Zinc (ppm)	2018	5	NA	0.106	NA	No	Runoff/leaching from natural deposits; Industrial wastes
UNREGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE (LOW - HIGH)	TYPICAL SOURCE			
<u>Bromodichloromethane (ppb)</u>	2018	6.27	3.10 - 10.20	By-product of drinking water disinfection			
<u>Chlorodibromomethane (ppb)</u>	2018	2.48	1.30 - 3.90	By-product of drinking water disinfection			
Chloroform (ppb)	2018	14.27	1.00 - 29.60	By-product of drinking water disinfection			
Sodium (ppm)	2018	17.8	NA	Naturally Occurring			
Sulfate (ppm)	2018	1.54	NA	Naturally Occurring			

PFC Testing

As of the printing of this Water Quality Report, the GWWSB, along with the Alabama Department of Environmental Management (ADEM) has conducted weekly sampling for concentrations of perfluorinated compounds (PFCs), two (2) specifically, perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), which the EPA established a LIFETIME HEALTH ADVISORY of seventy parts per trillion (70 ppt) of any combination of the two (2). Additional treatment, a granular activated carbon (GAC) system was brought on line in December 2018 in an effort to reduce levels of these compounds. As we continue to monitor our water for concentrations of these compounds, PFC information, along with all lab reports and every sample result can be accessed via our website at www.gadsdenwater.org.

Definitions

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

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.

MRDL (Maximum Residual Disinfectant Level): 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.

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 disinfectants to control microbial contaminants.

NA: Not applicable

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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

The following substances were tested for in 2015 and not detected in our drinking water:

1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethylene, 1,2,4-Trichlorobenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, Benzene, Carbon Tetrachloride, Cis-1,2-Dichloroethylene, Ethylbenzene, Methylene Chloride (Dichloromethane), Monochlorobenzene, o-Dichlorobenzene, p-Dichlorobenzene, Styrene, TCE (Trichloroethylene), Tetrachloroethylene, Toluene, Trans-1,2-Dichloroethylene, Vinyl Chloride, Xylenes, 1,1-Dichloropropene, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, 1,1-Dichloroethane, 1,2,3-Trichlorobenzene, 1,2,3-Trichloropropane, 1,2,4-Trimethylbenzene, 1,3-Dichloropropane, 1,3-Dichloropropene, 1,3,5-Trimethylbenzene, 2,2-Dichloropropane, Bromobenzene, Bromochloromethane, Bromoform, Bromomethane, Chloroethane, Chloromethane, Dibromomethane, Dichlorodifluoromethane, Hexachlorobutadiene, Isopropylbenzene, M-Dichlorobenzene, Methyl-Tertiary Butyl Ether (MTBE), N-Butylbenzene, Naphthalene, N-Propylbenzene, o-Chlorotoluene, p-Chlorotoluene, p-Isopropyltoluene, Sec-Butylbenzene, Tert-Butylbenzene, Trichlorofluoromethane, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cyanide, Lead, Mercury, Nickel, Nitrite, Selenium, Thallium, Foaming Agents (Surfactants), Silver, Monobromoacetic Acid, Regulated Synthetic Organic Chemicals (SOCs)

Anyone interested in the detection limits and/or analytical information in general should contact Guy Posey at (256) 543-2884, ext. 212, or send an email message to gposey@gadsdenwater.org

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels, and an acceptable taste and smell. During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use and avoid using hot water, to prevent sediment accumulation in your hot water tank. Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

Things You Can Do to Help

Make sure the plumbing system in your home or business is in good repair and proper working order. Lead pipes and lead solder should not be used. The lead from these can leach into your home. Have all leaks repaired to prevent wasting of water.

City code requires that all customers have a check valve on their water service line to prevent water in your system from running back into the public system. Section 606.1 of the International Plumbing Code requires each dwelling or business have a customer-owned water isolation valve.

City Ordinance 16-45 requires that all customers connected to the sanitary sewer system have a backup valve, or backflow preventer, on their sewer lateral to prevent sewage from backing up into their residence in the event of a main line surcharge or blockage. The Water Works and Sewer Board of the City of Gadsden assumes no liability for any damage which may occur due to the absence or malfunction of this valve.

What Causes the Pink Stain on Bathroom Fixtures?

The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, toothbrush holders, and on pets' water bowls is caused by the growth of the bacterium *Serratia marcesens*. *Serratia* is commonly isolated from soil, water, plants, insects, and vertebrates (including man). The bacteria can be introduced into the house through any of the above mentioned sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive. The best solution to this problem is to continually clean and dry the involved surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help to eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence. *Serratia* will not survive in chlorinated drinking water.

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