

2011 WATER QUALITY REPORT

Water Improvements Mean Adequate Water Supply



Contact Us

Greene County Sanitary
Engineering Department

667 Dayton-Xenia Rd.

Xenia, OH 45385

Phone: 937-562-7450

Greene County's Website:

www.co.greene.oh.us

Greene County Commissioners

937-562-5006

Safe Drinking Water Hotline

(800) 426-4791

Improvements to the Northwest Regional Water System were completed last year, and in spite of a dry fall, the water supply was adequate to meet customers' needs.

The improvements included additional wells, upgrades of the distribution system, and the expansion of the water treatment plant. The plant improvements increased water treatment capacity from 5 million gallons per day (mgd) to 10 mgd.

The County continues to seek additional sources of water in anticipation of future growth. Officials are also working to meet the recommendations of the Northwest Regional Master Plan, while keeping expenditures at a minimum.

The County is keeping a close eye on EPA recommendations for fluoride, following the announcement that the agency feels there is too much of the chemical in the nation's water supply. The County is required, by law, to add fluoride to water systems of sufficient size. No fluoride is added to the Southwest Regional Plant, as the population it serves is so small. Fluoride is added to the Northwest Regional System, and to the Eastern Regional System, since Xenia does not add fluoride to their water. With the anticipated recommendations, lower amounts of fluoride would be added.

Definition of Terms

Definitions of some terms contained within this report:

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 the available treatment technology.

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)** are also 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.

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.

FAQs

The rules governing Consumer Confidence reports do not address the issues of fluoride content or water hardness, but because these are some of the most frequently asked questions about our water, we are including these in the report.

The fluoride content of Greene County's raw (untreated) water is 0.3 parts per million. In the finished (treated) water, the content is 1.0 parts per million. State law requires the addition of fluoride to water for larger systems. No fluoride is added to the water at Southwest Regional Treatment Plant.

The chlorine content of the finished water is 1.3 parts per million, except at Southwest Regional, where it is 1.0 parts per million.

The pH of the finished water is 7.55. A pH of 7.0 is neutral; anything above that is considered base, anything below that is acidic.

The water at Northwest Regional has 27 grains of hardness. The Eastern Regional water (including Cedarville, Shawnee Hills and Wilberforce) has 25 grains of hardness and the Southwest Regional water has 15-18 grain of hardness.

You Can Participate in Water Decisions

The Greene County water systems are operated by the Greene County Board of County Commissioners, through the Sanitary Engineering Department, 667 Dayton-Xenia Rd., Xenia, OH 45385.

Greene County Commissioners meet at least weekly in the Commission Chambers, 35 Greene St., Xenia, OH 45385. For more information on their schedule, please call (937) 562-5006. In addition, the Water/Wastewater Advisory Committee meets quarterly. The Committee is made up of representatives of the communities served by Greene

Well Field Susceptibility

The Ohio EPA has determined that the aquifers that serve the Greene County Northwest Regional well field have a moderate susceptibility to contamination and one serving the Southwest Regional well field has a high susceptibility. This does not mean that the well fields are or will become contaminated, just that conditions are such that the ground water could be impacted by contaminants, unless we continue protective measures.

Greene County Water Sources

Greene County has a current, unconditional license to operate our water system. The Northwest Regional Water Treatment Plant serves the Beaver Creek Community, and extends into Xenia Township, parts of Kettering, Sugar Creek, and Bath Townships, to serve the Career Center and Country Club Estates. 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 Orchard Lane.

The City of Xenia also uses the Little Miami River Buried Valley

County's water and sewer system. Public participation in the group is welcome. Please call the Sanitary Engineering Department at (937) 562-7450 to obtain a schedule and register for the meeting. For more information, call Sanitary Engineering Department at (937) 562-7450.

Special Meters Fee Change

In response to customer feedback, the Greene County Board of Commissioners has changed the \$100 annual fee for special meters, to a monthly fee of \$8.33. Special meters include irrigation, deduct, and fire meters.

The fee, which provides for costs associated with repair, replacement, billing and administration of those meters, was originally approved to be included in May bills. The fee remains effective January 1, 2011, so beginning with their April bill, customers will see a \$33.32 charge for the first four months, and \$8.33 per month thereafter.

Aquifer. Greene County purchases water from Xenia for residents in Cedarville, Shawnee Hills and Wilberforce.

The Southwest Regional Water Treatment Plant serves residents in Sugar Creek and Spring Valley Townships. The water source is the Little Miami River Buried Valley Aquifer, with the well field off S.R. 42.

Some residents on the western side of Beaver Creek receive their water from the City of Dayton, which uses the Great Miami Buried Valley Aquifer as its water source.

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:

A. Arsenic:

EPA has issued rules regarding the drinking water standard for arsenic. Arsenic is a naturally occurring mineral known to cause cancer in humans at high concentrations. EPA continues to research the health effects of low levels of arsenic. It is linked to other health effects such as skin damage and circulatory problems. Some people who drink water containing arsenic in excess of the MCL, over many years, could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

B. 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 and infant, or are pregnant, you should ask for advice from your health care provider.

Additional information is available from the Safe Drinking Water Hotline (1-800-426-4791).

C. 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 wish 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 <http://www.epa.gov/safewater/lead>



Sources of Drinking Water

The sources of drinking water include wells, rivers, lakes, streams, ponds, reservoirs, and springs.

In Greene County, the source of drinking water is wells that bring groundwater to the surface.

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: (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, EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems.

Drinking water, including bottled water, may be reasonably 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 (1-800-426-4791).

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 (1-800-426-4791).



2011 report 2010 data

Greene County Sanitary Engineering - Division of Water Supply and Treatment

Regulated Substance	Northwest Regional WTP 2903512		Southwest Regional WTP 2903912		Eastern Regional WTP 2906103		Greene County/Dayton 2900803 Entrada		Greene County/Dayton 2904203 Clio		Greene County/Dayton 2904103 Swigart		Greene County/Dayton 2905003 Kittridge		Possible Source of Contamination	
	Highest Level Allowed (MCL)	Ideal Goals (MCLG)	Violation	Highest Level Detected	Range of Detection	Violation	Highest Level Detected	Range of Detection	Violation	Highest Level Detected	Range of Detection	Violation	Highest Level Detected	Range of Detection		Violation

- Regulated at the Treatment Plant

Fluoride (ppm)	4	4	-	1.19	0.28 - 1.19	-	-	-	-	1.09	0.26 - 1.09	-	-	-	-	-	-	-	-	-	natural geology/supplement
Nitrate (ppm)	10	10	-	< 0.10	< 0.10	-	2.81	N/A	-	*	*	-	-	-	-	-	-	-	-	-	fertilizer runoff/natural geology
Radium 228 (pCi/l)	5	0	-	ND	ND	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	natural deposits
Arsenic (ppb)	10	0	-	ND	ND	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	natural deposits

- Regulated at the Customer's Tap

Lead (ppb) ¹	AL=15	0	-	5.7 ²	<5 - 21 ²	-	6.7 ¹	<5 - 22.4	-	<5 ⁵	ND	-	<5 ²	ND	-	<5 ²	ND	-	<5 ²	ND	corrosion of household plumbing materials	
Copper (ppb) ¹	AL=1300	1300	-	176 ²	<50 - 301 ²	-	261 ¹	25.3 - 483	-	852.5 ⁵	13 - 1040	-	54.5 ²	<30 - 56.6 ²	-	<50 ²	<30 - 37.7 ²	-	57.1 ²	<30 - 62.8 ²	<50 ²	ND
Number of samples			30		10		20		10		10		5		5							
# samples over the action level			0		1		0		0		0		0		0							

- Regulated in the Distribution System

Chlorine (ppm)	MRDL - 4	MRDLG - 4	-	1.14 ⁴	0.30 - 1.80		0.68 ⁴	0.20 - 1.20		0.51 ⁴	0.20 - 1.10		0.52 ⁴	0.20 - 1.00		1.02 ⁴	0.2 - 1.50		0.90 ⁴	0.40 - 1.50		0.66 ⁴	0.2 - 1.20	water additive to control microbes
										Yearly Running Average			Yearly Running Average			Yearly Running Average			Yearly Running Average			Yearly Running Average		
Trihalomethanes (ppb)	80	0	-	62.69	N/A	-	-	-	-	37.96	N/A	-	39.00	15.86 - 39.00	-	27.12	17.89 - 27.12	-	32.70	19.0 - 32.7	-	32.56	14.30 - 32.56	by-products of chlorination
Haloacetic Acids (ppb)	60	0	-	4.09	N/A	-	-	-	-	3.53	N/A	-	7.35	4.63 - 7.35	-	9.47	3.69 - 9.47	-	7.60	4.18 - 7.60	-	12.55	0 - 12.55	

Unregulated Compounds (large systems required to monitor)

Bromodichloromethane (ppb)	-	-	-	15.54	N/A	-	3.28 ⁵	N/A	-	7.97	N/A	-	11.94	6.85 - 11.94	-	8.41	5.97 - 8.41	-	9.62	6.38 - 9.62	-	10.18	5.96 - 10.18	by-products of chlorination
Bromoform (ppb)	-	-	-	2.09	N/A	-	<0.500 ⁵	N/A	-	0.51	N/A	-	2.95	2.00 - 2.95	-	2.34	1.31 - 2.34	-	2.66	1.39 - 2.66	-	3.22	1.94 - 3.22	
Chloroform (ppb)	-	-	-	29.13	N/A	-	6.12 ⁵	N/A	-	22.53	N/A	-	14.34	5.62 - 14.34	-	8.34	5.55 - 8.34	-	10.89	6.07 - 10.89	-	10.48	4.09 - 10.48	
Dibromochloromethane (ppb)	-	-	-	11.76	N/A	-	2.12 ⁵	N/A	-	4.81	N/A	-	10.14	6.97 - 10.14	-	8.40	5.06 - 8.40	-	9.68	5.16 - 9.68	-	10.61	6.41 - 10.61	
Bromochloroacetic Acid (ppb)	**	**	-	2.64	N/A	-	NA	NA	-	1.73	N/A	-	5.16	2.23 - 5.16	-	5.11	2.56 - 5.11	-	4.83	2.49 - 4.83	-	4.80	1.84 - 4.80	
Dibromoacetic Acid (ppb)	-	-	-	2.23	N/A	-	<1.0 ⁵	N/A	-	ND	N/A	-	5.14	1.71 - 5.14	-	4.88	2.02 - 4.88	-	4.32	1.79 - 4.32	-	6.25	1.50 - 6.25	
Dichloroacetic Acid (ppb)	-	-	-	ND	N/A	-	2.267 ⁵	N/A	-	ND	N/A	-	3.15	2.92 - 3.15	-	4.59	3.24 - 4.59	-	3.74	3.35 - 3.74	-	3.99	2.67 - 3.99	
Monobromoacetic acid (ppb)	**	**	-	ND	N/A	-	NA	NA	-	ND	N/A	-	ND	NA	-	ND	N/A	-	ND	ND	-	ND	ND	
Monochloroacetic acid (ppb)	**	**	-	ND	N/A	-	NA	NA	-	ND	N/A	-	ND	NA	-	ND	N/A	-	ND	ND	-	ND	ND	
Trichloroacetic Acid (ppb)	-	-	-	4.09	N/A	-	1.579 ⁵	N/A	-	3.53	N/A	-	2.21	ND - 2.21	-	1.22	ND - 1.22	-	1.96	ND - 1.96	-	2.52	ND - 2.52	

1 - 90th percentile value - used to determine compliance as per USEPA
 2 - 2008 data
 3 - 2007 data
 4 - Quarterly running average
 5 - 2009 data
 * - see Xenia CCR
 ** - Not required until 2010

AL - action level WTP - Water Treatment Plant PWS - Public Water Supply
 N/A - not applicable WS - Water Supply
 ND - not detected MCL - Maximum Contaminant Level
 < - less than MCLG - Maximum Contaminant Level Goal

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 Goal - 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.

"Under the Stage 2 Disinfectants/Disinfection Byproducts Rule (D/DBPR), our public water system was required by USEPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE), and is intended to identify locations in our distribution system with elevated disinfection byproduct concentrations. The locations selected for the IDSE may be used for compliance monitoring under Stage 2 DPBR, beginning in 2012. Disinfection byproducts 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 byproducts are grouped into two categories, Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5). USEPA sets standards for controlling the levels of disinfectants and disinfectant byproducts in drinking water, including both THMs and HAAs."