

Kelleys Island Water

Drinking Water Consumer Confidence Report For 2022

The Kelleys Island Water Treatment Plant has prepared the following report to provide information to you, the consumer, on the quality test result, how to participate in decision concerning your drinking water and water system contacts. We are proud to report that the water provided by Kelleys Island Water meets or exceeds all established water quality standards.

Source Water Information.

The Kelleys Island public water system uses surface water drawn from an intake 600 feet out in Lake Erie. For the purposes of source water assessment in Ohio, all surface water are considered to be susceptible to contamination. By their nature, surface waters are readily accessible and can be contaminated by chemicals and pathogens with little or no warning or time to prepare. The Kelleys Island Water Treatment plant source water contains potential contaminant source such as discharges of industrial wastewater and inadequately treated residential sewage. Runoff containing nitrates and pesticides from agricultural and landscaped areas may also impact the source waters. Recreational and commercial boating traffic poses a threat of fuel and oil spills. Copies of the source water assessment report prepared for Kelleys Island Water are available by contacting Tom Lange at 419.746.2555

Sources of contamination to 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: (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 by-products 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, 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 (1-800-426-4791).

Who needs to take 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 (1-800-426-4791).

About your drinking water.

The EPA requires regular sampling to ensure drinking water safety. The Kelleys Island Water Treatment plant conducted sampling for bacteria, inorganic, synthetic organic and volatile organic contaminants during 2022. Samples were collected for a total of approximately 68 different contaminants, most of which were not detected in the Kelleys Island Water Treatment water supply. The Ohio EPA requires us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, are more than one year old. Listed below is information on those contaminants that were found in the Kelleys Island Water Treatment plant’s drinking water.

Monitoring and reporting violations.

In December 2022 the Village of Kelleys Island received a violation for insufficient asset management training for Kelleys Island’s governing body.

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detection	Violation	Sample Year	Typical Source of Contaminants
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Disinfectant and Disinfectant By-Products							
Total Chlorine (ppm)	MRDL G = 4	MRDL = 4	1.27	0.85 to 1.64	No	2022	Water additive used to control microbes.
Haloacetic Acids (HAA5) (ppb)	N/A	60	27.3	18.5 to 38.5	No	2022	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM) (ppb)	N/A	80	77.78	44.8 to 96.4	No	2022	By-product of drinking water disinfection.
Volatile Organic Contaminants							
Dichloromethane (ppb)	0	5	0.1	0 to 0.1	No	2022	Discharge from pharmaceutical and chemical factories.
Ethylbenzene (ppb)	700	700	0.05	0.03 to 0.05	No	2022	Discharge from petroleum refineries.
Tetrachloroethylene (ppb)	0	5	0.5	0 to 0.5	No	2022	Discharge from factories and dry cleaners.
Toluene (ppm)	1	1	0.00008	0 to 0.00008	No	2022	Discharge from petroleum factories.
Inorganic Contaminants							
Nitrate (ppm)	10	10	1.24	0.209 to 1.24	No	2022	Run off from fertilizer use, Leaching from septic tanks, sewage; Erosion of natural
Barium (ppm)	2	2	0.016	0.016 to 0.016	No	2022	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride (ppm)	4	4	0.125	0.125 to 0.125	No	2022	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum
Bacteriological							
Turbidity NTU	N/A	TT	0.16	0.03 to 0.16	No	2022	Soil Runoff

Turbidity (% meeting standards)	N/A	TT	100%	100%	No	2022	Soil Runoff
Total Organic Carbon mg/L	N/A	TT Removal >1	1.7	1.2 to 1.7	No	2022	Naturally present in the environment
Lead and Copper							
Contaminants (units)	Action Level (AL)	MCLG	90th Percentile	# Sites Over AL	Violation	Year Sampled	Typical source of Contaminants
Lead (ppb)	15 ppb	0 ppb	4	0	No	2022	Corrosion of household plumbing systems; Erosion of natural
	0__ out of 10__ samples were found to have lead levels in excess of the lead action level of 15 ppb.						
Copper (ppm)	1.3 ppm	1.3 ppm	0.201	0	No	2022	Erosions of natural deposits; Leaching from wood preservatives ; Corrosions of household plumbing
	0__ out of __10__ samples were found to have copper levels in excess of the copper action level of 1.3 ppm.						

TABLE OF DETECTED CONTAMINANTS

TOC values.

The value reported under “Level Found” for Total Organic Carbon (TOC) is the lowest ratio between the percent of TOC actually removed to the percent of TOC required to be removed. A value of greater than (1) indicated that the water system is in compliance with TOC removal requirements. A value of less than (1) indicates a violation of TOC removal requirements.

Turbidity.

Turbidity is a measure of the cloudiness of water and is an indicator of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.3 NTU in 95% of the samples analyzed

each shall not exceed 1 NTU at any time. As reported above, the Kelleys Island Water Treatment Plants highest recorded turbidity result for 2022 was 0.16 and lowest monthly percentage of samples meeting the turbidity limits was 100%.

Lead Educational Information.

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. The Kelleys Island Water Treatment plant 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 concern about lead in drinking 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 800.426.4791 or at <http://www.epa.gov/safewater/lead>.

License to Operate (LTO) Status Information.

In 2022 we had an unconditioned license to operate our water system.

How do I participate in decision concerning my drinking water?

Public participation and comments are encouraged at regular meetings of the Kelleys Island Village council which meets monthly at Town Hall. May through September meetings are held on the second Thursday at 7 PM. October through March meetings are held on the second Saturday at 10 AM. For more information on your drinking water contact Tom Lange at 419.746.2555.

Definitions of some terms contained within this report.

- 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 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 best 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.
- Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.
- Contact Time (CT) means the mathematical product of a “residual disinfectant concentration” (C), which is determined before or at the first customer, and the corresponding “disinfectant contact time” (T).
- Microcystins: Liver toxins produced by a number of cyanobacteria. Total microcystins are the sum of all the variants/congeners (forms) of the cyanotoxin microcystin.
- Cyanobacteria: Photosynthesizing bacteria, also called blue-green algae, which naturally occur in marine and freshwater ecosystems, and may produce cyanotoxins, which at sufficiently high concentrations can pose a risk to public health.
- Cyanotoxin: Toxin produced by cyanobacteria. These toxins include liver toxins, nerve toxins, and skin toxins. Also sometimes referred to as “algal toxin”.
- Parts per Million (ppm) or Milligrams per Liter (mg/L) are 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 (µg/L) are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.
- The “<” symbol: A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.

If a potential or actual cross-connection contamination hazard is identified, the customer will be required to eliminate the hazard and/or install an appropriate backflow preventer at the service connection and/or at the hazard.

Special Conditions

Auxiliary Water Systems

What is an auxiliary water system?

It is any water system on or available to your property other than the public water system. Used water or water from wells, cisterns or open reservoirs that are equipped with pumps or other sources of pressure, including gravity are examples.

What protection is required?

- The auxiliary water system must be completely separated from water supply plumbing served by a public water system; and
- An approved backflow preventer must be installed at the service connection (where the public water system connects to the customer's plumbing system).

OR

- The auxiliary water system must be eliminated.

Are there exceptions?

At their discretion, the water supplier may waive the requirement for a backflow preventer at the service connection if all the following conditions are met:

- All components of the auxiliary water system, including pumps, pressure tanks and piping, are removed from the premises, which are defined as all buildings, dwellings, structures or areas with water supply plumbing connected to the public water system.

- The possibility of connecting the auxiliary water system to the water supply plumbing is determined by the water supplier to be extremely low.
- No other hazards exist.
- The customer enters into a contract with the water supplier, as described below.

The contract will require the customer:

- To understand the potential hazard of a cross-connection.
- To never create a cross-connection between the auxiliary water system and the public water system.
- To allow an inspector to survey their property for hazards as long as the contract is in effect.
- To face loss of service and other penalties if the contract is violated.

The water supplier must perform an annual inspection of the customer's contract-regulated property to verify the conditions have not changed, which would warrant installation of a backflow preventer. The water supplier must, by law, do everything reasonably possible to protect the water system from contamination.

Booster Pumps

What is the concern?

Booster pumps connected to plumbing systems or water mains can cause backsiphonage by reducing the water mains. The following requirements are in place to help prevent backsiphonage:

- Booster pumps, not used for fire suppression, must be equipped with a low suction cut-off switch that is tested and certified every year;
- Alternately, when a booster pump is necessary for one-, two- and three-family dwellings, it is preferred that the booster pump draw from a surge tank filled through an air gap; and

- Booster pumps, used in a fire suppression system, must be equipped with either a low suction throttling valve on the discharge side or be equipped with a variable speed suction limiting control system. Low-pressure cut-off devices will suffice for fire pumps installed prior to August 8, 2008, until a significant modification is warranted, at which point the minimum pressure sustaining method must be updated. Each of these methods must be tested and certified each year.

Contacts

Need more information?

Questions concerning backflow prevention and cross-connection control may be directed to your local water department or to your local Ohio EPA District Office at the following numbers:

Northwest District	(419) 352-8461
Northeast District	(330) 963-1200
Southwest District	(937) 285-6357
Southeast District	(740) 385-8501
Central District	(614) 728-3778

Questions regarding internal plumbing in the home may be directed to your local plumbing authority or to the Ohio Department of Commerce, Plumbing Administrator, at (614) 644-3153.

Mike DeWine, Governor
Laurie A. Stevenson, Director

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Backflow Prevention and Cross-Connection Control

Protecting our Public Water System

August 2015



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P.O. Box 1049
Columbus, Ohio 43216-1049
(614) 644-2752
www.epa.ohio.gov

What is a cross-connection?

Any physical connection created between a possible source of contamination and any drinking water system piping.

What is backflow?

It is the flow through a cross-connection from a possible source of contamination back into the drinking water system. It occurs when a cross-connection is created and a pressure reversal, either as backsiphonage or backpressure, occurs in the water supply piping.

Why be concerned?

- ALL cross-connections pose a potential health risk.
- Backflow can be a health hazard for your family or other consumers if contaminated water enters your water supply plumbing system and is used for drinking, cooking or bathing. Chemical burns, fires, explosions, poisonings, illness and death have all been caused by backflow through cross-connections.
- Backflow occurs more often than you think.
- You are legally responsible for protecting your water supply plumbing from backflow that may contaminate drinking water, either your own or someone else's. This includes complying with the plumbing code and not creating cross-connections.

What causes backsiphonage?

Backsiphonage occurs when there is a loss of pressure in a piping system. This can occur if the water supply pressure is lost or falls to a level lower than the source of contamination. This condition, which is similar to drinking from a glass with a straw, allows liquids to be siphoned back into the distribution system.

What causes backpressure?

Backpressure occurs when a higher opposing pressure is applied against the public water system's pressure. This condition allows undesirable gases or liquids from another system to enter the drinking water supply. Any pumping system (such as a well pump) or pressurized system (such as steam or hot water boilers) can exert backpressure when cross-connected with the public water system.

What can I do?

- Be aware of and eliminate cross-connections.
- Maintain air gaps. Do not submerge hoses or place them where they could become submerged.
- Use hose bib vacuum breakers on fixtures (hose connections in the basement, laundry room and outside).
- Install approved, testable backflow preventers on lawn irrigation systems.
- Do not create a connection between an auxiliary water system (well, cistern, body of water) and the water supply plumbing.

What must be done to protect the public water system?

The public water supplier must determine potential and actual hazards. If a hazard exists at a customer's public water supply service connection, the customer will be required to install and maintain an appropriate backflow preventer* at the meter and/or at the source of the hazard.

*Check with your water supplier to verify which backflow preventer is required before purchase or installation.

Who is responsible?

In Ohio, the responsibility for preventing backflow is divided. In general, state and local plumbing inspectors have authority over plumbing systems within buildings while Ohio EPA and water suppliers regulate protection of the distribution system at each service connection.

Water customers have the ultimate responsibility for properly maintaining their plumbing systems. It is the homeowner's or other customer's responsibility to ensure that cross-connections are not created and that any required backflow preventers are tested yearly and are in operable condition.

What is the law?

Ohio Administrative Code Chapter 3745-95 requires the public water supplier to protect the public water system from cross-connections and prevent backflow situations. The public water supplier must conduct cross-connection control inspections of their water customers' property to evaluate hazards. Local ordinances or water department regulations may also exist and must be followed in addition to state regulations.

What are some common backflow hazards that threaten the homeowner and other consumers?

- Hose connections to chemical solution aspirators to feed lawn and shrub herbicides, pesticides or fertilizers.
- Lawn irrigation systems.
- Chemically treated heating systems.
- Hose connections to a water outlet or laundry tub.
- Swimming pools, hot tubs, spas.
- Private and/or non-potable water supplies located on the property.
- Water-operated sump drain devices.
- Feed lots/livestock holding areas or barnyards fed through pipes or hoses from your water supply plumbing.

What are examples of cross-connection and backflow scenarios?

- Soapy water or other cleaning compounds backsiphon into the water supply plumbing through a faucet or hose submerged in a bucket or laundry basin.
- Pool water backsiphons into the water supply plumbing through a hose submerged in a swimming pool.
- Fertilizers/pesticides backsiphon into the water supply plumbing through a garden hose attached to a fertilizer/pesticide sprayer.
- Chemicals/pesticides and animal feces drawn into the water supply plumbing from a lawn irrigation system with submerged nozzles.
- Bacteria/chemicals/additives in a boiler system backsiphon into the water supply plumbing.
- Unsafe water pumped from a private well applies backpressure and contaminates the public water supply through a connection between the private well discharge and the potable water supply plumbing.