What is This Paper?

The City of Defiance Water Division 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. Please share this information with other water consumers, such as renters and customers, who may not have received a copy of this report by mail.

Initially in 2023 the City of Defiance was Issued a conditional license to operate(yellow). This was due to previous violations for TTHM's. After a sampling cycle in January this was changed into an unconditional license to operate (green) due to having no more ongoing violations. If you have any questions about your drinking water, please contact the Water Superintendent Adam McDowell at 419-782-1886. Our Public Water System Identification (PWSID) is OH2000111 and is valid until January 30, 2025

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

How Do I Get Involved?

You are invited to attend the City Council meetings to voice your concerns about your drinking water. City Council Meetings are open to the public and are held at 631 Perry Street on the first, second, and fourth Tuesdays of each month at 7:00 pm.

You can also help by keeping the streams and rivers clean and reporting any potential spills or pollution sources. Accidental or unauthorized releases of contaminants to the air, land or water such as spills, releases, intentional dumping or emissions can be reported to Ohio EPA 24-hour EMERGENCY RESPONSE hotline at 800-282-9378. You can also call the Water Treatment Plant at 419-782-1886.

Need More Information?

If you would like more information on water in Defiance or if you would like to get a small group together (friends, family, church, school, 4-H, or whatever) and take a tour of the Water Treatment Plant, then call us for information. Administrative office hours are Monday-Friday 8am-4pm.

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For more information about water related issues, please visit the following sites online:
Ohio EPA Public Interest Center at:
www.epa.state.oh.us/pic/
American Water Works Association at:
www.drinktap.org/consumerdnn/

1-800-362-2764
OHIO Utilities Protection SERVICE
Call Before You Dig

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City of Defiance Water Treatment Division

2023 Annual Water Quality Report

In 2023, the Water Plant treated nearly 1.2 billion gallons of water, with an average daily flow of 3.28 million gallons per day (mgd). Our peak daily flow was 4.56 mgd. This was slightly lower than 2022 which could probably be attributed to the leak that was occurring on the Maumee River Crossing which was replaced May of 2023. The distribution system delivers the treated water to City of Defiance customers and the surrounding area through more than 132 miles of waterlines. Defiance also supplies water to Christi Meadows, Brunersburg, and Ayersville. Customers in these satellite systems should receive a report similar to this from their system managers.

Violations & Enforcement Actions

It is our pleasure to report to you that in the year 2023 Defiance Water Treatment had no violations or enforcement actions. This is the result of the installation of our Granular Activated Carbon (GAC) System. This new system (installed in 2022) lowers our levels of disinfection by-products well within acceptable levels.

Wholesale PWS

OAC 3745-81-24 requires specific public water systems to conduct disinfection byproduct sampling at their master meter location(s) after meeting specific triggers within the rule. This rule affects both consecutive systems and their wholesaler systems. These requirements were met at one of the Brunersburg Water Districts designated master meter locations when a sample at their Airport Master Meter on Christi Road exceeded the MCL for HAA5 and/or TTHM in 2022. This triggered the Defiance Water Plant to begin monitoring at the master meter location. This public water system sells water to Brunersburg Water District. This requirement only occurred for the first quarterly cycle in 2023. After that the location replaced one of our 4 regular sampling sites and is no longer treated as a special sample location. These results are shown below. If you have any questions about this sampling and/or the rule, please contact Adam McDowell at 419-782-1886:

MM DBP Sampling:	1Q 2023
HAA5 (ppb)	19.8
TTHM (ppb)	31.8

Where Does My Water Come From?

Defiance uses surface water from the Maumee River and the Upper Maumee Watershed. An estimated 57% of Ohio's population gets its drinking water from surface water sources. Water from the Maumee River is pumped to the reservoir located on Precision Way. Here the water has a chance to settle, which allows the reservoir to act as a pretreatment basin that provides the water plant with more consistent raw water quality. This also creates an isolated source of supply during times when large amounts of silt and other contaminants such as nitrates, phosphorus, and ammonia can be washed into the river making the water hard to treat. The water then flows by gravity to the water plant for treatment. In 2023, the plant pumped 1.26 billion gallons of water to the reservoir from the Maumee River spread out over 209 days.

What Are Some 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 levels 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).

Source Water Assessment / Watershed Protection

For the purposes of source water assessments, all surface waters are considered to be susceptible to contamination. By their nature surface waters are accessible and can be readily contaminated by chemicals and pathogens, with relatively short travel times from source to the intake. Based on the information compiled for the Source Water Assessment, the City of Defiance drinking water source protection area is susceptible to agricultural runoff (animal feedlots, pesticide/fertilizer storage and application), industrial and commercial sources, junkyards, above ground storage tanks, home construction runoff, oil and gas production activities, unsewered areas, and wastewater treatment plant discharges.

The City of Defiance's Public Water System treats water to meet drinking water quality standards, but no single treatment technique can address all potential contaminants. The potential and quantity of raw water contamination can and should be addressed by implementing measures to protect the Maumee River. More detailed information is provided in the City of Defiance's Drinking Water Source Assessment Report. This report has just gone under an extensive revision and is available for review. Copies can be requested by contacting the City of Defiance Water Superintendent.

Specific Contaminant Information
Total Trihalomethanes (TTHM's)

Some people who drink water containing trihalomethanes exceeding 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.

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 1 NTU at any time. As reported in the Table, the Defiance WTP highest recorded turbidity result for 2023 was 0.41 NTU and lowest monthly percentage of samples meeting the turbidity limits was 100%. This means all samples in 2023 achieved compliance for turbidity.

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

About Your Drinking Water

The EPA requires regular sampling to ensure drinking water safety. The Defiance WTP Staff collected and ran 10's of thousands of samples for operational control as well as bacterial, inorganic, radiological, synthetic organic, and volatile organic contaminants during 2023. Samples were collected for over 60 different contaminants most of which were not detected in the Defiance City 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, may be more than one year old.

Unregulated Contaminants

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. In 2023 samples were tested for lithium, PFOS, PFAS, and PFNA as part of the UCMR5 testing cycle. All samples showed "no detections" of any of these contaminants. For more information about what contaminants that were sampled in previous years and any detected levels, please contact the water treatment plant at (419)782-1886.

Red Water/Taste and Odor Issues

From time to time, rust from the inside old iron water mains or from your plumbing may be dislodged by high flow this can lead to a red color in drinking water. Also, during certain times of year, taste and odor problems may occur due mainly to algae in the raw water supply. Defiance Water is working hard to control and eliminate these problems from our water. If you have questions or concerns about your water, contact the water treatment plant at 419-782-1886.

Definitions of Some Terms Possibly 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.

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.

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

Lead threshold level the concentration of lead in an individual tap water sample. Currently established by the OEPA at 15 ppb.

Non-Detect (**ND**) the level present, if any, is below the reliable detection limit of the approved method of testing.

Not Applicable (**N/A**) does not apply to this section.

Master Meter (**MM**) A master meter is a one that connects a wholesale public water system to consecutive public water system(s). This type of meter monitors the amount of water being sent to the consecutive system(s) and can also be used to determine the quality of water being delivered to the consecutive system(s).

Year of 2023							
Contaminants (Units)	**MCLG**	**MCL**	**Level Found**	**Range of Detection**	**Violation Yes/No**	**Year Sampled**	**Typical Sources of Contaminants**
Microbiological Contaminants							
Turbidity (NTU)	N/A	TT	0.41	0.02-0.41	No	2023	Soil Water Runoff
Turbidity (% Samples meeting standard)	N/A	TT=95 %	100%	100%	No	2023	
Total Organic Carbon (TOC)	TT	N/A	2.2	1.5-2.4	No	2023	Naturally present in the environment.
The value reported under "Level Found" for TOC is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one (1) indicates that the water system is in compliance with TOC removal requirements. A value of less than one (1) indicates a violation of the TOC removal requirements.							
Inorganic Contaminants							
Fluoride (ppm)	4	4	1.12	0.77-1.36	No	2023	Erosion of natural deposits; Water additive which promotes strong teeth.
Nitrate (ppm)	10	10	2.21	0.16-2.21	No	2023	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium (ppm)	2	2	0.0150	0.0150	No	2023	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Volatile Organic Contaminants							
Total Trihalomethanes (TTHM) (ppb)	N/A	80	66.6	16.6-82.8	Yes	2023	By-product of drinking water chlorination.
Haloacetic Acid (HAA5) (ppb)	N/A	60	17.6	8.2-16.2	No	2023	By-product of drinking water chlorination.
Residual Disinfectant							
Total Chlorine (ppm)	MRDLG= 4.0	MRDL =4.0	1.22	0.50-1.60	No	2023	Water additive used to control microbes.
Lead & Copper							
Contaminants (Units)	**Action Level**	**Individual Results over AL**	**90% of test samples were less than**		**Violation**	**Year Sampled**	**Typical Source Of Contamination**
Lead (ppb) MCLG = 0	15	N/A	< 2		No	2023	Corrosion of household plumbing systems; Erosion of natural deposits.
	0 out of 30 samples collected were found to have lead levels in excess of the Action Level of 15 ppb.						
Copper (ppm) MCLG-1.3 ppm	1.3	N/A	0.06		No	2023	Corrosion of household plumbing systems; Erosion of natural deposits.
	0 out of 30 samples collected were found to have copper levels in excess of the Action Level of 1.3 ppm.						