



## *City of Defiance Water Division Annual Consumer Confidence Report*

*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.*

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

The Defiance Water Division has continued to make improvements to the plant and distribution system during 2007. We have completed several upgrades to our chemical feed systems. These improvements have given us a greater level of control of our lime, chlorine and carbon dioxide. Also during 2007, Defiance completed construction of a new reservoir. This reservoir was brought online in March of 2008. Currently the City has posted no trespassing signs around the reservoir. This was done so that the newly seeded grass has time to establish itself. We expect to open the reservoir early this summer. The City, in conjunction with several local citizens, has established a Reservoir Subcommittee to determine how best to utilize the reservoir and surrounding acreage. Things such as a boat ramp, parking, shelter houses, and other amenities are being planned. If you would like to get involved, contact Rob Cereghin, Safety Services Director.

In 2007, the Water Division treated 1.42 billion gallons of Maumee River water and pumped it into the distribution system. The distribution system delivers the treated water to City of Defiance customers and the surrounding area which includes Christi Meadows, Brunersburg and Ayersville. These satellite systems should receive a report similar to this from their system managers.

By the time you receive this report, construction of the new Reservoir for pretreatment of our raw water supply will be completed. The reservoir is 18 feet deep, has a surface area of about 74 acres, and will hold approximately 350 million gallons of water. At our current usage, that would be about a 90 day supply. This reservoir will allow us to pretreat the raw water to reduce organic material, such as decaying vegetation, and will provide a more consistent water quality to the treatment plant. The reservoir will also give Defiance an alternate supply of water during times when the river may be high in contaminants such as nitrates. This will help ensure that Defiance Water will be able to meet the water quality standards as set by the Environmental Protection Agency.

### **Source Water Assessment**

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.

### **What are 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; (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).

### **Monitoring & Reporting Violations & Enforcement Actions**

The Defiance Water Plant had a disinfection (CT) violation during the month of April, 2007. Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. The Defiance water plant has thoroughly reviewed its operating procedures and taken steps, including installation of new chemical feed controllers, to prevent this from happening again. On April 16, 2007, the Defiance Water Division did not meet the required contact time requirements for chlorine. Although chlorine was available, it may not have had sufficient time to react with organisms in the water.

In May of 2006, the City of Defiance received Finding and Orders from the Ohio EPA. Although the findings covered several past violations, the main focus of the orders was on the construction of a new reservoir. The orders required the City to complete construction of the reservoir by December, 2007 and to pay fines. As stated earlier, the reservoir is completed and we are now treating water from the reservoir.

### **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 contaminate during 2007. Samples were collected for more than 100 different contaminants, most of which were not detected in 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 2007. 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, are more than one year old.

### **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. In the past, the water plant pulled water directly from the river and into the plant. With the newly constructed reservoir, the river water will first be pumped to the reservoir, where it will settle, and then it will flow by gravity to the

water plant for treatment. This will allow the reservoir to act as a pretreatment basin or as an alternate source of supply during periods of high rain when large amounts of silt and other contaminants such as Nitrates can be washed into the river making the water hard to treat. This will help the water plant to provide better quality water and should eliminate problems such as nitrates in the future.

### **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.

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.

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 contaminate table, the Defiance Water Plants highest recorded turbidity result for 2007 was 0.20 NTU and lowest monthly percentage of samples meeting the turbidity limits was 100%.

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 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 or at <http://www.epa.gov/safewater/lead>.

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.

### **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 the City Services Building 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.

### **Need More Information?**

For more information on water in Defiance or to schedule a group tour, please contact:  
Richard J. Kipp, Water Superintendent  
1356 Baltimore Street, Defiance, Ohio 43512  
Phone: 419-782-1886 Fax: 419-782-6510 Email: [rkipp@cityofdefiance.com](mailto:rkipp@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, bowling team, or whatever) and call Water Superintendent Richard Kipp at 419-782-1886 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/](http://www.epa.state.oh.us/pic/)
- Or the American Water Works Association at: [www.drinktap.org/consumerdnn/](http://www.drinktap.org/consumerdnn/)

For more information about fluoride related issues, please visit the following sites online:

- Fluoride Action Network at: [www.fluoridealert.org](http://www.fluoridealert.org)
- American Dental Association (ADA) at: [www.ada.org](http://www.ada.org)
- Centers for Disease Control and Prevention (CDC) at: [www.cdc.gov](http://www.cdc.gov)

## 2007 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
<b>Microbiological Contaminants</b>							
Turbidity (NTU)	N/A	TT	0.07	0.00 - 0.41	No	2007	Soil Water Runoff
Turbidity (% Samples meeting standard)	N/A	TT=95%	100%	100%	No	2007	
Total Organic Carbon (TOC)	TT	N/A	2.4	2.2 - 3.4	No	2007	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.						
<b>Residual Disinfectants</b>							
Total Chlorine (ppm)	MRDL=4	MRDL=4	1.7	1.2 - 1.8	No	2007	Water additive used to control microbes.
<b>Inorganic Contaminants</b>							
Copper (ppm)	1.3	AL = 1.3	0.174	<0.05 - 1.65	No	2007	Corrosion of household plumbing systems; Erosion of natural deposits.
	One out of thirty samples was found to have copper levels in excess of the Action Level of 1.3 ppm						
Lead (ppb)	0	AL = 15	14	<5.0 - 248	No	2007	Corrosion of household plumbing systems; Erosion of natural deposits.
	Three out of thirty samples were found to have lead levels in excess of the Action Level of 15ppb.						
Fluoride (ppm)	4	4	1.03	0.72 - 1.33	No	2007	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (ppm)	10	10	6.1	0.5 - 6.1	No	2007	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium (ppm)	2	2	0.012	0.012	No	2007	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
<b>Synthetic Organic Contaminants including Pesticides &amp; Herbicides</b>							
Atrazine (ppb)	3	3	1.41	<0.3 - 15.0	No	2007	Runoff from herbicide used on row crops.
<b>Volatile Organic Contaminants</b>							
Total Trihalomethanes (TTHM) (ppb)	N/A	80	45.8	16.5 - 85.7	No	2007	By-product of drinking water chlorination
Haloacetic Acid (HAA5) (ppb)	N/A	60	19	0 - 31	No	2007	By-product of drinking water chlorination
Chloroform (ppb)	N/A	N/A	12	N/A	No	2007	By-product of drinking water chlorination
Bromodichloromethane (ppb)	N/A	N/A	7.4	N/A	No	2007	By-product of drinking water chlorination
Di Bromochloromethane (ppb)	N/A	N/A	3.3	N/A	No	2007	By-product of drinking water chlorination

### 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.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of residual disinfectant below which there is no known or expected risk to health.

**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.