

A dynamic, high-speed photograph of water splashing against a light blue background. The water is captured in mid-air, creating a complex pattern of droplets and streams that flow from the bottom right towards the top left. The lighting highlights the transparency and texture of the water, giving it a sense of movement and freshness.

ANNUAL WATER QUALITY REPORT

Reporting Year 2021

Presented By
City of Youngstown



We've Come a Long Way

Once again, we are proud to present our annual water quality report covering the period between January 1 and December 31, 2021. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at all hours—to deliver the highest-quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

How do I participate in decisions concerning my drinking water?

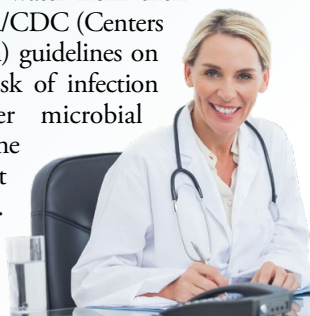
Public participation and comments regarding water are encouraged at regular city council meetings, scheduled on the first and third Wednesday of every month at 5:30 p.m. on the sixth floor of Youngstown City Hall, 26 South Phelps Street. To request permission to address the city council, please contact City Council Chambers at (330) 742-8708.

How is Your Drinking Water Treated?

MVSD treats approximately 21 million gallons per day of raw water from Meander Creek Reservoir and pumps it to Youngstown, Niles, and McDonald. These communities distribute the water to residents and surrounding areas. Treatment includes chemical addition for softening, disinfection, fluoridation, taste and odor control, mixing, settling, filtration, and pumping. Youngstown distributes approximately 16 million gallons per day through 750 miles of pipelines to residents of Youngstown, Austintown, Boardman, Canfield Township, and Liberty and sells bulk water to Mineral Ridge, Mahoning County (Jackson and Milton Townships), and the Cities of Girard and Canfield.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers 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 Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



Source Water Assessment

A Source Water Assessment Plan (SWAP) is now available from the MVSD office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area and a determination of the water supply's susceptibility to contamination by the identified potential sources. According to the SWAP, our water system had a susceptibility rating of medium. If you would like to review the SWAP, please feel free to contact MVSD during regular office hours.

“When the well is dry, we know the worth of water.”

—Benjamin Franklin

Your Water Supply

The MVSD public water system uses surface water drawn from Meander Creek Reservoir. For the purpose of source water assessments in Ohio, all surface waters are susceptible to contamination. By nature, surface waters are accessible and can be contaminated by chemicals and disease-causing organisms, which may rapidly arrive at the public drinking water intake with little warning or time to prepare.

The MVSD's drinking water source protection area is susceptible to runoff from row crop agriculture and animal feedlot operations, oil and gas wells, failing home and commercial septic systems, road/rail crossings, and new housing and commercial development that could raise runoff from roads and parking lots.

The MVSD water system and the City of Youngstown treat the water to meet drinking water supply quality standards, but no single treatment technique can address all potential contaminants. The potential for water quality impacts can further be decreased by measures to protect Meander Creek Reservoir and its watershed. More detailed information is provided in the MVSD's Drinking Water Source Assessment Report, which can be obtained by calling Jon Jamison at (330) 652-3614. The MVSD Meander Creek Reservoir Drinking Water Source Protection Plan is available at meanderwater.org/public-records.

QUESTIONS? For technical water quality information, contact the Mahoning Valley Sanitary District (MVSD) at (330) 799-6315. For information regarding water distribution, pressure, discolored water, or lead and copper sampling, contact the Chief Engineer's Office at (330) 743-5340. This information is also available on our website, youngstownohio.gov/water.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration 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 these contaminants does not necessarily indicate that the water poses a health risk.



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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

About Our Violations

On April 16, 2021, the Youngstown public water system was issued the following record keeping violations from the Ohio EPA.

1. Minor record keeping deficiencies in our Emergency Response Plan.
2. Minor reporting deficiency in our Asset Management Program.

Upon receiving these record keeping violations, we responded by immediately providing the Ohio EPA with the updated information in question. At no time did this incident pose a threat to public health and safety, nor did it have any impact on the high-quality drinking water provided to our customers. We have already taken steps to ensure that adequate record keeping will be performed in the future so that this oversight will not be repeated.



Lead in Home Plumbing

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. We are 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 two 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. A list of laboratories certified in the State of Ohio to test for lead may be found at <http://www.epa.ohio.gov/ddagw> or by calling (614) 644-2752. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or at www.epa.gov/safewater/lead.

Per- and Polyfluoroalkyl Substances Sampling Initiative

Per- and polyfluoroalkyl substances (PFAS) are a group of human-made chemicals applied to many industrial, commercial, and consumer products to make them waterproof, stain-resistant, or nonstick. PFAS are also used in products like cosmetics, fast food packaging, and a type of firefighting foam called aqueous film forming foam (AFFF), which is used mainly on large spills of flammable liquids such as jet fuel. PFAS are classified as contaminants of emerging concern, meaning that research into the harm they may cause to human health is still ongoing.

During the reporting year, our public water system was sampled as part of the State of Ohio's Drinking Water Per- and Polyfluoroalkyl Substances Sampling Initiative. Results from this sampling indicated PFAS were detected in our drinking water below the action level established by Ohio EPA. Follow-up monitoring is being conducted. For more information about PFAS and to view our latest results, please visit pfas.ohio.gov.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

Note that we have a current, unconditioned license to operate our water system.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2021	[4]	[4]	2.01	1.43–2.17	No	Water additive used to control microbes
Fluoride (ppm)	2021	4	4	1.02 ¹	0.9–1.12 ¹	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 2 ² (ppb)	2021	60	NA	29.48	14.3–40.9	No	By-product of drinking water disinfection
Nitrate (ppm)	2021	10	10	0.19 ¹	<0.1–0.33 ¹	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Organic Carbon [TOC] (ppm)	2021	TT ³	NA	1.76 ¹	1.48–2.45 ¹	No	Naturally present in the environment
TTHMs [total trihalomethanes]–Stage 2 ² (ppb)	2021	80 ⁴	NA	64.55	42.4–91.7	No	By-product of drinking water disinfection
Turbidity ⁵ (NTU)	2021	TT	NA	0.08	0.03–0.08	No	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	2021	TT = 95% of samples meet the limit	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	RANGE LOW-HIGH	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2021	1.3 ⁶	1.3	0.0913	<0.01–0.128	0/50	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2021	15 ⁷	0	<5	<5–121	2/50 ⁸	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
1-Butanol (ppb)	2019	<2	NA
2-Methoxyethanol (ppb)	2019	<0.4	NA
2-Propen-1-ol (ppb)	2019	<0.5	NA
alpha-Hexachlorocyclohexane (ppm)	2019	<0.01	NA
Anatoxin-a (ppb)	2019	<0.03	NA
Butylated Hydroxyl Anisole (ppb)	2019	<0.03	NA
Chlorpyrifos (ppb)	2019	<0.03	NA
Cylindrospermopsin (ppb)	2019	<0.09	NA
Dimethipin (ppb)	2019	<0.2	NA
Ethoprop (ppb)	2019	<0.03	NA
Germanium (ppb)	2019	<0.3	NA
HAA6Br (ppb)	2019	5.61	2.03–9.98
HAA9 (ppb)	2019	30.06	7.71–46.1
Manganese (ppb)	2019	1.73	ND–3.06
Microcystin, Total (ppb)	2019	<0.3	NA
o-Toluidine (ppb)	2019	<0.007	NA
Oxyfluorfen (ppb)	2019	<0.05	NA
Permethrins, Total (ppb)	2019	<0.04	NA
Profenofos (ppm)	2019	<0.3	NA
Quinoline (ppb)	2019	0.02	ND–0.02
Tebuconazole (ppb)	2019	<0.2	NA
Tribufos (ppb)	2019	<0.07	NA

¹ Results for this regulated substance were provided by MVSD.

² Disinfection by-products are the result of providing continuous disinfection of your drinking water. They form when disinfectants combine with organic matter naturally occurring in the source water. Disinfection by-products are grouped into two categories: total trihalomethanes (TTHM) and haloacetic acids (HAA). U.S. EPA set standards for controlling the levels of disinfectants and disinfectant by-products in the drinking water, including TTHM and HAA.

³ The value reported under Amount Detected for TOC is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than 1 indicates that the water system is in compliance with TOC removal requirements. A value of less than 1 indicates a violation of the TOC removal requirements.

⁴ Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system and may have an increased risk of getting cancer.

⁵ Turbidity is a measure of the cloudiness of water and an indication of the effectiveness of the filtration system. The turbidity limit set by the EPA is 0.3 NTU in 95% of the daily samples and shall not exceed 5 NTU at any time. Results for turbidity were provided by MVSD.

⁶ The value listed in the AL column (1.3 ppm) is an action level. Action levels are the thresholds of sampling at the 90th percentile.

⁷ The value listed in the AL column (15 ppb) is an action level. Action levels are the thresholds of sampling at the 90th percentile.

⁸ Lead was detected above the AL at Site 1 (28.7 ppb) and Site 2 (121 ppb).

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

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.

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.

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.

NA: Not applicable.

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

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

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

removal ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

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