Kelleys Island Water Treatment Plant

Drinking Water Consumer Confidence Report
For 2016

The Kelleys Island Water Treatment Plant has prepared the following report to provide information to you, the consumer, on the quality of our drinking water. Included within this report is general health information, water quality test results, how to participate in decisions concerning your drinking water and water system contacts.

The Village of Kelleys Island public water system uses surface water drawn from an intake 600 feet out in Lake Erie. For the purposes of source water assessments in Ohio, all surface waters are considered to be susceptible to contamination. By their nature, surface waters are readily accessible and can be contaminated by chemicals and pathogens which may rapidly arrive at the public drinking water intake with little or no warning or time to prepare. The Village of Kelleys Island drinking water source water protection contains potential contaminant sources 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 water. Recreational and commercial boating traffic poses a threat of fuel and oil spills.

The Village of Kelleys Island public water system treats the water to meet or exceed all drinking water quality standards, but no single treatment technique can address all potential contaminants. More detailed information can be obtained by calling the Water Department at 419-746-2555.

What are 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 Strom 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 and volatile organic compounds during 2016. Samples were collected for a total of approximately 68 different contaminants most of which were not detected in the Village of Kelleys Island water supply. There were no detections of microcystins in the Village finished water supply in 2016.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.

Monitoring & Reporting Violations & Enforcement Actions

Kelleys Island Water had no monitoring or reporting violations in 2016; however did fail to include a reporting violation in the 2015 CCR for TOCs.

2016 upgrades and improvements

In 2016 Kelleys Island Water added a supplemental carbon feed at the plant to augment the process for removing harmful algae and other contaminants from our source water. This will help us combat the effects of Lake Erie algal blooms if they continue to worsen.We also replaced a check valve and gate valve in our high service pump room. The water tower received upgrades to ensure OSHA compliance and insure its structural integrity.

Table of Detected Contaminants

Listed below is information on those contaminants that were found in the Village of Kelleys Island drinking water.

TABLE OF DETECTED CONTAMINANTS

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Bacteriological							
Turbidity NTU	N/A	TT	.24	.03 to .24	No	2016	Soil runoff
Turbidity (Percent meeting Standards)	N/A	TT	100 %	100%	No	2016	Soil runoff
Disinfection Byproducts							
Total Trihalomethanes TTHM(ppb)	0	80	70.5	32.7-70.5	No	2016	Byproduct of drinking water chlorination
Haloacetic Acids HAA5 (ppb)	0	60	27.6	15.1-27.6	No	2016	Byproduct of drinking water chlorination
Residual Disinfectants							
Total chlorine (ppm)	MRDL=4	MRDLG=4	1.43	.97to 1.43	No	2016	Water additive used to control microbes

Inorganic Contaminants							
Nitrate (ppm)	10	10	1.14	.23 to 1.14	No	2016	Runoff from fertilizer use, Erosion of natural deposits

Lead and Copper						
Contaminants (units)	**Action Level (AL)**	**Individual Results over the AL**	**90% of test levels were less than**	**Violation**	**Year Sampled**	**Typical source of Contaminants**
Lead (ppb)	15 ppb	NA	.005	No	2016	Corrosion of household plumbing systems
	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	NA	.161	No	2016	Corrosion of household plumbing systems
	0 out of 10 samples were found to have copper levels in excess of the copper action level of 1.3 ppm.					

Turbidity

Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system. The turbidity limit set by the EPA is ***0.3 NTU*** in 95% of the daily samples and shall not exceed 5 NTU at any time. As reported above, the Kelleys Island Water Treatment Plant highest recorded turbidity result for 2016 was .24 NTU and lowest monthly percentage of samples meeting the turbidity limits was 100%.

Violations

The Kelleys Island Water Treatment Plant had no MCL, treatment technique, filtration or disinfection (CT) violation or action level exceedance in 2016.

Nitrate Educational Information

Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than six 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.

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. 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 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 800-426-4791or at http://www.epa.gov/safewater/lead.

<u>Section 17:</u> Revised Total Coliform Rule (RTCR) Information

This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2016. All water systems were required to comply with the Total Coliform Rule from 1989 to March 31, 2016, and begin compliance with a new rule, the Revised Total Coliform Rule, on April 1, 2016. The new rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the

presence of total coliform bacteria, which includes E. coli bacteria. The U.S. EPA anticipates greater public health protection under the new rule, as it requires water systems that are vulnerable to microbial contamination to identify and fix problems. As a result, under the new rule there is no longer a maximum contaminant level violation for multiple total coliform detections. Instead, the new rule requires water systems that exceed a specified frequency of total coliform occurrences to conduct an assessment to determine if any significant deficiencies exist. If found, these must be corrected by the PWS.

License to Operate (LTO) Status Information

In 2016 we had an unconditional license to operate our water system.

Public Participation Information

How do I participate in decisions concerning my drinking water?

Public participation and comment are encouraged at regular meetings of Village Council which meets monthly at Town Hall. Summer months, from May through September, meetings are held the 2nd Thursday at 7 PM. Winter months, from October through March, meetings are held the 2nd Saturday at 10 AM. For more information on your drinking water contact Brandon Evans 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".

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

- 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.

- 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.

- Picocuries per liter (pCi/L): A common measure of radioactivity

Backflow

Backflow can affect our most important resource—our drinking water! Backflow is the abnormal backward flow of water from your water line back into other fixtures and quite possibly into the Village water main. Under normal conditions, the water mains have sufficient pressure to preclude backflow from occurring; however, during a period of high demand, such as a main break or fire, it is possible for backflow to take place. The reason this is a matter of concern is that in many businesses and industries, and even in peoples own homes, there are connections made to Village water lines that feed service sinks,irrigation systems,ponds and pools, systems filled with chemicals, and many others. It is the property owners responsibility to make sure that these potentially harmful connections to Village water are either removed or that the proper backflow device be installed. Once installed, it must be tested every 12 months by a plumber certified to test backflow devices. The results of the annual test must be sent to the Water Department.

ORC 4933.19 ".....tampering with or bypassing a meter constitutes a theft offense that could result in the imposition of criminal sanctions."