

2019 Annual Drinking Water Quality Report

CITY OF DELRAY BEACH UTILITIES

We are pleased to present to you this year's 2019 Annual Water Quality Report. (ESPAÑOL) Este es un documento muy importante con respecto a su agua potable. Este reporte está disponible en Español en La Casa Municipal cuando llame a (561) 243-7000 o visitenos en la Internet a www.delraybeachfl.gov. (KREYOL) Ti Liv sa, se yon Dokiman trè enpotan Konsènan Kalite Dlo Ke ou bwe. Si ou ta vle, ou Kapab jwen'n li an Kreyol nan Komi'n Delray Beach la.

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 is: ground water from wells. The wells draw from the Surficial Aquifer.

WATER SOURCE AND TREATMENT

The City withdraws water from a shallow under-ground source called the east coast surficial aquifer. There are 30 raw water wells located throughout the City from which water is drawn and piped to the water treatment plant. We are currently operating under a water use permit issued by the South Florida Water Management District. Our water use permit allows for the withdrawal of up to 19.1 million gallons per day (MGD).

The water treatment plant uses what is known as “lime softening process” to treat raw water prior to distribution to our customers. Upon arrival at the water treatment plant the raw water is first aerated to remove natural gasses. The water is then blended with lime in settling tanks (clarifiers) for softening, color and iron removal. After the blending process the water is then filtered and disinfected to meet federal Safe Drinking Water Act and Florida state standards. Prior to distribution, fluoride is injected to help prevent tooth decay.

In 2019, The Florida Department of Environmental Protection (FDEP) performed a source water assessment of our system. The assessment was conducted to provide information about potential sources of contamination near the City's wells. There were nineteen potential sources of contamination identified for the City's system with low to moderate susceptibility levels, of which none are of concern at this time. The assessment results are available on the FDEP Source Water Assessment and Protection Program web site at www.dep.state.fl.us/swapp. The City monitors for source water contaminants on a semiannual basis to ensure its safety.

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

QUESTIONS?

The Utilities Department is open Monday through Friday from 7:30 AM to 4:30 PM and can be contacted directly for questions and concerns relating to water quality at 561-243-7312. Regular City Commission meetings are generally held on the first and third Tuesday of every month in the Commission Chambers at City Hall. We have worked very hard to maintain a first-rate facility and we welcome the public to tour our water treatment plant. Tours can be scheduled by contacting the water treatment plant directly at 561-243-7318. Further details of our water treatment process are also available at our web site www.delraybeachfl.gov.

MONITORING AND WATER QUALITY

City of Delray Beach Utilities 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, 2019. Data obtained before January 1, 2019 and presented in this report is 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.*

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: *not applicable.*

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.*

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.*

TEST RESULTS							
2019 CCR - CITY OF DELRAY BEACH							
Primary Inorganic Contaminants							
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL or MRDL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm)	12/17	N	0.0056 ppm	0.0056	2 ppm	2 ppm	(a)
Fluoride (ppm)	01/19	N	0.38 ppm	0.09 – 0.65	4 ppm	4 ppm	(b)
Lead (point of entry) (ppb)	12/17	N	0.50 ppb	0.50	0 ppb	15 ppb	(c)
Nitrate as Nitrogen (ppm)	10/19	N	0.126 ppm	0.126	10 ppm	10 ppm	(d)
Nitrite as Nitrogen (ppm)	10/19	N	0.065 ppm	0.065	10 ppm	1 ppm	(d)
Sodium (ppm)	12/17	N	34.0 ppm	34.0	160 ppm	160 ppm	(e)
Stage 2 Disinfectant/Disinfection By-Product (D/DBP) Parameters / Stage 1 Chloramines							
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
Total Trihalomethanes (ppb)	01/19 -12/19	N	46.2 ppb	16.8 – 76.0	0 ppb	80 ppb	(f)
Total Halo Acetic Acid (ppb)	01/19 -12/19	N	38.0 ppb	13.3 – 55.7	0 ppb	60 ppb	(f)
Chloramines (ppm)	01/19 -12/19	N	3.0 ppm	0.1 – 5.0	4 ppm	4 ppm	(g)
Lead and Copper (Tap Water)							

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
Lead (tap water) ppb	01/19 -12/19	N	4 - 5 ppb	0	0 ppb	15 ppb	(h)
Copper (tap water) ppm	01/19 -12/19	N	0.30 – 0.33 ppm	0	1.3 ppm	1.3 ppm	(i)
Unregulated Contaminants Monitoring*							
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL or MRDL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Manganese ppm	9/19	N	0.00099	0.00099	N/A	0.05	(j)
Total Halo Acetic Acid (ppb)	9/19	N	25.5 ppb	8.9 - 25.5	0 ppb	60 ppb	(f)
Microbiological Contaminants							
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	TT Violation	Results	MCLG	MCL	Likely Source of Contamination	
E. coli (at the wellhead ground water source)**	11/19	Y	1	0	0	Human and Animal Fecal Waste	
<i>The following is a list of the definition and likely source of contamination for each detected contaminant.</i>							
(a) Barium	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.						
(b) Fluoride	Erosion of natural deposits; water additive which promotes strong teeth at optimum levels between 0.7 and 1.2 ppm; discharges from fertilizer and aluminum factories.						
(c) Lead (point of entry)	Residue from man-made pollution such as auto emissions and paint; lead pipe, casing and solder.						
(d) Nitrate as Nitrogen	Formed when nitrogen is exposed to oxygen; both are elements occurring in nature. A likely source is erosion of natural deposits.						
(e) Sodium	Salt water intrusion; leaching from soil.						
(f) TTHM's & HAA's	TTHM's & HAA's are contaminants formed when chlorine reacts with carbon compounds naturally occurring in ground water, such as chloroform. These items are a by-product of drinking water Chlorinating.						
(g) Chloramines	Water additive used to control microbes.						
(h) Lead	Lead is an element occurring in nature and often occurs in water as the result of corrosion of household plumbing systems.						
(i) Copper	Copper is an element occurring in nature and often occurs in water as the result of corrosion of household plumbing systems.						
(j) Manganese	Manganese is a silvery-gray metal occurring in nature, essential to iron and steel production.						

*We monitored for Unregulated Contaminants (UCs) in 2019 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 (UCMR), please call the Safe Drinking Water Hotline at (800) 426-4791.

**In November 2019, one of our thirty source water wells sample returned a positive result for the fecal indicator, *E.coli*. All 76 potable water distribution system samples taken tested absent for *E. Coli* in the month of November. No distribution water samples tested positive for *E. Coli* from January 1, 2019 to December 31, 2019.

Health Effects: *E. Coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems.

This positive result for *E. Coli* resulted in a Level 2 Assessment. Level 2 Assessment: A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Recordkeeping of compliance data: Due to administrative oversight during a busy part of the year, our office failed to submit a report required under the Safe Drinking Water Act. This violation had no impact on the quality of the water our customers received, and it posed no risk to public health. We have established a report tracking file to ensure that all reporting requirements

are met in the future.

Cross Connection Control Requirement: The City implemented a cross connection control plan in 2005. Our records for cross connection control and backflow prevention were recently found to be inadequate. The City has been working with the Palm Beach County Department of Health (DOH) since January 2020 to ensure adequate record keeping and implementation of cross control and backflow prevention and anticipate achieving compliance on this by May 2020.

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 Delray Beach Utilities 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 <https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-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.

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.

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/Center for Disease Control (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).