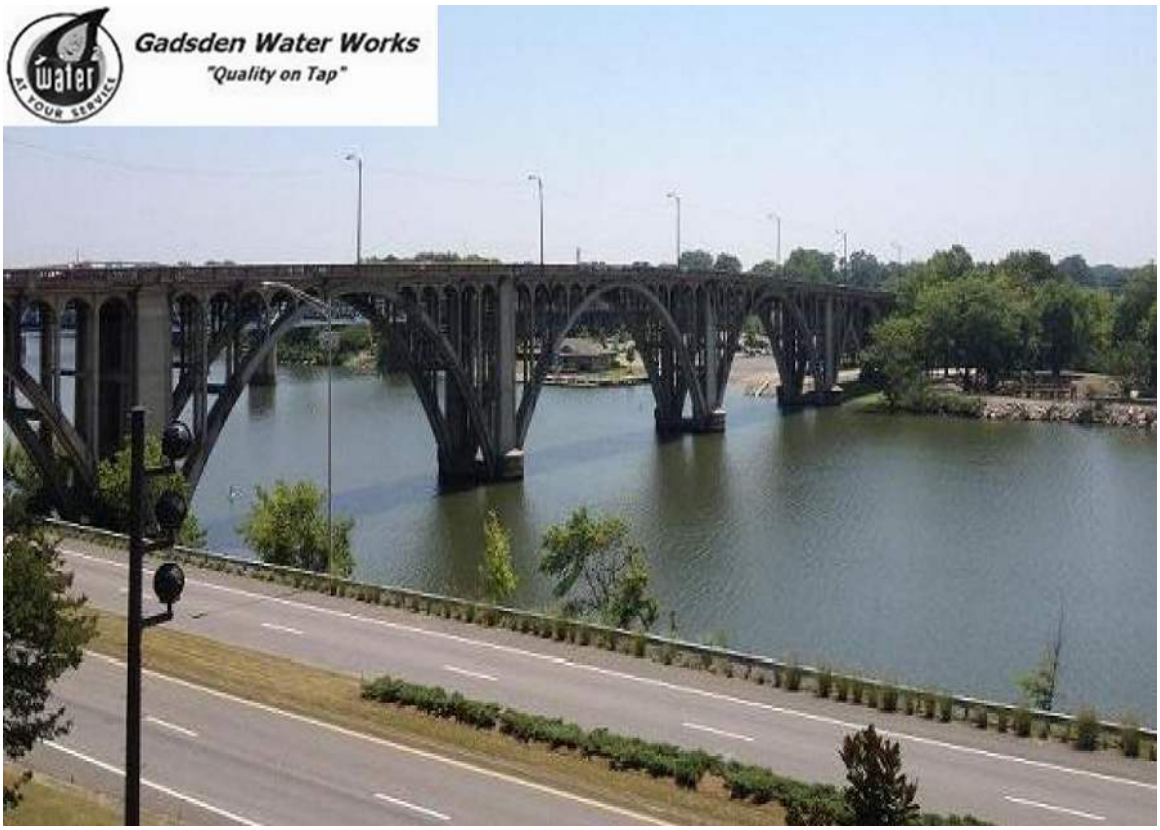
Annual
Water
Quality
Report
Reporting Year 2014



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

Meeting the Challenge

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2014. Over the years we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best quality drinking water to you. 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 users. Please share with us your thoughts or concerns about the information in this report. After all, well informed customers are our best allies.

Conclusion of Source Water Assessment

The 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 its Contingency Plan. In addition, the GWWSB monitors numerous sampling points around the lake each month. These data are used to track the water quality in the lake and to identify contaminant sources. These data will continue to be gathered and used for monitoring contamination to the lake. The GWWSB realizes that protection of its water resources is an important part of 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, a group 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 Basin called the Middle Coosa. This watershed contains 23 rivers and streams. There are 420 lakes in the watershed, for a total of 31,285.7 acres of surface area. There are approximately 3,359.6 total river miles in this basin. The basin 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 provide approximately 5,300 cubic feet per second (cfs) average flow through the Gadsden area. From this source, our water treatment facilities provide 15 to 20 million gallons of clean drinking water every day for the City of Gadsden and surrounding water distribution systems. To learn more about our watershed on the Internet, 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

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. We are responsible for providing high-quality drinking water, but we 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 thirty (30) seconds to two (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 www.epa.gov/safewater/lead.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, according to the NRDC study, about twenty-five (25) percent of bottled water is actually just bottled tap water (forty (40) percent, according to government estimates). The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Furthermore, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States. People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to $1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water. For a detailed discussion on the

NRDC study results, check out their Web site at *www.nrdc.org/water/drinking/bw/exesum.asp*.

Substances That Could Be in Water

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.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the third Monday of each month beginning at 4 p.m. in the 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 call Chad Hare, General Manager, 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)	2014	[4]	[4]	2.20	0.20 - 2.20	No	Water additive used to control microbes
Fecal coliform and E. coli (# positive samples)	2014	0	0	0	NA	No	Human and animal fecal waste
Fluoride (ppm)	2014	4	4	0.65	0.09 - 1.14	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] (ppb)	2014	60	NA	9.84	2.37 - 19.84	No	By-product of drinking water disinfection
Nitrate (ppm)	2014	10	10	0.22	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2014	80	NA	22.16	7.87 - 45.37	No	By-product of drinking water disinfection
Total Coliform Bacteria (% positive samples)	2014	5% of monthly samples are positive	0	0	NA	No	Naturally present in the environment
Total Organic Carbon (ppm)	2014	TT	NA	0.92	0.23 - 1.39	No	Naturally present in the environment
Turbidity[1] (NTU)	2014	TT	NA	0.045	0.010 - 0.194	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2014	TT	NA	100	NA	No	Soil runoff

[1], 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 (90th%tile)	Sites Above AL/Total Sites	Violations	Typical Source
Copper (ppm)	2012	1.3	1.3		0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2012	15	0	14	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

Tap water samples were collected from 30 sample sites throughout the community for lead & copper analyses.

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2014	250	NA	22	NA	No	Runoff/leaching from natural deposits
Color (Units)	2014	15	NA	3.8	3.00 - 8.00	No	Naturally occurring organic materials
Iron (ppb)	2014	300	NA	0.024	0.01 - 0.21	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2014	50	NA	0.009	0.004 - 0.049	No	Leaching from natural deposits
pH (Units)	2014	6.5–8.5	NA	7.56	7.18 - 8.10	No	Naturally occurring
Sulfate (ppm)	2014	250	NA	10.3	NA	No	Runoff/leaching from natural deposits; Industrial wastes
Total Dissolved Solids [TDS] (ppm)	2014	500	NA	104	NA	No	Runoff/leaching from natural deposits
Zinc (ppm)	2014	5	NA	0.102	NA	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromodichloromethane (ppb)	2014	7.19	2.59– 13.70	By-product of drinking water disinfection
Chlorodibromomethane (ppb)	2014	4.64	1.66 - 8.61	By-product of drinking water disinfection
Chloroform (ppb)	2014	10.06	3.62 - 21.70	By-product of drinking water disinfection
Sodium (ppm)	2014	12.2	NA	Naturally occurring
Sulfate (ppm)	2014	10.3	NA	Naturally occurring

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 2014 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, Trichlorfluoromethane, 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.

Naturally Occurring Bacteria

The simple fact is bacteria and other microorganisms inhabit our world. They can be found all around us in our food, on our skin, in our bodies, and in the air, soil, and water. Some are harmful to us and some are not. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern because it indicates that the water may be contaminated with other organisms that can cause disease. Throughout the year, we tested many water samples for coliform bacteria. In that time, none of the samples came back positive for the bacteria. Federal regulations now require that public water that tests positive for coliform bacteria must be further analyzed for fecal coliform bacteria. Fecal coliform are present only in human and animal waste. Because these bacteria can cause illness, it is unacceptable for fecal

coliform to be present in water at any concentration. Our tests indicate no fecal coliform is present in our water.

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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