

Palm Beach County Water Utilities Department

ANNUAL WATER QUALITY REPORT

Water delivered during 2016



Dear Customers,

We're pleased to present to you this year's Annual Water Quality Report for water delivered in 2016. This report is designed to inform you about the quality of your drinking water and the 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.

If you have any questions about this report or concerning your water utility, please contact our Customer Service Center at 561-740-4600. Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien, 561-355-2754.

We encourage our valued customers to be informed about their water utility. We encourage you to attend a Palm Beach County Commission meeting usually scheduled on Tuesday mornings throughout the year at the Governmental Center located in downtown West Palm Beach.

Where do we get our drinking water?

Palm Beach County Water Utilities Department's drinking water is drawn from wells extending approximately 150 feet underground into the surficial aquifer. This is a safe and reliable source, providing high-quality water that is free of microorganisms sometimes found in lakes and rivers.

Rain water percolates down into the underground aquifer through layers of soil and sand that act as natural filters to remove impurities. To assure the safety of our supply wells, Palm Beach County Water Utilities aggressively monitors well quality in conjunction with Palm Beach County's Wellfield Protection Program.

The water is withdrawn from the wells and transported to the water treatment plants. At the plants, state-of-the-art treatment technologies are used to treat the water to produce high-quality drinking water that is disinfected prior to entering the distribution system. Our utility has the capacity to produce over 100 million gallons per day of drinking water for our customers.

Backflow Prevention

In accordance with the Florida Administrative Code 62-555.360 and the Safe Drinking Water Act, Palm Beach County Water Utilities has an established Cross-Connection Control program. All backflow prevention assemblies are tested annually to ensure protection from cross-connections and backflow of contaminants into the distribution system.

How safe is our tap water?

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (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 similar 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 EPA Safe Drinking Water Hotline at 1-800-426-4791.

Special Health Considerations

Some people are more vulnerable to contaminants in drinking water than the general population. People undergoing chemotherapy, 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 to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

How do contaminants get into source 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.

Water Conservation Tips

Use water at home more efficiently.

Outside...

- ◆ Get a rain sensor for your sprinkler system.
- ◆ Water your lawn less often.
- ◆ Check your sprinkler heads.

In the Kitchen...

- ◆ Don't leave the water running while you wash dishes.
- ◆ Make sure dishwasher loads are full.
- ◆ Install a low-flow faucet tap.

In the Bathroom...

- ◆ Fix leaky toilets.
- ◆ Check faucets and pipes for leaks.
- ◆ Don't use the toilet as a wastebasket.
- ◆ Take shorter showers
- ◆ Install water-saving showerheads.



Lead in Public 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.

Palm Beach County Water 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 by an independent testing lab. 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>.

What is that pink stuff?

Water utilities throughout the country have received questions about a mysterious pink film on plumbing fixtures. The main culprit is a naturally occurring airborne bacteria called *Serratia Marcescens*, which produces a pink or orange residue.

***Serratia Marcescens* does not come from your drinking water.** Its origin is usually soil or dust, and the bacteria is attracted to moist surfaces.

The good news is that a common household cleaner, chlorine bleach, helps to curtail the onset of the bacteria. The best solution to keep these surfaces free from the bacterial film is continual cleaning and keeping them dry. A chlorinous compound is best, but use care with abrasives to avoid scratching the fixtures, which will make them even more susceptible to bacteria.



Cleaning and flushing your taps will not necessarily eliminate the problem, but it will help to control it. In addition to being unsightly, *Serratia Marcescens* has been linked in rare cases to urinary tract infections, wound infections and pneumonia. For more information, call us at 561-493-6000.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien, 561-355-2754.

WATER QUALITY TESTING RESULTS

Palm Beach County Water Utilities Department 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, 2016, 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. We're proud that your drinking water meets or exceeds all Federal and State requirements.

What do these tables explain?

The first table shows substances that the EPA requires our utility to report, even though we are not in violation of their standard. To determine how our water compares to the federal regulation, compare the column that shows the level allowed by EPA (MCLs) to the column that shows the highest level detected at our utility during the year 2016.

The State of Florida allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

Source Water Assessment & Protection Program

In order to ensure that your drinking water is safe, not just at the tap, but at its source, the Florida Department of Environmental Protection (FDEP) conducts potential contamination studies of all source water. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of the wells that provide source water to our water treatment plants. The contaminant susceptibility levels only describe potential contamination due to nearby activity and is not based on monitoring data. The 2016 assessment identified 113 potential sources of contamination for our system with susceptibility levels ranging from low to moderate. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

Table Definitions

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

Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

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.

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.

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

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.

Radioactive Contaminants							
Contaminant	Unit of Measurement	Dates of Sampling (mo/yr)	MCL Violation	Level Detected	Reported Ranges	MCL	Likely Source of Contaminant
Radium 226	pCi/L	5/16	N	0.485	ND-0.485	5 pCi/L	Erosion of natural deposits
Radium 228	pCi/L	5/16	N	0.904	ND-0.904	5 pCi/L	Erosion of natural deposits
Inorganic Contaminants							
Contaminant	Unit of Measurement	Dates of Sampling (mo/yr)	MCL Violation	Level Detected	Reported Ranges	MCL	Likely Source of Contaminant
Barium	ppm	5/16	N	0.0058	ND-0.0058	2 ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	ppm	5/16	N	0.72	0.084-0.72	4 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	5/16	N	0.062	ND-0.062	10 ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite, as Nitrogen	ppm	5/16	N	0.025	ND-0.025 l	1 ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrate + Nitrite	ppm	5/16	N	0.062	0.032 l-0.062	10 ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium	ppm	5/16	N	53	17.4-53	160 ppm	Salt water intrusion, leaching from soil

Stage 1 Disinfectants and Disinfection By-Products							
Contaminant	Unit of Measurement	Dates of Sampling (mo/yr)	MCL Violation	Level Detected*	Reported Ranges	MCL	Likely Source of Contaminant
Chlorine and Chloramines	ppm	1/16 to 12/16	N	3.16	0.00-6.30 ⁽¹⁾	4 ppm	Water additive used to control microbes
Stage 2 Disinfectants and Disinfection By-Products							
Contaminant	Unit of Measurement	Dates of Sampling (mo/yr)	MCL Violation	Level Detected**	Reported Ranges	MCL	Likely Source of Contaminant
Total Trihalomethanes (TTHM)	ppb	1/16 to 12/16	N	66.80	16.6-90.9	80 ppb	By-product of drinking water disinfection
Haloacetic Acids (HAA5)	ppb	1/16 to 12/16	N	46.00	7.5-55.3	60 ppb	By-product of drinking water disinfection
Synthetic Organic Contaminants							
Contaminant	Unit of Measurement	Dates of Sampling (mo/yr)	MCL Violation	Level Detected	Reported Ranges	MCL	Likely Source of Contaminant
Di(2-ethylhexyl)phthalate	ppb	5/16 , 8/16	N	1.10	ND-1.1 I,J	6 ppb	Discharge from rubber and chemical factories
Volatile Organic Contaminants							
Contaminant	Unit of Measurement	Dates of Sampling (mo/yr)	MCL Violation	Level Detected	Reported Ranges	MCL	Likely Source of Contaminant
Chlorobenzene	ppb	5/16	N	0.59	ND-0.59	100 ppb	Discharge from chemical and agricultural chemical factories
Microbiological Contaminants							
Contaminant	Dates of Sampling (mo/yr)	MCL Violation	Highest Monthly Percentage/ Number	MCLG	MCL	Likely Source of Contaminant	
Total Coliform Bacteria	1/16-3/16	N	3.23%	0.00	For systems collecting at least 40 samples per month: presence of coliform bacteria in > 5% of monthly samples.	Naturally present in the environment	

Lead & Copper (Tap Water)							
Contaminant	Unit of Measurement	Dates of Sampling (mo/yr)	AL Exceeded	90th Percentile Result	Number of Sampling Sites exceeding AL	Action Level (AL)	Likely Source of Contaminant
Lead at the Tap	ppb	8/14	N	2.97 ppb	3	15 ppb	Corrosion of household plumbing systems; erosion of natural deposits
Copper at the Tap	ppm	8/14	N	0.217 ppm	0	1.3 ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Two samples during 2016 (12500 40th St N and 130 Australian Ave) had TTHM results of 81 and 90.9 ppb respectively, which exceed the MCL of 80 ppb. However, the system did not incur an MCL violation, because all annual average results at all sites were at or below the MCL. The annual average result was 62.0 ppb for 12500 40th St N and 63.1 ppb for 130 Australian Ave. 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.

Qualifier Codes

U = Undetected

I = Between lab detection limit and lab practical quantitation limit

J = Estimated Value

Notes:

⁽¹⁾ The highest level detected for chloramine represents 1 out of 7351 samples.

*The results in the column indicating "Highest Level Detected" for Chlorine and Chloramines are the highest running annual average(RAA), computed quarterly, of monthly averages of all samples collected. The range of results is the range of results of all the individual samples collected during the past year.

**The results in the column indicating "Highest Level Detected" for total trihalomethanes and HAA5 are the highest locational running annual average (LRAA), computed quarterly, of quarterly averages of all samples collected. The range of results are the range of individual sample results (lowest to highest) for all monitoring locations.

We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. During the third and fourth quarters of 2016, we had a monitoring violation where quarterly samples of chlorobenzene and di(2-ethylhexyl)phthalate were not collected. Sampling was resumed on February and March 2017 and indicated an absence of chlorobenzene and di(2-ethylhexyl)phthalate; a public notice was issued as required by the regulations. Also, during 2016, we had a minimum chlorine residual violation. This was corrected by increasing the disinfectant dosage until the required level was met.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

During the past year we were required to conduct one Level 1 assessment. One Level 1 assessment was completed. In addition, we were required to take one corrective action and we completed one of these actions.