

City of Port St. Lucie • Utility Systems Department

2018 Water Quality Report





A MESSAGE FROM THE DIRECTOR

We are pleased to again provide you an opportunity to review our annual Consumer Confidence Report (CCR) which offers details about the quality of this utility's potable water. This report is published in compliance with Federal legislation and for the most part reflects results of the sampling and testing we conducted between January 1, 2018 and December 31, 2018.

Port St. Lucie's Utility Systems Department is committed to dependably providing a supply of clean, safe, and great tasting drinking water to each of our more than 73,000 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!

So many of us have made Florida our home because of the year-round beautiful weather and sub-tropical climate. Snowbirds flock here in our mild winter months and return north when the summer sun heats up. Florida has two very distinct seasons—wet and dry. Our wet season, which typically lasts from May to October, can drop as much as 47 inches of rainfall, which helps replenish lakes and underground aquifers. The dry season, when demand is at its highest, lasts from November to April, which averages 15 inches of rainfall.

With all that rainfall during the wet season, keeping your lawn adequately watered is effortless. The abundance of water, however, can also be a nuisance, as too much can cause your lawn harm. In contrast, at the height of dry season, lawns may suffer as well. The South Florida Water Management District (SFWMD) has year-round watering restrictions in place to target outdoor irrigation, which can account for up to half of the residential water use in South Florida. Your home address indicates what days you are allowed to water—addresses ending in odd numbers may water on Monday, Wednesday, and Saturday and addresses ending in even numbers may water on Tuesday, Thursday, and Sunday. Friday is a dry day for all. You may water before 10 a.m. or after 4 p.m. on those designated days.

Those restrictions are part of SFWMD's larger Comprehensive Water Conservation Plan to help reduce our overall water consumption by protecting our precious resources. Conservation is defined as the prevention of the wasteful use of a resource, but even during the wet season, we must still be aware of how much water we are using. Conservation awareness should not be limited to times of drought. It should be a daily occurrence. Just because you can water your lawn three times a week does not mean you should or you have to. Planting native plants and using rain sensors in conjunction with your irrigation system can help reduce your water use and sustain your landscape during the dry season.

The environment, the economy, and our quality of life are all connected by water. And as Port St. Lucie's population grows, so does the need for all residents to conserve. Water conservation is less expensive than developing new sources and it reduces stress on our natural systems. Being environmentally responsible also saves you money on your water bill.

You are part of a larger movement that ensures a sustainable water supply for generations to come. Make water conservation as much a part of your life as water itself.



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

Brad Macek
Utility Systems Director



HOW SAFE IS OUR WATER?

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (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 EPA'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 2018 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 to moderate 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/>.

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 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) 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 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-storm water 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 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 only use about 25 gallons when taking a 10-min. shower with a low-flow shower head. You use about 35 to 50 gallons of water when taking a bath.
- 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. Newer dishwashers use about 6 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.

CROSS CONNECTION CONTROL: Protecting our water

There are over 73,000 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 772-873-6400 for further information about ways you can help.

Additional water conservation tips and information about the importance of water conservation can be found at the following sites:

cityofpsl.com
my.sfwmd.gov
epa.gov/watersense



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.

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

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 trihalo-methanes (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.

TABLES

Lead and Copper Results

These results are for the 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)	6/2017	N	0.13	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	6/2017	N	3.7	2	0	15	Corrosion of household plumbing systems; erosion of natural deposits

Disinfectants and Disinfection By-Products

These results are for the 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)	1-12/2018	N	2.7	2.6 - 3.4	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	2, 5, 8, 11 2018	N	29.8 (highest LRAA at site 1)	1.6 - 41.4	N/A	MCL = 60	By-product of drinking water disinfection
TTHM (Total trihalo-methanes) (ppb)	2, 5, 8, 11 2018	N	43.8 (highest LRAA at site 6)	0.3 - 44.8	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.

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
INORGANIC CONTAMINANTS							
Fluoride (ppm)	3/17	N	0.69	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)	3/17	N	98.2	N/A	N/A	160	Salt water intrusion; leaching from soil
Arsenic (ppb)	3/17	N	0.53	N/A	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Nitrate (ppm)	3/18	N	0.041	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 locational 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							
Alpha emitters (pCi/L)	3/17	N	2.3	N/A	0	4	Erosion of natural deposits
INORGANIC CONTAMINANTS							
Fluoride (ppm)	3/17	N	0.69	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
Nitrate (ppm)	3/18	N	0.034	N/A	N/A	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Nitrite (ppm)	3/18	N	0.025	N/A	10	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Sodium (ppm)	3/17	N	117	N/A	N/A	160	Salt water intrusion; leaching from soil
Chromium (ppb)	3/17	N	2.8	N/A	100	100	Discharge from steel and pulp mills; 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 locational running annual average for the year.

City of Port St. Lucie Utility System Water Distribution Map

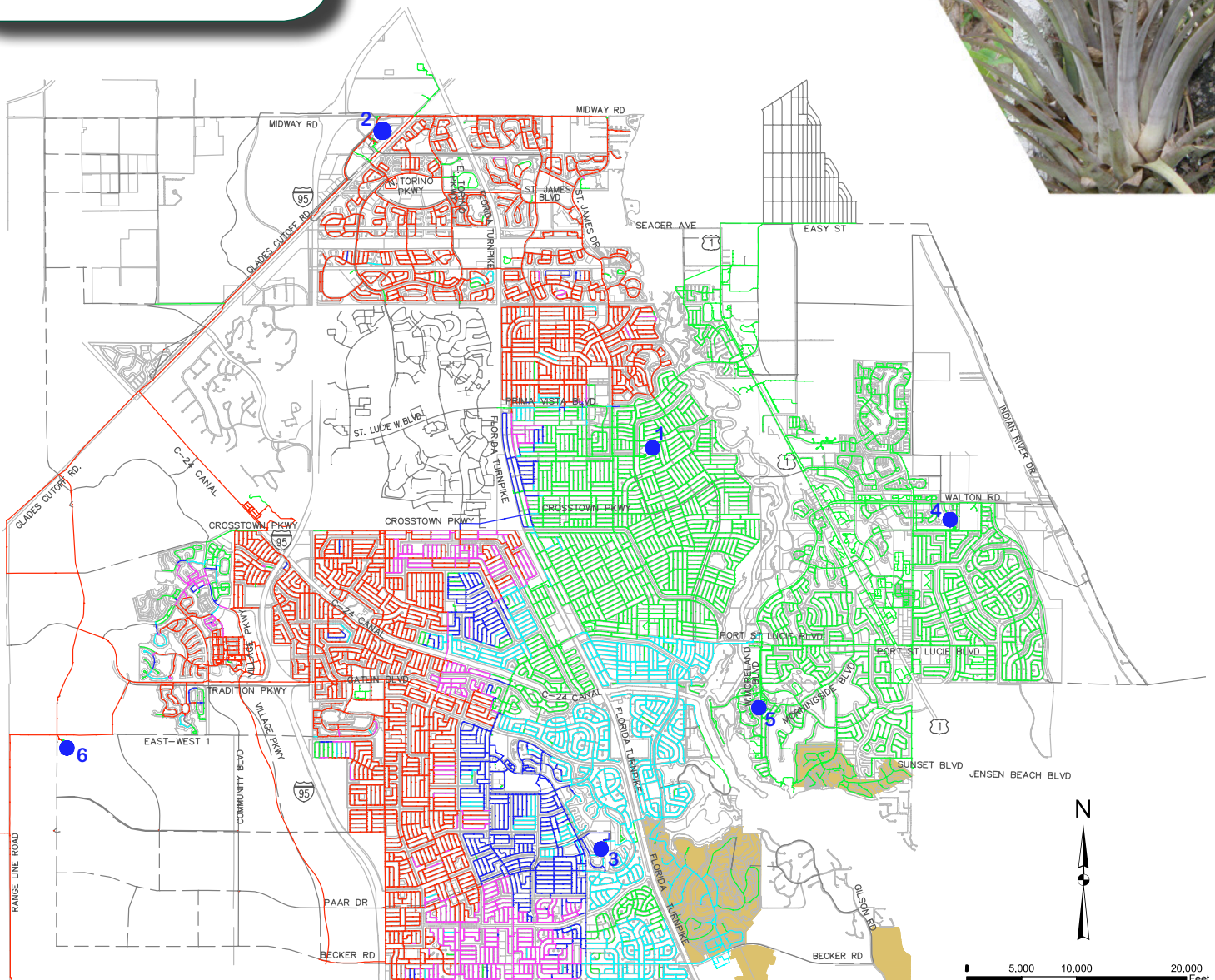
LEGEND

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

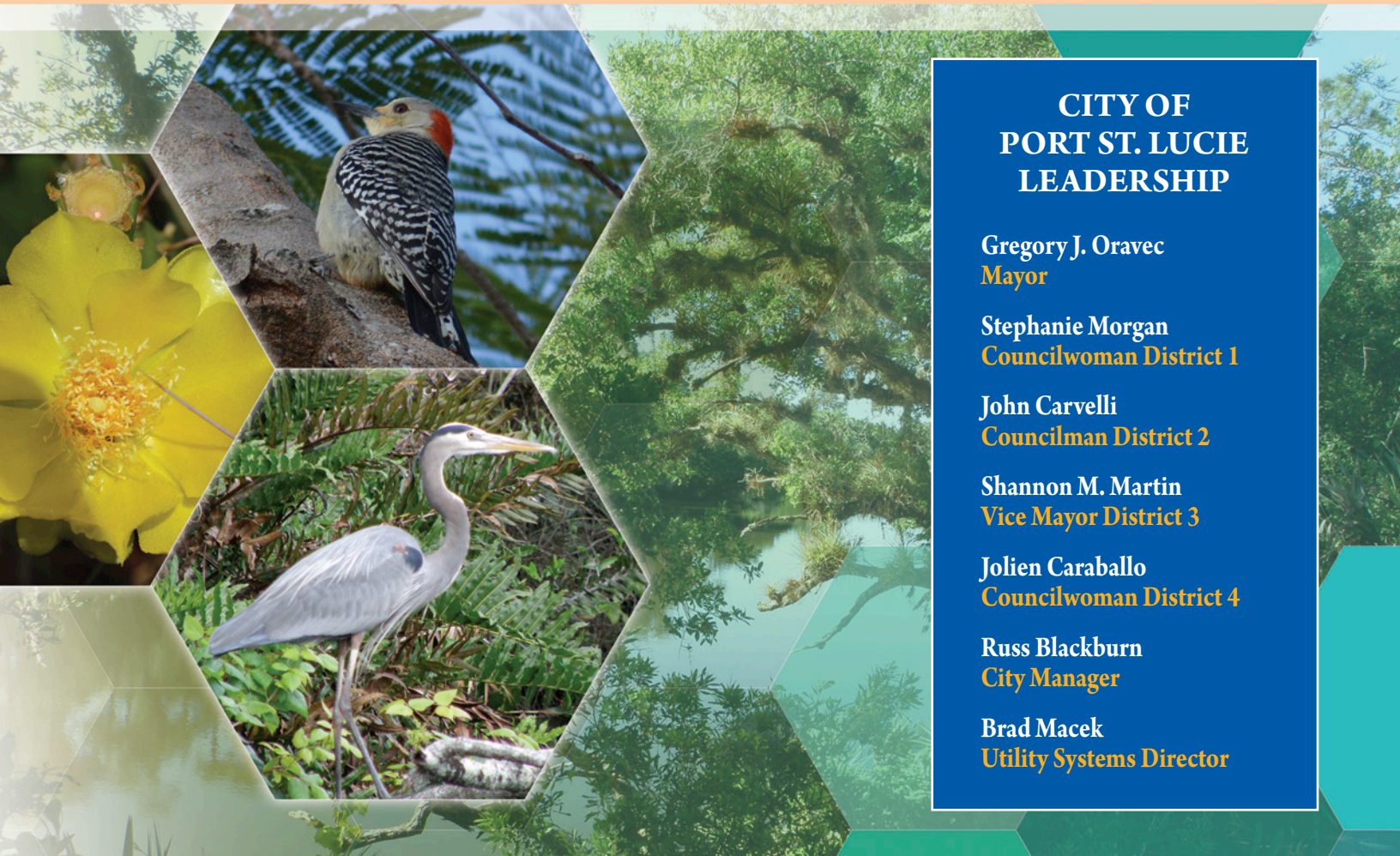




City of Port St. Lucie

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