

Water Quality Report

2021

City of Port St. Lucie
Utility Systems Department



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772-873-6400



A Message from the Director

We are pleased to again provide you an opportunity to review our Consumer Confidence Report (CCR) which offers details about the quality of the City of Port St. Lucie's potable water. This report is published in compliance with State and Federal legislation and for the most part reflects results of the sampling and testing conducted between January 1, 2021, and December 31, 2021.

The report is a great way to learn about where our water comes from and how it is treated before it enters the City's 1,200-mile distribution system that we maintain in order to serve more than 85,000 customers.

Water in other areas of the United States comes from lakes and reservoirs, rivers, wells and even the ocean. Because water drawn from the diverse sources contains different amounts of minerals and sediments, the taste, color and quality of treated water varies throughout the country. Port St. Lucie's water comes from more than 40 wells that have been drilled into the local shallow aquifer and the deep Floridan Aquifer. Water drawn from those wells is pumped to one of our three water treatment plants.

About 15% of our water comes from the shallow aquifer and is treated with a lime softening process. The remaining 85% of the water comes from the Floridan Aquifer, and it is treated through reverse osmosis. The lime softening and reverse osmosis processes both involve extensive filtering to remove naturally occurring minerals and sediments such as salt and sand. The shallow aquifer water also has a fairly high level of hydrogen sulfide which smells like rotten eggs so it must be run through degasifying equipment to remove that odor.

After the filtering and degasification processes are complete, chlorine is added to prevent bacteria and viruses from growing in any part of the multi-million gallon storage tanks or distribution system. A corrosion inhibitor is added to protect the distribution water mains by preventing the fast-moving water from causing the mains to deteriorate. Regulations require fluoride to be added to our drinking water to increase the natural fluoride level up to the recommended level that helps prevent tooth decay. Our water contains 10 parts per million fluoride, which can be visualized as one dime per one million pennies.

Before the treated water leaves the plant, the pH, chlorine, and hardness levels are tested at different stages in the process several times a day to ensure that what our customers receive is of the highest quality. High-pressure pumps move the water from the plant to ground storage tanks before it is pumped out of the tanks and into the vast distribution system to meet customer demands.

While we provide drinking water that consistently meets all State and Federal standards, there are a few things customers can do at home to maintain high water quality.

- Upon returning from a long absence, run the water in the bathtub or shower for about 5 minutes to move a large volume of water through the pipes to flush out any water that has been sitting stagnant. For larger homes, you may want to flush your system for a longer period of time.
- If you detect a rotten egg smell, it is caused by sulfate-reducing bacteria that have taken hold in the water because of stagnant flow conditions and dissipated chlorine. Again, flushing your house plumbing for several minutes will push the stale water out and draw in fresh well- chlorinated water.
- If the smell persists after running the water in your bathtub or shower for several minutes, the problem may be in your water heater. You can determine if your water heater is the cause by taking the following steps:
 - » Run the cold water for 1 to 2 minutes (single-handed faucets have to be all the way on cold). Fill a glass with the cold water and smell it. The water may have a slight chlorine odor which is perfectly normal.
 - » Fill a glass with hot water and smell it. If the hot water smells like rotten eggs, the problem is in your water heater.
 - » Consult the water heater owner's manual to learn more about the manufacturer's flushing recommendations.
 - » Flushing the water heater is the simplest way to eliminate the problem. It can also enhance its efficiency and prolong its life.
- You may experience black residue around your faucets, shower heads or under the flushing rim of your toilet. It is a naturally occurring mold or fungi. It is present in moist leaves, soil and mulch. The spores enter your home through open doors and windows. Even you and your pet can bring the spores in on clothing and fur. This mold thrives in moist, dark environments where there is little air flow and constant dampness.
 - » It can easily be controlled by dipping a soft brush into a chlorine solution and gently scrubbing the area. This mold will not survive in our water and is not present in our drinking water.

Again, Port St. Lucie's Utility Systems Department is committed to dependably providing a supply of clean, safe, and great tasting drinking water every day to our more than 85,000 customers. However, the most important message in this document is the fact that the drinking water provided by the Port St. Lucie Utility Systems Department continues to meet all Federal and State requirements!

If you need more information about this report or our services, please call 772-873-6400.

Kevin Matyjaszek, Director of Utility Systems

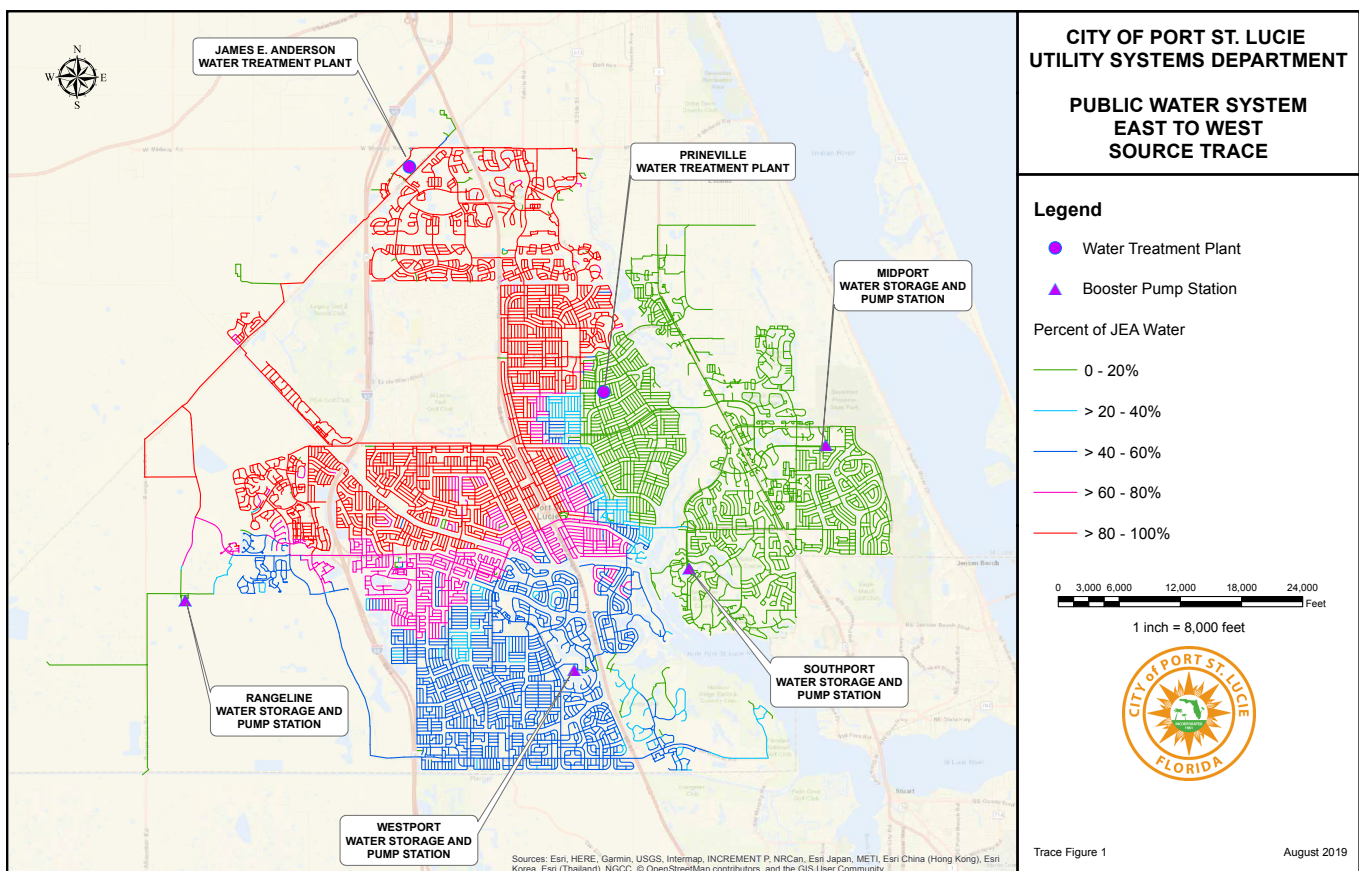
Where does your water come from?

The City's water supply comes from two independent sources, the shallow aquifer and the deeper Floridan aquifer. Raw water from the shallow aquifer, which is about 100 feet deep, is treated by an 8.0 million gallon per day lime softening facility. This process is a combination of pH adjustments with lime, coagulation with a polymer, multi-media filtration, and disinfection with chloramines. The deeper Floridan aquifer, which is about 1,350 feet deep, is treated by an 11.15 million gallon per day and a 22.5 million gallon per day reverse osmosis facilities. Both finished waters are blended, pH adjusted, disinfected, and fluoride is added.

The sources of drinking water (both tap water and bottled water) includes 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 the source water include:

1. Microbiological contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
2. 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.
3. Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
4. 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.
5. Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.



How safe is our water?

To ensure that tap water is safe to drink, the 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 1-800-426-4791.

In addition, 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 Port St. Lucie Utility Systems Department 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. 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>.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 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 on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

In 2021, the Florida Department of Environmental Protection (FDEP) performed a Source Water Assessment of the City's water supply system to identify any potential sources of contamination in the vicinity of our wells. Seven potential sources of contamination that were identified for this system have a low susceptibility level. It should be noted that the potential sources of contamination identified by this assessment are just that: potential sources. All of Port St. Lucie's water supply facilities are regulated, and operate under stringent construction and maintenance standards to protect both human health and the environment. The purpose of FDEP conducting the source water assessments was to determine if any actions are needed to reduce current risks to avoid future problems. No actions were recommended. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at <https://fldep.dep.state.fl.us/swapp/>.

Cross Connection Control: Protecting our Water

There are over 85,000 connections to our water distribution system. When connections are properly installed and maintained, the risks of contamination are very minimal. However, unapproved and improper piping changes or connections can adversely affect not only the availability, but also the quality of the water. A cross connection may let polluted water or even chemicals mingle into the water supply system when not properly protected. This not only compromises the water quality, it can also affect your health.

So, what can you do? Do not make or allow improper connections at your home. An unprotected garden hose lying in a puddle is a cross connection. The unprotected lawn sprinkler system is also a cross connection. In addition, residents in neighborhoods utilizing reclaimed water for irrigation must take precautions to prevent cross connections. Reclaimed water is not suitable for potable use and must not be connected to household plumbing. When the cross connection is allowed to exist at your home it will affect you and your family first. If you'd like to learn more about helping to protect the quality of drinking water, call us at 1-772-873-6400 for further information about ways you can help.

Water Conservation Tips

Conserving water not only helps you save money, but it also helps preserve our water resources for the use of generations to come. The power to conserve water continues to rest with each of us, young and old alike, so please share the following tips with your family members, friends and neighbors.

- Avoid unnecessary toilet flushes. Dispose of tissues, insects and other waste in the trash.
- Take a shower instead of a bath. You could save up to 25 gallons when taking a 10-minute shower with a low-flow shower head.
- Become a leak detective! Regularly check faucets, toilets, hose bibs and sprinklers for leaks and make necessary repairs. A slow drip can waste 20 or more gallons of water per day.
- Turn off the water while shaving, brushing your teeth, or washing your hands.
- Soak dirty pots and pans instead of letting the water run while you scrape them.
- Get the most for your money and only run your automatic dishwasher when it's full. Dishwashers use about 15 gallons of water during every cycle, regardless of how many dishes and glasses are loaded into it.
- Use mulch in plant beds to retain moisture, reduce evaporation, and discourage weeds that compete with plants for water.
- Always follow the Water Use Restrictions imposed by South Florida Water Management District for landscape irrigation days and times.



Additional water conservation tips and information about the importance of water conservation can be found at the following sites: www.cityofpsl.com, <http://my.sfwmd.gov>, or <http://www.epa.gov/watersense>.

Definitions

Maximum Contaminant Level (MCL):

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.

Maximum Contaminant Level Goal (MCLG):

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.

Action Level (AL):

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum residual disinfectant level (MRDL):

The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of disinfectant is necessary for control of microbial contaminants.

Maximum residual disinfectant level goal (MRDLG):

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.

“ND”

Not Detected and indicates that the substance was not found by laboratory analysis.

Locational Running Annual Average (LRAA):

The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

Parts per billion (ppb) or Micrograms per liter (ug/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.

Picocurie per liter (pCi/L):

Measure of the radioactivity in water.

Lead and Copper Results

These results are for the entire distribution system

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	AL Violation Y/N	90th Percentile Result	# of sites Exceeding the AL	MCLG	AL (action level)	Likely Source of Contamination
Copper (tap water) (ppm)	8-9/2020	N	0.11	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	8-9/2020	N	1.9	2	0	15	Corrosion of household plumbing systems; erosion of natural deposits;

Disinfectants and Disinfection By-Products

These results are for the entire distribution system

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected*	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chloramines (ppm)	1-12/2021	N	2.95	2.5-3.4	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	2,5,8,11 2021	N	19.0 (highest LRAA at site 6) @ 2782 SE Ibis Ave.	1.9-23.9	N/A	MCL = 60	By-product of drinking water disinfection
THM (Total trihalo-methanes) (ppb)	2,5,8,11 2021	N	27.8 (highest LRAA at site 1) @ 1062 SE Prineville St	1.8-41.2	N/A	MCL = 80	By-product of drinking water disinfection

* Results in the Level Detected column for radiological contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency. For THM's and HAA's, the "level detected" is the highest locational running annual average for the year.

UCMR4 Disinfectants and Disinfection By-Products

These results are for the entire distribution system

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	Level Detected (Average)	Range of Results	Likely Source of Contamination
HAA9	3,9/20	22.5	1.7-40.4	By-product of drinking water disinfection
HAA6Br	3,9/20	12.3	1.2-21.7	By-product of drinking water disinfection
HAA5	3,9/20	14.3	1.4-25.7	By-product of drinking water disinfection

Unregulated Contaminants

For Prineville Water Treatment Plant

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	Level Detected (Average)	Range of Results	Likely Source of Contamination
Source Water (Limeplant)				
Total Organic Carbon (ug/L)	3,9/20	10495	9990-11000	Naturally present in the environment
Bromide (ug/L)	3,9/20	201.5	200-203	Naturally present in the environment
Source Water (RO Plant)				
Total Organic Carbon (ug/L)	3,9/20	1995	1900-2090	Naturally present in the environment
Bromide (ug/L)	4,9/20	4105	4100-4110	Naturally present in the environment

Test Results Table

For Prineville Water Treatment Plant

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected*	Range of Results	MCLG	MCL	Likely Source of Contamination
Radiological Contaminants							
Radium 226 (pCi/L)	5/17/20	N	0.521	0.521	0	5	Erosion of natural deposits.
Inorganic Contaminants							
Fluoride (ppm)	3/20	N	0.67	N/A	4	4	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
Sodium (ppm)	3/20	N	105	N/A	N/A	160	Salt water intrusion; leaching from soil
Barium (ppm)	3/20	N	0.0043	N/A	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Nitrate (ppm)	3/21	N	0.049	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

* Results in the Level Detected column for radiological contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency. For THM's and HAA5's, the "level detected" is the highest location-running annual average for the year.

Test Results Table

For James E. Anderson Water Treatment Plant

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected*	Range of Results	MCLG	MCL	Likely Source of Contamination
Radioactive Contaminants							
Radium 226 (pCi/L)	5/17/20	N	0.69	0.69	0	5	Erosion of natural deposits
Inorganic Contaminants							
Fluoride (ppm)	3/20	N	0.75	N/A	4	4	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 (ppm)	3/21	N	0.042	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Sodium (ppm)	3/20	N	120	91.2 - 120	N/A	160	Salt water intrusion, leaching from soil.
Barium (ppm)	3/20	N	0.003	N/A	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.

* Results in the Level Detected column for radiological contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency. For THM's and HAA5's, the "level detected" is the highest location-running annual average for the year.

Unregulated Contaminants

For JEA Water Treatment Plant

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	Level Detected (Average)	Range of Results	Likely Source of Contamination
Source Water				
Total Organic Carbon (ug/L)	3,9/20	1635	1550-1720	Naturally present in the environment
Bromide (ug/L)	4,9/20	7575	7360-7790	Naturally present in the environment



City of Port St. Lucie Utility Systems Department
Kevin Matyjaszek, Utility Systems Director



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