2008 CITY OF PALM COAST WATER QUALITY REPORT

WATER. WHENEVER? FOREVER?

PLEASE CONSERVE WATER.

A Message from the Public Works Director

We need to stop talking about water conservation and start doing something about it. Over generations, we have all developed a mindset that accepts and allows heavy use of water as an unlimited resource. This is a difficult concept to change, but each of us, in our own way, must try to make this change. Here in Florida, we all love our green space—our beautiful trees, shrubs and flowers accentuate the charm and symmetry of our homes. This greenery, however, often needs mass quantities of water. We should try to think about water conservation when we make decisions on what to plant around our homes.

Which plants need little irrigation? 'Florida Friendly Native Landscape' incorporates lush greenery in your outdoor landscaping that matches appropriate plants with existing site conditions to minimize watering. Choose plants that thrive in conditions where they are best suited, whether in sun, shade or near salt and fresh water. The proper plant placed in the proper location will grow substantially with self-sufficiency, needing little water to survive.

'Florida Friendly Native Landscape' also endorses planting grass only where it is functional, mulching plants to hold moisture and placing moisture-loving plants in wet areas. Irrigate efficiently, only when plants need water or when rain is inadequate. Irrigation systems should be designed or modified to irrigate St. Augustine lawns on a separate zone from shrubbery zones, which typically require less water than this type of grass.

Selecting 'Florida Friendly Native Landscape' plants and grasses and following the City's guidelines for irrigation is a win-win satiation. Your greenery gets the correct amount of water, and your community sees a significant reduction in water consumption.

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.

Can We Irrigate WHENEVER We Want?

We simply can't irrigate...`whenever'!

The St. John's River Water Management District adopted the following water conservation provision and the City of Palm Coast is working to adopt a local ordinance that aligns with these same restrictions:

During Daylight Savings Time (March through November):

- Watering is limited to no more than two days per week and not between 10:00am and 4:00pm for all landscape as scheduled below.
  - Odd numbered addresses water on Wednesdays and Saturdays
  - Even numbered addresses water on Thursdays and Sundays
  - Non-residential properties water on Tuesdays and Fridays
  - Irrigation is limited to no more than ¾ inches of water per zone per irrigation day and no more than one hour per irrigation zone per day.
  - Automatic irrigation systems are required by State law to have a rain sensor device that shuts off the system when adequate rainfall has occurred.

During Eastern Standard Time (November through March) No Watering Between 10:00am and 4:00pm:

- Odd numbered addresses water only on Saturdays
- Even numbered addresses water only on Sundays
- Non-residential properties irrigate on Tuesdays

The City of Palm Coast's Excess Demand Level #2 policy

When this is in effect, the City's water supply customers may only irrigate during the scheduled days shown here and only between 2:00am and 8:00am.

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 2008 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 forty-six wells from the Surficial and the Floridian 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 four of our forty-six wells have a low to moderate susceptibility to contamination based on their proximity to the five potential sources of contamination that were last evaluated in 2008. 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 Department Representative at 386-986-2360**. You may also visit the City of **Palm Coast website at www.ci.palm-coast.fl.us** 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.

Will Our Water Last FOREVER?

`Forever' does not apply to Florida's drinking water.

The word 'forever' does not apply when it comes to Florida's drinking water. The demand for this basic, fundamental resource continues to exceed available supply. As responsible government officials, we are faced with the challenge that we could run out of water for future demands due to our population growth. We must seek water supply alternatives.

Palm Coast has taken the lead in the development of the Coquina Coast Seawater Desalination Cooperative, a group of Florida government agencies who are researching alternative water sources other than groundwater. The Cooperative is investigating the possibility of building a desalination plant in Northeast Florida. Ship-based or land-based, the plant would remove minerals from the Atlantic Ocean to make a product suitable for drinking and irrigating. Even if the group determines that a 'desal' plant is truly in Northeast Florida's future, it would take approximately ten or fifteen years to complete the project.

Presently, Palm Coast consumes approximately 7.3 million gallons of water per day. By 2010, it is estimated that the City will need 10 million gallons per day and by 2015, residents will need 12.5 million gallons. Aside from a possible 'desal' plant to meet future needs, Palm Coast will utilize a combination of water conservation, reuse water for irrigation and proper management of existing groundwater supplies.

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 defnitions:

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 refect the benefts of the use of disinfectants to control microbial contaminants.*

N/A: *Means not applicable.*

2008 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, 2008 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/Number 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/Number	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	01/08-12/08	N	1.2%	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, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides 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.

Radiological 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)	01/08, 04/08, 07/08 + 10/08	N	1.6	ND – 1.6	0	15	Erosion of natural deposits
Radium 226 or combined radium (pCi/l)	01/08, 04/08, 07/08 + 10/08	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.
Nitrate (as Nitrogen) (ppm)	04/08 + 07/08	N	0.071	ND – 0.071	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
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

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
Di(2-ethylhexyl) phthalate (ppb)	01/08, 04/08, 07/08 + 10/08	N	2.4	ND – 2.4	0	6	Discharge from rubber and chemical factories

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

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, and/or TTHM (MCL 80 ppb). Range of Results is the range of results (lowest to highest) at the individual sampling sites.

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)	01/08 – 12/08	N	3.8	0.8 – 5.2	MRDLG = 4.0	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb)	08/08	N	29	4.6 – 29	N/A	MCL = 60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	08/08	N	26	1.5 – 26	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 Violation Y/N	90th Percentile Result	No. of sampling sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	08/07	N	0.097	0 of 30	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	08/07	N	1.9	0 of 30	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).