



Dear Customer,

The City of West Palm Beach is pleased to present the latest Annual Water Quality Report. It contains important information about your drinking water.

I'm proud to report that in 2017 the City of West Palm Beach had no water related health or safety issues. This report shows our water quality results and what they mean. Our drinking water continues to receive high marks from monitoring agencies. In fact, our drinking water was recognized as being one of the best tasting drinking water in Palm Beach and Broward Counties by the American Water Works Association in 2017. More information can be obtained from the EPA at the Safe Drinking Water Hotline by calling (800) 426-4791.

The City of West Palm Beach continues to move forward with the construction of the ultraviolet disinfection and powdered activated carbon treatment systems at the Water Treatment Plant that will provide safer and even better tasting water.

I invite you to carefully read the next few pages. They provide information on 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.

Thank you for being a valued customer. If you have any questions call (561) 822-2222.

Sincerely,

Jeri Muwio
MAYOR, THE CITY OF WEST PALM BEACH

2017 WATER QUALITY REPORT

CITY OF WEST PALM BEACH

Published May 2018

(561) 822-2222

wpb.org/WaterReport

Public Water System # 4501559



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. In past years the City has, at times, 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, and well-field management. The City acquired 126 million gallons of finished drinking water from the Palm Beach County public water system (# 4504393) during 2017.

Source Water Assessment

In 2017 the Florida Department of Environmental Protection (FDEP) performed a Source Water Assessment on our system. These assessments were conducted 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.

How we turn Our Source Water into Potable Water

Water from Clear Lake is processed by the Water Treatment Plant through conventional filtration and lime softening, and then is chlorinated for disinfection to produce a maximum of 47 million gallons per day of drinking water.



Vulnerability to Contaminants

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) have guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants.

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 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>.

The City of West Palm Beach takes thousands of water samples to monitor your drinking water quality according to Federal and State laws, rules, and regulations. The tables contained in this report show only those contaminants that were detected in the water. All the contaminants listed are under the Maximum Contaminant Level (MCL). Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1, 2017, to December 31, 2017. Data obtained before January 1, 2017, and presented in this report are from the most recent testing done in accordance with the laws, rules, and regulations. The state requires monitoring of some of the substances at less than annual basis as concentrations of these substances do not change frequently.

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

WATER QUALITY TEST RESULTS

Microbiological Contaminants

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Highest Monthly Percentage/Number	MCLG	MCL	Likely Source of Contamination	
Total Coliform Bacteria (positive samples) CFU	01/17-12/17	N	0.8% / 1	0	0	Naturally present in the environment	
Fecal coliform and <i>E. coli</i> in the distribution system (positive samples) CFU	01/17-12/17	N	0	0	0	Human and animal fecal waste	
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)	01/17-12/17	Y	1.8	97.8%	NA	TT	Soil runoff

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)	03/17, 7/17	N	0.88	< 0.50 - 0.88	0	10	Erosion of natural deposits, Runoff from glass and electronics production wastes
Barium (ppm)	03/17, 7/17	N	0.010	0.0096 - 0.010	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (ppm)	03/17, 7/17	N	0.84	< 0.50 - 0.84	100	100	Discharge from steel and pulp mills, erosion of natural deposits
Fluoride (ppm)	03/17, 7/17	N	0.50	0.43 - 0.50	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)	03/17, 7/17	N	0.10	0.08 - 0.10	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage, erosion of natural deposits
Sodium (ppm)	03/17, 7/17	N	97.9	30.7 - 97.9	NA	160	Salt water intrusion, leaching from soil

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)	03/17, 7/17	N	127	43.3 - 127	NA	250	Natural occurrence from soil leaching
Sulfate (ppm)	03/17, 7/17	N	72.1	35.7 - 72.1	NA	250	Natural occurrence from soil leaching
Total Dissolved Solids (TDS) (ppm)	03/17, 7/17	N	441	249 - 441	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)	1/17-12/17	N	3.5	< 0.02 - 3.9	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Chlorine, free (ppm)	6/17	N	1.9	< 0.02 - 4.4	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb)	2/17-11/17	N	28.2	16.3 - 33.2	NA	MCL = 60	By-product of drinking water disinfection
TTHM [Total Trihalomethanes] (ppb)	2/17-11/17	N	68.5	40.2 - 83.6	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)	1/17-12/17	N	1.1	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)	5/17	N	0.150	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)	5/17	N	2.9	3 out of 104	0	15	Corrosion of household plumbing systems; erosion of natural deposits
Copper (tap water) (ppm)	10/17	N	0.110	0 out of 109	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	10/17	N	2.7	3 out of 109	0	15	Corrosion of household plumbing systems; erosion of natural deposits

Synthetic Organic Contaminants

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	RDL	MCL	Likely Source of Contamination
di (2-Ethylhexyl)phthalate (ppb)	03/17	N	< 0.56	< 0.56	0	0.60	6	Discharge from rubber and chemical factories
di (2-Ethylhexyl)phthalate (ppb)	05/17	N	< 0.49	< 0.49	0	0.60	6	Discharge from rubber and chemical factories
di (2-Ethylhexyl)phthalate (ppb)	07/17	N	< 0.48	< 0.48	0	0.60	6	Discharge from rubber and chemical factories
di (2-Ethylhexyl)phthalate (ppb)	08/17	N	< 0.48	< 0.48	0	0.60	6	Discharge from rubber and chemical factories
di (2-Ethylhexyl)phthalate (ppb)	11/17	N	< 0.56	< 0.56	0	0.60	6	Discharge from rubber and chemical factories

The Environmental Protection Agency (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.

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.

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.

CFU- Colony Forming Unit: Measure of counts used in microbiology reporting.

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.

NA- Not Applicable

ND- Not Detected: means there is no indication 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

Turbidity is the measure of the cloudiness of the water and has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. 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

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.

Synthetic Organic Contaminants

We are required to monitor our drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During 2017, we performed quarterly monitoring at the required frequency for di (2-ethylhexyl) phthalate. The samples showed we are meeting drinking water standards.

TTHM [Total Trihalomethanes]

Three individual samples collected during 2017 (81.8 ppb - 101 East Inlet Dr., Palm Beach; 83.2 ppb - Baywinds Harbor Ct., West Palm Beach; and 83.6 ppb - 5501 Corporate Way, West Palm Beach in September) were greater than 80 ppb. The samples were included in the calculations used to determine compliance with the MCL's annual average of 80 ppb. Although these samples were elevated, the system remained in compliance with the regulations. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.