



ANNUAL WATER QUALITY REPORT

2016



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 everyday. 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 sources are five wells drawn from the Floridan Aquifer. The treatment process includes aeration to remove any dissolved gases, Polyphosphate for corrosion control, filtration for particle removal, and chloramination for disinfection purposes, ion exchange for DOC removal and softening.

In 2016 the Florida Department of Environmental Protection performed a Source Water Assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are five potential sources of contamination identified for this system with low to moderate susceptibility levels. **The assessment results are available on DEP Source Water Assessment and Protection Program website at <http://www.dep.state.fl.us/swapp>.**

This report shows our water quality results and what they mean.

The City of Bunnell 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, 2016. Data obtained before January 1, 2016 and presented in this report are from the most recent testing done in accordance with the laws, rules, and regulations.

The City of Bunnell maintains an interconnect with the City of Palm Coast water system for emergencies and planned maintenance activities. This interconnect was used once during 2016. The City of Palm Coast's Drinking Water Quality Report is available on their website at <https://www.palmcoastgov.com/government/utility/water-quality>.

If you have any questions about this report or concerns with your water utility, please contact the Water Treatment Plant at (386) 283-6065 or the Utilities Department at (386) 586-5159. We encourage our valued customers to be informed about their water utility.



In the tables 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 MCLs 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.

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.

N/A means not applicable.

"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 (ug/l)- one part by weight of analyte to 1 billion parts by weight of the water sample.

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

Results in the Level Detected column for inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.

Inorganic Contaminants

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
Barium (ppm)	01/2015	N	0.019	NA	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	01/2015	N	0.16	NA	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive that promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm.
Nitrate as Nitrogen (ppm)	04/2016, 09/2016	N	0.075	0.038--0.075	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	01/2015	N	34	NA	N/A	160	Salt water intrusion, leaching from soil

Synthetic Organic Contaminants

Dalapon (ppb)	04/2016, 09/2016	N	1.4	ND - 1.4	200	200	Runoff from herbicide used on rights of way
---------------	------------------	---	-----	----------	-----	-----	---

2016 Stage 1 Disinfectants and Disinfection By-Products

For chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. For haloacetic acids or TTHM, the level detected is the highest RAA, computed quarterly, of quarterly averages of all samples collected if the system is monitoring quarterly or is the average of all samples taken during the year if the system monitors less frequently than quarterly.

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
Chloramines (ppm)	Monthly 2016	N	1.68	0.91—3.10	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes

2016 Stage 2 Disinfection Byproducts

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
Haloacetic Acids (five) (HAA5) (ppb)	02/2016, 09/2016	N	9	5—9	NA	MCL = 60	By-product of drinking water disinfection
TTHM [Total Trihalomethanes] (ppb)	02/2016, 09/2016	N	35.6	23.2—35.6	NA	MCL = 80	By-product of drinking water disinfection

The City is proud to reveal that results on Stage 2 Disinfection Byproducts have shown the new Bunnell Ion Exchange plant is making a difference. In comparison, for the Haloacetic Acids (five) (HAA5) (ppb) the results from 2015 (below) to 2016 (above) have improved from 29.09ppb to 9.0ppb. Also, the TTHM (Total Trihalomethanes) (ppb) have been reduced in 2015 at 57ppb to most recently 2016 a result of 35ppb. Both results demonstrate that the New Ion Exchange plant is improving the quality of life and water for the citizens of Bunnell.

2015 Stage 2 Disinfection Byproducts

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
Haloacetic Acids (five) (HAA5) (ppb)	Quarterly	N	29.05	7.6—31.7	NA	MCL = 60	By-product of drinking water disinfection
TTHM [Total Trihalomethanes] (ppb)	Quarterly	N	57.23	29.7—57.8	NA	MCL = 80	By-product of drinking water disinfection

2016 Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	AL Violation Y/N	90 th Percentile Results	No. of sampling sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	6-9/2016	N	0.42	0 of 10	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	6-9/2016	N	2.8	0 of 10	0	15	Corrosion of household plumbing systems; erosion of natural deposits

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. City of Bunnell 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>.



The sources of drinking water (both tap 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 be picked up substances resulting from the presence of animals or from human activity.



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.

Contaminants 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, and wildlife.

Inorganic contaminants such as salts and metals, which can be naturally-occurring or result from urban storm water 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 storm water runoff, and residential uses.

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 storm water runoff, and septic systems.

Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that the 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.

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 disorder, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their healthcare 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

We at the City of Bunnell would like you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to insuring the quality of your water. If you have any questions or concerns about the information provided, please feel free to call any of the numbers listed.