

2015 Annual Drinking Water Quality Report

City of Gulf Breeze

We're pleased to present to you the 2015 Annual Drinking 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) and the Emerald Coast Utilities Authority (ECUA). If you have any questions about this report or concerning your water utility, please contact Nathan Ford,, Assistant to the City Manager, at 934-5100.

Our main source of water is purchased from the FRUS, a wholesale purveyor of water, owned and operated by the City of Gulf Breeze, Midway Water System and Holley-Navarre Water System. FRUS consists of six (6) wells which draw from the Sand & Gravel Aquifer and are chemically treated with lime & orthophosphates for pH adjustment and chlorine for disinfection. Additional information regarding FRUS water supply can be obtained from Donna Lupola, (850) 939-2427 x234.

Due to a major, prolonged water outage from FRUS, and a malfunctioning valve on the main transmission line, we relied upon our back-up supply with ECUA to meet the system demands. ECUA has 29 active wells distributed throughout its service area that pump water from the Sand-and-Gravel Aquifer. In general, ECUA customers receive water from the wells (two to five) located closest to their residence. Each well is considered a separate treatment plant, where water quality parameters are adjusted to maximize operational efficiencies and to comply with regulatory standards. The Sand-and-Gravel Aquifer is a high-quality, prolific source of water for our community. Because it does not have a confining layer above it, virtually everything that falls on the ground has the potential to affect the quality of our water supply. Granular Activated Carbon (GAC) filters are installed on eleven (11) wells for iron or organic contamination removal. Calcium Hydroxide (lime) is added for pH adjustment; Phosphoric Acid is added for corrosion control in the distribution system and Chlorine is added for disinfection. Fluoride is added at select wells, as a source of fluoride treatment. Additional information regarding the ECUA water supply can be obtained from the ECUA Laboratory Manager at, (850) 969-6689.

Due to the quality of water received from FRUS and ECUA, the only treatment necessary by the City of Gulf Breeze is re-chlorination to boost the disinfection residual in our system.

In 2015 the Department of Environmental Protection performed a Source Water Assessment on the FRUS and the ECUA systems. The assessments were conducted to provide information about any potential sources of contamination in the vicinity of our supplier's wells. For FRUS, a search of the data sources indicated no potential sources of contamination near their wells. For ECUA, there are 22 potential sources of contamination identified in their system, with a low to moderate susceptibility level. These assessment results for both utilities are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp or they can be obtained from the City of Gulf Breeze.

We encourage our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled 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.

The City of Gulf Breeze Water System, FRUS and ECUA routinely monitor 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, 2015. Data obtained before January 1, 2015, and presented in this report are from the most recent testing done in accordance with the laws, rules, and regulations. As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often 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, is more than one year old.

In the 2015 Tests Results 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.

N/A - does not apply or not applicable.

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.

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 Gulf Breeze 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 or at <http://www.epa.gov/safewater/lead>.

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.

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.

2015 TEST RESULTS TABLE

Contaminant and Unit of Measurement (Source that had highest value)	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Radioactive Contaminants (FRUS and ECUA)							
Alpha Emitters (pCi/l) (ECUA)	2008 – 2014	No	Average 13	ND – 15.7	0	15	Erosion of natural deposits
Radium 226 + 228 (pCi/l) (ECUA)	2008 – 2014	No	Average 5.0	0.2 – 8.5	0	5	Erosion of natural deposits
Inorganic Contaminants (FRUS and ECUA)							
Arsenic (ppm) (ECUA)	June/Aug 2014	No	1.8	ND – 1.8	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm) (ECUA)	June/Aug 2014	No	0.05	0.01 – 0.05	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium (ppb) (ECUA)	June/Aug 2014	No	0.5	ND – 0.5	4	4	Discharge from metal refineries and coal burning factories; discharge from electrical, aerospace, and defense deposits
Chromium (ppb) (ECUA)	June/Aug 2014	No	4.8	ND – 4.8	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Cyanide (ppb) (ECUA)	June/Aug 2014	No	16	ND – 16	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Flouride (ppm) (ECUA)	June/Aug 2014	No	0.42	ND – 0.42	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additives which promote strong teeth when at the optimum level of 0.7 ppm
Mercury (ppb) (FRUS)	June/Aug 2014	No	0.1	ND – 0.1	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nickel (ppb) (ECUA)	June/Aug 2014	No	1.5	ND – 1.5	N/A	100	Pollution from mining and refining operations; natural occurrence in soil
Nitrate (as Nitrogen) (ppm) (ECUA)	Aug/Sept 2015	No	3.9	0.23 – 3.9	10	10	Erosion of natural deposits; runoff from fertilizer use; leaching from septic tanks, sewage
Selenium (ppb) (ECUA)	June/Aug 2014	No	2.7	ND – 2.7	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium (ppm) (ECUA)	June/Aug 2014	No	10	1.8 – 10	N/A	160	Salt water intrusion, leaching from soil

Volatile Organic Contaminants (Sampled by FRUS and ECUA)							
Contaminant and Unit of Measurement (Source that had highest value)	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Total Xylene (ppb) (ECUA)	June 2014 and Jan/Dec 2015	No	Average 0.84	ND – 0.84	100	100	Discharge from rubber and plastic factories leaching from landfills
Tetrachloroethylene (ppb) (ECUA)	June 2014 and Jan/Dec 2015	No	Average 1.78	ND – 0.94	0	3	Discharge from factories and dry cleaners
Trichloroethylene (ppb) (ECUA)	June 2014 and Jan/Dec 2015	No	Average 0.41	ND – 0.55	0	3	Discharge from metal degreasing sites and other factories

Stage 2 Disinfectant/Disinfection By-Product (D/DBP) (Sampled by City of Gulf Breeze)							
Disinfectant or Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL or MRDL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Stage 1 Chlorine (ppm)	Jan/Dec 2015	No	0.905 (Running Annual Avg.)	0.53 - 1.14	MRDGL=4	MRDL=4.0	Water additive used to control microbes
TTHM [Total trihalomethanes] (ppb)	July 2015	No	2.76	N/A	NA	MCL=80	By-product of drinking water disinfection

Lead and Copper (Tap Water) (Sampled by City of Gulf Breeze)							
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	AL Exceeded Y/N	90th Percentile Result	No. of sampling sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	June 2014	No	0.15	0 of 20	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	June 2014	No	3.2	1 of 20	0	15	Corrosion of household plumbing systems, erosion of natural deposits

ECUA monitored for Unregulated Contaminants (UCs) in 2015 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) or likely sources have been established for UCs. However, it is a requirement to publish the analytical results of the UC monitoring in the annual water quality report. In 2015 ECUA participated in a UCMR survey for hormones. No hormones were found in any of our wells. 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.

Unregulated Contaminants (Sampled by ECUA)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	Level Detected	Range	Likely Source of Contamination
1,4-dioxane (ppb)	March & June 2015	0.0715	0.071-0.072	Unavailable
Vanadium (ppb)	March & June 2015	0.28	0.25-0.31	Unavailable
Strontium (ppb)	March & June 2015	27	16-38	Unavailable
Chromium (total chromium) (ppb)	March & June 2015	0.24	0.23-0.25	Unavailable
Chromium-6 (ppb)	March & June 2015	0.077	0.073-0.081	Unavailable