

A MESSAGE FROM THE PUBLIC WORKS DIRECTOR

The flow of water is powerful and it also sends an extremely powerful message. When it comes to water conservation, Florida residents must 'go with the flow,' modifying their long-established mindset that water is an unlimited resource. As demand continues to stress supply, citizens need to accept that our water is indeed limited and that we all must follow established recommendations to conserve water for the future.

Conservation is the most cost-effective, environmentally sound way to reduce our demand for water. Palm Coast utility customers consume an average of 7.3 million gallons per day. Believe it or not, even the simplest of preservation initiatives helps. To preserve our water supply, both residents and City staff are taking steps to alter daily behavior and consistently look to unique practices to solve supply challenges that are facing our community.

City staff is preserving water by integrating the utilization of reuse



water for irrigation with proper management of existing groundwater supplies and continual implementation of a robust public water conservation program. In 2010, Palm Coast maintained its leadership role in the Coquina Coast Seawater Desalination Project, a partnership of government entities investigating the possibility of constructing a desalination plant in Northeast Florida that removes dissolved salts and minerals from ocean water to produce high-quality drinking water. The project goal is to have a sustainable water supply that protects the environment while supporting the region's economy and quality of life.

Should Palm Coast continue to advocate conservation for our existing water supply or should we investigate an alternative resource, such as the Coquina Coast Project that provides for a drought-proof water supply? Let's do both. Conserving what we have now will allow for the time needed to properly plan for a long term solution. It will not eliminate the long term need, but it will help.

CONSERVATION EDUCATION



You often hear about the traditional ways to conserve water, both inside and outside your home: check your toilets for leaks; turn off water when you brush your teeth; take showers, not baths. We have some unique ideas in this section that you might not have discovered. And by the way, you can read more this year about conservation on the City of Palm Coast's **Facebook** page or at the new website address. Log onto www.palmcoastgov.com where you can not only access our **Facebook** page, but also stay connected to your Palm Coast government activities and programs.

Check out these tips:

- Harvest rainwater by collecting water from your roof to irrigate your garden.
- Use Florida Friendly landscaping and group plants with the same watering needs together to avoid over-watering and under-watering.
- Don't water your lawn on windy days when most of the water blows away or evaporates.
- Spreading a layer of organic mulch around plants retains moisture and saves water, time and money.
- When cleaning out fish tanks, give the nutrient-rich water to your plants.
- Use a grease pencil to mark the water level of your pool at the skimmer. Check the mark 24 hours later to see if you have a leak.
- Bathe your young children together.
- Wash your car or your pets on the lawn and you'll water your lawn at the same time.

CONSERVATION DEMONSTRATION AND LEGISLATION

Last year, Palm Coast partnered with the St. John's River Water Management District to create a unique hands-on conservation exhibit at the front entrance to the Utility Department at 2 Utility Drive. The Water StarSM demonstration is interactive and engaging, inviting the public to visit kiosks to learn about water efficiency in landscaping and irrigation. Information suggests simple methods to not only save water, but also save money on individual water bills. The next time you find yourself on Utility Drive, be sure to stop and walk through the exhibit.

The Palm Coast City Council enacted a stringent water conservation ordinance to implement and enforce the St. Johns River Water Management District's rule limiting irrigation to a defined schedule. Private irrigation well use is prohibited where reclaimed water is available. Irrigation with City supplied water is allowed only between midnight and 10am according to these scheduled days:

Daylight Savings Time (Mar-Nov)

Odd numbered addresses or no addresses

— Wednesday & Saturday

Even numbered addresses — Thursday & Sunday

Nonresidential — Tuesday & Friday

Eastern Standard Time (Nov-Mar)

Odd numbered addresses — Saturday

Even numbered addresses — Sunday

Non-residential — Tuesday



go with the flow



2010 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 2010 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 Division operates the water treatment and distribution system serving Palm Coast. Our water source is groundwater drawn through forty-six wells from the Surficial and the Floridan Aquifers and is treated through a complex multi-step water treatment process that includes lime softening, filtration, membrane softening, corrosion control and chloramination for disinfection purposes. The Florida Department of Environmental Protection (DEP) has completed a Source Water Assessment for the Palm Coast watershed. The State has determined that two of our forty-six wells have a low to moderate susceptibility to contamination based on their proximity to the three potential sources of contamination that were last evaluated in 2009. 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:

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.



2010 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, 2010 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.

Total coliform bacteria: Highest Monthly Percentage is the highest monthly percentage of positive samples for systems collecting at least 40 samples per month.

Microbiological Contaminants

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Highest Monthly Percentage	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (Positive Samples)	01/10-12/10	N	2.2	0	For systems collecting at least 40 samples per month: presence of coliform bacteria in >5% of monthly samples.	Naturally present in the environment

Results in the Level Detected column for radiological contaminants and inorganic contaminants are the highest detected level at any sampling point. Range of Results is the range of results (lowest to highest) at the individual sampling sites.

Radioactive 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
Alpha emitters (pCi/l)	01/09, 04/09, 08/09	N	2.2	ND - 2.2	0	15	Erosion of natural deposits
Radium 226 or combined radium (pCi/l)	01/09, 04/09, 08/09	N	0.6	ND - 0.6	0	5	Erosion of natural deposits

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
Barium (ppm)	07/08	N	0.0051	0.0022 - 0.0051	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Cyanide (ppb)	07/08	N	1.6	ND - 1.6	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	07/08	N	0.077	ND - 0.077	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.
Nickel (ppb)	07/08	N	0.37	ND - 0.37	N/A	100	Pollution from mining and refining operations. Natural occurrence in soil.
Selenium (ppb)	07/08	N	1.7	ND - 1.7	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium (ppm)	07/08	N	35	21 - 35	N/A	160	Salt water intrusion, leaching from soil

Stage 1 Disinfectant and Disinfection By-Product

For the following parameters monitored under Stage 1 D/DBP regulations, the level detected is the average of the individual sampling sites: Chloramines, Haloacetic Acids (MCL 60 ppb), and/or TTHM (MCL 80 ppb). Range of Results is the range of results (lowest to highest) at the individual sampling sites.

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)	01/10 - 12/10	N	3.5	1.0 - 5.1	MRDLG = 4.0	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb)	08/10	N	22.4	6.8 - 42.8	N/A	MCL = 60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	08/10	N	12.14	1.37 - 20.7	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	No. of Sampling Sites Exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	08/10	N	0.16	0 of 32	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	08/10	N	1.75	0 of 32	0	15	Corrosion of household plumbing systems, erosion of natural deposits

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 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 (1-800-426-4791).