

City of St. Petersburg

Water Quality Report 2011



Students at St. Petersburg's Bay Vista Fundamental Elementary School

The Water Resources Department is pleased to present this Water Quality Report for 2011. This report is designed to inform you about the award winning tap water and services we delivered to you over the past year. Our purpose is to provide our customers with a constant supply of high quality drinking water. The City of St. Petersburg 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 through December 31, 2011. Data obtained before January 1, 2011 and presented in this report are from the most recent testing done in accordance with the laws, rules and regulations. This report shows our water quality results, and you will notice that we had no maximum contaminant level (MCL) violations.

Unless otherwise indicated, the data provided in this report are results of testing of treated water from our treatment facility. However, we can provide a copy of Tampa Bay Water's annual water quality report. You can request a copy by calling the Water Treatment and Distribution Division at 727-893-7149.

Our Drinking Water Sources

The City of St. Petersburg is one of six member governments who formed Tampa Bay Water, the regional water utility which supplies all of our drinking water. The water is a dynamic blend of groundwater, surface water and desalinated water. Groundwater is primarily supplied by eleven different well fields pumping water from the Floridan Aquifer. Surface water is drawn from the Alafia River, the Hillsborough River and the Tampa Bypass Canal. Hillsborough Bay is the primary supply for the Tampa Bay Seawater Desalination facility, which uses reverse osmosis to separate drinking water from seawater.

The Florida Department of Environmental Protection (FDEP) performs source water assessments to provide information about potential sources of contamination to water systems. In 2011, the FDEP performed an assessment on the Tampa Bay Water Regional Surface Water Plant and found the source water to be considered at high risk because of the many potential sources of contaminants present in the assessment area. Also, in 2004 and 2011, nine potential sources of contamination were determined to pose a moderate risk to seven wells and a low risk to one well. However, our testing has found no indication of contamination from those sources. Results of the assessments, along with information about the source water assessment program can be found on the internet at www.dep.state.fl.us/swapp.

Possible Sources of Drinking Water Contamination

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.

Protection of Water Quality

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.

Some Special Precautions

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 the summer of 2011, we performed lead and copper testing of tap water collected at residences throughout the City. Results of these analyses indicated very low levels of lead in all the household taps tested. Although these tests indicate that our corrosion control measures are successful in preventing leaching of lead in household plumbing, the USEPA would like you to know that, 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 St. Petersburg 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 www.epa.gov/safewater/lead.

For More Information

For questions regarding this report or water treatment, or to report water quality problems: [Water Treatment Operator](#) • 727-893-7149

To report leaks or other problems (answered 24 hrs): [Water Resources Dept.](#) • 727-893-7261

Questions about watering restrictions and conservation: [Water Watch Info Line](#) • 727-892-5300

Questions regarding your utility bill: [Customer Service](#) • 727-893-7341

To request speakers for your neighborhood association meetings: [Water Resources Dept](#) • 727-893-7261

Online information about the City of St. Petersburg's water system: www.stpete.org/water

Online drinking water information from EPA: www.epa.gov/drink

We encourage public interest and participation in our community's decisions affecting drinking water. The public is welcome at City Council meetings which occur regularly on Thursdays. Please call the [Mayor's Action Center](#) at 727-893-7111 for more information. Other ways to become involved include contacting elected officials and participating in your neighborhood association.

Water Conservation Program

As part of the City's goal to be a good steward of the environment, the Water Resources Department maintains an active water conservation program. The Department provides brochures and other information on how to conserve water both indoors and outdoors. You can find conservation information and tips at www.stpete.org/water or by calling 727-551-3177.

Providing High Quality Drinking Water

Our work begins with the Cosme Water Treatment Plant operators who monitor the incoming blend of water that we receive from Tampa Bay Water and treat it accordingly. This year, almost 10 billion gallons of water were treated at our plant, which is located in northwest Hillsborough County. This treatment includes aeration, lime softening to help with corrosion control, disinfection with chloramines (chlorine with ammonia added), and filtration. Sodium hydroxide is utilized to maintain a stable pH for enhancement of disinfection and corrosion control in the distribution system. Fluoride is added to benefit dental health. After the water is sent through approximately 26 miles of piping, the responsibility shifts to the operators at the two pumping stations who keep the water flowing at a steady rate into the City's distribution system. Plant maintenance personnel keep the equipment in good working order at the treatment plant and pump stations.

System maintenance personnel repair pipes and other equipment when necessary. During the year the City eliminated 17,473 feet of water mains, replaced 54,115 linear feet of water mains and relocated 690 feet of existing mains, for a total of 54,805 linear feet or about 10.4 miles of pipe. Before any of these pipes were put into use, they were flushed, pressure tested, disinfected, and sampled for bacterial contamination. As part of the cross-connection control program that protects the drinking water system from contamination, department personnel performed over 10,900 inspections of cross-connection control devices at commercial establishments and at locations, including residences, using reclaimed water.

Throughout the year, we continue our distribution system water quality monitoring program. Administrators designate sites throughout the City from which samples are routinely collected by our water quality technicians and environmental specialists. These samples are then evaluated by chemists and results of our analyses are then sent to the proper regulatory agency or City personnel. Also, we have equipment to continuously monitor water quality at several locations around the city that are maintained by instrumentation technicians. If results of testing indicate possible issues, system technicians quickly respond by flushing water mains in the area to restore water quality.

As you can see, the job of maintaining high quality drinking water from the time we receive the water from Tampa Bay Water until it is delivered to your

Microbiological Contaminants							
Contaminant and Units of Measurement	Dates of Sampling (mo/yr)	MCL Violation (Y/N)	Highest monthly percentage	Range	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (positive samples)	01/2011 - 12/2011	no	1.2	ND - 1.2	0	Presence of coliform bacteria in >5% of monthly samples	Naturally present in the environment
Inorganic Contaminants							
Contaminant and Units of Measurement	Dates of Sampling (mo/yr)	MCL Violation (Y/N)	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm)	05/2011	no	0.0112	N/A	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Cyanide (ppb)	05/2011	no	0.91	N/A	200	200	Discharge from steel/metal factories; plastic/fertilizer factories
Fluoride (ppm)	05/2011	no	0.65	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 (as Nitrogen) (ppm)	05/2011 and 12/2011	no	0.11	0.10 - 0.12	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	05/2011	no	20.8	N/A	N/A	160	Salt water intrusion; leaching from soil
Stage 1 Disinfectants and Disinfection By - Products							
Contaminant and Units of Measurement	Dates of Sampling	MCL or MRDL Violation (Y/N)	Level Detected Annual Average	Range	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chloramines (ppm)	monthly 2011	no	3.8	0.6 - 5.6	MRDLG = 4.0	MRDL = 4.0	Water additive used to control microbes
HAA5 (haloacetic acids) (ppb)	quarterly 2011	no	12.2	7.2 - 16.4	N/A	MCL = 60	By-product of drinking water disinfection
THM (total trihalomethanes) (ppb)	quarterly 2011	no	16.34	10.7 - 20.45	N/A	MCL = 80	By-product of drinking water disinfection
Lead and Copper (Tap Water)							
Contaminant and Units of Measurement	Dates of Sampling	AL Exceeded (Y/N)	90th Percentile Result	No. of sampling sites exceeding AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (Tap water) (ppm)	06/2011 - 08/2011	no	0.482	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (Tap water) (ppb)	06/2011 - 08/2011	no	1.9	0	0	15	Corrosion of household plumbing systems; erosion of natural deposits
Results of Tampa Bay Water Monitoring							
Contaminant (Units)	Location and Dates of Sampling	MCL or TT Violation (Y/N)	Highest Level Detected		MCLG or MRDL	MCL or MRDL	Likely Source of Contamination
Turbidity (NTU)	Desalination WTP 01/11 to 04/11 Surface WTP 01/11 to 12/11	no no	0.41 0.123	Lowest % samples meeting regulatory limits 100% 100%	N/A	TT	Soil runoff
Beta/phonon emitters (pCi/L)	Desalination WTP 07/09 Surface WTP 07/09 BUD7 WTP 09/08 Cypress Creek WTP 07/09	N/A	5.1 3.0 2.1 1.7	Range N/A N/A N/A N/A	N/A	Not established	Decay of natural or man-made deposits
Uranium (ppb)	BUD5 WTP 04/11 Surface WTP 04/11 Cypress Creek WTP 04/11 Morris Bridge WTP 04/11	no	1.9 1.5 0.7 0.9	Range N/A N/A N/A N/A	0	30	Erosion of natural deposits
Bromate (ppb)	Surface WTP 01/11 to 12/11	no	Annual Average 4.56	Range 1.57 - 7.91	0	10	By-product of drinking water disinfection
Chlorine Dioxide (ppm)	Desalination WTP 01/11 to 04/11	Acute Violations (Y/N) no	Non-Acute Violations (Y/N) no	Highest Level Detected at ETDS 725	MRDLG 800	MRDL at ETDS 800	Water additive used to control microbes
Chlorite (ppm)	Desalination WTP 01/11 to 04/11	MCL Violation (Y/N) no	Highest Monthly Average 0.00527	Highest Average following an MCL exceedance at the ETDS N/A	0.8	1	By-product of drinking water disinfection
Total Organic Carbon (ppm)	Desalination WTP 01/11 to 04/11 Surface WTP 01/11 to 12/11	no no	LAA MRR 3.67 2.0	Range of MRR 3.1 - 4.0 1.76 - 2.89	N/A	TT	Naturally present in the environment

meter involves the combined efforts of many people from several divisions within the Water Resources Department. It is through this cooperation and our commitment to

service that you can open your tap at any time and receive high quality water that you can use with confidence.

To help you better understand the terms used in the table, we've provided the following definitions:

AL or Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

ETDS - entrance to the distribution system

LAAMRR - Lowest annual average monthly removal ratio

MCL or Maximum Contaminant Level - 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.

MCLG or Maximum Contaminant Level Goal - 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.

MRDL or Maximum Residual Disinfectant Level - 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.

MRDLG or Maximum Residual Disinfectant Level Goal - 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.

MRR - Monthly removal ratios

N/A - not applicable

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

NTU (Nephelometric Turbidity Unit) - measure of the cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the average person. It is monitored because it is a good indicator of the effectiveness of filtration systems. High turbidity can hinder the effectiveness of disinfectants.

pCi/L (picocurie per Liter) - measure of the radioactivity in water.

ppb (parts per billion) or ug/L (micrograms per Liter) - one part by weight of analyte to 1 billion parts by weight of the water sample.

ppm (parts per million) or mg/L (milligrams per Liter) - one part by weight of analyte to 1 million parts by weight of the water sample.

TT or Treatment Technique - a required process intended to reduce the level of a contaminant in drinking water.

WTP - water treatment plant

Other commonly requested information:

Total Hardness: 123 - 222 ppm or 7.2 - 12.9 grains/gallon

Alkalinity: 110 - 159 ppm • **pH:** 7.86 - 8.41 units (at Cosme WTP)

Several water conservation giveaway and rebate programs are available to City water customers as funding is available. These programs include:

▼ **Toilet Rebate Program** - receive a rebate up to \$100 for replacing of a high-volume toilet with a low volume model (1.6 gallons per flush or less). Restrictions and pre-replacement requirements apply; call 727-893-7676 for more information.

▼ **Sensible Sprinkling Program** - receive a FREE sprinkler system checkup, a site-specific efficiency report, and FREE installation of a rain sensor. Restrictions apply; call 727-551-3177 for more information.

▼ **Restaurant Spray Valve Replacement Program** - food service providers can receive a FREE water efficient pre-rinse spray valve that could reduce water usage by up to 300 gallons a day! Restrictions apply; call 727-551-3177 for more information.

Some Interesting Water Facts

● In 1900, 25,000 American's died of typhoid. By 1960, thanks to the use of chlorine in water treatment, that number dropped to 20. (*Florida Water Environmental Association*).

● A typical garden hose can deliver 50 gallons of water in just 5 minutes.

● Americans use more water each day by flushing the toilet than they do by showering or any other activity. (*Florida Water Environmental Association*)

● If you choose to drink your daily recommended 8 glasses of water per day from commercially bottled water, it can cost you more than \$1,400 dollars per year. If your household uses 8000 gallons monthly, your water costs 1.036 cents per gallon at current St. Petersburg utility rates. Drinking the recommended 8 glasses of water per day from the tap will cost you less than \$2 per year.

● More than 25% of bottled water comes from a municipal water supply, the same place that tap water comes from. (*Readers Digest*)

Note: If you have received this report as manager of a business or multi-family dwelling, please post it in a prominent place so that the information will be available to employees and/or residents. If you would like additional copies of the report, please contact the Water Resources Department, Water Treatment and Distribution Division at 727-893-7149.