



# 2021 Consumer Confidence Report



WATER SYSTEM: Christian County Water District KY PWSID: KY0240521

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PUBLIC MEETING LOCATION: 1940 Dawson Spring Road Hopkinsville, KY DATE & TIME: 1ST Thursday Each Month at 6:00pm

*Este informe contiene información importante sobre su agua potable. Pídale a alguien que se lo traduzca o hable con alguien que lo entienda.*

We test our drinking water as required by the state and federal regulations. This report shows the results of monitoring from January 2021 to December 2021.. Christian County Water District is only required to test for some contaminants periodically, so the results listed in this CCR may not be from the previous year. Only detected contaminants are included in this report. For a list of all contaminants we test for please contact us.

## WHERE DOES MY WATER COME FROM?

SOURCE(S) OF WATER: Hopkinsville Water Environment Authority /Barkley Lake Water District / Todd County Water District

TYPE OF WATER SOURCE: SURFACE WATER

SOURCE WATER ASSESSMENT/WELLHEAD PROTECTION PROGRAM INFORMATION: On page 3&4

## WATER QUALITY TABLES

### Table of Lead and Copper Detections

Contaminant (units)	Action Level (AL)	MCLG	# of Individual Taps over AL	90% of taps tested were less than	In Compliance?	Sample Year	Typical Source of Contamination
Lead (ppb)	15 ppb	0 ppb	0	002.	Yes	2021	Corrosion of household plumbing systems; erosion of natural deposits
_0_ out of _30_ taps were found to have levels in excess of the lead action level of 15 ppb							
Copper (ppm)	1.3 ppm	1.3 ppm	0	0.136	Yes	2021	Corrosion of household plumbing systems; erosion of natural deposits
_0_ out of _30_ taps were found to have copper levels in excess of the copper action level of 1.3 ppm							

### Important 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. Christian County Water District 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>.

### Table of Disinfectants/Disinfection Byproducts and Precursors

Contaminant (units)	MCLG or MRDLG	MCL, TT*, or MRDL	Level Detected	Range	In Compliance?	Sample Year	Typical Source
Chlorine (ppm)	=4	=4	1.51 (highest average)	0.25-2.60	Yes	2021	Water additive used to control microbes
HAA (ppb) [Haloacetic acids]	N/A	60	43 (high site average)	19-62	Yes	2021	Byproduct of drinking water disinfection
TTHM (ppb) [total trihalomethanes]	N/A	80	57 (high site average)	22-85	Yes	2021	Byproduct of drinking water disinfection

\*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average must be 1.00 or greater for compliance.

## Christian County Water District

### 2021 CCR

Christian County Water District received a Violation from Kentucky Division water. Violation No: 2022-9579313 for Adequacy/ Availability/ Content . CCWD did not provide any source water assessment information and did not label all contaminant with which source water table represented in the 2020 CCR. Although these incident were not an emergence's, as our customer you have a right to know what happened and what we did to correct these situation. We are correcting these by making a check list and more overseeing the preparation off the CCR.

Hopkinsville Water Environment Authority

Source Water Assessment

This is the language we use in our CCR for the Source Water Assessment:

The final source water assessment with a summary of our system's susceptibility to potential sources of contamination has been completed. A brief summary of this assessment for HWEA (PWSID #KY0240201) (VW0251) is as follows:

An analysis of HWEA's water supply indicates that there are fifty-three potential contaminant sites with the possibility of contaminating the water supply located within the watershed. Sources of high potential impact include underground and above ground storage tank facilities, hazardous materials transfer and storage, and landfills, all of which share the possibility of leakage, spill, or leaching of unwanted contaminants. Sources of moderate to low potential impact include those from agricultural operations, an inactive rock quarry, and failing septic systems. The complete Susceptibility Analysis Report is available at the HWEA's main office located at 401 E. 9th Street, Hopkinsville. For more information, please call (270) 887-4147.

Although these potential contaminant sources are within the HWEA watershed, the Moss Water Treatment Plant is able to treat the drinking water for its customers in accordance with all EPA Standards.

If you suspect anyone discharging a contaminant in an unsafe manner, please call HWEA at (270) 887-4147 or the Division of Water at (270) 824-7532.



HOPEWELL WATER TREATMENT PLANT  
125 YEARS  
Est. 1895

**Jenny Moss**

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## Barkley Lake Water District

### Source Water Assessment

The source of your drinking water is Lake Barkley, which is a surface water source. An analysis of Barkley Lake Regional Water district's water supply, indicates there are six types of potential contaminant sites with the possibility of contaminating the water supply located within the watershed. Areas of high concern located within the watershed are underground storage tanks, and rock quarries. Other areas of concern are the water treatment plant of the district, roads, bridges, and highways that pose a risk of the possibility of hazardous materials entering the water supply from traffic accidents, spills, and illegal dumping. In addition to households which are connected to the public waste system present a source of contamination due to the possibility of failing septic systems. Farms located within the watershed present the possibility of silation, pathogens, pesticides, and fertilizer entering the water supply. The complete plan is available at the Barkley Lake Regional Water District billing office at 1420 Canton Road, Cadiz, Ky. 42211.

## Logan / Todd Regional Water Commission

### Source Water Assessment

#### Type and Location of Source Water

Logan/Todd Regional Water Commission (LTRWC) produces treated drinking water at the George W. Arnold Treatment Plant. The raw water intake is surface water located in the main channel of the Cumberland River, in Clarksville, Montgomery County, Tennessee. The protection area taken into consideration is from the LTRWC intake point to the Clarksville Water System intake upstream. Urban nonpoint source runoff may contribute contamination to the water supply by delivering sediment, oil and grease, road salt, fertilizers, pesticides, nutrients, and other contaminants to the Cumberland River. Transportation corridors pose a significant threat to water quality. Transportation accidents can release substances into water supplies, threatening water quality. Tractor-trailers, barges, rail cars and pipelines all have the potential for adverse impact of our water supply. A state primary road - TN 13 - crosses the Cumberland River, as do the Cunningham Bridge and the L&N Railroad Bridge. Water sources have been rated as reasonably susceptible (high), moderately susceptible (moderate) or slightly susceptible (low) based on geologic factors and human activities in the vicinity of the water source. The water source for LTRWC is rated as reasonably susceptible to potential contamination. For more information regarding the LTRWC source water protection area and plan, contact LTRWC located at 248 Tower Street in Guthrie, Kentucky.

## Christian County Water District 2021 CCR

### Definitions & Acronyms

Maximum Contaminant Level (MCL): <i>(required definition)</i>	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): <i>(required definition)</i>	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 contamination.
Treatment Technique (TT):	A required process intended to reduce the level of a contaminant in drinking water.
Action Level (AL):	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variations and Exemptions:	State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
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 our 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.

### Important Information about Your Drinking Water

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 can 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, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

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.

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 can also come from gas stations, urban storm water runoff, and septic systems.

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 EPA 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 Environmental Protection Agency's Safe Drinking Water Hotline (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 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).

# 2021 Water Quality Data

The data presented in this report is from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by the 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.

	Allowable Levels	Highest Single Level	Lowest Monthly %	Violation	Likely Source
1. Turbidity (NTU) TT	Never more than 1 NTU Less than 0.3 NTU 95% of samples each month. (Population >10,000)	0.08	100%	No	Soil runoff
Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration.					

## Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Report Level	Range	Date of Sample	Violation Yes/No	Likely Source of Contamination
<b>Microbial Contaminants</b>							
2. E. coli Bacteria 0% positive samples	0%	0	0%	N/A	N/A	No	Human and animal fecal waste
<b>Radioactive Contaminants</b>							
3. Combined Radium (pCi/L)	5	0	1.5	1.5 - 1.5	February 2017	No	Erosion of natural deposits
4. Uranium (ug/l)	30	0	2.2	2.2 - 2.2	February 2017	No	Erosion of natural deposits
<b>Inorganic Contaminants</b>							
5. Copper [1022] (ppm) (0 sites exceeded the AL)	AL= 1.3	1.3	0.0627 (90 <sup>th</sup> percentile)	0.0017 - 0.128	June 2021	No	Corrosions of household plumbing systems
6. Lead [1030] (ppb) (0 sites exceeded the AL)	AL= 15	0	0.0 (90 <sup>th</sup> percentile)	0.0 - 2.0	June 2021	No	Corrosion of household plumbing systems
Lead and Copper monitoring is done together during the months of June, July, August and September.							
7. Barium [1010] (ppm)	2.0	2.0	0.045	0.045 - 0.045	January 2021	No	Drilling wastes; metal refineries; erosion of natural deposits
8. Fluoride [1025] (ppm)	4.0	4.0	0.67	0.67 - 0.67	January 2021	No	Water additive which promotes strong teeth
10. Nitrate [1040] (ppm)	10	10	2.37	1.97 - 2.37	April 2021	No	Fertilizer runoff; leaching from septic tanks; sewage; erosion of natural deposits

	Average	Range of Detection
Fluoride (added for dental health)	0.7	0.65 - 0.85
Sodium (EPA guidance level = 20 mg/l)	6.4	6.11 - 6.73

Hopkinsville Water Environment Authority

2021 CCR

Contaminant	MCL	MCLG	Report Level	Range	Date of	Violation	Likely Source of
<b>Synthetic Organic Contaminants including Pesticides and Herbicides</b>							
11. Atrazine [2050] (ppb)	3.0	3.0	0.3775	BDL - 1.51	July 2021	No	Runoff from herbicide used on row crops
<b>Disinfectants/Disinfection Byproducts and Precursors</b>							
12. Total Organic Carbon (ppm)	TT	N/A	2.29 (lowest average)	1.00 - 3.33 (monthly ratios*)	2021	No	Naturally present in environment
*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Lowest annual average of the monthly ratios must be 1.00 or greater to meet the treatment technique.							
13. Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.50 (highest average)	0.22 - 2.88	2021	No	Water additive used to control microbes
14. Haloacetic acids or HAA (ppb) (Stage 2) Individual Sites	60	N/A	43 (annual average)	14 - 70	2021	No	By-product of drinking water disinfection
15. Total Trihalomethanes or TTHM (ppb) (Stage 2) Individual Sites	80	N/A	45 (annual average)	17 - 66	2021	No	By-product of drinking water disinfection

Secondary contaminants do not have a direct impact on the health of the consumers. They are being included to provide additional information about the quality of the water.

Secondary Contaminant	Maximum Allowable Level	Report Level	Range of Detection	Date of Sample
Aluminum	0.05 to 0.2 mg/l	0.03	0.03 to 0.03	March 2021
Chloride	250 mg/l	18.7	18.7 to 18.7	March 2021
Corrosivity	Noncorrosive	-0.35	-0.35 to -0.35	March 2021
Fluoride	2.0 mg/l	0.62	0.62 to 0.62	March 2021
pH	6.5 to 8.5	7.44	7.44 to 7.44	March 2021
Sulfate	250 mg/l	11.1	11.1 to 11.1	March 2021
Total Dissolved Solids	500 mg/l	215	215 to 215	March 2021

Maximum Contaminant Levels (MCLs) are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

# Todd County Water District 2021 Water Quality Data

## KY1100944

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. The following contaminants were detected by Logan Todd Regional Water Commission, Turbidity, Barium, Fluoride, Nitrate and Total Organic Carbon. All other contaminants were detected by Todd County Water District.

	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source
Turbidity (NTU) TT * Representative samples of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.054	100	No	Soil runoff

### Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
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#### Microbiological Contaminants

Total Coliform Bacteria # or % positive samples	1	0	1	N/A	21-Aug	No	Naturally present in the environment
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#### Inorganic Contaminants

Barium [1010] (ppm)	2	2	0.0192	0.0192 to 0.0192	Jun-21	No	Drilling wastes; metal refineries; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.06 (90 <sup>th</sup> percentile)	0.002 to 0.108	Aug-19	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	0.628	0.628 to 0.628	Jun-21	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	0.198	0.198 to 0.198	Feb-21	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits

#### Disinfectants/Disinfection Byproducts and Precursors

Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.83 (lowest average)	1.74 to 1.97 (monthly ratios)	2021	No	Naturally present in environment.
*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	1.51 (highest average)	0.44 to 2.2	2021	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	(high site average) 32	26 to 37 (range of individual sites)	2021	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	(high site average) 52	30 to 79 (range of individual sites)	2021	No	Byproduct of drinking water disinfection.

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

**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, (µg/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.

**Variances & 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.

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

## Barkley Lake Water District 2021 CCR

Regulated Contaminant Test Results								Barkley Lake Regional Water District	
Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination		
<b>Inorganic Contaminants</b>									
Barium [1010] (ppm)	2	2	0.028	0.028 to 0.028	Aug-21	No	Drilling wastes; metal refineries; erosion of natural deposits		
Fluoride [1025] (ppm)	4	4	0.84	0.84 to 0.84	Aug-21	No	Water additive which promotes strong teeth		
Nitrate [1040] (ppm)	10	10	0.567	0.259 to 0.567	Feb-21	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits		
<b>Disinfectants/Disinfection Byproducts and Precursors</b>									
Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.77 (lowest average)	1.52 to 2.07 (monthly ratios)	2021	No	Naturally present in environment.		
*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	1.50 (highest average)	0.6 to 2.18	2021	No	Water additive used to control microbes.		
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	31 (high site average)	18 to 41 (range of individual sites)	2021	No	Byproduct of drinking water disinfection		
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	41 (high site average)	18 to 47 (range of individual sites)	2021	No	Byproduct of drinking water disinfection.		
<b>Household Plumbing Contaminants</b>									
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.564 (90 <sup>th</sup> percentile)	0.0086 to 0.775		No	Corrosion of household plumbing systems		
<b>Other Constituents</b>									
Turbidity (NTU) TT * Representative samples	Allowable Levels		Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity			
Turbidity is a measure of the clarity of the water and not a contaminant.	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples		0.1	100	No	Soil runoff			

This report will not be sent out to individual customers.

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 our water system.

During the past year we were required to conduct one Level 1 assessment. One Level 1 assessment was completed. In addition, we were required to take one corrective actions and we completed one of these actions. ADD ANY OTHER EXPLANATION HERE

### Barkley Lake Water District 2021 CCR

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.