

# 2013 Water Quality Report



## A MESSAGE FROM THE DIRECTOR

As time passes, it can be said some things never change. For example, the importance of a good supply of safe drinking water for our community is the same today as it was 20 years ago. However, ensuring there is an adequate water supply will be increasingly important in the future as our community continues to grow.

Yesterday: September 30, 1994 is a monumental date in the City of Port St. Lucie's history because that is when the City acquired ownership of its utility system. At the time, service was only provided to 17,228 water customers and 10,800 wastewater customers. Almost immediately after the acquisition, the City embarked on an unprecedented system-wide expansion program that ultimately led to water and wastewater service becoming available to all but a handful of properties in the City.

Today: This utility now provides water service to more than 66,400 customers and wastewater service to more than 47,500 customers. Our water distribution system has grown to include 1,188 miles of water mains, 5,380 fire hydrants, and our wastewater water collection system includes 1,060 miles of wastewater mains. Customers count on us to do a good job of maintaining our system and to provide dependable quality service. That's a challenge we strive to meet around-the-clock every day of the year!

More than 13 million gallons of clean, safe, great tasting water are currently distributed to customers each day. The federal and state regulations for water quality testing are strictly enforced and I am pleased to report that we continue to meet all mandated water quality standards.

Tomorrow: There are many unknowns about the future, but steps the City is taking now, such as acquiring the 3,100-acre McCarty Ranch property and planning for the construction of a Cyclic Water Treatment, Storage and Recovery System at that site, will ensure this community has an adequate supply of drinking water for generations to come. In addition

to sustaining natural resources, the McCarty Ranch site will provide multiple passive recreational opportunities that will enhance the quality of life residents enjoy. In late 2014, the City will host a grand opening event at McCarty Ranch during which the community will be invited to explore hiking and biking trails, catch fish from the 240-acre south lake, take hayride tours of the property, and enjoy other fun activities. I hope to see you there!

If you have questions about this report or about any of our services, please feel free to contact us by calling our switchboard that is operated by highly trained Utility employees who stand ready to assist you around-the-clock every day of the year. You can reach us at 772-873-6400 day or night.

**Jesus A. Merejo**  
Utility Systems Director



## WHERE DOES OUR 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 our 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 1350 feet deep, is treated by an 11.15 million gallon per day and the 22.5 million gal-

lon per day reverse osmosis facilities. Both finished waters are blended, pH adjusted, 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 human activity.

## HOW SAFE IS OUR WATER?

The City of Port St. Lucie's Utility Systems 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 to December 31, 2013. Data obtained before January 1, 2013, and presented in this report are from the most recent testing done in accordance with the laws, rules, and regulations. A list of Important Definitions appears on page 6 to help you interpret and understand certain terms and abbreviations we are required to use in the report.

In order 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 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 [www.epa.gov/safewater/lead](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/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 2013 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. Three 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 [www.dep.state.fl.us/swapp](http://www.dep.state.fl.us/swapp).





## CONTAMINANTS THAT MAY BE PRESENT IN THE 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.

## MONITOR YOUR WATER FOOTPRINT BY PRACTICING GOOD WATER CONSERVATION

Your water footprint is the total volume of fresh water you use on a daily basis. You can play a role in helping to reduce this community's water footprint by making simple, inexpensive changes that will make a huge difference in reducing the amount of water the community wastes each day.

### Approximately 70 percent of water is used indoors. Suggestions to save water inside your home include:

- Turning off the tap while brushing your teeth or shaving will help you save more than 200 gallons of water per month.
- Repair or replace dripping faucets and leaky toilets. A slow faucet drip can waste up to 20 gallons of water per day while a leaking constantly running toilet can waste 200 gallons of water a day.
- Washing dishes with an open tap can use as much as 20 gallons of water, but filling the sink and with rinse water, saves 10 of those gallons. Only run a dishwasher when it is full.
- Toilets account for almost 30% of an average household water bill. Older toilets use between 3.5 and 7 gallons of water per flush. Consider replacing existing toilets with "WaterSense" labeled toilets that will use 75 to 80% less water.
- A 10-minute shower uses 25-50 gallons of water with older high-flow shower heads. Consider replacing shower heads with low-flow models that allow you to still enjoy the shower, but can cut the volume of water used in half.

### Suggestions for conserving water outdoors include:

- Mulching landscape beds reduces water loss, suppresses water thirsty weeds, and helps prevent wasteful water runoff. Consider planting drought-resistant ground cover and shrubs.
- Stop outdoor leaks. A leak of one drop per second from an outdoor faucet or hose wastes up to 2,400 gallons of water a year.
- Avoid non-essential uses of water such as hosing down walkways and patios. Use a broom or power blower.
- Additional water conservation tips and information can be found at the following sites: [www.cityofpsl.com](http://www.cityofpsl.com), [www.sfwmd.gov](http://www.sfwmd.gov) or [www.epa.gov/watersense](http://www.epa.gov/watersense).

### Environmental Protection: Preventing Urban Storm Water Runoff Pollution

- Use fertilizers sparingly and keep it off driveways, sidewalks, and roads.
- Never dump anything down the storm drains.
- Compost your yard waste.
- Avoid pesticides; learn about Integrated Pest Management (IPM)
- Pick up after your pet

For more information on how you can minimize pollution from urban stormwater runoff pollution, go to the following link. [www.cityofpsl.com/npdes/combating-pollution.html](http://www.cityofpsl.com/npdes/combating-pollution.html)

## Cross Connection Control: Protecting our water

There are over 66,000 connections to our water distribution system. When connections are properly installed and maintained, the risk of contamination is 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 homes. An unprotected garden hose lying in a puddle is a cross connection. The unprotected lawn sprinkler system after you have fertilized or sprayed is also a cross connection. Also, 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 our water, call us at 772-873-6400 for further information about ways you can help.

### 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
<b>INORGANIC CONTAMINANTS</b>							
Fluoride (ppm)	1/2011	N	0.74	N/A	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Sodium (ppm)	1/2011	N	86.2	N/A	N/A	160	Salt water intrusion; leaching from soil
<b>RADIOLOGICAL CONTAMINANTS</b>							
Radium 226 (pCi/L)	4/2008	N	0.3	N/A	0	5	Erosion of natural deposits

### 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)	6/2013	N	0.06	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	6/2013	N	3.0	1	0	15	Corrosion of household plumbing systems; erosion of natural deposits

### Stage 2 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)	1-12/2013	N	3.1	2.9 - 3.3	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	2, 5, 8, 11 2013	N	15.3	1.9 - 25.9	N/A	MCL = 60	By-product of drinking water disinfection
THM (Total trihalo-methanes) (ppb)	2, 5, 8, 11 2013	N	33.0	0.25 - 50.8	N/A	MCL = 80	By-product of drinking water disinfection

## TEST RESULTS TABLE (continued)

<b>Microbiological Contaminants</b>						
These results are for the entire distribution system						
Contaminant and Unit of Measurement	Dates of Sampling (mo/yr)	MCL Violation Y/N	Highest Monthly % Number	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	1-12/2013	N	0.8%	0%	5%	Naturally present in the environment

## 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
<b>INORGANIC CONTAMINANTS</b>							
Fluoride (ppm)	1/2011	N	0.84	N/A	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Sodium (ppm)	1/2011	N	85.4	N/A	N/A	160	Salt water intrusion; leaching from soil

\*The state 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.

\*\* 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 contaminants such as HAA5s that were sampled more than once in 2013, the "level detected" will be the average of those results.

\*\*\* 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.

## IMPORTANT DEFINITIONS

**Maximum Contaminant Level or 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 or 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.

**Initial Distribution System Evaluation (IDSE):** An important part of the Stage 2 Disinfection Byproducts Rule (DBPR). The IDSE is a one-time study conducted by water systems to identify distribution system locations with high concentrations of trihalomethanes (THM) and haloacetic acids (HAA). Water systems will use results from the IDSE, in conjunction with their Stage 1 DBPR compliance monitoring data, to select compliance monitoring locations for the Stage 2 DBPR.

**Maximum Residual Disinfectant Level or 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.

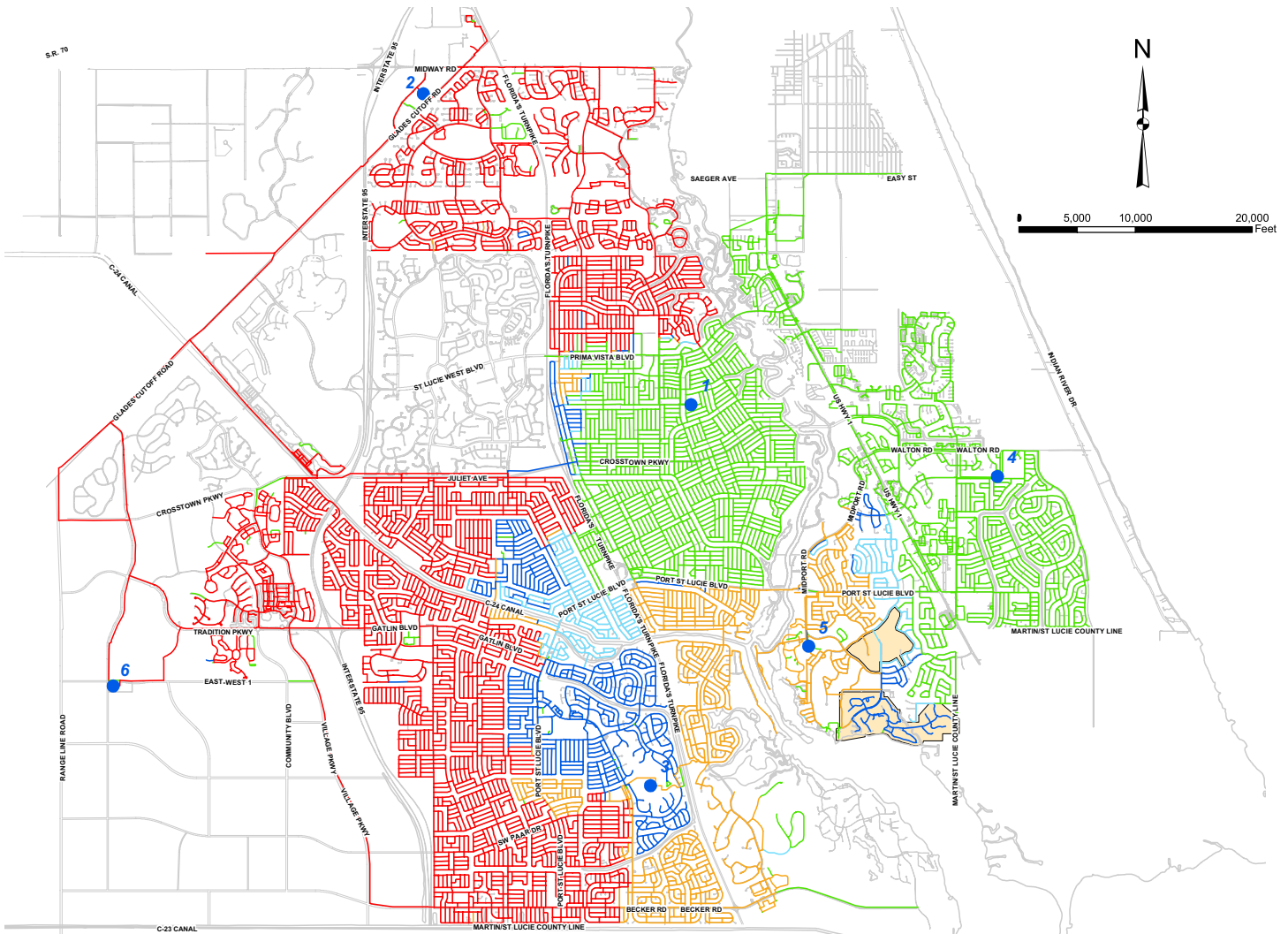
**Maximum Residual Disinfectant Level Goal or MRDLG:** The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**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.

# City of Port St. Lucie Utilities System Water Distribution Map



## A NEARLY UNBEATABLE VALUE

The City of Port St. Lucie's Utility Systems Department supplies drinking water at a tremendous value. If you get your daily recommended eight glasses (64 ounces) of water by drinking our tap water every day for an entire year, the total cost would only be 67¢ for the entire year! Purchasing that same volume (182.5 gallons) of bottled water from a retail store or vending machine could cost \$140 or more for the year. In today's economy, spending 67¢ to drink a year's worth of tap water instead of spending more than \$100 for an equal amount of bottled water is certainly something to consider.

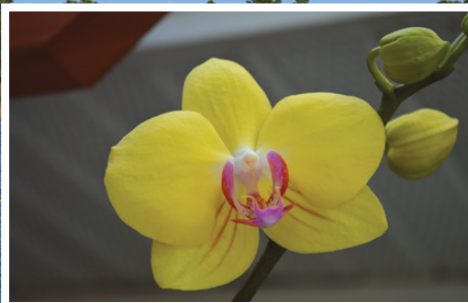
### LEGEND

#### Water Source

- 1 - Prineville WTP
- 2 - JEA WTP
- 3 - Westport Repump
- 4 - Midport Repump
- 5 - Southport Repump
- 6 - Rangeline Repump

#### % JEA Water

- 0 - 20
- 20 - 40
- 40 - 60
- 60 - 80
- 80 - 100
- Existing Reclaimed Water Service Area





## **City of Port St. Lucie**

Utility Systems Department  
900 S.E. Ogden Ln  
Port St. Lucie, FL 34983

Place  
Stamp  
Here



## **CITY OF PORT ST. LUCIE LEADERSHIP**

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Linda Bartz  
**Vice Mayor District 1**

Michelle Lee Berger  
**Councilwoman District 2**

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**Councilwoman District 3**

Ron Bowen  
**Councilman District 4**

Jeff Bremer  
**City Manager**

Jesus A. Merejo  
**Utility Systems Director**