HOW TO CONTACT US

THE CITY OF COLUMBUS
ANDREW J. GINther, MAYOR
DEPARTMENT OF PUBLIC UTILITIES

Division of Water
910 Dublin Road
Columbus, OH 43215

www.columbus.gov/Utilities/

Andrew J. Ginther
Mayor, City of Columbus

Tracie Davies
Director, Department of Public Utilities

Richard C. Westerfield, P.E., Ph.D.
Administrator, Division of Water

YOUR 2016 WATER REPORT

The goal of the Division of Water is to ensure that any contaminants in your drinking water are restricted below a level at which there is no known health risk. This report shows the types and amounts of key elements in your water supply, their likely sources, and the maximum contaminant level (MCL) that the Environmental Protection Agency (EPA) considers safe. The water delivered to your home meets ALL of the requirements of the Safe Drinking Water Act (SDWA). We use a complex multi-barrier treatment process to assure safe drinking water is delivered to our customers. If for any reason the standards are not met, the public will be notified.

Please share this information with other people who drink this water, especially those who may not have received it directly (for example, people in apartments, nursing homes, schools and businesses). You can do so by posting this report in a public place or distributing copies by hand or mail. You can request additional copies by calling customer service at 614-645-8276 or email to utilityleadrep@columbus.gov or view online at www.columbus.gov/CDB/.

WATER FIRST FOR THIRST

Water is the original sports drink - it contains no fat, calories, added sugars or cholesterol. It hydrates skin cells, regulates body temperature, helps the body absorb nutrients and flush out waste.

With all the health benefits of water, it's easy to see why choosing water over sugary drinks is good for your health. Drinking too much soda, juice and other sugary drinks has been linked to obesity which can lead to diabetes, heart disease and stroke. What can you do? Drink more water, and when your child says, "I'm thirsty," offer water before any other drink. You can also make water fun:

- Add sliced citrus fruits or berries for flavor; or freeze them in ice cubes
- Put in fresh mint or basil to jazz things up
- Have children decorate their own water cup

To learn more visit Columbus Public Health online at www.columbus.gov/publichealth/Water-First-for-Thirst/.

TAP WATER - THE BEST DEAL AROUND

On average, a gallon of tap water in the greater Columbus area costs less than half a penny per gallon. When compared to the cost of other products we consume every day, tap water is the best deal around.

A gallon of tap water costs $0.00413.

A GALLON OF  A GALLON OF  A GALLON OF  A GALLON OF

$8.00  $7.57  $10.67  $5.99  $0.00413
SOURCE WATER ASSESSMENT INFORMATION

A high-quality source water supply allows the Division of Water to provide consumers with quality water at a reasonable cost. Protecting our raw water sources requires investments to secure the needs of a growing population, now and in the future. As part of its on-going efforts to maintain regulatory compliance and monitor our water supply, the Division of Water has completed a Source Water Assessment process. Below is a synopsis of the results:

The City of Columbus water system uses surface water from the Scioto River and Big Walnut Creek, as well as ground water pumped from sand and gravel deposits of the Scioto River Valley. All three sources of water have a relatively high susceptibility to contamination from spills or releases of chemicals. The ground water pumped at the Parsons Avenue plant is susceptible (compared to other ground water systems) because there is no significant clay overlying and protecting the aquifer deposits. The Scioto River and Big Walnut Creek are even more susceptible because they are more accessible and less protected from spills.

The drinking water source protection areas for the City of Columbus' three water sources contain numerous potential contaminant sources, especially the protection area for the Dublin Road Water Treatment Plant (extending along the Scioto River). These include industrial activities, storm water runoff from developing areas, and a heavily traveled transportation network running alongside and over the water bodies. Run-off from agricultural fields is a concern in both the Scioto River and Big Walnut Creek watersheds.

The City of Columbus treats the water to meet drinking water quality standards, but no single treatment protocol can address all potential contaminants. The City has been proactive in pursuing measures to further protect its source waters. These include land stewardship programs and incentive-driven programs to reduce erosion and run-off of pesticides and fertilizers into the Scioto River and Big Walnut Creek and their reservoirs. More detailed information is provided in the City of Columbus' Drinking Water Source Assessment Report, which can be viewed by calling the Watershed section at 614-645-1721. Visit www.columbus.gov/watershed/ for more details about watershed management and the land stewardship program.

THE WATER TREATMENT PROCESS

Water flows (1) to the treatment plant from the reservoir or stream through rotating screens (2) to remove large debris. It is then pumped into the plant where alum is added (3) to cause coagulation. After rapid mixing, the water remains in the settling basin (4) while sedimentation of floc occurs (2-4 hours). The water treatment residual (settled floc) is pumped from the bottom of the pools and stored in holding lagoons to dry.

The softening process (5) involves the addition of sodium carbonate (soda ash) or caustic soda and hydrated lime to remove calcium and magnesium ions that are responsible for water hardness. This process takes an additional 2-4 hours. For each pound of chemical used in the treatment process, two pounds are removed.

After an additional sedimentation process, carbon dioxide is added (6) to lower the pH level to approximately 7.8. Ozone is then added to the water to reduce dissolved organic matter (7). Water then flows through large biologically active filters made up of granular activated carbon (8) to remove any remaining particles and further reduce dissolved organic matter.

Water then flows through large dual-media rapid sand filters made up of layers of gravel, sand and antracite coal (8).

Addition of chlorine to disinfect the water, fluoride to protect teeth and a corrosion inhibitor take place at the end of the process (9) before water enters large underground clearwells (10) to be held until needed by the community (11).

Please note: When ground water is used (as in the case of the Parsons Avenue Water Plant), neither screening (2) nor initial sedimentation (3,4), nor ozone (7) is needed.
NEW TREATMENT TECHNOLOGIES ADDRESS CHALLENGES IN SOURCE WATER
INCLUDES ION EXCHANGE, OZONE, ADDITIONAL FILTRATION AND INCREASED CAPACITY

The City of Columbus provides reliable, safe drinking water to 1.2 million people in central Ohio. Prompted by revised drinking water regulations issued by the Environmental Protection Agency, the needs to replace aging equipment and to address the water capacity needs of a still growing region, major upgrades to our three drinking water plants have been under construction during the past few years. We are now nearing completion of these significant capacity and treatment improvements that will continue to ensure the city provides excellent quality drinking water.

Columbus has had an excellent multi-barrier treatment process, and the facility upgrades will provide additional treatment processes to even more effectively remove a variety of contaminants. These upgrades will better treat aesthetic issues that occur in the source water supply, such as taste and odor issues that can result from algal blooms. The new facilities will also remove nitrates resulting from agricultural and urban/suburban stormwater runoff. These new technologies include: ion exchange (shown in photo under construction last year at the Dublin Road Water Plant), ozone, and biologically active filtration. The planned future addition of ultraviolet light disinfection is currently under design for the two surface water plants. A total of $470 million is being invested in the water treatment facilities. An additional $160 million was previously spent on the new John R. Doutt Upground Reservoir near the Scioto River in Delaware County to store water for the Dublin Road Water Plant, located many miles downstream.

These major investments into the city’s three drinking water plants will keep Columbus on the cutting edge of water-related technological improvements, as well as serve the future water demands of Columbus and the 22 contract communities in our water system.
**DEFINITIONS AND TERMS**

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

- **Maximum Contaminant Level (MCL):** The level of a contaminant in drinking water below which there is no known or expected health risk. MCLs are set as close to the MCLG as feasible using the best available treatment technology.

- **Secondary MCL (MCLG):** A nonregulatory value that is set by the USEPA for a contaminant on the basis of aesthetic effects to prevent an undesirable taste, odor, or appearance.

- **NTU:** Neptunium-237. Turbidity unit (a measure of particles held in suspension in water).

- **Parts per Billion (ppb) or ppm:** Are units of measurement for concentration of a contaminant. A part per billion corresponds to one second in roughly 11.7 years.

- **Micrograms per Liter (μg/L):** Are units of measurement for concentration of a contaminant. A part per million corresponds to one second in roughly 11.5 days, or one second.

- **Grains per Gallon (g/g):** A non-metric unit of measurement for hardness used in North America.

- **Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. This is the level of a disinfectant achieved in the water by the treatment process used for the water and in the storage and distribution systems. It is added to kill pathogenic organisms.

- **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of 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.

- **The "<" symbol:** This symbol means "less than.

- **The "<" symbol:** This symbol means "greater than.

**WATER SERVICE AREA**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Each home, school, and business in the greater Columbus area receives water from one of the following three water plants:

1. **Dublin Road Water Plant (DRWP):** Serves northwest and southwestern residents using water from Griggs, O'Shaughnessy, and the John R. Douty Reservoirs.
2. **Hap Creneman Water Plant (HCWP):** Serves OSU and northern residents. The water source is the Hoover Reservoir.
3. **Parsons Avenue Water Plant (PWP):** Draws water from wells and serves residents in the southeast.
WHAT’S NOT IN YOUR WATER

Reports on TV and in the press often raise concerns about the health risks associated with the presence of certain minerals, chemicals, or other contaminants in your food or water. The Columbus Division of Water performs tests of thousands of tests each year to ensure drinking-water quality. Many substances for which the division tests never appear in this report because they are not found in the drinking water. For example, there are 51 volatile organic chemicals as well as arsenic, perchlorate, asbestos, MTBE, radium 226, and arsenic (just to name a few) that are NOT found in your 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: 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 present in 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 storm water 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 storm water runoff, and septic systems; and radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

In order to ensure tap water is safe to drink, USEPA prescribes regulations which limit the amount of certain contaminants in drinking-water provided by public water systems. EDW 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 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.

TOTAL ORGANIC CARBON

The value reported under "Level Found" for Total Organic Carbon (TOC) is the lowest running annual average ratio between the percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one indicates that the water system is in compliance with TOC removal requirements. A value of less than one indicates a violation of the TOC removal requirements. The value reported under "Range" for TOC is the lowest monthly ratio to the highest monthly ratio.

NEARLY IN DRINKING WATER AT LEVELS

Level in drinking water at below 10 ppm is a health risk for infants less than six months of age. Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill or, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome. A level of 50 ppm or more is one indicator of a violation of the TOC removal requirements. The value reported under "Range" for TOC is the lowest monthly ratio to the highest monthly ratio.

CUBAN WATER QUALITY ASSURANCE

The City of Columbus Water Quality Assurance Laboratory (WQL) is a large modern water lab with a long history of distinguished public service starting under the noted water quality chemist Charles K. Wilhelm. The lab continues to maintain that tradition of excellence and technical innovation in the ongoing use of state-of-the-art equipment for water analysis, while continuing to research the latest advancements in water treatment techniques.

The WQL performs water quality monitoring and treatment research to ensure that Columbus’ drinking water meets or is better than all federal mandated Safe Drinking Water Act (SDWA) standards. The WQL also provides water quality information to the water treatment plants and addresses customer complaints and inquiries regarding water quality. In 2016, the WQL’s EPA licensed and certified laboratory staff completed over 40,000 analyses relating to 29 different organic, inorganic, and microbiological water quality parameters.

To maintain compliance with current SDWA regulations, WQL activities in 2016 were again directed at developing information regarding new and upcoming rules. These include the Unregulated Contaminant Monitoring Rule (UCMR), the Disinfectant/Disinfection Byproducts Rule (D/DBPR), and the Long-Term 2 Enhanced Surface Water Treatment Rule (LT2SWTR). Additionally, the lab has been closely involved in planning the improvement of wastewater and water distribution system surveillance and detection measures for security concerns in the wake of 9/11 and the associated heightened security protocols.

As with the WQL staff, the State of Ohio licenses and certifies the water plant operators who are charged with running and maintaining each of the three water treatment plants. These operators also perform the critical task of treatment and process monitoring to insure that the water leaving the treatment plant is of the highest quality. In order to stay current in the ever-changing technical field of water purification, these operators spend many hours of continuing education in the classroom every year.

These operators, the Water Quality Assurance Laboratory staff, and all of the Division of Water employees are dedicated to providing HAFAS, life-sustaining resources, for the well-being and economic vitality of the community. This is our mission.

RESIDENTS CAN HELP PROTECT WATER QUALITY

While some issues are often related to upstream agricultural activity, we all play a role in water protection. Some simple steps you can take at home to help protect our water source include: limiting lawn chemicals, picking up pet waste, disposing of household hazardous waste properly, maintaining septic tank systems and fixing automatic septic tanks. Planting trees and deep rooted native plants can aid in filtering pollutants that are often carried in stormwater that washes over the land as it travels to the nearest waterway.

Please visit www.columbus.gov/ReefCtyP for more information on how you can help "Keep It Clean."