



Dear Valued Customer,

The City of West Palm Beach is pleased to present the 2019 Annual Water Quality Report. It contains important information about your drinking water. I am proud to report that the City of West Palm Beach had no water related health or safety issues in 2019. This report shows our water quality results and what they mean. Our drinking water continues to receive high marks from monitoring agencies. More information can be obtained from the Environmental Protection Agency (EPA) by calling the Safe Drinking Water Hotline at (800) 426-4791.

West Palm Beach now has one of the finest water treatment plants in the country. The plant's new ultraviolet disinfection system and powdered-activated carbon treatment system went online in the first quarter of 2019. These improvements, valued at \$24 million, help provide even cleaner, safer water.

I invite you to carefully read the next few pages to learn more about the high quality of our drinking water. For public participation, bi-weekly City Commission meetings are held in the City Hall Commission Chamber on Mondays beginning at 5:00 pm at 401 Clematis St. West Palm Beach. For virtual meeting rules visit www.wpb.org/things-to-do/meetings-agendas/general-meeting-rules. If you have any questions or to contact City Hall, please dial: (561) 822-2222 (TTY: 800-955-8771).

Yours in service,
Keith James

MAYOR, THE CITY OF WEST PALM BEACH

2019 WATER QUALITY REPORT CITY OF WEST PALM BEACH

INFORME DE CALIDAD DEL AGUA
(561) 822-2222 (TTY: 800 955-8771)

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<http://wpb.org/government/public-utilities/water-quality-reports>

Public Water System # 4501559

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WEST PALM BEACH

Where Does Our Water Come From?

The City of West Palm Beach gets its water from rainfall captured and stored in a part of the Everglades Ecosystem known as the Grassy Waters Preserve. This system feeds and sustains Lake Mangonia and Clear Lake. On occasion in past years, the City has been able to supplement its water supply from Lake Okeechobee. The City has designed and implemented several innovative and cost-effective projects to increase the City's water conservation efforts and provide alternative sources of water in times of drought. Efforts include the Renaissance Storm Water Project, Aquifer Storage and Recovery, the C-17 canal pump station, and well-field management. The City acquired 21 million gallons of finished drinking water from the Palm Beach County public water system (# 4504393) during 2019.

How we turn Our Source Water into Potable Water

Water from Clear Lake is processed by the Water Treatment Plant through conventional filtration, lime softening, and then an ultraviolet (UV) and chlorination disinfection process that produces a maximum of 47 million gallons per day of drinking water.



Source Water Assessment

In 2019 the Florida Department of Environmental Protection (FDEP) performed a Source Water Assessment of our system. The purpose of the assessment was to provide information on any potential sources of contamination in the vicinity of our wells and source water intake. Source water investigation by the FDEP indicated no potential sources of contamination within the assessment area for our system. As a result, the water system intake is considered to have a concern level of "low". The assessment results are available on the FDEP Source Water Assessment and Program Protection Website at:

www.dep.state.fl.us/swapp

Search by PWS # 4501559 to view the assessment.

Vulnerability to Contaminants

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised people-- such as someone with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk for infections. These people should seek advice about drinking water from their health care providers. EPA and Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the **Safe Drinking Water Hotline (800-426-4791)**.

Important Information About our Drinking Water

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 West Palm Beach is responsible for providing high quality drinking water, but it 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

(800) 426-4791 or at

<http://www.epa.gov/safewater/lead>.

WATER QUALITY TEST RESULTS

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	The Highest Single Measurement	The Lowest Monthly Percentage of Samples Meeting Regulatory Limits	MCLG	MCL	Likely Source of Contamination
Turbidity (NTU)	01/19-12/19	N	0.29	100 %	NA	TT	Soil runoff Water Plant Start-up

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
Arsenic (ppb)	01/19	N	1.6	0.87 – 1.6	0	10	Erosion of natural deposits; Runoff from glass and electronics production wastes
Barium (ppm)	01/19	N	0.0089	0.0087 – 0.0089	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	01/19	N	0.58	0.56 – 0.58	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at the optimum level of 0.7 ppm
Nitrate (as Nitrogen) (ppm)	01/19	N	0.12	0.11 – 0.12	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	01/19	N	33.1	32.3 – 33.1	NA	160	Salt-water intrusion, leaching from soil, well water

Secondary 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
Chloride (ppm)	01/19	N	44.8	44.5 – 44.8	NA	250	Natural occurrence from soil leaching
Sulfate (ppm)	01/19	N	33.6	32.8 – 33.6	NA	250	Natural occurrence from soil leaching
Total Dissolved Solids (TDS) (ppm)	01/19	N	242	231 - 242	NA	500	Natural occurrence from soil leaching

Stage 2 Disinfectants and Disinfection By-Products

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)	1/19-12/19	N	3.4 *	0.07 – 4.4	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Chlorine, free (ppm)	7/19	N	1.9 *	0.06 – 3.7	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAAs) (ppb)	2/19-12/19	N	14.8 **	7.7 – 19.8	NA	MCL = 60	By-product of drinking water disinfection
TTHM [Total Trihalomethanes] (ppb)	2/19-12/19	N	21.3 **	9.3 – 25.8	NA	MCL = 80	By-product of drinking water disinfection

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	TT Violation Y/N	Lowest Running Annual Average, Computed Quarterly, of Monthly Removal Ratios	Range of Monthly Removal Ratios	MCLG	MCL	Likely Source of Contamination
Total organic carbon (ratio)	1/19 - 12/19	N	1.2	1.1 – 1.2	NA	TT	Naturally present in the environment

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
Copper (tap water) (ppm)	5/19	N	0.160	0 out of 104	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	5/19	N	1.3	0 out of 104	0	15	Corrosion of household plumbing systems, erosion of natural deposits
Copper (tap water) (ppm)	10/19	N	0.130	0 out of 101	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	10/19	N	1.9	1 out of 101	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Unregulated Contaminants

City of West Palm Beach Public Utilities Department 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.

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
Germanium (ppb)	06/18 - 12/19	N	0.11	< 0.10 – 0.11	NA	NA	Used in the manufacturing of electronics and erosion of natural deposits
Manganese (ppb)	06/18 - 12/19	N	0.52	< 0.13 – 0.52	50	50	Natural occurrence from soil leaching
Bromochloroacetic Acid (ppb)	06/18 - 12/19	N	7.5	2.7 – 7.5	NA	NA	By-product of drinking water disinfection
Bromodichloroacetic Acid (ppb)	06/18 - 12/19	N	2.2	0.86 – 2.2	NA	NA	By-product of drinking water disinfection
Chlorodibromoacetic Acid (ppb)	06/18 - 12/19	N	1.0	< 0.10 – 1.0	NA	NA	By-product of drinking water disinfection
Tribromoacetic Acid (ppb)	06/18 - 12/19	N	< 0.67	< 0.67	NA	NA	By-product of drinking water disinfection

* The results in the column indicating "Highest Level Detected" for chloramines/free chlorine is "the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected". The range of results are the highest and lowest result from the individual sampling sites. Compliance with MCL standards are based on monthly averages.

** The results in the column indicating "Level Detected" for total trihalomethanes and HAAs are the highest LRAA. The range of results are the highest and lowest result from the individual sampling sites. Compliance with MCL standards are based on quarterly averages.

How do contaminants get into 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:

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 stormwater 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 stormwater 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 stormwater runoff, and septic systems.

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 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 (800) 426-4791.

IN THE TABLES CONTAINED IN THIS REPORT, YOU MAY FIND UNFAMILIAR TERMS AND ABBREVIATIONS.

To help you better understand these terms we've provided the following definitions:

AL- Action Level: the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

LRAA- Locational Running Annual Average: the average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

MCL-Maximum Contaminant Level: 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.

MCLG- Maximum Contaminant Level Goal: 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.

MRDL- Maximum Residual Disinfectant Level: 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.

MRDLG- Maximum Residual Disinfectant Level Goal: 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

ND- Not Detected: indicates that the substance was not found by laboratory analysis.

NTU- Nephelometric Turbidity Unit: Measure of the clarity of water.

Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb- parts per billion or micrograms per liter (µg/L): One part by weight of analyte to 1 billion parts by weight of the water sample.

ppm- parts per million or milligrams per liter (mg/L): One part by weight of analyte to 1 million parts by weight of the water sample.

RDL- Regulatory Detection Limit: The lowest level of contaminant that is required to be reported.

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

Turbidity is the measure of the cloudiness of the water and has no health effects. We monitor it, because it is a good indicator of the effectiveness of our filtration system. High turbidity can hinder the effectiveness of disinfectants. Turbidity guidelines require a 0.3 NTU or less for at least 95% of samples taken monthly with no samples to exceed 1 NTU.

Inorganic contaminants detected at levels greater than the method detection limit (MDL) as per 40CFR141.23(a)(4)(i) are reported. Inorganic contaminants detected at levels below the MDL as per 40CFR141.23(a)(4)(i) are not reported.

The EPA requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the tables above are the only contaminants detected in your drinking water.

As you can see by the tables, **our system had no violations**. We're proud that your drinking water meets or exceeds all Federal and State requirements.