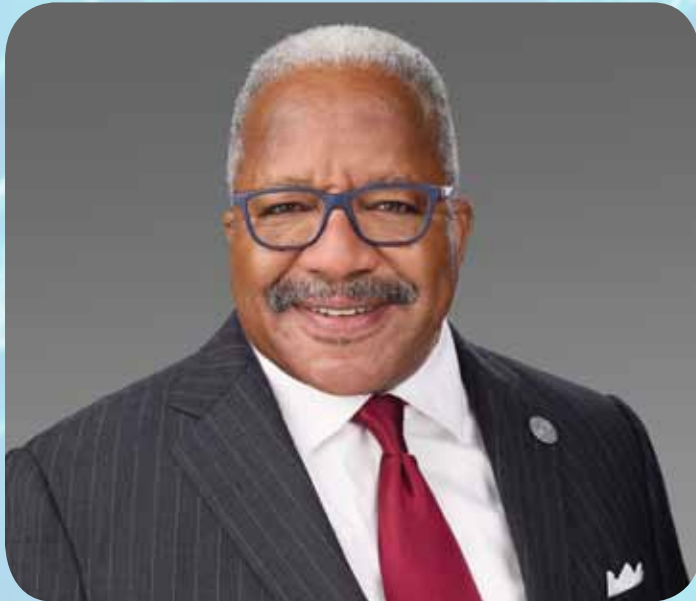




WEST PALM BEACH

Public Utilities

# 2023 WATER QUALITY REPORT



**Public Water System # 4501559**

**Published June 2024**

**(561) 822-2222**

**(TTY: 800 955-8771)**

**2023 INFORME ANUAL  
DE CALIDAD DEL AGUA POTABLE**

## *Mayor's CCR Statement*

Dear Residents,

As Mayor, I am privileged to present our **Annual Water Quality / Consumer Confidence Report** for 2023. This report contains essential information about the quality of your drinking water.

I am pleased to report that the City of West Palm Beach Department of Public Utilities has met all requirements to protect your water quality from source to tap. I encourage you to carefully review this report to understand how our water treatment professionals ensure you are provided with the highest-quality drinking water.

Additionally, this Consumer Confidence Report (CCR) includes information on our source water, treatment processes, contaminants detected, and their implications. The Environmental Protection Agency (EPA) requires every U.S. municipal water supplier to produce annual CCRs for its customers.

If you wish to learn more or participate, our bi-weekly City Commission meetings are held on Mondays at 5 p.m. at 401 Clematis St. West Palm Beach.

For any questions regarding water quality, please contact our laboratory manager, at (561) 822-2269.

To contact the City of West Palm Beach Department of Utilities, please call (561) 822-1060 (TTY 800 955-8771). For information about the City of West Palm Beach, please visit <https://www.wpb.org/>.

Yours in service,

*Keith A. James*

MAYOR, CITY OF WEST PALM BEACH



[wpb.org/WaterReport](https://wpb.org/WaterReport)



# JOURNEY OF OUR WATER

When you turn on your sink, shower, or flush your toilet, do you ever wonder where the water comes from?



In the City of West Palm Beach, Palm Beach, and South Palm Beach, your water's journey begins as rain falling into Grassy Waters Preserve.

Following gravity, the water then flows along the M-canal 16 miles downtown to Lake Mangonia and Clear Lake. Once there, your water is finally pumped into the water treatment plant to be treated and disinfected before making its way to your tap.

This surficial water system is unique as only ten percent of all Florida cities get their water this way.

West Palm Beach's water system was initially purchased and designed by Henry Flagler in the early 1900s. The city purchased the water treatment plant, lakes, and Grassy Waters Preserve from his company in the 1950s.

Today, the Department of Public Utilities continues to maintain and improve the original water system to serve over 124,000 citizens with clean, reliable, and economical drinking water.

**1** Freshwater enters Grassy Waters mainly through rainfall. Through rainfall the Preserve can provide approximately 25 billion gallons per year.

The marshes and swamps of Grassy Waters Preserve catch and store the water. While at the Preserve, the water is essential for our unique Everglades habitats for threatened and endangered wetland animals and plants. **2**

Water stored on a wetland like Grassy Waters has the added benefit of being filtered by the plants. **3** Additionally, it allows water to slowly trickle through our limestone and recharge aquifers, or underground lakes, which in turn provides water for nearby communities pumping up through well-based water systems.

The water makes its way from the Preserve into the M-Canal, which flows east toward the twin lakes, Lake Mangonia and Clear Lake. Since Grassy Waters Preserve is at a higher elevation than the canal, the water flows into the canal by gravity.

As the water continues down the M-Canal, it passes through Control Structure 4, which can have the gates open or closed depending on the water levels of the lakes. **4**

When the gates are closed the control structure works like a dam, and when the gates are open, water moves by gravity allowing 25-35 million gallons a day to pass through. The control structure is usually open to replenish the lakes since they lose 1/3 inch per day due to evaporation and seepage.

Once the water passes through Control Structure 4, the M-canal carries it to Lake Mangonia, which then flows into Clear Lake by a man-made waterway constructed in 1925. At approximately 1000 acres and an average depth of 12 feet, this twin lake system serves as a water storage reservoir, like Grassy Waters Preserve. **5**

Water is pumped out of Clear Lake into the water treatment plant. In 1894, Henry Flagler originally pumped water from this site to provide water for his hotel the Royal Poinciana on the island of Palm Beach. Updated over the years, the plant now produces 28-36 million gallons of treated water per day. **6**

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

The City also acquired approximately 266.4 million gallons of finished drinking water from the Palm Beach County Public Water System (#4504393) during 2023 through interconnections.

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.

# CONSUMER CONFIDENCE REPORT 2023 DATA

	Units	Dates of Sampling (mo/yr)	MCL Violation	Highest Single Measurement	The Lowest Monthly Percentage of Samples Meeting Regulatory Requirements	MCLG	MCL	Likely Source of Contamination
Turbidity	NTU	1/23 - 12/23	N	0.43	100	N/A	TT	Soil Runoff
Inorganic Contaminants	Units	Dates of Sampling (mo/yr)	MCL Violation	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium	ppm	1/23	N	0.0079	0.0074 - 0.0079	2 ppm	2 ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	ppm	1/23	N	0.55	0.55	4 ppm	4.0 ppm	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	1/23	N	0.10	0.10	10 ppm	10 ppm	Run-off from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium	ppm	1/23	N	34.0	32.7 - 34.0	NA	160 ppm	Salt water intrusion, leaching from soil.
Stage 1 Disinfectants and Disinfection By-Products	Units	Dates of Sampling (mo/yr)	MCL Violation	Level Detected	Range of Results	MRDLG	MRDL	Likely Source of Contamination
Total Chlorine Residual (chloramines)	ppm	1/23 to 12/23	N	4.1*	0.3 - 4.2	4 ppm	4.0 ppm	Water additives used to control microbes
Chlorine (free)	ppm	6/27/23 - 7/17/23	N	2.6*	0.8 - 4.0	4 ppm	4.0 ppm	Water additives used to control microbes
Contaminant and Unit of Measurement	Units	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	1/23 to 12/23	N	1.1	1.0 - 1.1	NA	TT	Naturally present in the environment
Stage 2 Disinfectants and Disinfection By-Products	Units	Dates of Sampling (mo/yr)	MCL Violation	Level Detected	Range of Results	MRDLG	MRDL	Likely Source of Contamination
TTHM (Total Trihalomethanes)	ppb	2/23, 4/23, 5/23, 8/23, 9/23 11/23, 12/23	N	71.3**	53.5 - 158	NA	80 ppb	By-Products of Drinking water disinfectants
Haloacetic Acids (HAA5)	ppb	2/23, 4/23, 5/23, 8/23, 9/23 11/23, 12/23	N	24.1**	13.9 - 29.5	NA	60 ppb	By-Products of Drinking water disinfectants
Lead & Copper (Tap Water)	Units	Dates of Sampling (mo/yr)	AL Exceeded	90th Percentile Result	NUMBER OF SITES EXCEEDING AL	MCLG	ACTION LEVEL (AL)	Likely Source of Contamination
COPPER at the Tap	ppm	8/22***	N	0.15	0 out of 63	1.3 ppm	1.3 ppm	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives
LEAD at the Tap	ppb	8/22***	N	1.3	0 out of 63	0 ppb	15 ppb	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives
Unregulated Contaminants (UCMR 5)	Units	Dates of Sampling (mo/yr)	~	Level Detected (Average)	Reported Ranges	MCLG	MCL	Likely Source of Contamination
Perfluorobutanesulfonic acid (PFBS) <sup>1</sup>	ppt	5/23, 7/23, 8/23, 9/23, 11/23	~	3.3	3.0 - 3.7	1 (unitless) <sup>2</sup>	1 (unitless) <sup>2</sup>	Manufactured chemicals used in industry and consumer products
Perfluorobutanoic acid (PFBA) <sup>3</sup>	ppt	5/23, 7/23, 8/23, 9/23, 11/23	~	8.8	7.8 - 11.1	NA	NA	Manufactured chemicals used in industry and consumer products
Perfluorohexanoic acid (PFHxA) <sup>3</sup>	ppt	5/23, 7/23, 8/23, 9/23, 11/23	~	4.8	3.8 - 5.5	NA	NA	Manufactured chemicals used in industry and consumer products
Perfluoropentanoic acid (PFPeA) <sup>3</sup>	ppt	5/23, 7/23, 8/23, 9/23, 11/23	~	5.9	4.1 - 7.1	NA	NA	Manufactured chemicals used in industry and consumer products
Perfluoroheptanoic acid (PFHpA) <sup>3</sup>	ppt	5/23, 7/23, 8/23, 9/23, 11/23	~	1.0	ND - 3.2	NA	NA	Manufactured chemicals used in industry and consumer products

### Notes:

\*The results in the column indicating "Highest Level Detected" for chloramines 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 Locational Running Annual Average (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.

1 These analytes are being reviewed under the UCMR 5 for possible future regulation.

2 A Hazard Index calculation is used to regulate PFBS and 3 other analytes which were not detected.

3 These analytes were detected, but are not currently part of UCMR 5 consideration for regulation.

\*\*\* System on reduced monitoring (Triennial)

(ND) = Not Detected

**Lead-specific Information**  
**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 two 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>.**

### Important Information about Your Drinking Water Total Trihalomethane (TTHM)

As part of an EPA requirement for the monitoring of disinfection byproducts (DBPR), the city collects samples of finished water quarterly and reports the results to the local office of the Florida Department of Health. Samples, collected in the fourth quarter of 2023 had the following results which exceeded the Maximum Contaminant Level (MCL) of 80 ppb.

- 5501 Corporate Way (45CW) - 145 ppb
- 880 Valley Forge Road and Parker (Valley Forge Tank) - 154 ppb
- North Ocean Blvd & East Inlet Drive (IDSE6) - 148 ppb
- Dreher Park (Southern Boulevard Entrance) - 126 ppb
- Baywinds Harbor Court (BWHC) - 158 ppb
- Ibis Back Gate (SM#15) - 143 ppb
- 3230 South Ocean Boulevard (3230) - 151 ppb
- 7912 South Dixie Highway (GRBV) - 143 ppb

However, the system did not incur an MCL violation, because all locational running annual average results at all sites were at or below the MCL. 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.

### SOURCE WATER ASSESSMENT

In 2023 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:

<http://prodapps.dep.state.fl.us/swapp/>  
 Search by PWS # 4501559

In the tables contained in this report, you may find unfamiliar terms and abbreviations. To help you better understand these terms, we have 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.

**I -** Between laboratory detection limit and lab practical quantitation limit.

**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.

**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.

The City of West Palm Beach has been monitoring for **unregulated contaminants (UC)** as part of a study to help the U.S. Environmental Protection Agency (EPA) determine the occurrence in drinking water of UC and whether or not these contaminants need to be regulated. At present, no health standards (for example, maximum contaminant levels) have been established for UC. 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.

### PERIOD COVERED BY REPORT

The City of West Palm Beach 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, 2023. The EPA requires monitoring of over 80 contaminants. The contaminants listed in the tables above are the only contaminants detected in your drinking water



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## 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 transplant, 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)** or <http://water.epa.gov/drink/hotline>

To ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the number 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 Information Hotline at (800) 426-4791.**

## 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 produc-

tion, 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.

## Protecting our most valuable resource

**Watershed protection is vital to maintaining clean, safe and affordable water. If we all play an active role daily, we can ensure our source water will be the best raw material for producing our finished water product. The less chemicals the plant needs to treat the water to make it clean and safer, the more affordable the water becomes. If we are conservative with water usage during the dry season (December to May), we can ensure consistent water usage without water conservation orders or mandates.**

**Here are some simple things we can do to help.**

### OUTDOORS

- ◆ Do not overwater your lawn or add excess fertilizer, especially if you live near Lake Mangonia or Clear Lake.
- ◆ Water lawns in the early morning when temperatures are cooler. Ensure sprinkler systems are in good working order. Replace washers and check that hoses don't leak
- ◆ Cut grass more often at a higher lawn mower blade setting to maintain moisture and provide shade to grass.
- ◆ Follow Xeriscape techniques by using mulch around garden areas and use soil amendments like compost. Select plants that require low water for maintenance and water efficiently.
- ◆ Swimming pool owners should consider using newer water-saving pool filters.
- ◆ Go to a commercial car wash that recycles water.
- ◆ Use a blower/broom to remove debris from sidewalks instead of water from a hose.

### INDOORS

- ◆ Take shorter showers. Shut off the water while lathering with soap or shampoo.
- ◆ Hand wash dishes by using two water basins, one to wash and one to rinse dishes. Only use automatic dishwashers when they are full of dishes.
- ◆ Do not thaw meat with running water, but instead thaw in the refrigerator or use the microwave defrost setting.
- ◆ Do not leave the water running while brushing your teeth, washing, or shaving.
- ◆ While waiting for water to become hot, capture the cooler water for plant watering or for microwave/stove heating.
- ◆ Check your home for water leaks. Areas to inspect are toilets, dripping faucets/aerators. Also, water meter readings from your utility bill can signal a leak.
- ◆ Select a water faucet or shower head with flow restrictors.

For questions or copies of previous year's reports, please contact the Laboratory Manager at (561) 822-2269.

To contact the Department of Public Utilities, please dial (561) 822-1060.

To contact the City of West Palm Beach, please dial (561) 822-1200 (TTY: 800-955-8771).



We welcome your feedback so we can continue to communicate what matters most to you.



WEST PALM BEACH