

2018 WATER QUALITY REPORT

CLEAN • SAFE • RELIABLE



OUC 
The Reliable One®

Este reporte incluye información importante sobre el agua potable. Para asistencia en español, favor de llamar al telefono (407) 423-9018.

A Word From Our General Manager & CEO



As the General Manager and CEO of OUC — The *Reliable One*, I am proud to work with more than 1,200 dedicated professionals who truly appreciate the responsibilities our customers entrust in us. I can unequivocally say that we are committed to excellence in everything we do for our customers.

To that point, you can rest assured that every time you open a faucet in your home the water coming out of it is pure and safe to drink. That's the conclusion of the 2018 OUC Water Quality Report, a compilation of test results and other important information about the water you drink and our efforts to conserve it.

The source of your drinking water is the Lower Floridan aquifer, a well-protected reservoir located hundreds of feet below ground. OUC treats this high-quality water with ozone, the strongest disinfectant available, and adds fluoride to promote healthy teeth. Additionally, our state-certified water lab annually conducts thousands of chemical and bacteriological water-quality tests, including tests for more than 135 regulated and unregulated substances like lead and copper. Summaries of those results are included in this report.

No less important than the quality of the water you drink is the quantity of water — a limited resource — all of us save for future generations. With that challenge in mind, OUC conducts year-round educational initiatives with Orange and Osceola county public school students. Since 2006, more than 92,000 students have participated in our award-winning Project AWESOME (Alternative Water & Energy Supply, Observation, Methods and Education) and the Water Color Project. We also partner with the St. Johns River Water Management District to educate our customers and the community on what can easily be done to reduce water consumption, especially during times of low rainfall and drought.

I hope you find the 2018 Water Quality Report helpful in better understanding our efforts to protect and preserve the public's water supply. If you have any questions or concerns about water quality, please don't hesitate to contact OUC's Water Quality Lab at 407-434-2549.

A handwritten signature in blue ink that reads "Clint Bullock". The signature is fluid and cursive, written in a professional style.

— Clint Bullock
OUC General Manager & CEO

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 245,000 customers in Orlando, St. Cloud and parts of unincorporated Orange and Osceola counties. OUC is one of the largest water utilities in the state and serves a population of approximately 442,000.



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-mile below parts of the Earth's surface. The aquifer is fed by rainwater that goes through a filtration process as it seeps through hundreds of feet of sand and rock. OUC pumps waters from the aquifer to facilities where it's treated to meet standards that ensure the water is safe to drink.

Promoting Water Conservation

OUC works year-round to educate the community about the importance of protecting such a precious — and limited — natural resource. From water-conservation themed events, campaigns and student projects to proactive traditional and social media outreach during times of low rainfall or drought, we are committed to helping our customers understand the vital role water plays in everyday life and how crucial their role is in protecting it.

OUC also offers services that help customers become water-wise consumers. Our conservation team conducts home audits to search for potential sources of water loss and make recommendations on improvements. Some recommended upgrades are eligible for OUC rebates, including low-volume irrigation systems, ultra-low-flow toilets, and water cisterns. Customers also have online access to water conservation tips and videos covering such topics

as leak detection, water-wise landscaping, faucet aerators, and more. For additional information, visit [OUC.com/water](https://www.ouc.com/water).

Ozone Process Produces Great-Tasting Tap Water

OUC uses ozone treatment at our seven water-service plants as part of a process to produce high-quality, great-tasting tap water we call H₂OUC. Ozone oxidizes hydrogen sulfide to improve taste, eliminate odor and reduce the amount of chlorine that's added to water. By law, we are required to add chlorine to our water to maintain its high quality as it flows through pipes to customers' taps. Fluoride also is added to promote healthy teeth, and we add sodium hydroxide to adjust the pH, preventing copper and lead from leaching into the drinking water from customers' plumbing, the primary source of these elements.

Protecting Our Water Facilities

Because the safety of your water is of the utmost importance, OUC goes to great lengths to keep our water treatment facilities secure. All OUC water plants are equipped with state-of-the-art security, including intrusion-detection systems, alarms, cameras and fences around the perimeter of properties. Armed security guards and law enforcement officers regularly patrol the facilities.

MAKING WATER CONSERVATION A FUN LEARNING EXPERIENCE

Through water-conservation-themed classroom programs, OUC is teaching public school students about the importance of preserving and protecting Florida's water supply. Since 2006, more than 92,000 local students have participated in OUC's Water Color Project and Project AWESOME (Alternative Water & Energy Supply, Observation, Methods and Education). The Water Color Project encourages Orange County students to use their artistic talents to promote conservation. Fourth- and fifth-graders compete to have their artworks featured in OUC's annual Water Conservation Calendar while middle and high school students paint water-themed rain barrels for judging.

Project AWESOME delivers an interactive lab to fifth-graders in Orange and Osceola counties. Students make an aquifer, build solar-powered cars and validate the efficiency of low-flow showerheads and compact fluorescent light bulbs (CFLs).

OUC's efforts to spread the word on water conservation goes beyond the classroom. Everyone can help save water by following a few simple tips:

- Water your lawn before 10 a.m. or after 4 p.m. to minimize the amount lost to evaporation.
- Water just once a week in cooler months and twice a week in warmer months.
- Water your lawn for just 30–45 minutes per session.
- Repair leaking faucets and toilets.
- Install water-saver shower heads and take shorter showers.

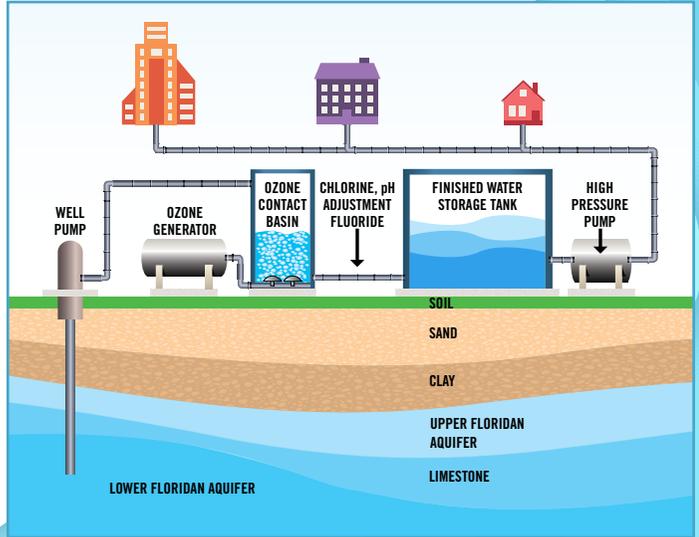
For more ways to save water, visit www.ouc.com/waterconservation.

As part of OUC's Water Color Project, elementary school students created the artwork (below), which is featured in the 2019 Water Conservation Calendar. Local middle and high school students painted the rain barrels (right).



WHERE DOES YOUR WATER COME 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 contact basins, the water is treated with chlorine and fluoride. The water is then pumped into a finished water storage tank and distributed to residential, commercial and industrial customers. OUC pumps nearly 32 billion gallons of water per year to customers across a 200-square-mile service area.



The History of Orlando's Water

The foundation for what would eventually become the Orlando Utilities Commission was laid even before the 20th century began. Through much of the 1800s, the community's only source of water was a town well located next to the Orange County Court House at the corner of Central and Main.

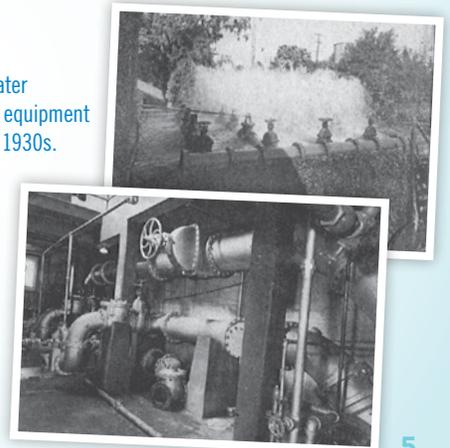
The Orlando Water Company was formed in 1886 and consisted of a plant and distribution system, which used Lake Highland as its source. In 1889, additional water mains – including about 13.5 miles of pipe – were laid to serve many areas of Orlando with a safe domestic supply and fire protection.

Four years later a foreclosure resulted in a new corporation, the Orlando Water and Sewerage Company, which was purchased within a year to form the Orlando Water & Light Company (OWLC). Using an additional water supply, Lake Concord, OWLC boosted the system to 23 miles of mains and pipes, covering every part of the City and more than 100 fire hydrants. In 1917, the first filtrated treatment

facilities were built to begin treating lake water before passing it into the city mains.

In 1922, the City of Orlando purchased OWLC to form the Orlando Utilities Commission. OUC – The *Reliable One*, as you know us today, pumps water from the pristine Lower Floridan aquifer to provide safe, clean, great-tasting water to the residents of Orlando and parts of unincorporated Orange County.

OUC's water pumping equipment from the 1930s.





WATER QUALITY TEST RESULTS

ALL TEST RESULTS WELL BELOW ALLOWABLE LEVELS

As shown in the following tables, OUC 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, 2018. Data obtained before January 1, 2018, and presented in this report is from the most recent testing done in accordance with the laws, rules, and regulations.

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)	02/2017	N	0.031	0.009–0.031	2	2	Erosion of natural deposits
Fluoride (ppm)	02/2017	N	0.70	0.36–0.70	4	4	Erosion of natural deposits; water additive that promotes strong teeth when at the optimum level of 0.7 ppm
Selenium (ppb)	02/2017	N	0.97	ND–0.97	N/A	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium (ppm)	02/2017	N	15.5	6.72–15.5	N/A	160	Saltwater 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)	01/18–12/18	N	3.18	ND–9.16	MCLG = 0	MCL = 10	By-product of drinking water disinfection
Chlorine (ppm)	01/18–12/18	N	1.1	0.20–2.08	MRDLG = 4	MRDL = 4	Water additive used to control microbes

For bromate and chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The range of results includes all individual samples collected during the past year.

STAGE 2 DISINFECTANTS AND DISINFECTION BY-PRODUCTS

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
Haloacetic Acids (HAA5) (ppb)	02/18–11/18	N	23.66**	7.24–32.6	N/A	MCL=60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	02/18–11/18	N	77.94**	18.70–82.41	N/A	MCL=80	By-product of drinking water disinfection

*** Compliance levels are based on the locational running annual averages.*

The table below shows three samples that had a TTHM result exceeding the MCL of 80ppb in 2018. However, the system did not incur an MCL violation, because all annual average results at all sites were below the MCL. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or nervous systems, and may have an increased risk of getting cancer.

Total Trihalomethanes (TTHM) Results By Location

TTHM Monitoring Results (ppb)	1st Quarter 2018	2nd Quarter 2018	3rd Quarter 2018	4th Quarter 2018
SP SE5 Quarterly Results	77.11	71.69	82.41	80.57
SP SE5 LRAA**	72.4	74.2	75.08	77.94
SP124 Quarterly Results	79.7	74.04	80.55	64.45
SP124 LRAA**	68.28	72.38	75.22	74.68

*** Reported Locational Running Annual Average (LRAA) for quarters 1-3 are based on results from previous quarters not reported on this table.*

RESULTS OF COPPER AND LEAD SAMPLING AT CUSTOMER TAPS

The following results are from tests conducted in July 2018 (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).

Contaminant and Unit of Measurement	Dates of sampling (mo/yr)	AL Exceeded (Y/N)*	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm)	7/17	N	0.6	1	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	7/17	N	3	0	0	15	Corrosion of household plumbing systems; erosion of natural deposits

*The Action Level (AL) is exceeded if the concentration in more than 10% of the tap samples (90th Percentile Result) is greater than the established AL.

Unregulated Contaminants UCMR4

Contaminant and Unit of Measurement	Dates of Sampling (mo/yr)	Level Detected (average)	Range	Likely Source of Contamination
Manganese (ppb)	2/18, 8/18	0.68	0.47–0.96	Natural occurrence from soil leaching
Quinoline (ppb)	2/18, 11/18	0.002	0.00–0.022	Used as a pharmaceutical (anti-malarial) and flavoring agent; produced as a chemical intermediate; component of coal
2-Propen-1-ol (ppb)	2/18, 8/18	0.18	0.00–0.67	Used in the production flavorings, perfumes and other chemicals
Haloacetic Acids 5 (ppb)	2/18, 8/18	26.58	19.21–38.09	By-product of drinking water disinfection
Haloacetic Acids 6 Brominated (ppb)	2/18, 8/18	6.93	2.81–11.04	By-product of drinking water disinfection
Haloacetic Acids 9 (ppb)	2/18, 8/18	32.65	23.25–47.40	By-product of drinking water disinfection

The 1996 Safe Drinking Water Act (SDWA) amendments require that once every five years the Environmental Protection Agency (EPA) issues a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWSs). The fourth Unregulated Contaminant Monitoring Rule (UCMR4) was published in the Federal Register on December 20, 2016. UCMR4 requires monitoring for 30 chemical contaminants over the course of one year between 2018 and 2020. This monitoring assists the EPA in determining where certain contaminants occur, and whether the Agency should consider regulating those contaminants in the future. At present, no health standards (for example, MCLs) have been established for Unregulated Contaminants. However, we are required to publish the analytical results of our Unregulated Contaminant monitoring in our annual water quality report. If you would like more information on EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at 1-800-426-4791 or visit www.epa.gov/dwucmr. To learn more or for the complete report, call our Water Quality Laboratory at 407-434-2549.

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 which, if exceeded, triggers treatment or other requirements that a water system must follow.

ppm:

Parts Per Million.

One part by weight of analyte to 1 million parts by weight of the water sample.

ppb:

Parts Per Billion.

One part by weight of analyte to 1 billion parts by weight of the water sample.

LRAA:

Locational Running Annual Average.

The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

RAA:

Running Annual Average.

The average of results computed quarterly, of monthly averages of all samples collected during the previous four calendar quarters.

N/A:

Not Applicable.

ND:

Not Detected.

Indicates that the substance was not found by laboratory analysis.

MRDLG:

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.

MRDL:

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.



More About Lead and Copper

Household plumbing is the primary source of lead and copper in customers' tap water. These contaminants can possibly leach into water due to corrosion in plumbing when water sits idle in pipes for several hours. Buildings at risk for having lead and/or copper in water often have lead services or lead solder in copper pipes. To prevent corrosion from occurring, OUC treatment plants add sodium hydroxide to water, increasing its pH.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water primarily comes from materials and components associated with service lines and home plumbing. OUC is responsible for providing high-quality drinking water, but we 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. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available by calling the Environmental Protection Agency (EPA) Safe Drinking Water Hotline at 1-800-426-4791 or going online at www.epa.gov/safewater/lead.

Constantly Testing Your Water

OUC's Water Quality Laboratory is certified by the Florida Department of Health (FDOH) and is accredited to perform a wide scope of analyses. Certification is maintained through an on-site assessment every two years and performance of proficiency testing twice a year. Chemists at OUC's Water Quality Laboratory perform thousands of chemical and bacteriological tests annually to ensure that your drinking water meets or exceeds all state and federal regulations. Customers can continue to enjoy OUC's water knowing that it 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 to talk to a water quality professional. Information is also available online at www.ouc.com.

Source Water Assessment

In 2018 the Florida Department of Environmental Protection performed a Source Water Assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are 62 unique potential sources of contamination identified for this system with low to high susceptibility levels. These results of the source water assessment are not a reflection of our treated water quality, but rather a rating of susceptibility of contamination under guidelines of the Florida DEP SWAPP program. OUC's latest source assessment is available online at www.dep.state.fl.us/swapp.

EPA STATEMENT ABOUT WATER RESOURCES, CONTAMINANTS

Sources of drinking water (both tap and bottled) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of land or through the ground, it dissolves naturally occurring, and, in some cases, radioactive materials. But it also picks up substances related to animals or 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 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 provided by public water systems is safe to drink, the EPA prescribes regulations that limit the amounts of certain contaminants in water. Meanwhile, the U.S. Food and Drug Administration regulates 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 minute amounts of some contaminants. The presence of contaminants in water does not necessarily pose health risks. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline at [1-800-426-4791](tel:1-800-426-4791).

WHAT THE EPA SAYS ABOUT MCLs AND HEALTH EFFECTS

The Maximum Contaminant Levels (MCLs) established 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 two 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, those who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, and some elderly and infants, can be particularly at risk for infections. These people should consult with their healthcare providers about drinking water. EPA and Center for Disease Control and Prevention 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 at [1-800-426-4791](tel:1-800-426-4791).



The Reliable One[®]

ORLANDO UTILITIES COMMISSION
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Orlando, Florida 32801
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2019 COMMISSION MEETING SCHEDULE

July 9	October 8
August 13	November 12
September <i>(no meeting)</i>	December 10

*OUC Commission Meetings are held on the
second Tuesday of every month at OUC's
Reliable Plaza downtown at*

100 W. Anderson Street,
Orlando, FL 32801.

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