What's Your Water Footprint?

At the beginning of each day, we hardly give our water supply a thought when we start the shower, flush the toilet, or turn on the faucet to make our morning coffee.

We rely on water all day long—for cooking, cleaning and bathing, for our lawns and swimming pools. And most importantly to stay hydrated and healthy since drinking an adequate amount of water is how our body regulates its temperature and maintains bodily functions.

Although we're surrounded by water here in Florida, drinking water is not abundant. In fact, the aquifer—our primary source for drinkable water—cannot recharge quickly enough to keep up with the growing demand.

State officials and local Utility providers work together on long-term water supply planning. For water conservation efforts, the Palm Coast Utility Department partners with the St. Johns River Water Management District, which regulates water in Flagler and 17 other counties. Both agencies provide homeowners with conservation tips, and the City offers financial incentives to builders who follow Florida Water Star Certification standards for new construction.

"Water conservation is the cheapest alternative water supply," said Deirdre Irwin, the Water Conservation Coordinator for the Water Management District. "There are state laws to protect the aquifer, and in your area we are starting to see impacts from withdrawal—impacts to surface water, the springs, the wetlands. The less we can withdraw from the aquifer, the longer we can delay seeking out expensive alternatives such as desalination."

What can we as individuals do to conserve this precious natural resource (and save money in the process)?

In part we need to be more aware of our personal habits and make small, easily made adjustments, said Garann Hopkins, Environmental Specialist at the Palm Coast Utility Department.

- Turn off the water while brushing your teeth, washing your face, shaving, or cleaning the house.
- Take a shower instead of a bath (it uses about a third of the water).
- Run the dishwasher instead of washing by hand (it uses far less hot water).

Beyond that, let innovation and technology work for you.

- For washing machines with variable settings for water volume, select the minimum amount required per load. Otherwise, wash only full loads.
- Install low-flow toilets and showerheads to dramatically reduce your water consumption. There is now a good selection of quality toilets that use just 1.28 gallons of water per flush (half of the water used by current toilets).
- When buying new appliances look for the Energy Star certification. A new washing machine uses a third of the water of a traditional washer.
- Look for the EPA Water Sense label on any fixtures you are buying, such as faucets, toilets, and showers. Water Sense fixtures are tested for performance as well as low-flow.
- Add a smart sprinkler controller for your irrigation system and use sensors that monitor soil moisture or evapotranspiration (ET) to cut down on unnecessary lawn watering.

Lastly, check for leaks and follow the Water Management District's watering restrictions.

- A running toilet can waste up to 200 gallons of water per day. At 1 drip per second, a faucet can leak 3,000 gallons per year. To check for leaks read your meter before and after a 1-hour period when no water is being used. (Remember to wait for the ice maker to refill and for regeneration of water softeners, if used.) If readings are different after the hour, you have a leak. Also monitor your bill for unusually high use.
- Lawn watering is limited to twice a week during Daylight Savings Time (March to November) and one day a week the rest of the year. See all the rules at palmcoastgov.com; search for "watering restrictions."
- Select native Florida trees and shrubs that need less watering when landscaping.

To learn more about your water footprint and specific ways to reduce it, take the Water Management District's Water Use Survey at www.sjrwmd.com/static/waterconservation/survey/#.

"It's important for all of us to conserve water," Hopkins said. "Pay attention to how you use water and do as much as you can to reduce your consumption. The future of our water supply depends on it."

Water supplied to Palm Coast customers in 2018 = 2,777,259,000 gallons
Annual average day = 7.609 million gallons
Average water use per minute = 5,284.03 gallons (90 gallons per day per person)

IMPROVING WATER QUALITY

The Utility Department strives to provide excellent drinking water and the best customer service possible. Resolving customers' concerns about water quality is an important part of maintaining our water distribution system. Experience shows customers are most satisfied when there is adequate pressure, only minimal service interruptions and water quality has good clarity and is free of odor.

To accomplish this, we focus our attention and resources on key performance benchmarks and strategies to overcome any disturbances that potentially could affect the water quality delivered to our customers. These initiatives are in addition to day-to-day management of the Water Utility, which is comprised of three water treatment facilities and associated well fields and a distribution system network of more than 750 miles of pipeline.

This year, a formal "Water Quality Improvement Engineering Study" is underway. This study and strategic planning focuses on establishing priorities for both capital improvements to Utility infrastructure and staff activities. Recommendations that come out of the study will be implemented as part of future infrastructure projects to improve Palm Coast's water quality.

Online Utility Billing—Let's keep Palm Coast green with online paperless billing! Save paper, stamps, envelopes and time by managing your Utility bill online. You can view present and past bills, make payments each month or pay monthly via automatic deduction from a credit card, checking or savings account. Go to palmcoastgov.com for details.

2018 City of Palm Coast Water Quality Report

WHAT CAN WE EXPECT TO FIND IN OUR DRINKING WATER?

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 source water include:

A. Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

B. 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.

C. Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.

D. 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.

E. Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations that 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**.

HOW THIS REPORT SHOWS OUR WATER QUALITY RESULTS AND WHAT THEY MEAN

This report shows our water quality results and what they mean to you. It also provides important information about your water and how it relates to your health. The information in this report is based primarily on 2018 facts and figures. However, the U.S. Environmental Protection Agency (EPA) does not require us to perform all tests every year. When necessary, some data was obtained from prior years. As directed by the agencies that regulate our industry, only values from these tests that exceeded specified criteria are included. We will notify you immediately if there is any reason for concern.

The City of Palm Coast Utility Department operates the water treatment and distribution system serving Palm Coast. Our water source is groundwater drawn through sixty-four wells from the Confined Surficial and the Floridan Aquifers and is treated through a complex multi-step water treatment process that includes lime softening, filtration, membrane softening, forced draft aeration, corrosion control and chloramination for disinfection purposes at three different facilities. The Florida Department of Environmental Protection (DEP) has completed a Source Water Assessment for the Palm Coast watershed. The State has determined that seventeen of our sixty-four wells have a low to moderate susceptibility to contamination based on their proximity to the sixteen potential sources of contamination that were last evaluated in 2018. For additional information, please visit the DEP website at **www.DEP.state.fl.us/swapp**.

The following information will assist you in making adjustments to your water softener, washer or dishwasher. The average hardness in the Palm Coast water is:

Total Hardness: 100ppm = 5.8 grains/gal.
Calcium Hardness: 80ppm = 4.7 grains/gal.

If you have any questions about this report or concerns about your water utility, please contact your **City of Palm Coast Utility Representative at 386-986-2360**. You may also visit the **City of Palm Coast website at www.palmcoastgov.com** or call the **EPA Safe Drinking Water Hotline at 1-800-426-4791**. We want our valued customers to be informed about their water utility. If you would like to learn more, please call us for information about the next opportunity for public participation in decisions about your drinking water.

How Do I Read This?

It's easy. The table shows the results of our water quality analyses. The column marked "Level Detected" shows the highest results from the last time tests were performed. "Likely Sources" shows where this substance usually originates. Descriptions below explain other important details. In this table you may find unfamiliar terms and abbreviations. To help you better understand these terms, we've provided the following 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.*

ND: *Means not detected and indicates that the substance was not found by laboratory analysis.*

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.*

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.*

Picocurie per liter (pCi/l): *Measure of the radioactivity in water.*

Action Level (AL): *The concentration of a contaminant that, 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 a disinfectant is necessary for control of microbial contaminants.*

Maximum Residual Disinfectant Level Goal or 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.*

N/A: *Means not applicable.*

2018 Annual Drinking Water Quality Test Results

The City of Palm Coast Utility 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, 2018 for the **City of Palm Coast – PWS ID # 2180863.** The Environmental Protection Agency (EPA) requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the table below are the only contaminants detected in your drinking water.

INORGANIC CONTAMINANTS

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
Arsenic (ppb)	05/17	N	0.15	ND – 0.15	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	05/17	N	0.0071	0.0029 – 0.0071	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (ppb)	05/17	N	0.44	ND – 0.44	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Sodium (ppm)	05/17	N	82	18 – 82	N/A	160	Salt water intrusion, leaching from soil

SYNTHETIC ORGANIC CONTAMINANTS INCLUDING PESTICIDES AND HERBICIDES

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
Dalapon (ppb)	02/18 – 10/18	N	11	ND – 11.0	200	200	Runoff from herbicide used on rights of way

STAGE 1 DISINFECTANT AND DISINFECTION BY-PRODUCT

For bromate, chloramines, or chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected.
The range of results is the range of results of all the individual samples collected during the past year.

Disinfectant or Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL or MRDL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chloramines (ppm)	01/18 – 12/18	N	3.6	0.7 – 4.8	MRDLG = 4.0	MRDL = 4.0	Water additive used to control microbes
Chlorine (ppm)	02/18 – 03/18, 06/18, 10/18	N	3.2	0.8 – 5.0	MRDLG = 4.0	MRDL = 4.0	Water additive used to control microbes

Periodically throughout the year the distribution system is maintained by conversion of Chloramine to Free Chlorine disinfection for additional microbiological control

STAGE 2 DISINFECTANT AND DISINFECTION BY-PRODUCT

If during 2018, the system had only annual or triennial results and these results were at or below the MCL, report the highest result as the level detected and the range of individual sample results as the range of results.

Disinfectant or Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL or MRDL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Haloacetic Acids (five) (HAA5) (ppb)	02/18, 5/18	N	24.46	15.39 – 24.46	N/A	MCL = 60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	02/18, 5/18	N	22.49	21.85 – 22.49	N/A	MCL = 80	By-product of drinking water disinfection

LEAD AND COPPER (TAP WATER)

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	AL Exceeded Y/N	90th Percentile Result	Sampling Sites Exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	06/16	N	0.08	0 of 31	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	06/16	N	1.6	0 of 31	0	15	Corrosion of household plumbing systems; erosion of natural deposits
Copper (tap water) (ppm)	06/17	N	0.285	0 of 12	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	06/17	N	12.8	1 of 12	0	15	Corrosion of household plumbing systems; erosion of natural deposits

Following the addition of a new treatment chemical at Water Treatment Plant #2 in 2017, 12 representative lead and copper samples were collected in the area supplied by this facility. The one sample that exceeded the Action Level for lead was resampled and resulted in a 0.45 ppb which is well below the Action Level of 15.0 ppb.

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 Palm Coast 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 under-going 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 (1-800-426-4791).