ANNUAL WATER

QUALITY

REPORT

WATER TESTING PERFORMED IN 2016

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Presented By
City of Riviera Beach

City of Riviera Beach
Established in 2004
Utility District
Palm Beach County, Florida
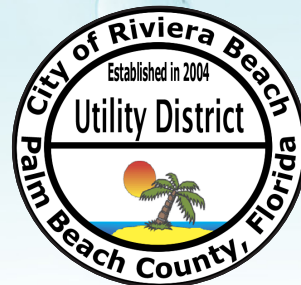
What Is This Report?

This report is to let you – our customers - know that water produced by Riviera Beach Utility District meets or exceeds all standards for safe, high-quality water.

The city of Riviera Beach Water Plant is required by drinking water regulations to make this water quality report available to all customers. It's like a nutritional label for the substance you probably consume the most – water!

This data and information can be complex, so we've tried to make it readable while also including the required language.

Congress, the EPA, and Riviera Beach wants to be sure that consumers know what's in their drinking water.

We've Come a Long Way

Once again we are proud to present our annual water quality report covering the period between January 1 and December 31, 2016. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at any hour—to deliver the highest quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the third Monday of each month beginning at 6:00 p.m. at City Hall Council Chambers, 600 West Blue Heron Blvd., Riviera Beach, FL.

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.
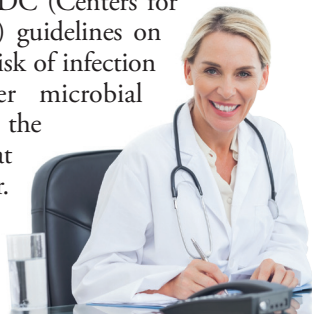
Substances That Could Be in Water

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.

How Much Water Does Riviera Beach Produce?

In 2016, Riviera Beach treated approximately 2.8 billion gallons of Water.

Riviera Beach Service area customers consumed 7.8 million gallons per day (MGD).

Where Does My Water Come From?

The City of Riviera Beach Utility District Water Treatment Plant obtains raw water from aquifers pumped from 27 wells throughout the city.

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, chlorine, ammonia, alum, and polymer) and 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. Ensuring that a disinfection residual remains in our water pipes throughout the distribution system is an important outcome of treatment.

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 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 or at www.epa.gov/lead.

Water Conservation

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 by 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.

Protecting Your Water

Bacteria are a natural and important part of our world. There are around 40 trillion bacteria living in each of us; without them, we would not be able to live healthy lives. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern, however, because it indicates that the water may be contaminated with other organisms that can cause disease.

In 2016, the U.S. EPA passed a new regulation called the Revised Total Coliform Rule, which requires additional steps that water systems must take in order to ensure the integrity of the drinking water distribution system by monitoring for the presence of bacteria like total coliform and *E. coli*. The rule requires more stringent standards than the previous regulation, and it requires water systems that may be vulnerable to contamination to have in place procedures that will minimize the incidence of contamination. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment of their system and correct any problems quickly. The U.S. EPA anticipates greater public health protection under the new regulation due to its more preventive approach to identifying and fixing problems that may affect public health.

Although we have been fortunate to have the highest quality drinking water, our goal is to eliminate all potential pathways of contamination into our distribution system, and this new rule helps us to accomplish that goal.

QUESTIONS?

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

Source Water Assessment

The 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 2009, and there were 33 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.

FOG:

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 fats, oil, or grease down the house or storm drains.
- Dispose of food scraps by flushing them.
- Use the toilet as a waste basket.

ALWAYS:
- Scrape and collect fat, oil, and grease 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.

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 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. At present, no health standards (for example, 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.

About Our Violations

In 2016 our water system was in violation of Federal and State water-quality standards for failure to maintain a minimum chlorine residual of 0.6 milligrams per liter primarily in the Southwestern portion of our distribution system. This means the amount of measurable chlorine remaining in the water system after the water was treated with chlorine for the western point of the City were insufficient. When chlorine residuals fall below the State minimum standards it may allow bacteria to form in the distribution system. These violations occurred during the months of January, February, March, August, and September. In an effort to ensure that the distribution system meets the required water quality standards, the Utility District implemented additional monitoring, weekly system flushing including a chlorine flush twice a year and equipment improvements. Weekly reporting to the Health Department is also being required.

The water distribution system was also in violation of Federal and State water-quality standards for Total Coliform Bacteria for the months of January, February, March, August, and September 2016. Coliform bacteria are generally not harmful in themselves. Coliforms are bacteria that are naturally present in the environment. However, during routine water testing, a total coliform test is used as an indicator to determine if other potentially harmful bacteria may be present. During testing in the months of January, February, March, August and September 2016, coliforms were found in more samples than allowed by regulatory standards, this serves as a warning of potential problems. Long-term exposure to coliform bacteria does not have potential health threats; however, people with severely compromised immune systems, infants, and some elderly may choose to seek advice about drinking water from their health care providers. The Riviera Beach Utility District has undertaken a program of operational changes, capital projects, which include dedicated Sampling Stations, additional flushing in the distribution system, and additional monitoring to eliminate future violations of both the combined chlorine residual and total coliform standards. Weekly reporting to the Health Department is also being required.

Test Results

Our water is monitored for many different kinds of contaminants on a very strict sampling schedule. The information below represents only those substances that were detected; 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.

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, one (1) Level 2 assessment was required to be completed for our water system, which was successfully completed. In addition, we were required to take three (3) corrective actions and we completed all three of these actions.

PRIMARY REGULATED CONTAMINANTS

Microbiological Contaminants

CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	HIGHEST MONTHLY PERCENTAGE	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Total Coliform Bacteria [samples taken before April 2016] (% positive samples)	Monthly 2016	Yes	35	0	Presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment

CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	RESULT	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Total Coliform Bacteria [samples taken after April 2016] (sample result)	Monthly 2016	Yes	Positive	NA	TT	Naturally present in the environment

Inorganic Contaminants

CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Nitrate [as Nitrogen] (ppm)	12/23/16	No	0.48	NA	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite [as Nitrogen] (ppm)	12/23/16	No	0.04	NA	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	12/30/14	No	20	NA	NA	160	Salt water intrusion, leaching from soil

Stage 1 Disinfectants and Disinfection By-Products

CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG OR [MRDLG]	MCL OR [MRDL]	LIKELY SOURCE OF CONTAMINATION
Chloramines (ppm)	Daily 2016	No	2.44	0.2–4.5	[4]	[4.0]	Water additive used to control microbes

Stage 2 Disinfectants / Disinfection By-Products

CONTAMINANT AND UNIT OF MEASUREMENT	DATE 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 2016	No	32.73	21.5–42.87	NA	60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	Quarterly 2016	No	66.7	61.1–72.7	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	DATE 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 [tap water] (ppm)	12/15/2014	No	0.18	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead [tap water] (ppb)	12/15/2014	No	1.6	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Definitions

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

Level 2 Assessment: A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system on multiple occasions.

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.

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.