

ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2018



Presented By
City of Plantation

Dear Valued Customer

The City of Plantation is pleased to present you with our annual water quality report. Please take the time to read it carefully. This report provides information about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. It is an informative record of the quality of the drinking water supplied to you during the period of January 1 through December 31, 2018. Data obtained before January 1, 2018, that is presented in this report, represent the most recent water quality testing results in accordance with the laws, rules, and regulations.

Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water quality and standards emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education in our continuing effort to serve the needs of all our water users. We are delighted to inform you that your drinking water consistently met or exceeded the federal, state, and local drinking water requirements during the 2018 reporting period.

Please remember that we are always available should you ever have any questions or concerns about your water. The Utilities Department staff is dedicated to providing a superior level of service to our customers. Please remember: If you have any billing questions or concerns, you may go online at Utilitybilling@plantation.org to review your account balance, or contact customer service at (954) 797-2290.

Sincerely,
Ronald Eyma, PE
Utilities Director

Do I Need to Take Special Precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



Where Does My Water Come From?

Plantation water comes from a network of 16 groundwater wells that reach 110 feet into the Biscayne Aquifer. The wells are located so that the land can still be used for parks. Two treatment plants, the East and Central Water Treatment Plants, treat ground water and pump the treated water into a common distribution system for use by customers. The Plantation water you drink is regularly tested to ensure quality. The water is pumped through specially designed composite membranes designed with pores smaller than particles of undesirable components of the groundwater, thus eliminating impurities. This process is commonly referred to as membrane softening. Membrane softening treats water to such high quality that many of the health and aesthetic concerns of water quality are eliminated. Our customers will be happy to know that Plantation water is also chlorinated for disinfection purposes and then fluoridated for dental health purposes. Our advanced treatment process produces a high quality drinking water readily available from your taps.



Community Participation

You are invited to participate and voice your concerns about your drinking water. You can visit the Utilities Department at Plantation City Hall, 400 NW 73rd Avenue. If you want to learn more, please attend any of our regularly scheduled Council Meetings held every other Wednesday at 7:30 PM at City Hall Council Chambers located at 400 NW 73rd Avenue. The EPA Safe Drinking Water Hotline (800-426-4791) provides additional information pertinent to understanding your water.

You can also visit the City's Web site at www.plantation.org for updates regarding the efforts we are making 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 or concerns about the information provided, please feel free to call any of the numbers previously listed.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Rupert McCormack at (954) 414-7355.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.

“ We remain vigilant in delivering the best-quality drinking water ”

Substances That Could Be in 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 order to ensure that tap water is safe to drink, the U.S. 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 (800) 426-4791.

Source Water Assessment and its Availability

To ensure that your drinking water is safe, not only at the tap, but at the source, Florida Department of Environmental Protection (FDEP) performs potential contamination studies of all source water. In 2017 FDEP performed a Source Water Assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. The 2017 assessment identified 12 potential sources of contamination; with low to moderate high susceptibility level for 16 assessed wells. The contaminant susceptibility levels only describe potential contamination due to nearby activity, and is not based on monitoring data.

The assessment results are available on the FDEP Source Water Assessment and Protection Program Web site at www.dep.state.fl.us/swapp or they can be obtained from the Plantation Utilities Department.

Protecting our Water

Please DO NOT FLUSH your unused or unwanted medications down toilets or sink drains. More information is available at <http://www.dep.state.fl.us/waste/categories/medications/pages/disposal.htm>. We at the City of Plantation work around the clock to provide top-quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life, and our children's future.



What Causes the Pink Stain on Bathroom Fixtures?

The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, and toothbrush holders and on pets' water bowls is caused by the growth of the bacterium *Serratia marcescens*. *Serratia* is commonly isolated from soil, water, plants, insects, and vertebrates (including man). The bacteria can be introduced into the house through any of the above-mentioned sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive.

The best solution to this problem is to continually clean and dry the involved surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help to eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence. *Serratia* will not survive in chlorinated drinking water.



Water Conservation Tips

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Water treatment is a complex, time-consuming process. Because tap water is highly regulated by state and federal laws, water treatment plant and system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified. Our licensed water professionals have a basic understanding of a wide range of subjects, including mathematics, biology, chemistry, and physics. Some of the tasks they complete on a regular basis include:

- Operating and maintaining equipment to purify and clarify water;
- Monitoring and inspecting machinery, meters, gauges, and operating conditions;
- Conducting tests and inspections on water and evaluating the results;
- Maintaining optimal water chemistry;
- Applying data to formulas that determine treatment requirements, flow levels, and concentration levels;
- Documenting and reporting test results and system operations to regulatory agencies; and
- Serving our community through customer support, education, and outreach.

So, the next time you turn on your faucet, think of the skilled professionals who stand behind each drop.

Water Quality Data Tables

The Environmental Protection Agency (EPA) requires monitoring of over 80 drinking water contaminants. The contaminants listed in the tables are the only contaminants detected in your drinking water.

The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old.

We are pleased to report that your drinking water meets or exceeds all federal and state requirements.

PRIMARY REGULATED CONTAMINANTS

Inorganic Contaminants

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Arsenic (ppb)	August 2017	No	1.1	ND–1.1	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	August 2017	No	0.0028	ND–0.0028	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	August 2017	No	0.62	0.53–0.62	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)	July 2018	No	0.049	0.032–0.049	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	August 2017	No	15.9	10.8–15.9	NA	160	Saltwater intrusion; leaching from soil

STAGE 1 DISINFECTANTS AND DISINFECTION BY-PRODUCTS

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MRDLG	MRDL	LIKELY SOURCE OF CONTAMINATION
Chlorine and Chloramines (ppm)	January–December 2018	No	2.13	0.50–2.70	4	4.0	Water additive used to control microbes

STAGE 2 DISINFECTANTS AND DISINFECTION BY-PRODUCTS

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Haloacetic Acids (five) [HAA5] (ppb)	September–October 2018	No	2.8	ND–2.8	NA	60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	September–October 2018	No	0.81	0.61–0.81	NA	80	By-product of drinking water disinfection

Lead and Copper (Tap water samples were collected from sites throughout the community)

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	AL EXCEEDANCE (YES/NO)	90TH PERCENTILE RESULT	NO. OF SAMPLING SITES EXCEEDING THE AL	MCLG	AL (ACTION LEVEL)	LIKELY SOURCE OF CONTAMINATION
Copper (ppm)	July–August 2016	No	0.0039	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	July–August 2016	No	4.4	1	0	15	Corrosion of household plumbing systems; erosion of natural deposits



Unregulated Contaminant Monitoring

We have been monitoring for unregulated contaminants (UCs) as part of a study to help the U.S. Environmental Protection Agency (U.S. EPA) determine the occurrence in drinking water of UCs and whether or not these contaminants need to be regulated. For example, we participated in the 4th stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking and source water. At present, no health standards (e.g., 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 U.S. EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

UNREGULATED CONTAMINANT MONITORING RULE - PART 4 (UCMR4)

Drinking Water

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	AVERAGE RESULT	RANGE OF RESULTS	LIKELY SOURCE OF CONTAMINATION
HAA6Br (ppb)	March–September 2018	1.662	ND–1.877	By-product of drinking water disinfection
HAA9 (ppb)	March–September 2018	1.79	0.251–4.098	By-product of drinking water disinfection
Manganese (ppb)	March–September 2018	0.796	ND–0.796	Natural occurrence from soil leaching
Quinoline (ppb)	March–September 2018	0.061	ND–0.0995	Flavoring agent, present in some pharmaceuticals

Source Water

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	AVERAGE RESULT	RANGE OF RESULTS	LIKELY SOURCE OF CONTAMINATION
Bromide (ppb)	March–September 2018	136.75	119–166	Naturally present in the environment
Total Organic Carbon [TOC] (ppb)	March–September 2018	10,080	7,920–12,200	Naturally present in the environment

Definitions

The data tables included in this report may contain terms and abbreviations that might not be familiar to you. To help you better understand the data, we have provided some definitions and descriptions below.

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

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): Indicates that the substance was not found by laboratory analysis.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).