

## **2007 Annual Drinking Water Quality Report City of Gulf Breeze**

*We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality of water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our water source, for this reporting period, is the Fairpoint Regional Utility System (FRUS) supplemented occasionally with water from Emerald Coast Utilities Authority (ECUA).*

*Due to the quality of water received from FRUS, the only treatment done by the City of Gulf Breeze is chlorination to boost disinfection residual in our system.*

*The FDEP conducted a statewide assessment of public drinking water systems in 2004. FRUS and ECUA's were not assessed at the time.*

*If you have any questions about this report or concerning your water utility, please contact Vernon Prather, Director of Public Services, at 934-5110. We encourage our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly schedule City Council meetings. Regular sessions are held the first and third Monday of every month and Executive sessions are Wednesday the week before the regular session. All meetings are at 6:30 p.m. in Gulf Breeze City Hall located at 1070 Shoreline Drive.*

*City of Gulf Breeze water system, FRUS and ECUA routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2007. Data obtained before January 1, 2007, and presented in this report are from the most recent testing done in accordance with the laws, rules, and regulations.*

*In the table below, you may find unfamiliar terms and abbreviations. To help you better understand these terms we've provided the following definitions:*

*Maximum Contaminant Level or 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 or 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.*

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

*Picocurie per liter (pCi/L) - measure of the radioactivity in water.*

*"ND" means not detected and indicates that the substance was not found by laboratory analysis.*

*Parts per million (ppm) or Milligrams per liter (mg/l) – one part by weight of analyte to 1 million parts by weight of the water sample.*

*Parts per billion (ppb) or Micrograms per liter (µg/l) – one part by weight of analyte to 1 billion parts by weight of the water sample.*

*Maximum residual disinfectant level or 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 or 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.*

*ECUA has been monitoring for unregulated contaminants (UCs) as part of a study to help the U.S. Environmental Protection Agency (EPA) determine the occurrence in drinking water of UCs and whether or not these contaminants need to be regulated. At present, no health standards (for example, maximum contaminant levels) have been established for UCs. However, we are required to publish the analytical results of our UC monitoring in our annual water quality report. If you would like more information on the EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.*

### **Vulnerable Populations**

*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 the 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 and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (1-800-426-4791).*

**2007 TEST RESULTS TABLE**

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
<b>Radiological Contaminants (Sampled by ECUA &amp; FRUS)</b>							
Alpha (pCi/l)	Jan 03 - Dec 07	No	4.9	0.4 – 5.3	0	15	Erosion of natural deposits
Radium 226 + 228 (pCi/l)	Jan 03 - Dec 07	No	4.4	0.5 – 4.7	0	5	Erosion of natural deposits
<b>Inorganic Contaminants (Sampled by ECUA &amp; FRUS)</b>							
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Arsenic (ppb)	*May-Dec 05	No	5.5	ND – 5.5	N/A	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	*May-Dec 05	No	0.09	ND - 0.09	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Cyanide (ppb)	*May-Dec 05	No	12	ND – 12	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	*May-Dec 05	No	1.3	ND – 1.3	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Mercury (ppb)	*May-Dec 05	No	0.2	ND – 0.2	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nickel (ppb)	*May-Dec 05	No	3.5	ND – 3.5	N/A	100	Pollution from mining and refining operations. Natural occurrence in soil.
Nitrate (as Nitrogen) (ppm)	*May-Dec 07	No	4.2	ND - 4.2	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Lead (ppb)	May 05 -Dec 07	No	3.0	ND-3.0	2	15	Erosion of Natural Deposits
Selenium (ppb)	*May-Dec 05	No	1.5	ND – 1.5	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium (ppm)	*May-Dec 05	No	8.9	2.1 – 8.9	N/A	160	Salt water intrusion, leaching from soil
* ECUA sampled two new wells May 06 and September 07							
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
<b>Volatile Organic Contaminants (Sampled by ECUA &amp; FRUS)</b>							
1,1 – Dichloroethylene (ppb)	Aug 05 & Jan – Dec 07	No	0.65 (running annual avg)	ND – 2.36	7	7	Discharge from industrial chemical factories
cis-1,2-Dichloroethylene (ppb)	Aug 05 & Jan – Dec 07	No	0.65 (running annual avg)	ND – 0.65	100	100	Discharge from industrial chemical factories
Tetrachloroethylene (ppb)	Aug 05 & Jan – Dec 07	No	1.38 (running annual avg)	ND – 4.22	0	3	Discharge from factories and dry cleaners
Trichloroethylene (ppb)	Aug 05 & Jan – Dec 07	No	1.88 (running annual avg)	ND – 2.35	0	3	Discharge from metal degreasing sites and other factories
<b>TTHMs and Stage 1 Disinfectant/Disinfection By-Product (D/DBP) Parameters (Sampled by City of Gulf Breeze)</b>							
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm)	Jan – Dec 07	No	1.00	0.79 - 1.34	MRDGL =4	MRDL=4.0	Water additive used to control microbes
TTHM [Total trihalomethanes] (ppb)	July 07	No	2.3	NA	NA	MCL=80	By-product of drinking water disinfection

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	AL Violation Y/N	90th Percentile Result	No. of sampling sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
<b>Lead and Copper (Tap Water) (Sampled by City of Gulf Breeze)</b>							
Copper (tap water) (ppm)	July-Sept. 07	No	0.14	0 of 20	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	July-Sept 07	No	3.6	1 of 20	0	15	Corrosion of household plumbing systems, erosion of natural deposits
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	Average Result		Range of Results at or Above Detection	Likely Source of Contamination		
<b>Group II Unregulated Organic Contaminants (Sampled by ECUA)</b>							
1,1-dichloroethane (ppb)	Jan – Dec 07	0.005 (annual average)		ND – 0.09	Leaching from gasoline storage tanks		
Dibromochloromethane (ppb)	Jan – Dec 07	0.0006 (annual average)		ND – 0.21	By-products of drinking water chlorination		
Methyl tert-butyl-ether (MTBE) (ppb)	Jan – Dec 07	2.0 (annual average)		ND – 67.18	Leaching from gasoline storage tanks		
Chloroform (ppb)	Jan – Dec 07	0.14 (annual average)		ND – 1.14	By-products of drinking water chlorination		
Bromodichloromethane (ppb)	Jan – Dec 07	0.0005 (annual average)		ND – 0.09	By-products of drinking water chlorination		
Bromoform, (ppb)	Jan – Dec 07	0.0005 (average)		ND – 0.15	By-products of drinking water chlorination		

*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, 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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).*

#### **About Source Water**

*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, 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 include:*

- (A) *Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.*
- (B) *Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.*
- (C) *Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.*
- (D) *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.*
- (E) *Radioactive contaminants, 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, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.*

*Our primary source of water is purchased from the Fairpoint Regional Utility System (FRUS), a wholesale purveyor of water, owned and operated by the City of Gulf Breeze, Midway Water System and Holley-Navarre Water System. FRUS has five wells drawing from the Sand and Gravel Aquifer that is chemically treated with chlorine for disinfection, and lime and blended polyphosphate for pH control and corrosion prevention. Additional information regarding FRUS water supply can be obtained from Tammie Blakeman, (850) 939-2427.*

*ECUA's drinking water comes from the Sand-and-Gravel Aquifer, a groundwater source. ECUA has 33 wells distributed throughout its service area that pump water from this aquifer. In general, ECUA customers receive water from the wells (two to five) located closest to their residence. Hence, the water delivered to a customer, at any set time, changes slightly based on the characteristics of the source water. Maps of ECUA water system, showing locations of all wells are available by contacting the ECUA QA/QC Manager at 969-3380 ext 4217.*

*Each ECUA well is considered a separate treatment plant, where water quality parameters are adjusted to comply with operating standards. Lime is added for pH adjustment; Phosphoric Acid is added for corrosion control in the distribution system and Chlorine gas is added for water disinfection. Granular Activated Carbon filters are installed on twelve (12) wells, nine for organic contamination removal and three for iron removal. Hydrofluosilicic Acid is added, at select wells, as a source of fluoride treatment of the entire system.*

*The recharge area for ECUA wells is limited to the area of Escambia County, south of Cantonment. Because the Sand-and-Gravel Aquifer does not have a confining layer above it, virtually everything that falls on the ground has the potential to reach the main producing zone of the aquifer and affect the quality of our water supply. This concern is referenced in the NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT Public Information Bulletin 87-2, March 1990 and again, in the Escambia County 2004 Grand Jury Report on Groundwater Contamination. This report can be viewed on-line at: [www.clerk.co.escambia.fl.us/downloads/2004\\_Grand\\_Jury\\_Ground\\_Water\\_Contamination.tif](http://www.clerk.co.escambia.fl.us/downloads/2004_Grand_Jury_Ground_Water_Contamination.tif).*

*ECUA is well aware of this threat to the groundwater and over the years has worked with Escambia County and the City of Pensacola in strengthening their Wellhead Protection Ordinances.*

*While your drinking water meets USEPA's standard for arsenic, it does contain low levels of arsenic. USEPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. USEPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.*

*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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.*

***Thank You!***

*Thank you for allowing us to continue providing your family with clean, quality water this year. In our continuing efforts to maintain a safe and dependable water supply, it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.*

*We at the City of Gulf Breeze work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life, and our children's future.*