What's Inside?

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.

The City of Defiance operates under a license from the Ohio EPA. Our Public Water System Identification (PWSID) is OH2000111 and is valid until January 30, 2013.

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

Tài liệu này có tin tức quan trọng về nước uống của quý vị. Hãy nhờ người dịch cho quý vị, hoặc hỏi người nào hiểu tài liệu này.

此报告包含有关您的饮用水的重要信息。请人帮您翻译出来，或请看懂此报告的人将内容说给您听。

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 Tuesdays at 7:30 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.

AWWA MEMBER

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

Need More Information?

For more information on water in Defiance or to schedule a group tour, please contact:

Adam J McDowell, Water Superintendent

1356 Baltimore Street, Defiance, Ohio 43512

Phone: 419-782-1886 Fax: 419-782-6510

Email: amcdowell@cityofdefiance.com

If you would like to take a tour of the Water Treatment Plant, get a small group together (friends, family, church, school, 4-H, or whatever) then call the Water Superintendent to schedule a date and time.

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/

DEFIANCE
a great place to live

City of Defiance Water Treatment

2011 Annual Water Quality Report

What'sNew

It is always our mission to provide the best water to our customers that is possible. This is a challenging task when you also attempt to make it as affordable as possible. Over the last year ,we have made reductions in our operating costs due to restructuring our workforce. The employees at the water plant have worked hard to create efficiency in other ways also by controlling chemical usage and operating costs where than can reasonably do so. It will always be our goal to try to reduce the costs to the community and improve the quality of our water.

With these goals in mind, the Water Division has undertaken several projects to facilitate improvements in our treatment and in the distribution system. The flocculation equipment at the water plant was installed in 1978 and needs replacement due to corrosion and wear. A project to replace them is underway. By the middle of this summer the new equipment will be installed and in operation. We are scheduled to refurbish two of our six filters this year, and we are having a clarifier repainted also. These projects and others in the plant will not only improve treatment but will also extend the life of our facilities.

In the distribution system, a booster station is being added at the Diehl Water Tower. This will empty most of the water out of this tank twice a day, and significantly reduce the age of the water in our system. Water age is a major component of Total Trihalomethane production. This will also help freshen up the water in the system and may help control some forms of taste and odors.

Engineering has also begun on a replacement river crossing for the Harrison street area. This will provide for a more secure system to provide water to you.

In 2011, the Water Division treated 1.172 billion gallons of water, with an average daily flow of 3.24 million gallons. Our peak daily flow was 4.59 million gallons. The distribution system delivers the treated water to City of Defiance customers and the surrounding area through more than 111 miles of waterlines. Defiance also supplies water to Christi Meadows, Brunersburg and Ayersille. These satellite systems should receive a report similar to this from their system managers.

Defiance's new reservoir has been in operation for four years now. The reservoir has greatly improved the quality of water we use to produce drinking water and allows us to selectively pump water from the river. There were several occasions during 2011 when the nitrates in the river were high enough to be a concern. By using the reservoir and not pumping directly from the river, we were able to avoid nitrate violations which has plagued the City in the past.

This also has helped to reduce Trihalomethanes in our finished water. These compounds are formed when chlorine is used to disinfect water that contains organic material. By allowing the water to settle in the reservoir before treatment, the organics are naturally reduced. Defiance has not had a violation of Trihalomethanes for several years. We are working to keep THM's low and are currently looking into options for mixing or aeration of the reservoir and finished water storage as a potential means to reduce them further.

Defiance Reservoir Amenities

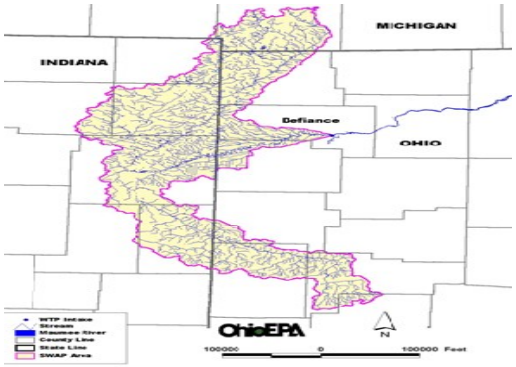
Several new things are going on at the Defiance Reservoir. In 2010, the City received a grant from ODNR and completed the boat ramp and parking area. ODNR has stocked the reservoir with a variety of fish and the local fishermen have been enjoying the time spent on the banks. Benches and signs have been installed every quarter mile around the top of the reservoir and a walking path was installed. Much of this work has been done through private donations of time and money. The Disc Golf Course has been completed and planning has started for a dog park across the road.. Plans are still being developed for several additions to the reservoir park. These include shelter houses and additional walking trails. The City in connection with several local citizens, has established a reservoir subcommittee to determine how best to utilize the reservoir and surrounding acreage. The Subcommittee is currently looking for funding to help with these improvements. If you would like to get involved, or are interested in information on funding a future project, contact Rob Cereghin, Service Director at 419-784-2745

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 through a 30" pipe to the reservoir located on Precision Way. Here the water has a chance to settle, providing the water plant with a more consistent water quality. The water then flows by gravity through a 42" pipe to the Water Plant for treatment. This allows the reservoir to act as a pretreatment basin and as an alternate source of supply during times when large amounts of silt and other contaminants such as nitrates can be washed into the river making the water hard to treat.

Source Water Assessment and Watershed Protection

The City of Defiance public water system uses surface water drawn from an intake on the Maumee River. 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 warning or time to prepare. The City of Defiance's drinking water source protection area contains potential contaminant sources such as agriculture, home construction, industrial and commercial businesses, septic systems, wastewater treatment plants, roadways and railways.

The City of Defiance's public water system treats the water to meet drinking water quality standards, but no single treatment technique can address all potential contaminants. The potential for water quality impacts can be further decreased by implementing measures to protect the Maumee River.

More detailed information is provided in the City of Defiance's Drinking Water Source Assessment report. Requests for a copy of the 21 page report must be made in writing to the City of Defiance Water Superintendent.

The City of Defiance is currently working with the Upper-Maumee Watershed Partnership, which is a group of local agencies, businesses and citizens concerned about protecting the environment and our source of drinking water. If you are interested in participating or just learning more, contact the Defiance Water Plant at 419-782-1886 or Jason Roehrig at the Defiance County Soil and Water Conservation District office at 419-782-8751.

What are Some Sources of Contamination to Drinking Water?

The sources of drinking water both tap water and bottled water includes 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; and (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 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).

Fluoride and Infants

The following information is from the American Dental Association:

Since fluoride levels in both tap and bottled water can vary, parents and caregivers should first consult with their pediatrician, family physician or dentist on the most appropriate water to use in their area to mix infant formula. Some children may have special medical needs, so be sure to ask your family physician or pediatrician whether water used for infant formula should be sterilized.

Specific Contaminant Information

Some people who drink water containing fluoride well in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled or discolored teeth. For more information on water fluoridation, go to **www.fluoridealert.org.**

Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties. For more information on Atrazine go to:
www.epa.gov/pesticides/factsheets/atrazine.htm

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 in 95% of the daily samples and shall not exceed 1 NTU at any time. As reported on the contaminant table, the Defiance Water Plant's highest recorded turbidity result for 2011 was 0.20 NTU and lowest monthly percentage of samples meeting the turbidity limits was 99%.

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 Water Division 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 thirty seconds to two 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. A list of laboratories certified in the State of Ohio to test for lead may be found at http://www.epa.state.oh.us/ddagw or by calling

614-644-2752. 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 800-426-4719 or at http://www.epa.gov/ safewater/lead.

Monitoring & Reporting Violations & Enforcement Actions

The Defiance Water Division is pleased to report that no monitoring violations, reporting violations or enforcement actions were received from the Ohio EPA during the 2011 calendar year.

About Your Drinking Water

The EPA requires regular sampling to ensure drinking water safety. The City of Defiance Water Division conducted sampling for bacteria, inorganic, radiological, and synthetic organic and volatile organic contaminants during 2011. Samples were collected for more than 100 different contaminants, most of which were not detected in the Defiance water supply. Listed on the chart in this brochure is information on those contaminants that were found in the City of Defiance water during 2011. The Ohio EPA requires systems 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, is more than one year old. . However, the Defiance Water Division is just as concerned about these aspects of its drinking water. From time to time, rust from the inside old iron water mains or from your plumbing may be dislodged by high flow. 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 Division office at 419-782-1886.

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.

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.

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.

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 (MRDL): The highest residual disinfectant level 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 residual 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.

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.

IDSE: Initial Distribution System Evaluation. This EPA required study will be conducted over the next several year to evaluate these disinfection byproducts throughout the water distribution system.

2011 TEST RESULTS FOR CITY OF DEFIANCE WATER DIVISION

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	0.2	0.06-0.20	No	2011	Soil Water Runoff
Turbidity (% Samples meeting standard)	N/A	TT=95 %	99%	99 - 100%	No	2011	
Total Coliform Bacteria (TC)	0	1	0	0%	No	2011	Naturally present in the environment
Total Organic Carbon (TOC)	TT	N/A	2.07	1.3-2.5	No	2011	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.							
Residual Disinfectants							
Total Chlorine (ppm)	MRDLG =4.0	MRDL =4.0	1.4	1.3-1.4	No	2011	Water additive used to control microbes.
Inorganic Contaminants							
Copper (ppb)	1350	AL = 1350	96.3	N/A	No	2010	Corrosion of household plumbing systems; Erosion of natural deposits.
	No samples were found to have copper levels in excess of the Action Level of 1350 ppb.						
Lead (ppb)	0	AL = 15	4.44	N/A	No	2010	Corrosion of household plumbing systems; Erosion of natural deposits.
	No samples were found to have lead levels in excess of the Action Level of 15 ppb.						
Fluoride (ppm)	4	4	1.04	0.87 - 1.21	No	2011	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (ppm)	10	10	3.62	0.488 - 3.62	No	2011	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium (ppm)	2	2	0.0220	0.0220	No	2011	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Synthetic Organic Contaminants including Pesticides & Herbicides							
Atrazine (ppb)	3	3	0.5	0.0-0.5	No	2011	Runoff from herbicide used on row crops.
Simazine (ppb)	4	4	0.1	0.0 - 0.1	No	2011	Runoff from herbicide used on row crops.
Volatile Organic Contaminants							
Total Trihalomethanes (TTHM) (ppb)	N/A	80	62.2	32.52 - 90	No	2011	By-product of drinking water chlorination
Haloacetic Acid (HAA5) (ppb)	N/A	60	31.58	13.90-33.0	No	2011	By-product of drinking water chlorination
RadioActive Contaminants							
Combined Radium 226/228 (pCi/L)	0	5	1.00	1.00	No	2010	By-product of drinking water chlorination