



2017 Annual

# Water Quality Report

Cairo District  
PWS ID: IL0035030



## A Message from Illinois American Water President

To Our Valued Customer:

Illinois American Water is proud to be your local water service provider. I am pleased to share with you good news about the quality of your drinking water. Each year, we provide you with our Annual Water Quality Report. As in previous years, in 2017, we continued to provide water that meets or surpasses all state and federal water quality regulations.

Illinois American Water has an exceptional track record in providing safe drinking water. State-of-the-art technology, as well as the expertise and experience of our team of employees, are used to treat and deliver more than 109 million gallons of drinking water every day across Illinois.

Nationally, American Water performs 21 times better than the industry average when it comes to meeting Environmental Protection Agency drinking water requirements.

We know how important water is to your daily life. We appreciate that you expect your drinking water to be clean, safe, reliable, and affordable. This expectation motivates our employees to monitor and test every stage of the water treatment process, around-the-clock, to ensure your drinking water meets all quality standards. Our team of employees is proud of this commitment to you, as well as our mission to “Keep Life Flowing” to our customers and communities in which they work and live.

Water is an integral part of life. Our employees’ passion drives their ambition to educate about the value of water and wise water use to our youth and communities. In 2018, you will see our employees at local community events. Or you may see our mobile education center at a local school or civic event with our employees on-board, offering hands-on water treatment lessons.

We keep infrastructure flowing through investing approximately \$70 - \$100 million annually in new water lines, fire hydrants, and enhancements at water treatment facilities. This allows us to ensure quality water service delivered right to your tap and keep our local water infrastructure in efficient, reliable working condition. During 2017, we started our lead service line replacement initiative from the main to our customer’s home allowing quality service delivered right to your tap.

At Illinois American Water, our customers are our top priority. We are committed to providing you with the highest quality drinking water and services possible. Please take time to review this water quality report as it provides details about the source and quality of the drinking water delivered to you in 2017.

Sincerely,

Bruce Hauk  
President



Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien.

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## What is a Water Quality Report?

Illinois American Water issues a report annually describing the quality of your drinking water in compliance with state and United States Environmental Protection Agency (USEPA) regulations. The purpose of this report is to increase understanding of drinking water standards and raise awareness of the need to protect your drinking water sources.

At our state-of-the-art research laboratory in Belleville, Illinois, we conduct thousands of tests per year, checking drinking water quality at every stage of the water treatment and delivery process. In 2017, we conducted tests for hundreds of contaminants, including those with federal and state maximum allowable levels. This report provides an overview of last year's (2017) water quality results. It includes details about your water and what it contains.

## Partnership for Safe Drinking Water Program

Illinois American Water's Cairo District is a volunteer participant in the USEPA's Partnership For Safe Water, a national program designed to achieve operational excellence in water treatment.



In 2013 the Cairo facility was awarded the prestigious Ten Year Director's Award under the Partnership for Safe Water program. The award honors water utilities for achieving operational excellence, by voluntarily optimizing their treatment facility operations and adopting more stringent performance goals than those required by federal and state drinking water standards. We are proud to report that we have maintained those standards throughout 2017.

## Source Water Information

Illinois Environmental Protection Agency (IEPA) considers all surface water sources of community water supply to be susceptible to potential pollution problems; hence, the reason for mandatory treatment for all surface water supplies in Illinois. Mandatory treatment includes coagulation, sedimentation, filtration, and disinfection. The Cairo Water Treatment Facility is located in the City of Cairo and receives surface water for treatment from an intake on the Ohio River. The Ohio River is subject to a variety of influences including agricultural, municipal, and industrial activities. Farm chemicals may be seasonally elevated in the river. Extensive monitoring and treatment ensure high-quality water service regardless of variations in the source water. Accidental spills of hazardous materials into navigable waterways are a major concern because of their frequency in the United States in recent years. Illinois has access to 1,116 miles of inland waterway that can handle commercial barge traffic. These include the Upper Mississippi River, Illinois River Waterway, and the Ohio River. Along these waterways are numerous facilities that load and unload hazardous materials.

The Illinois Environmental Protection Agency (IEPA) has completed a source water assessment for the Cairo system and a copy is available upon request by calling Sarah Boyd, Water Quality Supervisor at 618-874-2408. To view a summary version of the completed Source Water Assessments, including: Importance of Source Water; Susceptibility to Contamination Determination; and documentation / recommendation of Source Water Protection Efforts, you may access the Illinois EPA website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

## Environmental Stewardship

Water is one of the earth's most precious natural resources. Protecting the environment helps to ensure adequate water supply for generations. Our efforts include student education, community events, environmental partnerships and internal initiatives.

**Student Education:** Illinois American Water reaches thousands of students each year through educational efforts. Our water quality team visits local schools to demonstrate the water treatment process. Our Mobile Education Center (MEC), an 18-foot learning center, offers hands-on water testing and fun lesson plans. We partner with Illinois leaders on Science, Technology, Engineering, Mathematics (STEM) education efforts. Students participate in annual community events like the Clean Water Celebration held in Peoria and the Water Festival in Godfrey.

**Community Events:** We participate in the "It's Our River Day" celebrations each September across the state. These events promote education, recreation and conservation within Illinois watersheds. Illinois American Water employees volunteer at the Two Rivers Family Fishing Fair in Grafton. We also contribute to river cleanup efforts with the Illinois River Sweep, Vermillion River Clean Up, Living Lands and Waters Great Mississippi River Clean Up, and more.

**Environmental Partnerships:** As a part of our Environmental Grant Program over \$195,000 has been awarded to over 51 Illinois water source protection projects since 2009. In 2017, we presented over \$20,000 for seven environmental projects focused on the improvement, restoration and protection of water sources in our communities. We are continuing our multi-year agreement with Great Rivers Land Trust to reduce sedimentation of the Piasa Creek and Mississippi River. The agreement has been highlighted as a model by the USEPA. Our Champaign County team partners on the Mahomet Aquifer Consortium to protect our precious resources.

**Pharmaceutical Disposal Programs:** Illinois American Water has collaborated with communities to implement over 35 pharmaceutical disposal programs across the state. These efforts have led to the prevention of flushing medications and the proper disposal of hundreds of thousands pounds of unwanted medications. To learn more or to find a disposal location near

you, please visit [www.illinoisamwater.com](http://www.illinoisamwater.com) under Water Quality.

**Internal Initiatives:** On a daily basis, our facilities utilize technologies such as variable frequency motors and motion sensor lighting to ensure efficient energy use. Recycling programs at company facilities also help to reduce waste and protect the environment. Illinois American Water incorporates native and prairie plantings on company property whenever possible to reduce water use and mowing costs.

The company's water treatment plant in Champaign County earned the first LEED® certification for a water treatment facility in Illinois. LEED is the nation's leading program for the design, construction and operation of high-performance green buildings. In addition, an upgrade at the water treatment plant in Peoria includes the incorporation of ultraviolet (UV) technology to enhance water quality.

Illinois American Water's Pontiac and Streator Districts installed ultrasonic units to effectively control algae and reduce the use of treatment chemicals. Illinois American Water also implemented solar power in the Peoria and Interurban (Metro East) Districts, decreasing electricity costs and benefiting our customers.

## American Water

With a history dating back to 1886, American Water is the largest and most geographically diverse U.S. publicly-traded water and wastewater utility company. The company employs more than 6,700 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 47 states and Ontario, Canada. More information can be found by visiting [www.amwater.com](http://www.amwater.com).

## Illinois American Water

Illinois American Water, a subsidiary of American Water (NYSE: AWK), is the largest investor-owned water utility in the state, providing high-quality and reliable water and/or wastewater services to approximately 1.3 million people. American Water also operates a customer service center in Alton and a quality control and research laboratory in Belleville.

## Questions?

To learn more about water quality, visit our website at: [www.illinoisamwater.com](http://www.illinoisamwater.com). For questions or copies, contact Sarah Boyd, Water Quality Supervisor, at [sarah.boyd@amwater.com](mailto:sarah.boyd@amwater.com) or 618-874-2408.

**Illinois American Water**  
[www.illinoisamwater.com](http://www.illinoisamwater.com)

**United States Environmental Protection Agency**  
<https://www.epa.gov/ground-water-and-drinking-water>

**Illinois Environmental Protection Agency (IEPA)**  
[www.epa.illinois.gov](http://www.epa.illinois.gov)

**Envirofacts**  
Access to U.S. environmental data  
<https://www3.epa.gov/enviro>

**Centers for Disease Control and Prevention**  
[www.cdc.gov](http://www.cdc.gov)

**American Water Works Association**  
[www.drinktap.org](http://www.drinktap.org)

**Safe Drinking Water Hotline: 800-426-4791**  
<https://www.epa.gov/ground-water-and-drinking-water/safe-drinking-water-hotline>

**Surf Your Watershed**  
Locate your watershed and a host of information  
<http://cfpub.epa.gov/surf/locate/index.cfm>

## Substances Expected to be in 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 can acquire naturally-occurring minerals, and in some cases, radioactive material, and can pick up 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, 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 may be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, USEPA prescribes regulations which limit the amount of certain substances 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. Illinois American Water's advanced water treatment processes are designed to reduce any such substances to levels well below any health concern.

## Cryptosporidium

*Cryptosporidium* is a protozoan found in untreated surface waters throughout the United States (the organism is generally not present in a ground water source). Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100% removal. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, people with severely weakened immune systems have a risk of developing life-threatening illness. We encourage such people to consult their doctors regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it is spread through means other than drinking water.

USEPA issued a new rule in 2006 that requires systems with higher *Cryptosporidium* levels in their source water to provide additional treatment. In Cairo, our 2017 monitoring of the Ohio River raw untreated water indicated the presence of this organism. The Ohio River cryptosporidium levels ranged from not detected to 0.800 oocysts/L, with an average of 0.209 oocysts/L. Although this organism is present, it is at levels low enough that no supplemental treatment is required by our facility per USEPA standards.

## Important Health Information

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. More information about contaminants and potential health effects can be obtained by calling the USEPA'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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/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 800-426-4791.

## 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. Illinois American Water 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>.

## How to Read the Data Tables

Illinois American Water conducts extensive monitoring to ensure that your water meets all water quality standards. The results of our monitoring are reported in the data tables. While most monitoring was conducted in 2017, certain substances are monitored less than once per year because the levels do not change frequently. For help with interpreting these tables, see the "Table Definitions" section and footnotes.

## Table Definitions and Abbreviations

- **Action Level (AL):** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.
- **Action Level Goal (ALG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.
- **Avg:** Regulatory compliance with some MCLs are based on running annual average of monthly samples.
- **Compliance Achieved:** Indicates that the levels found were all within the allowable levels as determined by the USEPA.
- **Highest Level Detected:** In most cases this column is the highest detected level unless compliance is calculated on a Running Annual Average or Locational Running Annual Average. If multiple entry points exist, the data from the entry point with the highest value is reported.
- **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.
- **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 disinfectant routinely allowed in drinking water. 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 contamination.
- **NA: Not applicable**
- **ND: Not detectable at testing limits**
- **pCi/L (picocuries per liter):** Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).
- **ppm (parts per million):** One part substance per million parts water, or milligrams per liter.
- **ppb (parts per billion):** One part substance per billion parts water, or micrograms per liter.
- **Range Of Detections:** The range of individual sample results, from lowest to highest, that were collected during the sample period.
- **S: Single sample**
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

## 2017 Water Quality Information

We are pleased to report that during the past year, the water delivered to your home or business complied with, or was better than, all state and federal drinking water requirements.

For your information, we have compiled a table showing what substances were detected in your drinking water during 2017. Although all of the substances listed are under the Maximum Contaminant Level (MCL) set by the U.S. Environmental Protection Agency (USEPA), we feel it is important that you know exactly what was detected and how much of the substance was present in your water.

## Water Quality Results

### 2017 Regulated Substances Detected

The next several tables summarize contaminants detected in your drinking water supply.

Coliform Bacteria	MCLG	Total Coliform MCL	Highest Number of Positive Samples	Fecal Coliform or <i>E. coli</i> MCL	Total No. of Positive <i>E. coli</i> or Fecal Coliform Samples	Violation	Likely Source of Contamination
Total Coliform <sup>1</sup>	0	MCL: presence of coliform bacteria in > 1 positive monthly sample.	1	Fecal Coliform or <i>E. coli</i> MCL: A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive	0	No	Naturally present in the environment

<sup>1</sup> Coliforms are bacteria that are naturally present in the environment and are used as an indicator of the general bacteriological quality of the water. We are reporting the highest percentage of positive samples in any month.



Lead and Copper								
	Date Sampled	MCLG	Action Level (AL)	90 <sup>th</sup> Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2017	1.3	1.3	0.442	0	ppm	No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead <sup>2</sup>	2017	0	15	2	0	ppb	No	Corrosion of household plumbing systems; erosion of natural deposits.

2 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 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 (800-426-4791) or at <http://www.epa.gov/safewater/lead>.

Disinfectants & Disinfection Byproducts	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
HAAs (Haloacetic Acids)	2017	15	15.1 – 15.1	No goal for the total	60	ppb	No	By-product of drinking water disinfection.
TTHMs (Total Trihalomethanes)	2017	22	22.4 – 22.4	No goal for the total	80	ppb	No	By-product of drinking water disinfection.
Chloramines <sup>3</sup>	2017	2.5	1.9 – 3.4	MRDLG = 4	MRDL = 4	ppm	No	Water additive used to control microbes.

3 Chlorine and chloramines are disinfecting agents added to control microbes that otherwise could cause waterborne diseases or other water quality concerns. Most water systems in Illinois are required by law to add either chlorine or chloramines. Levels well in excess of the MRDL could cause irritation of the eyes or nose in some people. The values reported reflect multiple locations in the service area.

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Fluoride <sup>4</sup>	2017	0.8	0.76 – 0.76	4	4.0	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen) <sup>5</sup>	2017	2	1.54 – 1.54	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

4 Fluoride is added to the water supply to help promote strong teeth. The Illinois Department of Public Health recommends a fluoride level of 0.7 mg/L.

5 Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than 6 months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you, should ask advice from your health care provider.

Synthetic Organic Contaminants (pesticides and herbicides)	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Atrazine	2017	0.4	ND – 0.4	3	3	ppb	No	Runoff from use as a herbicide on row crops or an insecticide.

Radiological Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/photon emitters <sup>6</sup>	2014	3.5 pCi/L	3.5 – 3.5 pCi/L	0	4	mrem/yr	No	Decay of natural and man-made deposits.

6 The MCL for Beta/photon emitters is often written as 4 millirem/year (measure of rate of radiation absorbed by the body). Laboratory results are reported in pCi/L as we have on the table above. EPA considers 50 pCi/L as the level of concern for beta emitters.

State Regulated Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Sodium <sup>7</sup>	2017	11	11 – 11	N/A	N/A	ppm	No	Erosion from naturally occurring deposits: Used in water softener regeneration.
Zinc	2017	0.369	0.369 – 0.369	5	5	ppm	No	Naturally occurring; discharge from metal factories; water treatment additive.

<sup>7</sup> There is no state or federal MCL for sodium. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about this level of sodium in the water.

Note: The state requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be more than one year old.

Turbidity				
	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Lowest Monthly % Meeting Limit	0.3 NTU	100%	No	Soil Runoff
Highest Single Measurement	1 NTU	0.2 NTU	No	Soil Runoff

Turbidity is a measure of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of the effectiveness of our filtration system, water quality, and disinfectants. The treatment technique requires that at least 95% of routine samples are less than or equal to 0.3 NTU, and no sample exceeds 1 NTU. We are reporting the percentage of all readings meeting the standard of 0.3 NTU, plus the single highest reading for the year.

Total Organic Carbon
The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set by IEPA. TOC has no health effects but contributes to the formation of disinfection by-products. Reduction of TOC can help to minimize disinfection by-product formation.

Data from emergency back up raw water well is available per request. This well has not been in service for years and would only be placed into service in the event of source water contamination.