

Bullock Pen Water District

Water Quality Report 2017

Water System ID: KY0410047
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Meeting location and time:
1 Farrell Drive, Crittenden, KY
3rd Thursday at 1:00 PM

Source Information:

This report is designed to inform the public about the quality of water and services provided on a daily basis. Our commitment is to provide our customers with a safe, clean and reliable supply of drinking water. We want to assure that we will continue to monitor, improve, and protect the water system and deliver a high quality product. Water is the most indispensable product in every home and we ask everyone to be conservative and help us in our efforts to protect the water source and the water system.

Our water source is surface water withdrawn from the following water bodies: Ohio River, Licking River, Bullock Pen Lake, and Williamstown Lake. We process water from Bullock Pen Lake at our treatment plant and purchase water from Boone County Water District, supplied by Greater Cincinnati Water Works (Ohio River); Walton Water Works, supplied by Northern Kentucky Water District (Ohio and Licking Rivers); Northern Kentucky Water District (Ohio and Licking Rivers) and City of Williamstown (Williamstown Lake). A susceptibility analysis for each source has been completed. The susceptibility to contamination of the Ohio and Licking Rivers is high whereas Bullock Pen and Williamstown Lake is moderate. Several areas of concern are related to the extensive development of transportation infrastructure, the potential for spills, high degree of impervious cover and polluted runoff. Areas of row crops and urban and recreational grasses introduce the potential for herbicide, pesticide, and fertilizer use. Bridges, railroads, ports, waste handlers or generators, and Tier II hazardous chemical users in the area introduce the potential for spills or leaks of hazardous materials. The completed report is available for inspection at the Northern Kentucky Area Development District.

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 may be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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 may 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, (sewage plants, septic systems, livestock operations, or wildlife). Inorganic contaminants, such as salts and metals, (naturally occurring or from stormwater runoff, wastewater discharges, oil and gas production, mining, or farming). Pesticides and herbicides, (stormwater runoff, agriculture or residential uses). Organic chemical contaminants, including synthetic and volatile organic chemicals, (by-products of industrial processes and petroleum production, or from gas stations, stormwater runoff, or septic systems). Radioactive contaminants, (naturally occurring or from oil and gas production or mining activities). In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water to provide the same protection for public health.

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 infections. 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 (800-426-4791).

Information About 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. Your local public water system 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 or at <http://www.epa.gov/safewater/lead>.

Some or all of these definitions may be found in this report:

Level 1 Assessment – A Level 1 Assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in the water system.

Level 2 Assessment – A Level 2 Assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Maximum Contaminant Level (MCL) - 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.

Maximum Contaminant Level Goal (MCLG) - 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.

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 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.

Below Detection Levels (BDL) - laboratory analysis indicates that the contaminant is not present.

Not Applicable (N/A) - does not apply.

Parts per million (ppm) - or milligrams per liter, (mg/l). One part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) - or micrograms per liter, ($\mu\text{g/L}$). One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per trillion (ppt) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Parts per quadrillion (ppq) - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

Picocuries per liter (pCi/L) - a measure of the radioactivity in water.

Millirems per year (mrem/yr) - measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) - a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) - a measure of the clarity of water. Turbidity has no health effects. However, turbidity can provide a medium for microbial growth. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.

Variations & Exemptions (V&E) - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

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

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

The data presented in this report are from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data in this table, though representative, may be more than one year old.

B= Bullock Pen WD C=Greater Cincinnati Water Works N=Northern KY WD W=City of Williamstown

	Allowable Levels	Source	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity (NTU) TT * Representative samples of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% monthly samples	B= C= N= W=	0.094 0.09 0.28 0.14	100 100 100 100	No No No No	Soil runoff

Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Source	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Total Coliform Bacteria # or % positive samples	TT	N/A	B=	1	N/A	2017	No	Naturally present in the environment

Inorganic Contaminants

Arsenic [1005] (ppb)	10	N/A	B= W=	0.4 1	0.4 to 0.4 1 to 1	2017 2017	No No	Natural erosion; runoff from orchards or glass and electronics production wastes
Barium [1010] (ppm)	2	2	B= C= N= W=	0.01 0.036 0.029 0.008	0.01 to 0.01 0.036 to 0.036 0.017 to 0.04 0.008 to 0.008	2017 2017 2017 2017	No No No No	Drilling wastes; metal refineries; erosion of natural deposits
Chromium [1020] (ppb)	100	100	B=	0.3	0.3 to 0.3	2017	No	Discharge from steel and pulp mills; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	B=	0.329 (90 th percentile)	0.002 to 0.742	2016	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	B= C= N= W=	0.04 0.87 0.795 0.4	0.04 to 0.04 0.87 to 0.87 0.74 to 0.85 0.4 to 0.4	2017 2017 2017 2017	No No No No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level 4	AL = 15	0	B=	5.5 (90 th percentile)	0 to 48.7	2016	No	Corrosion of household plumbing systems
Nickel (ppm) (US EPA remanded MCL in February 1995.)	N/A	N/A	N=	3.5	0 to 7	2017	No	N/A
Nitrate [1040] (ppm)	10	10	B= C= N= W=	0.6 1.39 0.82 0.3	0.6 to 0.6 0.55 to 1.39 0.13 to 0.82 0.3 to 0.3	2017 2017 2017 2017	No No No No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits

Disinfectants/Disinfection Byproducts and Precursors

Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	B= C= N= W=	1.57 1.9 1.71 1.49	0.48 to 2.5 1.73 to 3.43 1.38 to 3.31 0.93 to 2.5	2017 2017 2017 2017	No No No No	Naturally present in environment.
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*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average must be 1.00 or greater for compliance.

Chlorine (ppm)	MRDL = 4	MRDLG = 4	B=	1.03 (highest average)	0.70 to 1.90	2017	No	Water additive used to control microbes.
Chlorite (ppm)	1	0.8	W=	0.780 (average)	0.35 to 0.89	2017	No	Byproduct of drinking water disinfection.
Chlorine dioxide (ppb)	MRDL = 800	MRDLG = 800	W=	230	0 to 230	2017	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	B=	59 (average)	4.3 to 89.7 (range of individual sites)	2017	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	B=	82 (average)	22 to 70 (range of individual sites)	2017	YES	Byproduct of drinking water disinfection.

Cryptosporidium: Cryptosporidium is a microbial pathogen found in surface water. Cryptosporidium was detected in 1 sample collected from the Ohio River raw water source for Northern Kentucky Water District. It was not detected in the finished water. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

Violation 2017-9950628

Testing results showed that our system exceeded the standard, or maximum contaminant level (MCL), for trihalomethanes. The standard for trihalomethanes is 0.080 mg/L. It is determined by averaging all samples at each sampling location for the last 12 months. Trihalomethanes averaged at one of our system's locations for:

1/1/2017 through 3/31/2017 was 0.082 mg/L

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 systems, and may have an increased risk of getting cancer.

We made changes regarding our distribution system flushing program and have since come back into compliance. A public notice was issued for the quarter we were out of compliance.

Spanish (Español) Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

This report will not be mailed. If you would like to receive a copy by mail, please contact our office.