Determining the Health Effects of Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. However, the presence of contaminants does not necessarily indicate that water poses a health risk.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, as well as the elderly and infants, can be particularly at risk for infections. These people should seek advice from their health care providers.

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 City of Valdosta 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.

The sources of drinking water (both bottled water and tap water) include aquifers, 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, radioactive material--and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water before we treat it include the following:

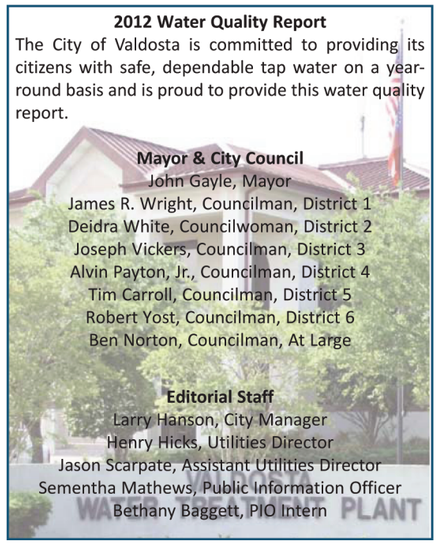
- ✔ Microbial contaminants, such as viruses and bacteria which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- ✔ Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- ✔ Pesticide 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 byproducts 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 the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Citizens may receive more information about contaminants and potential health effects by calling the EPA hotline at (800) 426-4791 or by visiting www.epa.gov/safewater.

2012 Water Quality Report

The City of Valdosta is committed to providing its citizens with safe, dependable tap water on a year-round basis and is proud to provide this water quality report.



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2012 Water Quality Report

Assistant Superintendent Jason Barnes and Superintendent Craig Dozier pose in front of Valdosta's Water Treatment Plant on Guest Road, which was recently named 2013 Water Treatment Plant of the Year by the Georgia Association of Water Professionals (GAWP).

City of Valdosta

Water System I.D. No 1850002

Providing Safe Water

During calendar year 2012, the City of Valdosta Utilities Department provided safe, clean, good-tasting water for all its customers. The purpose of this Water Quality Report is to inform customers about where their water is obtained, how it is treated and how it compares to the standards set by the regulatory agencies.

Test results for water samples collected and analyzed are provided in the Water Quality Data Table, located on page 3 in this report. The data table provides information only for those items that are regulated by the Environmental Protection Agency (EPA) and whose presence was detected in representative system samples. For example, the dental profession recommends that fluoride levels of about 1.00 ppm (mg/l) are good for dental health and the city's Water Treatment Plant adds fluoride to achieve the recommended level as shown in the table. However, EPA regulates fluoride and requires that the concentration of fluoride in drinking water not exceed 4.0 ppm. The list of parameters and their concentration level in the table is not an indication of a problem unless a violation is noted. The city analyzes hundreds of samples for many parameters, some hourly, some daily, and others on a quarterly basis. These samples are collected throughout the system as a part of the quality control of the treatment process. Ground water will always contain trace amounts of dissolved limestone or calcium, as well as iron and other elements. The city's finished water contains some sodium, phosphates, fluoride and chlorine that have been added to improve the water quality.

This report also includes required health effects information on page 4 regarding the use of water.

During the year 2007, the water treatment plant upgrade was completed. This upgrade improved the efficiency of the system as well as the inevitable need to increase system capacity from the 15 MGD to the current capacity of 22.5 MGD. The plant continues to produce a more cost-effective and higher-quality end product.

Continued on page 2

The mission of the City of Valdosta Utilities Department is to be known by our customers for delivery of the highest quality municipal utility services possible through continuous improvement.

Customer Service
Billing Questions
(229) 259-3556

Report a Water Issue
(229) 259-3592

Report a Sewer Issue
(229) 259-3592

Report a Stormwater Issue
(229) 259-3530

Report a Sanitation Issue
(229) 259-3597

After Hours Line
(229) 333-1832

More Information
www.ValdostaCity.com

www.caes.uga.edu/topics/disasters/drought

www.gaepd.org

www.conservewatergeorgia.net

Safe Water *Continued from page 1*

The Utilities Department continues to receive recognition each year for its efforts to provide safe water to its customers, including numerous awards of excellence of operations from the EPA, from the Georgia EPD and from the GAWP. In April 2013, the GAWP recognized Valdosta for the Water Treatment Plant of the Year. Furthermore, the city's rates for water and sewer charges remain lower than more than 100 other systems of all sizes in Georgia, despite the cost of the state-of-the-art treatment facility.

In 2012, the Utilities Department completed the construction of an additional transmission route, which includes about six miles of new pipe. During the years 2012-2013, the city constructed a new elevated storage tank, which will provide adequate storage of high-quality drinking water. Additionally, the Utilities Department will rehabilitate water well number seven and will investigate the feasibility of construcing two new water wells.

For more information, call Director of Utilities Henry Hicks at (229) 259-3592. Staff is always available for public speaking or public education activities within the community regarding water or any other environmental subjects, as well as tours of the water plant.

Valdosta's Water Source

The city has made a significant new investment in providing quality water services for its citizens. The 2-million gallon elevated water storage tank —the biggest in the city's history—is being completed on Fry Street. Once the interior of the tank is complete this spring, the $3.5 million project will replace two older and much smaller storage tanks in the city and will significantly improve water quality and fire protection capabilities in the southern most areas of the city.

The City of Valdosta obtains its water supply from wells that are drilled into an underground layer of porous, water bearing limestone known as the Upper Floridian Aquifer. This limestone layer lies under most of South Georgia and all of Florida. Generally, the aquifer is able to provide a prolific supply of good clean water. In Valdosta, the top of the aquifer lies approximately 200 feet below ground surface and the city's wells are drilled an additional 200 feet into the limestone.

The Upper Floridian Aquifer in the area of Valdosta and Lowndes County is known as a karst aquifer. This is an aquifer that has cracks, underground solution channels, and caverns. These cracks can provide routes that allow contaminants to enter the aquifer, move about in the aquifer and alter the water supply and can cause special challenges for the city's water system. Just north of Valdosta, one of these cracks is located beneath the Withlacoochee River. The underground crack has formed a sinkhole in the streambed of the flowing river. The river loses about 20 cubic feet per second (cfs) during the wet season and 2 cfs during the dry season to the aquifer below the sinkhole. The surface water contains tannic acids and organics from vegetation growing along the river. This mixture of water and organics causes a unique situation for all users of the Upper Floridian Aquifer in this area.

The Valdosta Water Treatment Plant and its well field with seven wells is located a few miles northeast of the city and several miles away from the sinkholes that open into the aquifer. The water in the aquifer moves very slowly through the limestone, and measurements have shown the travel time from the sinkhole to the well field to be as much as 75 years. However, the water from the wells does contain some of the organic material, as well as naturally occurring sulfides, iron and manganese from deposits scattered throughout the aquifer.

The city's Ground Water Withdrawal Permit, which allows the City of Valdosta to take water from the aquifer and distribute it to its customers, was renewed in December 2012. The renewed permit from the EPD of the Department of Natural Resources allows the withdrawal of an annual average daily flow (AADF) of 11.4 MGD and a maximum month average daily flow (MMADF) of 15.3 MGD. At the present time, the city's AADF is 10.253 MGD and MMADF is 13.717 MGD.

Water Quality Data Table 2012

City of Valdosta Water System I.D. No. 1850002: The table below lists all the drinking water contaminants that were detected during the 2012 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 - December 31, 2012. *EPD requires the city to monitor certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old. Samples were also tested for many other contaminants that were not found in the water and therefore are not listed.

TABLE OF DETECTED CONTAMINANTS

INORGANIC CONTAMINANTS						
CONTAMINANT (units)	MCL	MCLG	Result [Range]	Violation?	Sample Date	Major Sources
Fluoride (ppm)	4.0	4.0	.86 [.41 - 1.17]	No	2012	Water additive that promotes strong teeth
LEAD AND COPPER MONITORING						
CONTAMINANT (units)	MCL (AL)*	MCLG	90th Percentile Value/ [Samples Exceeding AL]	Violation?	Sample Date	Major Sources
Copper (ppb)	1300	0.0	320 / [zero]	No	2011	Corrosion of household plumbing systems
Lead (ppb)	15	0.0	0.0 / [zero]	No	2011	
VOLATILE ORGANIC CONTAMINANTS (REGULATED)						
CONTAMINANT (units)	MCL	MCLG	Result [Range]	Violation?	Sample Date	Major Sources
Trihalomethanes (ppb)	80	0.0	64.0 [50.0 - 82.0]	No	2012	By-product of drinking water chlorination
Haloacetic Acids (ppb)	60	0.0	42.0 [24.0 - 54.0]	No	2012	
MICROBIOLGOGICAL CONTAMINANTS						
CONTAMINANT (units)	MCL	MCLG	Highest Monthly % of Positive Samples {Range]	Violation?	Sample Date	Major Sources
Total Coliform Bacteria (TC)	<5% positive samples during a monthly testing period	zero positive samples during a monthly testing period	0% [0.0 - 0 %]	No	2012	Coliform bacteria are naturally present in the environment
FREE CHLORINE RESIDUAL						
CONTAMINANT (units)	MCL (MRDL)*	MCLG (MRDLG)*	Result [Range]	Violation?	Sample Date	Major Sources
Free Chlorine (ppm)	4.0	4.0	1.62 [1.00 - 2.20]	No	2012	Chemical added for disinfection
OTHER CONTAMINANTS: RADIONUCLIDES						
CONTAMINANT (units)	MCL	MCLG	Result	Violation?	Sample Date	Major Source
*Alpha Emitters (pCi/L)	15	15	4 +/-1	No	2012	Erosion of natural deposits

Terms and Definitions for Water Quality Data Table

Contaminant: Any natural or man-made physical, chemical, biological, or radiological substance or matter in water, which is at a level that may have an adverse effect on public health and which is known or anticipated to occur in public water systems.

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. MCLG's 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 microbiological 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 contaminants.

Action Level (AL): The concentration of a contaminant which, when exceeded, triggers treatment or other requirements.

Total Trihalomethanes (TTHM): Four separate compounds (chloroform, dichlorobromomethane, dibromochloromethane and bromoform) that form as a result of disinfection.

Total Coliform Bacteria (TC): A group of bacteria commonly found in the environment. They are indicators of potential contamination of water. Adequate and appropriate disinfection effectively destroys coliform bacteria.

Treatment Technology: A required process intended to reduce the level of a contaminant in drinking water.

Result: Annual average of analysis performed.

Range: The lowest and highest result recorded for year.

ppm: Parts per million or milligrams per liter.

ppb: Parts per billion.

N/D: Not detectable at testing limit.

N/A: Not applicable.

Disinfection: A process that effectively destroys coliform bacteria.

pCi/L: Picocuries per liter (a measure of radiation).