



# WATER QUALITY REPORT 2011

**ouc**   
*The Reliable One*<sup>®</sup>



The artwork featured in this year's report was created by local public school students as part of a water conservation-themed art partnership between OUC and Orange County Utilities Water Division. The Water Color Project featured paintings and drawings by elementary school students and rainwater collection barrels painted by high school art classes. The artwork was highlighted in a 2011 calendar designed to encourage water conservation in our community. For more information on how your child's class can participate, visit [www.ouc.com/watercolor](http://www.ouc.com/watercolor).



This 2011 OUC Water Quality Report contains detailed information about your drinking water, as well as the steps we take to ensure your

water's safety and how we are working to help conserve water for future generations.

OUC's top priority is delivering clean, safe, great-tasting water to our customers.

At OUC, we start with water from the Lower Floridan Aquifer, a well protected reservoir located hundreds of feet below ground that is slowly fed by naturally filtered rainwater.

We treat this water with ozone, the strongest disinfectant available. And to ensure the highest quality and best tasting tap water, we conduct more than 20,000 chemical and bacteriological water quality tests every year in our state certified water lab. You'll find a summary of those test results in this report.

You'll also see creative water conservation artwork developed by local elementary

students as part of our Water Color Project. This collaborative program provides a showcase for these young artists to display their work, while helping to deliver the important message about using our water resources wisely.

To promote conservation to all ages, this report also includes water conservation tips that can lower your bill while saving thousands of gallons of water. With your help, we can work together to ensure a healthy supply of water for years to come.

— **Kenneth P. Ksionek**  
OUC General Manager & CEO



# Safe, *Reliable* Drinking Water For Generations To Come

## **A NATURALLY CLEAN WATER SOURCE**

OUC's water comes from the Lower Floridan Aquifer, an underground reservoir that in many places is a quarter of a mile below the earth's surface. The Aquifer is fed by rainwater that is filtered through hundreds of feet of rock, undergoing a natural cleansing process. After pumping water from the Aquifer to our water plants, OUC carefully treats the water to ensure its safety and enhance its quality.

## **USING OZONE TO PRODUCE GREAT TASTING WATER**

OUC uses ozone treatment at its seven water treatment plants to produce high quality, great tasting tap water, proudly dubbed H<sub>2</sub>OUC. Ozone is the strongest disinfectant available and reduces the amount of chlorine that must be added. The result is clean, fresh-tasting water with a sparkling appearance. Since 1995, OUC has converted four of its water plants to ozone treatment and built three new ozone plants. As required by law, we still add chlorine to our water to maintain

its high quality as it flows through pipes to customer taps. Fluoride is added to promote healthy teeth. We also add sodium hydroxide to prevent copper and lead from leaching into the drinking water from customers' own plumbing, the primary source of these elements in our area.

## **SECURING OUR WATER FACILITIES**

All OUC water plants are equipped with state-of-the-art security systems that include intrusion-detection systems, alarms, cameras and security fences around the perimeter of the properties. Armed security guards and law enforcement officers regularly patrol the facilities. You can be assured that OUC remains vigilant in monitoring and protecting our water facilities. The safety of your water is our highest priority.

## **ABOUT OUC—THE *RELIABLE* ONE**

OUC is a municipal utility owned by the citizens of Orlando and governed by a board of commissioners. The utility provides electric and water services to more than 221,000 customers in Orlando, St. Cloud and parts of unincorporated Orange and Osceola counties. OUC is the second largest water utility in the state, serving a population of 423,500.



# Protecting Our Resources Through Conservation

To prepare for Central Florida's future water needs, OUC has taken a leadership role in the search for innovative, reliable solutions while still providing clean, great-tasting water for our customers today.

One solution is the development of alternative water supplies to meet future drinking water demands. OUC also is focusing on reclaimed water—highly treated wastewater safe for human contact—to supply anticipated landscape and lawn irrigation needs.

Through regional partnerships with the City of Orlando and other Central Florida water utilities, OUC is actively developing these alternative water sources.

We also want to highlight the value of water conservation through customer education and through classroom programs like the Water Color Project and Project AWESOME (Alternative Water & Energy Supply; Observation, Methods & Education). Small steps can add up to big savings that lower your monthly utility bill

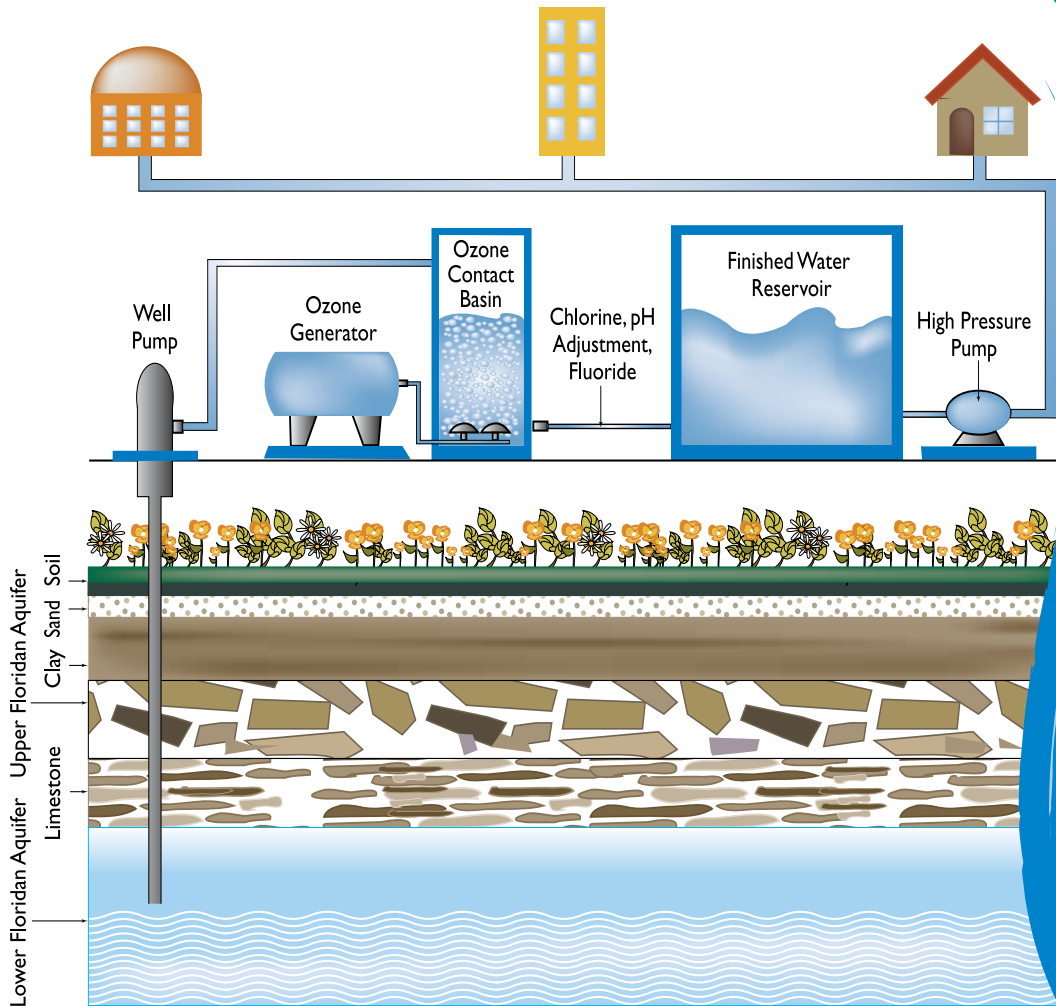
while helping to preserve our water supply.

**By following these simple water conservation tips, you can save thousands of gallons of water each year:**

- Water your lawn only before 10 a.m. or after 4 p.m. to minimize the amount of water lost to evaporation
  - Water just once a week in the cooler months and twice a week in the warmer months to maintain healthy, green grass with a strong root system
  - Irrigation for odd-numbered addresses is allowed Wednesdays and Saturdays
  - Irrigation for even-numbered or no addresses is allowed Thursdays and Sundays
  - Water your lawn for just 30-45 minutes per session
- Repair leaking faucets and toilets and install water-saver flush valves in toilets
  - Install water-saver shower heads and take shorter showers

**For more ways to save water, visit [conservefloridawater.org](http://conservefloridawater.org).**





# where your water comes from

Well pumps at OUC's water treatment plants draw water from a natural underground reservoir called the Lower Floridan Aquifer. After being sent through ozone treatment basins, the water is treated with chlorine and fluoride. The water is then pumped to a finished water reservoir, where it waits for distribution to residential, commercial and industrial customers. Each year OUC delivers nearly 30 billion gallons of water to customers across a 200-square-mile territory.



# Water Quality Test Results

## ALL TEST RESULTS **WELL BELOW** ALLOWABLE LEVELS

As shown in the following tables, the water that OUC delivers to your tap surpasses all federal and state requirements for safe drinking water. Of the more than 135 regulated and unregulated substances for which we test annually, only several have been detected, and the detection levels were well below allowable levels. Except where

noted, the following results are from tests conducted between January 1 and December 31, 2010 (the most recent available in accordance with DEP regulations). Note, substances with samplings dated 2008 are monitored by OUC every year but only required to be reported to DEP every three.

Primary Regulated Substances	Date of Sampling	MCL/AL Violation	Range Detected	Highest Detected	MCL	MCLG	Possible Sources
<b>Arsenic (ppb)</b>	1/2008	No	ND-1	1	10	0	Erosion of natural deposits
<b>Barium (ppm)</b>	1/2008	No	0.011-0.032	0.032	2	2	Erosion of natural deposits
* <b>Cyanide (ppb)</b>	1/2008	No	ND-7	7	200	200	Discharge from steel/metal factories
<b>Fluoride (ppm)</b>	1/2010	No	0.547-0.926	0.926	4	4	Erosion of natural deposits; water additive that promotes strong teeth
<b>Lead (ppb)</b> (point of entry)	1/2008	No	ND-3	3	AL(15)	0	Erosion of natural deposits
<b>Nickel (ppb)</b>	1/2008	No	ND-2	2	100	0	Erosion of natural deposits
<b>Sodium (ppm)</b>	1/2008	No	5.62-12.8	12.8	160	N/A	Salt water intrusion; leaching from soil

\* Initially traces of this compound were detected; however, subsequent analysis resulted in no detection.

Radiological Contaminants	Date of Sampling	MCL/AL Violation	Range Detected	Highest Detected	MCL	MCLG	Possible Sources
<b>Radiological Gross Alpha (pCi/L)</b>	1/2008	No	ND-1.5	1.5	15	0	Erosion of natural deposits





TTHMs and Stage I Disinfectant/Disinfection By-Product (D/DBP) Parameters							
Disinfection By-products	Date of Sampling	MCL/AL Violation	Range Detected	Highest Detected	MCL	MCLG	Possible Sources
<b>Bromate (ppb)</b>	Monthly 2010	No	ND-13	13* (annual average 4)	10	0	By-product of drinking water disinfection
<b>HAA5 (ppb) Haloacetic Acids</b>	Quarterly 2010	No	6-29	29* (annual average 17)	60	N/A	By-product of drinking water chlorination
<b>TTHMs (ppb) Trihalomethanes</b>	Quarterly 2010	No	27-81	81* (annual average 50)	80	N/A	By-product of drinking water chlorination
<b>Chlorine (ppm)</b>	1/10-12/10	No	0.10-2.5	2.5* (annual average 1.06)	(MRDLG=4)	(MRDL=4)	Water additive used to control microbes

\* Compliance levels are based on running annual averages

Stage II Disinfectant/Disinfection By-Product (D/DBP) Monitoring (Initial Distribution System Evaluation (IDSE) Monitoring required by EPA.)							
<b>HAA5 (ppb) Haloacetic Acids</b>	4th Quarter 2007 & Quarterly 2008	No	2-23	23* (annual average 16)	60	N/A	By-product of drinking water chlorination
<b>TTHMs (ppb) Trihalomethanes</b>	4th Quarter 2007 & Quarterly 2008	No	13-66	66* (annual average 47)	80	N/A	By-product of drinking water chlorination

## Microbiological Contaminants

The following results are from tests conducted between January 1 and December 31, 2010 (the most recent available in accordance with DEP regulations).

Contaminant	MCLG	MCL	Level Detected	Violation	Likely Sources
<b>Total Coliform Bacteria</b>	0	Presence of Coliform Bacteria in more than 5% of monthly samples	OUC's highest monthly percentage of positive samples was 0.49%, in April 2010	No	Naturally present in the environment

During 2010, a minimum of 184 water samples per month was collected throughout OUC's water distribution system and analyzed for Total Coliform Bacteria.

For a complete list of abbreviation and definitions used on this and following pages, please see page 8.

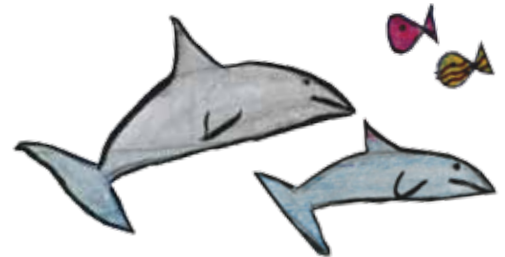
# Synthetic Organic Contaminants



Contaminant & Unit of Measure	Date of Sampling	MCL Violation Y/N	Level Detected	Range of Results	MCL	MCLG	Possible Sources
* Dalapon (ppb)	7/2008	N	1.4	ND-1.4	200	200	Runoff from herbicide used on rights of way
*Di(2-ethylhexyl) phthalate (ppb)	3/2008	N	0.6	ND-0.06	6	0	Discharge from rubber and chemical factories

\*Initially traces of these compounds were detected; however, subsequent analysis resulted in no detection.

## Results of Copper and Lead Sampling at Customer Taps



The following results are from tests conducted between June 1 and September 30, 2008 (the most recent available in accordance with DEP regulations). The tests confirm that the levels of lead and copper in tap water sampled in homes were below the Action Level (AL) except where noted. All substances with samplings dated 2008 are monitored by OUC every year but only required to be reported to DEP every three.

Contaminant & Unit of Measure	MCL Violation	Level Detected	AL	MCLG	Likely Source of Contamination
<b>Copper</b> (tap water) (ppm)	No	0.49 (90th percentile)*	AL=1.3 (One site exceeded AL)	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
<b>Lead</b> (tap water) (ppb)	No	2 (90th percentile)*	AL=15	0 (Zero ppb)	Corrosion of household plumbing systems; erosion of natural deposits

\* In 90 percent of the homes sampled, the level of copper was 0.49 ppm or less and the level of lead was 2 ppb or less.



## MORE ABOUT LEAD AND COPPER

The primary source of lead and copper in tap water is customers' plumbing. These elements can leach into the water from a building's plumbing through corrosion if the water has been standing in the pipes for several hours. To prevent this corrosion, OUC has implemented system-wide corrosion-control treatment that adds sodium hydroxide to the water to increase its pH.

Elevated levels of lead can cause serious health problems, especially for pregnant women and young children. OUC 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 are available from the Safe Drinking Water Hotline at [1.800.426.4791](tel:18004264791) or [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## CONSTANTLY TESTING YOUR WATER

After an on-site assessment by the Florida Department of Health and successful completion of the latest round of proficiency testing, chemists at OUC's state-of-the-art Water Quality Laboratory perform more than 20,000 chemical and bacteriological tests annually to ensure the quality and safety of OUC's drinking water. With the latest accreditation, customers can continue to enjoy OUC's award-winning water with confidence, knowing that the water is tested regularly and surpasses the highest quality standards. For more information about OUC's drinking water, call our Water Quality Laboratory at [407.434.2549](tel:4074342549) to talk to a water quality professional. Information also is available online at [www.ouc.com](http://www.ouc.com).

## SOURCE WATER ASSESSMENT

A source water assessment has been completed and the report is available online at [www.dep.state.fl.us/swapp](http://www.dep.state.fl.us/swapp).

## keys to abbreviations

### **MCL: 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: 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.

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

**ppm: Parts per million.** One part per million corresponds to 1 cent in \$10,000.

**ppb: Parts per billion.** One part per billion corresponds to 1 cent in \$10 million.

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

**N/A: Not applicable.**

**ND: Not detected.** Indicates that the substance was not found by laboratory analysis.

**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.**

**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.**



# EPA Statement About Water Resources, Contaminants

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

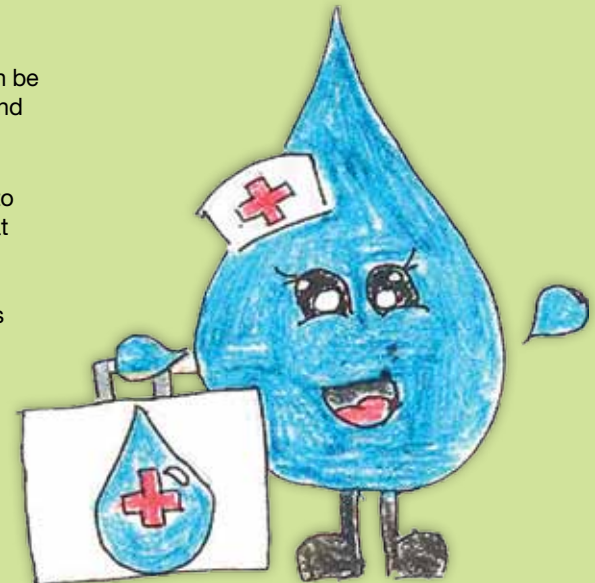
as agriculture, urban stormwater runoff and residential uses.

- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and also can come from gas stations, urban stormwater runoff and septic systems.
- **Radioactive contaminants**, which can be naturally occurring or 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. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

All drinking water, including bottled water, may be reasonably 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 health effects can be obtained by calling the U.S. Environmental Protection Agency's Safe Drinking Water Hotline at **1.800.426.4791**.





## what the EPA says about MCLs and health effects

The Maximum Contaminant Levels (MCLs) set by the EPA are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as those with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people and infants can be particularly at risk for infections. These people should seek advice from their health care providers about drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the EPA Safe Drinking Water Hotline, **1.800.426.4791**.