

ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2019

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Presented By
City of Riviera Beach

Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2019. 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 safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

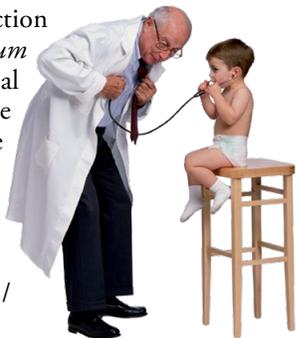
Please remember that we are always available should you ever have any questions or concerns about your water.



Important Health Information

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>.



To the Last Drop

The National Oceanic and Atmospheric Administration (NOAA) defines drought as a deficiency in precipitation over an extended period of time, usually a season or more, resulting in a water shortage causing adverse impacts on vegetation, animals, or people. Drought strikes in virtually all climate zones, from very wet to very dry.

There are primarily three types of drought: Meteorological Drought refers to the lack of precipitation, or the degree of dryness and the duration of the dry period; Agricultural Drought refers to the agricultural impact of drought, focusing on precipitation shortages, soil water deficits, and reduced groundwater or reservoir levels needed for irrigation; and Hydrological Drought pertains to drought that usually occurs following periods of extended precipitation shortfalls that can impact water supply (i.e., stream flow, reservoir and lake levels, groundwater).

Drought is a temporary aberration from normal climatic conditions; thus, it can vary significantly from one region to another. Although normally occurring, human factors, such as water demand, can exacerbate the duration and impact that drought has on a region. By following simple water conservation measures, you can help significantly reduce the lasting effects of extended drought.

How Do We Treat Our Water?

Currently, the City of Riviera Beach Utility District operates a lime softening treatment plant. Raw water from the well field is first air stripped to eliminate volatile organic compounds. The water is then treated with chemicals (lime, alum, and polymer), then disinfected with a combination of chlorine and ammonia. This treatment occurs in a treatment unit that both softens and clarifies the water. The water is then filtered to remove turbidity and pumped to our consumers throughout our distribution system. Insuring that a disinfection residual remains in our water pipes throughout the distribution system is an important outcome of treatment.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call (561) 845-4185.

Source Water Assessment

The Florida Department of Environmental Protection (FDEP) has performed a source water assessment on our system. These assessments were conducted to provide information about any potential sources of contamination in the vicinity of our wells. Potential sources of contamination identified include underground petroleum storage tanks, dry cleaning facilities, and wastewater treatment plants. The assessment was done in 2017, and there were 19 potential sources with low to moderate levels of susceptibility. This inventory only identifies potential sources of contamination. It does not mean that these sites are actively causing contamination of the drinking water source. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

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.

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains.

Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen and disinfectant levels and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use and avoid using hot water to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

We remain vigilant in delivering the best-quality drinking water



Water Conservation Tips

You can play a role in conserving water and save 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.

Community Participation

We invite you to participate in our public forum and voice your concerns about your drinking water. Our meetings are held on the third Wednesday of each month at 5:30 p.m. at City Hall Council Chambers, 600 West Blue Heron Boulevard, Riviera Beach.



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.

Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far, the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

How chlorination works:

Potent Germicide Reduction in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.

Taste and Odor Reduction of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and decaying vegetation.

Biological Growth Elimination of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.

Chemical Removal of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.



Where Does My Water Come From?

The City of Riviera Beach Utility Special District's water treatment plant obtains raw water from the East Coast Surficial Aquifers and pumps this water out of the ground through 27 wells located throughout the city.



FOG (fats, oils, and grease)

You may not be aware of it, but every time you pour fat, oil, or grease (FOG) down your sink (e.g., bacon grease), you are contributing to a costly problem in the sewer collection system. FOG coats the inner walls of the plumbing in your house as well as the walls of underground piping throughout the community. Over time, these greasy materials build up and form blockages in pipes, which can lead to wastewater backing up into parks, yards, streets, and storm drains. These backups allow FOG to contaminate local waters, including drinking water. Exposure to untreated wastewater is a public health hazard. FOG discharged into septic systems and drain fields can also cause malfunctions, resulting in more frequent tank pump-outs and other expenses.

Communities spend billions of dollars every year to unplug or replace grease-blocked pipes, repair pump stations, and clean up costly and illegal wastewater spills. Here are some tips that you and your family can follow to help maintain a well-run system now and in the future:

NEVER:

- Pour FOG down the house or storm drains.
- Dispose of food scraps by flushing them.
- Use the toilet as a wastebasket.

ALWAYS:

- Scrape and collect FOG into a waste container such as an empty coffee can and dispose of it with your garbage.
- Place food scraps in waste containers or garbage bags for disposal with solid wastes.
- Place a wastebasket in each bathroom for solid wastes like disposable diapers, creams and lotions, and personal hygiene products, including nonbiodegradable wipes.

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.

How Long Can I Store Drinking Water?

The disinfectant in drinking water will eventually dissipate even in a closed container. If that container housed bacteria prior to filling up with the tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We have been monitoring for unregulated contaminants (UCs) as part of a study to help the U.S. EPA determine the occurrence in drinking water of UCs and whether these contaminants need to be regulated. For example, we participated in the fourth stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking 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 UCMR4, please call the Safe Drinking Water Hotline at (800) 426-4791.

One sample during 2019 had a HAA5 result of 66.1 ppb, which exceeds the MCL of 60 ppb. However, the system did not incur an MCL violation because all annual average results at all sites were at or below the MCL. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

PRIMARY REGULATED CONTAMINANTS

Microbiological Contaminants

CONTAMINANT AND UNIT OF MEASUREMENT	TT VIOLATION (YES/NO)	DATES OF SAMPLING (MO./YR.)	RESULT	MCLG	TT	LIKELY SOURCE OF CONTAMINATION
Total Coliform Bacteria (Positive samples)	No	1/19–12/19	Positive	NA	TT	Naturally present in the environment

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
Nitrate [as Nitrogen] (ppm)	1/1/19–12/31/19	No	0.48	0.068–0.48	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite [as Nitrogen] (ppm)	1/1/19–12/31/19	No	0.043	0.025–0.043	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Dalapon (ppb)	1/1/19–12/31/19	No	0.89	0.09–0.89	200	200	Runoff from herbicide used on rights-of-way
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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
Chloramines (ppm)	Quarterly 2019	No	2.69	0.6–4.1	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)	Quarterly 2019	Yes	66.1	0.9–66.1	NA	60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	Quarterly 2019	No	38.5	20–38.5	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)	10/2/17	No	0.083	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	10/2/17	No	0.42	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Definitions

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 percent 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

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).

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