



ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2020

Presented By
City of Youngstown



Quality First

Once again, we are pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2020. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education, while continuing to serve the needs of all our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

Your Water Supply

The Mahoning Valley Sanitary District (MVSD) public water system uses surface water drawn from the 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 that may rapidly arrive at the public drinking water intake with little warning or time to prepare.

The Mahoning Valley Sanitary District'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 Mahoning Valley Sanitary District 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 Mahoning Valley Sanitary District'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 the www.meanderwater.org/ website by clicking on the link for Administration Public Records.

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Tap versus Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their website at <https://goo.gl/Jxb6xG>.

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 Wednesdays of every month at 5:30 p.m. on the sixth floor of Youngstown City Hall at 26 S. Phelps St. To request permission to address City Council, please contact City Council Chambers at (330) 742-8708.

How is Your Drinking Water Treated?

The Mahoning Valley Sanitary District 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 Twp. and Liberty, and sells bulk to Mineral Ridge, Mahoning County (Jackson and Milton Townships), and the cities of Girard and Canfield.

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 (800) 426-4791.



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 storm-water 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 may also come from gas stations, urban storm-water 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.

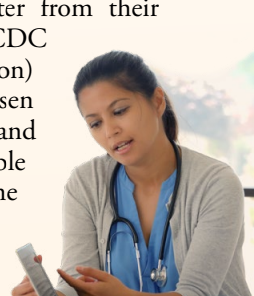
Source Water Assessment

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 Source Water Assessment Plan, our water system had a susceptibility rating of "medium." If you would like to review the Source Water Assessment Plan, please feel free to contact MVSD during regular office hours.

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>.



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 at our website: www.youngstownohio.gov/water.

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.

We participated in the 4th stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if U.S. EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

Please 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)	2020	[4]	[4]	2.12	1.93–2.31	No	Water additive used to control microbes
Fluoride ¹ (ppm)	2020	4	4	1.01	0.81–1.10	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] ² (ppb)	2020	60	NA	22.35	9.88–26.90	No	By-product of drinking water disinfection
Nitrate ¹ (ppm)	2020	10	10	0.350	<0.1–0.350	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] ² (ppb)	2020	80	NA	48.7	21.8–63.5	No	By-product of drinking water disinfection
Total Organic Carbon [TOC] ^{1,3} (ppm)	2020	TT	NA	1.77	1.68–2.10	No	Naturally present in the environment
Turbidity ⁴ (NTU)	2020	TT	NA	0.07	0.03–0.07	No	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	2020	TT = 95% of samples meet the limit	NA	100	NA	No	Soil runoff

Tap Water Samples Collected for Copper and Lead 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 ⁵ (ppm)	2020	1.3	1.3	0.0332	<0.01–0.0458	0/50	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead ⁶ (ppb)	2020	15	0	<5	<5–<5	0/50	No	Corrosion of household plumbing systems; Erosion of natural deposits

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.

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
1-Butanol (ppb)	2019	<2.0	0-<2.0
2-Methoxyethanol (ppb)	2019	<0.4	0-<0.4
2-Propen-1-ol (ppb)	2019	<0.5	0-<0.5
Anatoxin-a (ppb)	2019	<0.03	0-<0.03
Butylated Hydroxyl Anisole (ppb)	2019	<0.03	0-<0.03
Chlorpyrifos (ppb)	2019	<0.03	0-<0.03
Cylindrospermopsin (ppb)	2019	<0.09	0-<0.09
Dimethipin (ppb)	2019	<0.2	0-<0.2
Ethoprop (ppb)	2019	<0.03	0-<0.03
Germanium (ppb)	2019	<0.3	0-<0.3
HAA6Br (ppb)	2019	5.61	2.03-9.98
HAA9 (ppb)	2019	30.06	7.71-46.1
Manganese (ppb)	2019	1.73	0-3.06
Microsystin-Total (ppb)	2019	<0.3	0-<0.3
Oxyfluorfen (ppb)	2019	<0.05	0-<0.05
Permethrins-Total (ppb)	2019	<0.04	0-<0.04
Profenofos (ppm)	2019	<0.3	0-<0.3
Quinoline (ppb)	2019	0.02	0-<0.02
Tebuconazole (ppb)	2019	<0.2	0-<0.2
Tribufos (ppb)	2019	<0.07	0-<0.07
alpha-Hexachlorocyclohexane (ppm)	2019	<0.01	0-<0.01
o-Toluidine (ppb)	2019	<0.007	0-<0.007

¹The results of this regulated substance were provided by Mahoning Valley Sanitary District.

²Disinfection by-products are the result of providing continuous disinfection of your drinking water and 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 (HAA5). US EPA set standards for controlling the levels of disinfectants and disinfectant by-products in the drinking water, including both TTHMs and HAAs.

³The value reported under Amount Detected for TOC is the lowest 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.

⁴Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of the filtration system. The turbidity limit set by the EPA is .3 NTU in 95% of the daily samples, and shall not exceed 5 NTU at any time. This results for Turbidity were provided by Mahoning Valley Sanitary District.

⁵The 1.3 ppm (milligrams per liter) listed in the AL column is an action level. Action levels are the thresholds of sampling at the 90th percentile.

⁶The 15 ppb (micrograms per liter) listed in the AL column is an action level. Action levels are the thresholds of sampling at the 90th percentile.

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 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. A list of laboratories certified in the State of Ohio to test for lead may be found at 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.



Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far, the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

How chlorination works:

Potent Germicide Reduction in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.

Taste and Odor Reduction of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and odors from decaying vegetation.

Biological Growth Elimination of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.

Chemical Removal of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

