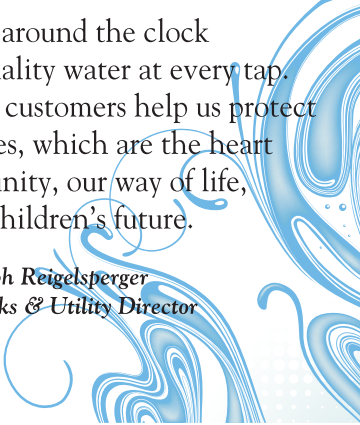


We are pleased to provide you with this year's Annual Drinking Water Quality Report. When you turn on your tap and take a cool, refreshing drink of water you can be proud to know that the City of Melbourne won the 2011 Best Tasting Drinking Water contest put on by the Florida Water Environmental Association and the Florida Section of the American Water Works Association, Region III. This was the eighth annual contest in the Central Florida area and the 12 participants were judged on taste, odor, color and clarity.



"We work around the clock to provide top quality water at every tap. We ask that all our customers help us protect our water sources, which are the heart of the community, our way of life, and our children's future.

- Ralph Reigelsperger  
Public Works & Utility Director



If you have any questions or would like more information, please call the Melbourne Public Works & Utilities Department at (321) 674-5761 or the U.S. EPA at 1-800-426-4791. You can also visit the EPA's drinking water web page at [www.epa.gov/ehtpages/waterdrinkingwater.html](http://www.epa.gov/ehtpages/waterdrinkingwater.html) or visit Melbourne's web site at: [www.melbourneflorida.org](http://www.melbourneflorida.org)

Other Customer Service Phone Numbers

- City Hall Switchboard (321) 608-7000
- Water Production Laboratory (321) 255-4622
- Utility Billing (321) 608-7100
- Water & Wastewater Operations (321) 674-5726
- After-Hours Water or Wastewater Emergencies (321) 255-4622

City of Melbourne  
The Harbor City



City of Melbourne  
The Harbor City



City of Melbourne 2011





## Melbourne's Water Quality is Continuously Monitored

In Melbourne's state-certified water quality laboratory, professional technicians perform tens of thousands of chemical and bacteriological tests on water samples each year. The results of this rigorous testing continually confirm that Melbourne's water is safe to drink. We are pleased to report that our drinking water meets all federal and state requirements.

We were required to monitor the source of our drinking water supply for the presence of *Cryptosporidium* in 2008. *Cryptosporidium* is a microbial parasite that is found in surface water throughout the U.S. We tested for this contaminant twice a month. Be advised that we detected small amounts of *Cryptosporidium* in our untreated source (surface) water. We detected this contaminant in five out of eighteen source water samples tested. Though not required, seven samples were taken on the treated drinking water entering the distribution system with no detection of *Cryptosporidium*. In addition, it should be noted that the City is meeting all current regulatory requirements regarding microbiological inactivation. We believe it is important for you to know that *Cryptosporidium* may cause serious illness in 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. These people should seek advice from their health care providers.



## Where Your Water Comes From and How It's Treated

Our water supply is derived from two independent sources, Lake Washington and the Floridan Aquifer. The City of Melbourne has a diversified water-supply approach, using both surface water and groundwater to make sure high-quality water is always available when needed.

**Lake Washington** - Lake Washington is part of the St. Johns River, the largest river in Florida. Lake Washington is approximately four miles long, one mile wide, and 10 to 15 feet deep. Lake Washington is one of the few surface water supplies used for drinking water in Florida. The water is treated using the Actiflo process. Chloramines are our primary disinfectant and are formed when ammonia is added to chlorine to treat drinking water. The purpose of chloramines is to provide longer-lasting disinfection as the water moves through pipes to consumers. Ozone is also used as a type of disinfectant that is very effective in the inactivation of potentially harmful pathogens. It also reduces the potential for forming disinfection byproducts.

**Floridan Aquifer** - The Floridan Aquifer is an extensive underground water source that covers some 82,000 square miles. Melbourne's Joe Mullins Reverse Osmosis Water Treatment Plant is supplied by four Floridan Aquifer system wells. The wells are approximately 650 to 900 feet deep. Brackish water from the Floridan Aquifer is treated with a reverse osmosis filtering process to remove salts and impurities.

**Blending the Water** - The treated groundwater is blended with the treated water from Lake Washington. The blended water is then distributed to our consumers. Chloramine booster stations in the water distribution system ensure that adequate levels of disinfectant are maintained throughout the system. Melbourne has a permitted water production capacity of 25.0 MGD. On a typical day, demand for water is about 15.0 MGD.

## Community Education and Outreach

Education and outreach activities are an important part of our mission. We realize the importance of communicating with the public about our water quality, conservation, and our on-going improvement projects. We feel it is important to provide education and outreach about the uses of water and how to conserve it for future generations. If you are interested in having someone speak to your class, civic group, community organization or homeowner's association about our water quality, treatment processes, conservation, or other topics, please contact the Environmental Community Outreach Division at (321) 953-6302.

**The Source Water Assessment Program** - The City of Melbourne is supplied with water from two independent sources, Lake Washington and the Floridan Aquifer. In 2004, the Department of Environmental Protection performed a Source Water Assessment (SWA) on our system. This assessment was conducted to provide information about any potential sources of contamination in the vicinity of our groundwater wells and surface water intakes. There are three potential sources of contamination identified for the groundwater system with moderate susceptibility levels. The surface water system susceptibility level is considered to be high risk due to the many potential sources of contamination identified. The assessment results are available on the FDEP Source Water Assessment and Protection Program web site at [www.dep.state.fl.us/swapp](http://www.dep.state.fl.us/swapp).

## Period Covered by this Report

Our state-certified laboratory continuously analyzes water quality throughout the treatment process to ensure superior quality drinking water is delivered to our customers that meets federal and state laws, rules, and regulations. The table contained in this report shows the results of our monitoring for the period of January 1 to December 31, 2010, as well as what the results mean. The state allows us to sample for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Because of this, some of the data, though representative, is more than one year old.





## Substances That Might Be In Drinking Water

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 Melbourne Public Works & Utilities 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>.

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:

- **Microbial 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 stormwater runoff, and septic systems.
- **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, 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 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 (800-426-4791).

## Treated Water Quality Terms to Know

In the water quality table, you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms, please refer to the following definitions:

**Non Detects (ND):** Laboratory analysis indicates that the constituent is not present.

**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.

# 2010 WATER QUALITY DATA

The results presented on the tables that follow are for the monitoring period of January 1 to December 31, 2010, unless otherwise noted.

## Microbiological Contaminants

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Highest Monthly Percentage/No.	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (positive samples)	3/10	N	0.8% 1 out of 132 samples tested positive	0	Presence of coliform bacteria in >5% of monthly samples	Naturally present in the environment

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Highest Single Measurement	The Lowest Monthly % of Samples Meeting Regulatory Limits	MCLG	MCL	Likely Source of Contamination
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Turbidity (NTU)	1/10 - 12/10	N	0.58	99.5%	N/A	TT	Soil runoff
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## 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
Radium 226 + 228 or combined radium (pCi/L)	5/08	N	0.3	N/A	0	5	Erosion of natural deposits
Uranium (µg/L)	5/08	N	2.2	N/A	0	30	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)	5/10	N	0.014	N/A	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	5/10	N	0.88	N/A	4	4.0	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)	5/10	N	0.018	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	5/10	N	68.7	N/A	N/A	160	Salt water intrusion, leaching from soil

## Stage 1 Disinfectants and Disinfection By-Products

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
Bromate (ppb)	1/10 - 12/10	N	1.4	ND - 5.6	MCLG = 0	MCL = 10	By-product of drinking water disinfection
Chloramines (ppm)	1/10 - 12/10	N	3.1	0.1 - 7.1	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb)	1/10 - 12/10	N	15.8	7.9 - 52.5	N/A	MCL = 60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	1/10 - 12/10	N	45.6	14.5 - 220	N/A	MCL = 80	By-product of drinking water disinfection

The monthly TOC removal ratio is the ratio between the actual TOC removal and the required TOC removal.

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	TT Violation Y/N	Lowest Running Annual Average, Computed Quarterly, of Monthly Removal Ratios	Range of Monthly Removal Ratios	MCLG	MCL	Likely Source of Contamination
Total organic carbon	1/10- 12/10	N	2.0	1.8 - 2.2	N/A	TT	Naturally present in the environment

## 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)	9/08	N	0.35	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	9/08	N	2.4	2	0	15	Corrosion of household plumbing systems, erosion of natural deposits

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

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

**Maximum residual disinfectant level (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 (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.

**Parts per million (ppm):** One part by weight of analyte to 1 million parts by weight of the water sample.

**Parts per billion (ppb):** One part by weight of analyte to 1 billion parts by weight of the sample.

**Turbidity:** A measure of the cloudiness of the water. It is a good indicator of the effectiveness of the filtration system. High turbidity can hinder the effectiveness of the disinfectants.

**Nephelometric Turbidity Units (NTU):** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**Picocuries per liter (pCi/L):** A measure of the radioactivity in water.

**N/A:** Not applicable