



GREENE COUNTY Sanitary Engineering

Greene County continues to meet all Ohio EPA standards and, through continuing improvements, will be able to meet the projected needs of our customers.



2021 Drinking Water Quality Report Northwest Regional Water System 2020 Testing Year

Director's Message

We are pleased to announce Greene County Sanitary Engineering Department (GCSED) has continued to meet or exceed all state and federal drinking water quality standards again for the 2020 testing year. GCSED takes great pride in protecting public health and providing excellent customer service to our citizens and rate-payers. GCSED is laser focused on water protection, service reliability, and affordability!

Protection: GCSED just updated its **Source Water Area Protection** program that is designed to protect vital water resources from pollution and contamination!

Reliability: GCSED is developing its **Asset Management Program** to help inventory, assess, manage, and replace critical system assets ahead of failures!

Affordability: GCSED continues to be mindful of utility rates and currently ranks in the **mid-range** of Miami Valley water utilities for **affordability**.

The GCSED team is dedicated to providing our customers safe, plentiful, and affordable water right at your tap. Look for more information on our reinvestment initiative, Greene Forward, in our upcoming quarterly newsletters.

Sincerely,

Jason Tincu
Director

Source Water Information

The source of our drinking water is wells that bring groundwater to the surface.

The Northwest Regional Water Treatment Plant serves the Beaver Creek Community, and extends into Xenia Township, parts of Kettering, Sugar Creek, and Bath Townships, Cedarville, Shawnee Lake, and Wilberforce communities. It receives water from three (3) well fields, which all draw water from the Little Miami River Buried Valley Aquifer. The well fields are located on Beaver Valley Road, Shakertown Road, and Valley Springs Road.



Source Water Assessment - Well Field Susceptibility

A Source Water Assessment Report was prepared by Ohio EPA for Greene County's Northwest Regional System. The Ohio EPA has determined that the aquifer that supplies water to the Northwest Regional System has a high susceptibility to contamination. This conclusion is based on: the presence of a clay layer with variable thickness (thinnest near the North Well Field), the shallow depth of the aquifer (as shallow as 21 feet in North Well Field and 60 feet in Valley Springs Well Field), the presence of a documented contaminant plume in the uppermost aquifer, and the presence of potential significant contaminant sources near the protection area.

This susceptibility means that under currently existing conditions, the likelihood of the aquifer becoming contaminated is relatively high. This likelihood can be minimized by implementing appropriate protective measures. More information about (and copies of) the Source Water Assessment Report or what consumers can do to help protect the aquifer is available by calling GCSED Director Jason Tincu at (937) 562-7450.



Sources of Potential Contaminants in Drinking Water

The sources of drinking water (both tap water and bottled water) include wells, rivers, lakes, streams, ponds, reservoirs, and springs. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material. It also can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

(A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife;

(B) Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

(C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses;

(D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems;

(E) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA prescribes regulations which 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.

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 Federal Environmental Protection Agency's Safe Drinking Water Hotline at **1-800-426-4791**.

Taking Special Precautions



Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 can be particularly at risk from infection. These people should seek advice about drinking water from their health care providers. EPA/CDC 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 **1-800-426-4791**.

About Your Drinking Water

The Ohio EPA requires regular sampling to ensure drinking water safety. GCS&ED conducted sampling during 2020. Samples were collected for hundreds of different contaminants (bacteria, inorganics, radiological, disinfection byproducts, lead and copper), most of which were not detected in our water supply. The Ohio EPA requires us to monitor some contaminants less than once per year because the concentrations of these chemicals do not change frequently. Some of our data, though accurate, are more than one year old.

Monitoring & Reporting Violations & Enforcement Actions

The Northwest Regional system did not receive any monitoring or reporting violations or enforcement actions in 2020.



Table of Detected Contaminants

How to read the Water Quality Data Table: The EPA establishes the safe drinking water regulations that limit the amount of contaminants allowed in drinking water. The table below shows the concentrations of detected substances in comparison to regulatory limits. Substances that were tested for, but not detected, are not included in this table.

Listed below is information on those contaminants that were found in the drinking water for the Northwest Regional system. The data presented below are from the most recent testing done in accordance with the regulations. Terms and abbreviations used within this table are defined in the Definition of Terms on the following page.

2021 report - 2020 data Northwest Regional (OH2903512)										
Regulated Contaminant (Units)	Highest Level Allowed (MCL)	Ideal Goals (MCLG)	Violation	WTP-1			WTP-2			Possible Source of Contamination
				Level Found	Range of Detection	Year Sampled	Level Found	Range of Detection	Year Sampled	
Disinfectant and Disinfectant By-Products										
Chlorine (ppm)	MRDL - 4	MRDLG - 4	No	1.33	1.1-1.47	2020	1.23	1.08-1.35	2020	water additive to control
Trihalomethanes (ppb)	80.00	NA	No	50.53	39.1 - 74.4	2020	46.00	27.3 - 84.3	2020	by-products of chlorination
Haloacetic Acids (ppb)	60.00	NA	No	11.28	5.4 - 17.8		7.50	4.3 - 15.4		
Inorganics										
Nitrate (ppm)	10	10	No	0.11	NA	2020	0.91	NA	2020	fertilizer runoff/natural geology natural deposits
Barium (ppm)	2	2	No	0.19	NA	2020	0.21	NA	2020	
Fluoride (mg/L)	4	4	No	1.00	.85 - 1.06	2020	0.94	.78-1.05	2020	erosion of natural deposits; water additive which promotes strong teeth; discharge from aluminum and fertilizer factories
Arsenic (ppb)	10	0	No	NA	NA	NA	5.00	0-6.3	2020	natural deposits
Lead and Copper										
Lead (ppb)	Action Level (AL)	Individual Results over the AL	90% of test levels were less than	Violation	Year Sampled					Typical source of Contaminants
	15 ppb	NA	0	No	2020	North and South plant combined				Corrosion of household plumbing systems; Erosion of natural deposits
0 out of _30_ samples were found to have lead levels in excess of the lead action level of 15 ppb.										
Copper (ppm)	1.3 ppm	NA	0.167	No	2020	North and South plant combined				Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
	0 out of _30_ samples were found to have copper levels in excess of the copper action level of 1.3 ppm.									
Unregulated Compounds										
Unregulated Compounds	Highest Level Allowed (MCL)	Ideal Goals (MCLG)	Violation	North plant			South plant			Possible Source of Contamination
				Level Found	Range of Detection	Year Sampled	Level Found	Range of Detection	Year Sampled	
Bromodichloromethane (ppb)	-	-	-	15.61	9.6-21.4	2020	14.21	9.6-24.1	2020	by-products of chlorination
Bromoform (ppb)	-	-	-	2.10	1.3-2.7		2.20	1.3-3.7		
Chloroform (ppb)	-	-	-	21.44	6.9-35.9		18.39	6.9-39.2		
Dibromochloromethane (ppb)	-	-	-	11.38	8.0-14.6		11.24	8.0-17.4		
Bromochloroacetic Acid (ppb)	-	-	-	3.89	1.0-6.10		3.05	1.9-4.5		
Dibromoacetic Acid (ppb)	-	-	-	2.71	2.1-3.6		2.15	1.2-2.7		
Dichloroacetic Acid (ppb)	-	-	-	5.11	1.0-9.1		3.10	0.2-7.3		
Monobromoacetic acid (ppb)	-	-	-	1.05	1.1-1.1		1.10	1.1-1.1		
Monochloroacetic acid (ppb)	-	-	-	ND	ND		ND	NA		
Trichloroacetic Acid (ppb)	-	-	-	3.53	1.9-5.1		3.20	1.9-5.4		

Ohio EPA PFAS Sampling Participation

In 2020, our Northwest Regional Water System was sampled as part of the State of Ohio's Drinking Water Per- and Polyfluoroalkyl Substances (PFAS) Sampling Initiative. Six PFAS compounds were sampled, and none were detected in our finished drinking water. For more information about PFAS, please visit <https://epa.ohio.gov/pfas>.

Definition of Terms

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in the drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Contaminant Level (MCL): The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible, using available treatment technology.

Maximum Residual Disinfectant Level (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.

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.

Parts per Million (ppm) or Milligrams per Liter (mg/l): Units of measure for concentration of a contaminant. A part per million corresponds to one second in a little over 11.5 days.

Parts per Billion (ppb), or micrograms per liter (ug/l): Units of measure for concentration of a contaminant.

A part per billion corresponds to one second in 31.7 years.

Picocuries per Liter (pCi/L): A common measure of radioactivity.

PFAS: Per- and polyfluoroalkyl substances (PFAS) are a group of man-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 are 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.

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

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

The < symbol: A symbol which mean less than.

NA: Not applicable.

Risk Factors Explained

The following substances are found in our water, normally at levels below the action levels. There are some risk factors that could be involved with even low levels of these substances. Some terms and abbreviations used in this section are included in the "Definition of Terms" section above.

Nitrate: Nitrate in drinking water, at levels above 10 ppm is a health risk for infants of less than six (6) months of age. High nitrate levels in drinking water can cause blue baby syndrome. High nitrate levels can also increase the risk of a particular kind of anemia in pregnant women. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant or are pregnant, you should ask for advice from your health care provider. Additional information is available from the Safe Drinking Water Hotline at 1-800-426-4791.

Arsenic: While your drinking water meets the EPA's standard for arsenic, it does contain low levels of arsenic. The EPA's standard balances the current understanding of possible health effects of arsenic against the cost of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Lead: 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. Greene County 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 want to have your water tested. 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.

Greene County has mapped each of their public water systems, which provide additional information on the risk of lead exposure. These maps can be accessed on the GCSED website at: www.greenecountyohio.gov/938/Water-Quality-Reports.

License to Operate

In 2020, Greene County had a current, unconditional license to operate this water system.

Public Participation and Contact Information

How do I participate in decisions concerning my drinking water?

Public participation and comments are encouraged. GCSED's Source Water Protection Area Committee meets on a semi-annual basis. Due to COVID-19 these meetings have been held via Zoom. When we are able to safely return to in-person meetings, the at Source Water Protection Area Committee will meet at 667 Dayton-Xenia Road, Xenia, Ohio. Specific dates and times vary but future meetings will be posted online and in newsletters throughout the year. For more information on your drinking water, please contact GCSED Director Jason Tincu at (937) 562-7450.

Contact Information

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www.greenecountyohio.gov/317/Sanitary-Engineering



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Greene County Commissioners:

(937) 562-5006

EPA Safe Drinking Water Hotline:

(800) 426-4791