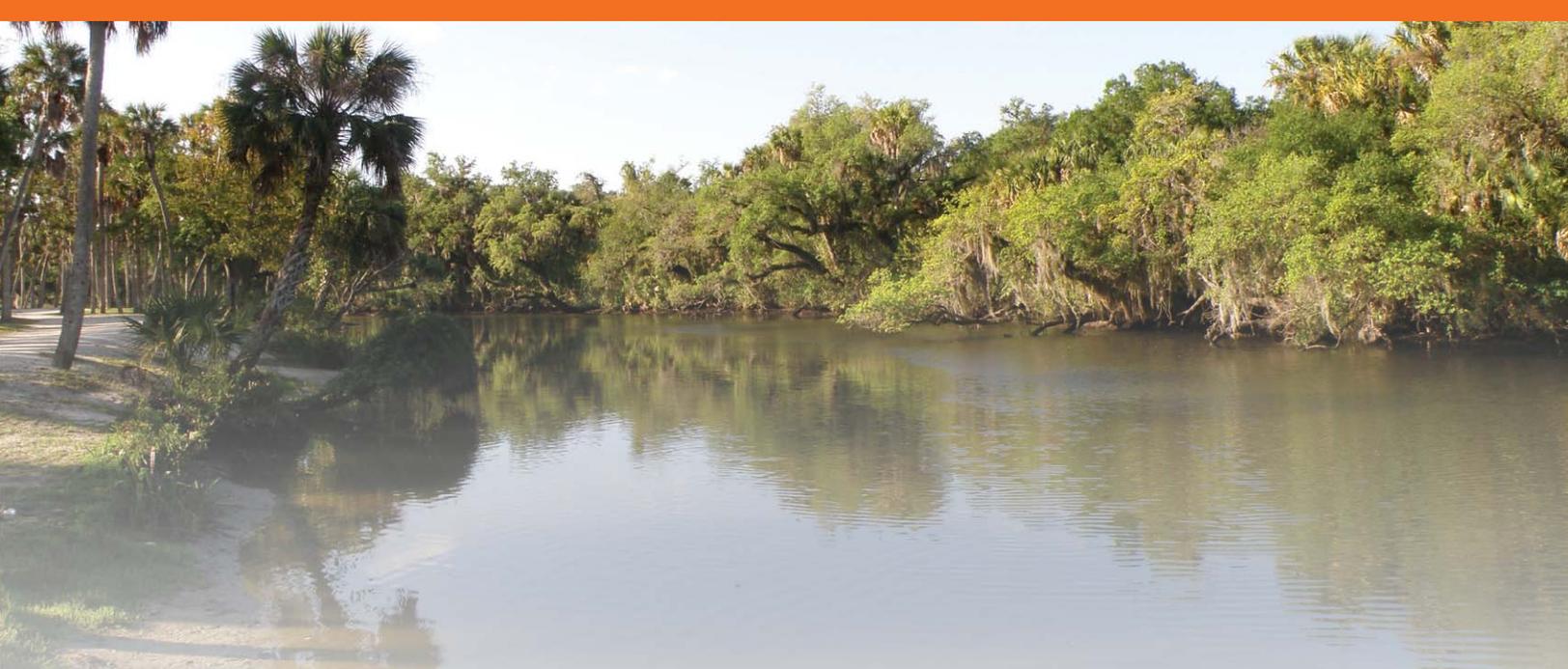


City of Port St. Lucie • Utility Systems Department  
**2010 WATER QUALITY REPORT**





## A MESSAGE FROM THE DIRECTOR

Federal law requires water utilities throughout the nation to provide each customer a written annual report that provides details about the quality of water they produce. Thus, this document was designed to inform you about our overall performance with respect to that Federal legislation which is commonly called the 1996 Safe Drinking Water Act Amendments.

The law also requires us to include certain facts and data in the report that may contain abbreviations and terms 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.

The most critical message in this entire 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!

The service slogan of this organization states that we are “Connected to Our Community.” Our 207 employees take great pride in providing quality service to more than 65,000 water customers and more than 44,000 wastewater customers. However, our connection to the community goes beyond simply providing water and wastewater service to residential and business customers.

Our strategic planning is based on a 100-year window and as a result:

- We currently have ample water and wastewater treatment plant capacity that includes sophisticated state-of-the-art technology that is used around-the-clock every day of the year.
- We maintain more than 1,173 miles of water mains that are located throughout our 135 square mile service area. That maintenance includes making sure more than 5,300 fire hydrants are in good working order to help the St. Lucie County Fire District in its efforts to protect you and your property.
- The wastewater collection system includes 1,048 miles of wastewater mains, 300 neighborhood lift stations, and 4,917 manholes that are all covered by our maintenance programs.
- We exercise care and concern for the local environment and our natural water resources.

Like other City departments, the Utility has made its share of cut backs and staff reductions in recent years, but let me assure you that the quality of service provided to customers has not been sacrificed and it will not be.

We are all concerned about the economy and ways we can save money, thus I want to mention that conserving water use is a very good way to help your budget. Please take a moment to read through and to practice the Water Conservation Tips that appear on page 4.

**JESUS A. MEREJO**  
UTILITY SYSTEMS DIRECTOR



## WHERE DOES OUR WATER COME FROM?

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.



Port St. Lucie'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 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 fluoride is added.

## 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 meth-

ods, 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/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 eight 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 Port St. Lucie's 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).

## 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.

## CROSS CONNECTION CONTROL: PROTECTING OUR WATER

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 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.

## WATER CONSERVATION

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

### Free and/or low cost water conservation tips include:

- 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
- Only run automatic dishwashers when they are fully loaded
- Don't let water run while brushing your teeth, washing your face, or shaving
- 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.
- 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.
- Cover landscape beds with mulch to help retain moisture in the soil
- Follow the Water Use Restrictions imposed by South Florida Water Management District for landscape irrigation days and times.

Be sure to visit the following websites for more tips and general information about the importance of water conservation: [www.cityofpsl.com](http://www.cityofpsl.com), <http://my.sfwmd.gov>, or <http://www.epa.gov/watersense>

## ENVIRONMENTAL PROTECTION: PREVENTING URBAN STORMWATER 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 of how you can minimize Urban Stormwater Runoff pollution, go to the following link. <http://www.cityofpsl.com/npdes/combatting-pollution.html>



## 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)	3/10	NO	.059	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	NO	.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)	11/2010	N	0.066	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	11/2010	N	4.1	1	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)	1-12/2010	N	3.5	3.1-3.9	MRDLG = 4	MRDL = 4	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	1,4,7,10 2010	N	16.3	0.8 - 46.0	NA	MCL = 60	By-product of drinking water disinfection
TTHM (Total trihalo-methanes) (ppb)	1,4,7,10 2010	N	24.0	2.0-58.0	NA	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 2008, 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

\*\* 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 2008, the "level detected" will be the average of those results.

### 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 (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 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.

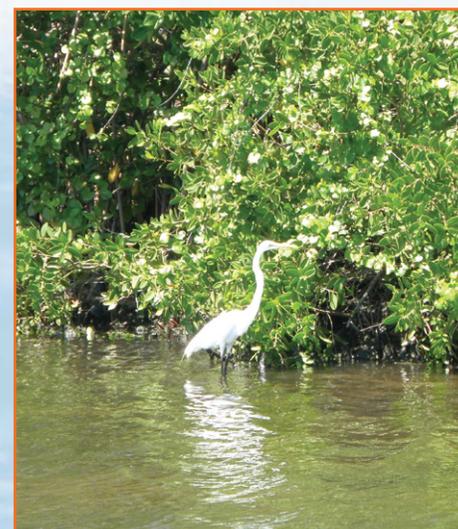
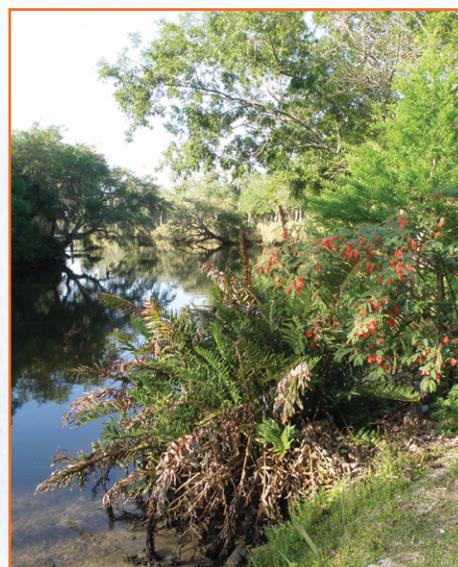
**Maximum residual disinfectant level goal or MRDLG:** The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

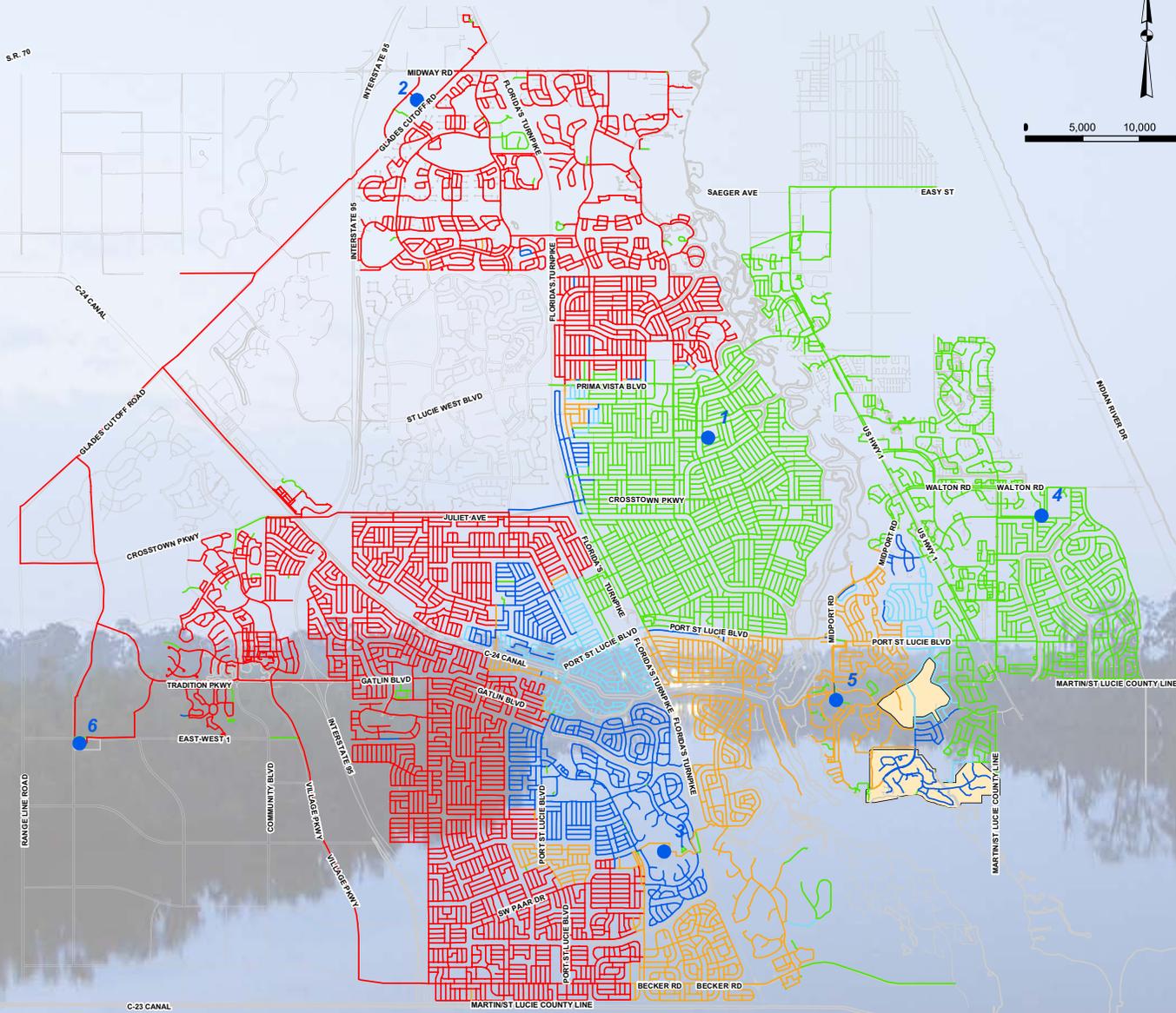
**Parts per billion (ppb) or Micrograms per liter (ug/l)** – one part by weight of analyte to 1 billion parts by weight of the water sample.

**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



## 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

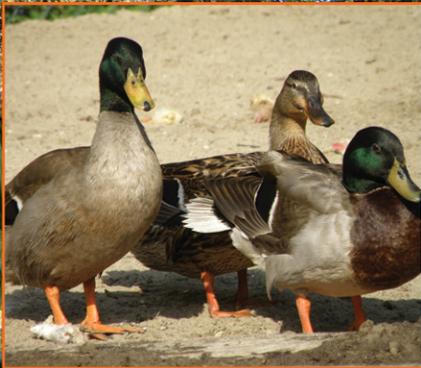




**CITY OF PORT ST. LUCIE**

Utility Systems Department  
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