

City of Port St. Lucie • Utility Systems Department  
**2009 WATER QUALITY REPORT**





## A MESSAGE FROM THE DIRECTOR

The employees of Port St. Lucie’s Utility take great pride in providing clean, safe, and great-tasting water every time you turn on the faucet. We continually maintain and make improvements to our water system and as a result, the drinking water provided continues to meet all Federal and State requirements!

Legislation, commonly called the 1996 Safe Drinking Water Act Amendments, requires water utilities throughout the nation to annually provide each of their customers a written report about the quality of water and services they deliver to their customers. This document was designed to inform you about our overall performance with respect to the Environmental Protection Agency’s (EPA) guidelines and our compliance with the Safe Drinking Water Act. It also summarizes the results of water quality testing and monitoring done between January 1, 2009 and December 31, 2009 (except where indicated otherwise).

We are required to include certain facts and data in the report that may contain terms and abbreviations that are unfamiliar to you. We cannot eliminate the use of those terms, but to help you better understand them, we have included a list of “Important Definitions” on page 6.

Brief descriptions of where Port St. Lucie’s water comes from and the treatment processes we use are included in the report. To ensure that our water supply lasts for many generations to come, it is of utmost importance that we use it wisely. This is why we urge customers to support water conservation and why we have included easy-to-follow tips on page 3 that will help preserve our water supply for the benefit of future generations.

To help further our mission to provide quality drinking water, Port St. Lucie Utility Systems is a member of the American Water Works Association (AWWA), a water supply information and expertise clearinghouse that has more than 60,000 members worldwide. Our water and wastewater treatment personnel actively participate in the Florida Water Pollution Control Operators Association (FWPCOA), a professional organization providing training and certification programs that support industry improvements to help utilities preserve natural resources and protect the health, safety, and welfare of their customers.

Should you have any questions about this year’s report or your water and wastewater service, please contact us by calling (772) 873-6400.

**JESUS A. MEREJO**  
UTILITY SYSTEMS DIRECTOR

## OUR VISION AND MISSION STATEMENTS

The City of Port St. Lucie Utility Systems Department’s vision is to continue to lead the water and wastewater utilities industry with innovative operating and maintenance processes, developed through training and engineering, while ensuring the safety of our employees and the health and welfare of our citizens.

Utility employees are dedicated to protecting our environment and natural water resources while building long-term relationships with customers through our professional approach and innovation, effective management, and our emphasis on exceptional customer support and service.



## WHERE DOES OUR WATER COME FROM?



Our 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 4-log virus removal process is a combination of pH adjustment 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 our 11.15 million gallon per day and our 22.5 million gallon per day reverse osmosis facilities. Both finished waters are blended, pH adjusted, and dosed with fluoride.

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.

## CONTAMINANTS THAT MAY BE PRESENT IN THE SOURCE WATER INCLUDE:

**Microbiological 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.



## WATER CONSERVATION

Did you know Port St. Lucie's water customers collectively waste thousands of gallons of water each day? The power to conserve water rests with each of us.

Free and/or low cost water conservation tips include:

- Cover landscape beds with mulch to help retain moisture in the soil.
- Only run automatic dishwashers when they are fully loaded.
- Don't let water run while brushing your teeth, washing your face, or shaving.
- Don't use recreational water toys that require a constant stream of water.
- Use a broom or blower instead of a water hose to clean leaves and debris from sidewalks and driveways.
- Repair or replace dripping and leaking faucets.

- Make sure the rubber flapper in your toilet tank forms a tight seal that will keep water from leaking into the bowl.
- Replace a toilet that was manufactured before 1994 with a new water-efficient model.
- Install a high-efficiency showerhead that uses less than 2 gallons per minute.
- If you have water level options on a washing machine, use the smallest amount of water necessary for that load. If your machine does not have water level options, only wash full loads of laundry.
- When buying new appliances or plumbing fixtures, look for the "WaterSense" label. Products bearing that label meet all the criteria in the EPA's specifications for water efficiency and performance.
- Follow the Water Use Restrictions imposed by South Florida Water Management District for landscape irrigation days and times.



More water conservation tips can be found by visiting the City of Port St. Lucie's website at [www.cityofpsl.com](http://www.cityofpsl.com).

## HOW SAFE IS OUR WATER?

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 younger 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 <http://www.epa.gov/safewater/lead>.

## CROSS CONNECTION CONTROL

There are over 65,000 connections to our water distribution system. When connections are properly installed and maintained, the concerns 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 but can also affect your health. So, what can you do? Do not make or allow improper connections at your homes. Even that unprotected garden hose lying in the puddle next to the driveway is a cross connection. The unprotected lawn sprin-

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 addition, in 2009 the Department of Environmental Protection 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. There are 8 potential sources of contamination identified for this system with low to moderate susceptibility levels. It should be noted that the potential sources of contamination identified by this assessment project are just that: potential sources. All of our facilities are regulated and operate under stringent construction and maintenance requirements designed to protect both human health and the environment. The purpose of conducting the source water assessments is to provide information that will lead to actions to reduce current risks or avoid future problems. 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).



gler system after you have fertilized or sprayed pesticide 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>							
Arsenic (ppb)	3/08	N	0.51	N/A	N/A	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Fluoride (ppm)	3/08	N	0.71	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)	3/08	N	85	N/A	N/A	160	Salt water intrusion; leaching from soil
Nitrate (ppm)	3/09	N	.088	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>RADIOLOGICAL CONTAMINANTS</b>							
Radium 226 (pCi/L)	4/08	N	.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)	6/2009	N	0.072	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	6/2009	N	2.8	0	0	15	Corrosion of household plumbing systems; erosion of natural deposits

### TTHMs and Stage 1 Disinfectant/Disinfection By-Product (D/DBP) Contaminants

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)	1-12/2009	N	3.5	3.2-3.9	MRDLG = 4	MRDL = 4	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	1,4,7,10 2009	N	12.0	1.0 - 24.1	N/A	MCL = 60	By-product of drinking water disinfection
TTHM (Total trihalo-methanes) (ppb)	1,4,7,10 2009	N	24.4	1.5- 57.0	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 contaminants such as chloramines that were sampled more than once in 2009, the "level detected" will be the average of those results.

## 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)	3/08	N	0.9	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)	3/08	N	100	N/A	N/A	160	Salt water intrusion; leaching from soil
Nitrate (ppm)	3/09	N	.078	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

### IMPORTANT DEFINITIONS

**Initial Distribution System Evaluation (IDSE):** An important part of the Stage 2 Disinfection Byproduct Rule (DBPR). The IDSE is a one-time study conducted by water systems to identify distribution system locations with high concentrations of trihalomethanes (THMs) and haloacetic acids (HAAs). 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 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.

**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.

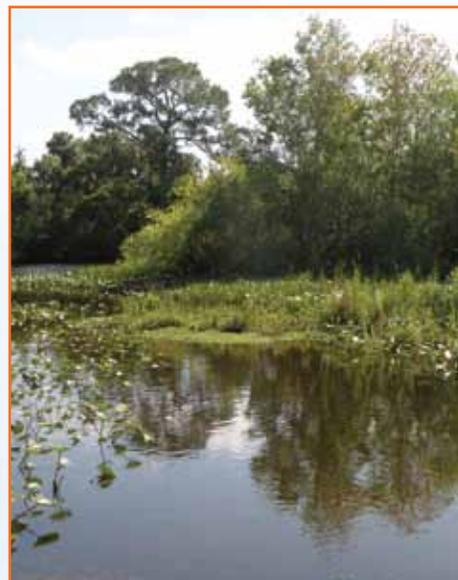
**Maximum residual disinfectant level goal or MRDLG:** The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

“ND” means not detected and indicates that the substance was not found by laboratory analysis.

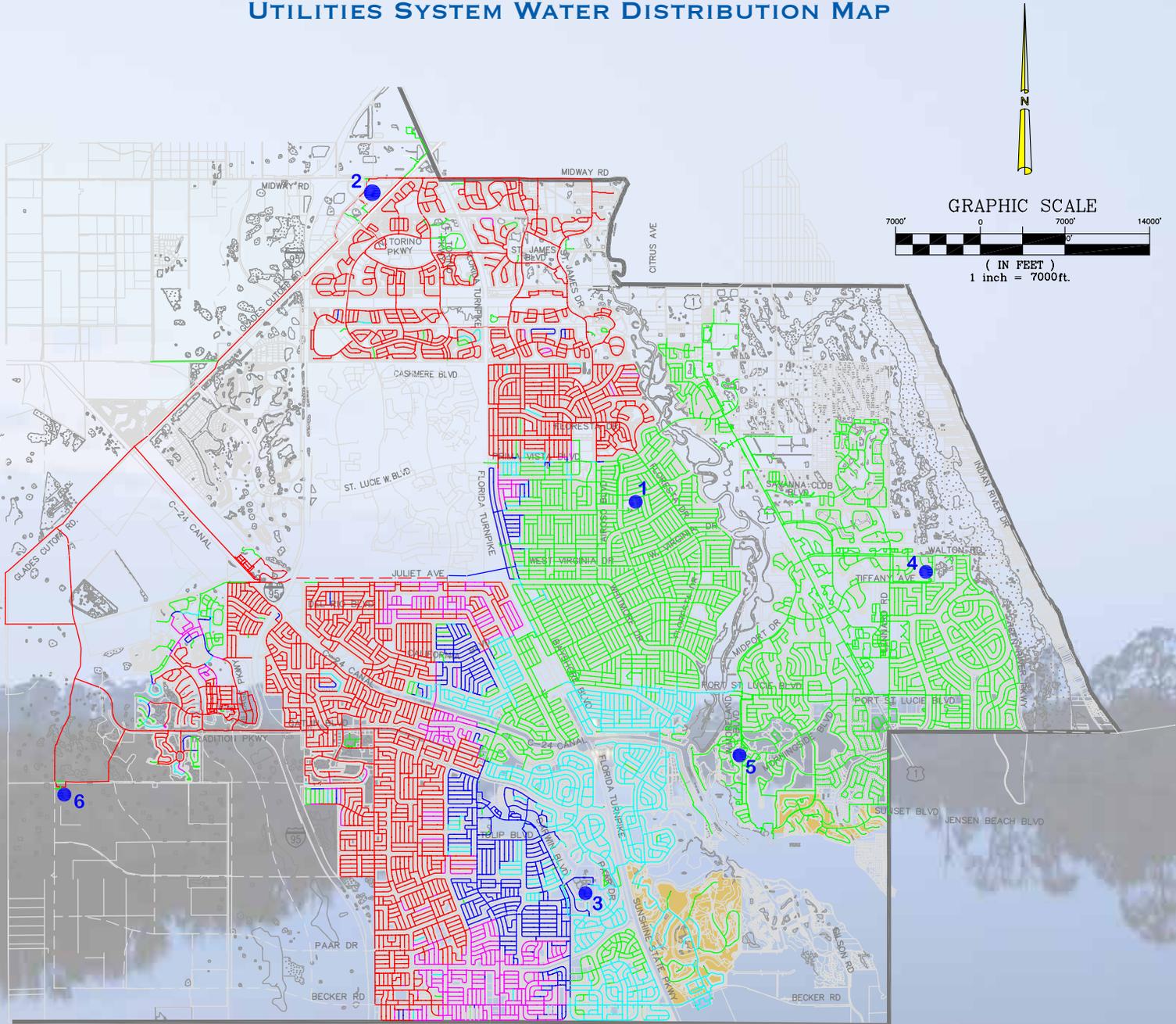
**Parts per billion (ppb) or Micrograms per liter (ug/l)** – one part by weight of analyte to 1 billion parts by weight of the water sample.

**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



**JEA WTF Trace**

- 0 - 20%
- 20 - 40%
- 40 - 60%
- 60 - 80%
- 80 - 100%

**Water Facilities**

- 1 PRINEVILLE WTF
- 2 JEA WTF
- 3 WESTPORT REPUMP
- 4 MIDPORT REPUMP
- 5 SOUTHPORT REPUMP
- 6 RANGELINE REPUMP

**Reclaimed Water**

- EXISTING SERVICE AREA





## CITY OF PORT ST. LUCIE LEADERSHIP

Patricia P. Christensen  
**Mayor**

Jack Kelly  
**Vice Mayor District 4**

Linda Bartz  
**Councilwoman District 1**

Michelle Berger  
**Councilwoman District 2**

Christopher Cooper  
**Councilman District 3**

Jerry A. Bentrott  
**City Manager**

Jesus A. Merejo  
**Utility Systems Director**



### CITY OF PORT ST. LUCIE

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

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