

City of Bellevue Water Department Drinking Water Consumer Confidence Report

2010

Introduction

The Bellevue Water Department 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. Water main replacement projects were completed, fire hydrants have been replaced, and a meter change out program is being completed. The City of Bellevue purchases 200,000 gallons of water daily from Erie County, the water is pumped into the north Industrial Park water tower. Upon notification of boil alerts and violations of Erie County Water, the City of Bellevue will not pump any of the county's water into the city's water system.

Source Water Assessment, Where does your water come from?

The City of Bellevue operates a community public water system that serves a population of 8202 people through 3200 service connections. A community public water system is a system that regularly supplies drinking water from its own sources to at least 15 service connections used by year-round residents of the area or regularly serves 25 or more people throughout the entire year. The water treatment system obtains its water from Frink Run and Berry Creek. Berry Creek lies entirely within a karst limestone region, and a portion of the water in the river originates from ground water. The system's treatment capacity is approximately 3.0 million gallons per day, but current average production is 1.30 million gallons per day. Water is pumped from Frink Run and Berry Creek into five upground reservoirs for storage prior to treatment. The City of Bellevue's treatment processes include lime softening, coagulation, sedimentation, stabilization, fluoridation, sand filtration, and disinfection. The City of Bellevue also has an auxiliary/emergency connection with Erie County Water. During 2010, the city purchased 71.7 million gallons of water. The connection is used daily during water treatment plant shut down at night and for plant shut down for repairs. Erie County Water information on the water purchased is attached with this report.

Source Water Assessment Information

The Ohio EPA conducted a source water assessment for the City of Bellevue. 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 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 this assessment, the City of Bellevue drinking water source protection area is susceptible to agricultural runoff, pesticide and fertilizer storage, underground injection wells for storm water, and above ground storage tanks.

It is important to note that this assessment is based on available data, and therefore may not reflect current conditions in all cases. Water quality, land uses and other activities that are potential sources of contamination may change with time. While the source water for the City of Bellevue Public Water System is considered susceptible to contamination, historically, the City of Bellevue Public Water System has effectively treated this source water to meet drinking water quality standards for all regulated constituents, with the exception of nitrate. At this time the City of Bellevue does not have a source water protection or watershed implementation program. More detailed information is provided in the City of Bellevue's Drinking Water Source Assessment report, which can be obtained by calling the Water Superintendent at 419-483-3819.

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 stormwater 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 stormwater 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 stormwater 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 and 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 Ohio EPA'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 Bellevue Water Department conducted sampling for **bacteria, inorganics, radiological, synthetic organics, and volatile organics** contaminants during **2010**. Samples were collected for different contaminants, most of which were not detected in the City's water supply. The Ohio EPA requires the water filtration plant 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. Last year, as in years past, your tap water met all U. S. Environmental Protection Agency (EPA) and state drinking water health standards. Local water vigilantly safeguards its water supplies and, once again, we are proud to report our system has not violated a maximum contaminant level or any other water quality standard.

Listed below is information on those contaminants that were found in the City of Bellevue drinking water, there were 0 violations during 2010 monitoring period.

Contaminant (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Microbiological							
Turbidity NTU	NA	TT	0.14	0.04 - 0.14	NO	2010	Soil Runoff
Turbidity (% meeting standard)	NA	TT	100 %	100 %	NO	2010	
Total Organic Carbon (ppb)	NA	TT	1.5	1.4 – 2.7	NO	2010	Naturally present in the environment
Inorganic Contaminants							
Lead (ppb)	0	AL=15	6.4	<5 – 10.1	NO	2008	Corrosion of household plumbing
Copper (ppb)	1300	AL=1300	85	<50 - 192	NO	2008	Corrosion of household plumbing
Nitrate (ppm)	10	10	3.9	<0.1 – 3.9	NO	2010	Runoff from fertilizer; leaching from septic tanks, sewage; erosion of natural deposits
Fluoride	4	4	1.1	0.79 – 1.1	NO	2010	Erosion of natural deposits, water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Barium (ppb)	NA	2000	124	0 – 124	NO	2010	Discharge of drilling wastes, metal refineries, erosion of natural deposits
Atrazine (ppb)	3	3	0.59	0 – 0.59	NO	2010	Runoff from herbicide used on row crops
Contaminants (Units)	MCLG	MCL	Level Found	Range of Defections	Violation	Sample Year	Typical Source of Contaminants
Residual Disinfectants							
Total Chlorine (ppm)	MRDLG=4	MRDL=4	2.8	0.3 – 3.3	NO	2010	Water additive used to control microbes
Volatile Organic Contaminants							
(Quarterly) Total Trihalomethanes TTHMs (ppb)	NA	80	74.1	33.9-107	NO	2010	By-product of drinking water chlorination
(Quarterly) Haloacetic acid HAA5 (ppb)	NA	60	24.7	15.8-29.8	NO	2010	By-product of drinking water chlorination
(IDSE) Total Trihalomethanes TTHMS (ppb)	NA	NA	NA	39.7-129	NO	2009	By-product of drinking water chlorination
(IDSE) Halo-acetic acid HAA5 (ppb)	NA	NA	NA	14.2-36.3	NO	2009	By-product of drinking water chlorination

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 above, the Bellevue Water Department's highest recorded turbidity result for 2010 was 0.14 NTU and lowest monthly percentage of samples meeting the turbidity limits was 100%.

The value reported under "Level Found" for Total Organic Carbon (TOC) is the lowest running annual average ratio between the % of TOC actually removed to the % of TOC required to be removed. A value of greater than 1 indicates that the water system is in compliance with TOC removal requirements. A value of less than 1 indicates a violation of the TOC removal requirements. The value reported under the "range" for TOC is the lowest monthly ratio to the highest monthly ratio.

Under the Stage 2 disinfectants/Disinfection Byproducts Rule (D/DBPR), the City of Bellevue's water system was required by USEPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE), and is intended to identify locations in our distribution system with elevated disinfection byproduct concentrations. The locations selected for the IDSE may be used for compliance monitoring under Stage 2 DBPR, beginning in 2012. Disinfection byproducts are the result of providing continuous disinfection of your drinking water and from when disinfectants combine with organic matter naturally occurring in the source water. Disinfection byproducts are grouped into two categories, Total Trihalomethanes (TTHM) and Haloacetic Acid (HAA5). USEPA sets standards for controlling the levels of disinfectants and disinfectants byproducts in drinking water, including both THMs and HAA5s.

Some people who drink water containing trihalomethanes in excess of the MCL over many years, may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

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. City of Bellevue water system 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>.

License to Operate Status Information

City of Bellevue has a current, unconditioned license to operate the water system.

Public Participation Information, How do I participate in decisions concerning my drinking water?

Public participation is encouraged at regular meetings of the Bellevue City Council which meets on the second and fourth Monday of each month at 7:30 p.m. at the Bellevue City Centre.

For more information on your drinking water or for a copy of the CCR, home water testing, treatment and filtration can be obtained by contacting the Water Superintendent at (419) 483 -3819. The CCR is available on the City's website www.cityofbellevue.com.

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 ($\mu\text{g/L}$) are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (T T): A required process intended to reduce the level of a contaminant in drinking water.

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.

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 for Total Trihalomethanes and Haloacetic Acid.

ERIE COUNTY
Department of Environmental Services – WATER DIVISION

2010 Water-Quality Table

Erie County Water-Quality Table

Erie County – PERKINS DISTRICT

Source Water – City of Sandusky Water Plant (Lake Erie & Sandusky Bay)

Contaminants	Date Tested	Units	MCL	MCLG	Level Found	Range of Detection	Typical Source of Contaminants	Violation
Inorganic Contaminants								
Copper	2009	ppb	AL=1300	1300	<4	<4-14	Corrosion of household plumbing systems	NO
Volatile Organic Contaminants								
THM's (Total Trihalomethanes)	2010	ppb	80	0	61.4	26.3-95.7	By-product of drinking water chlorination	NO
HAA5 (Haloacetic Acid)	2010	ppb	60	0	23.6	10.3-51.8	By-product of drinking water chlorination	NO
Contaminant	Date	Units	MRDL	MRDLG	Level Found	Range	Typical Source of Contamination	Violation
Total Chlorine	2010	ppb	4	4	0.9	0.8-1.0	Water additive used to control microbes	NO

Erie County Perkins District Water Quality Table – Important Health 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 Erie County 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 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>.

City of Sandusky Water-Quality Table – City of Sandusky Big Island Water Treatment Plant

Source Water– Lake Erie & Sandusky Bay

Contaminants	Date Tested	Units	MCL	MCLG	Level Found	Range of Detection	Typical Source of Contaminants	Violation
Inorganic Contaminants								
¹ Nitrate	5/19/10	ppm	10	10	0.93	0.0-0.93	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.	NO
² Fluoride	Daily	ppm	4	4	1.20	0.72-1.20	Erosion of natural deposits; Water additive which prevents dental cavities	NO
Barium	3/2/10	ppb	2000	2000	11.5	0.0-11.5	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	NO
Contaminants	Date Tested	Units	MCL	MCLG	Level Found	*Low %	Typical Source of Contaminants	Violation
Microbiological Contaminants								
³ Turbidity	Daily	NTU	0.3	<0.10	0.23	100	Soil Runoff	NO

City of Sandusky Water Quality Table – Important Health Information

¹ Nitrate: Infants below the age of 6 months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.

² Fluoride: Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, occurs only in developing teeth before they erupt from the gums.

³ Turbidity: Turbidity is a measure of the cloudiness of water. The City of Sandusky monitors turbidity because it is a good indicator of the effectiveness of their filtration. *Low % means - The lowest monthly percentage of samples that are below the turbidity MCL of 0.30 NTUs.

Source Water Assessment

Where does your water come from?

Erie County purchases and distributes treated water from the City of Sandusky. The City of Sandusky Public Water System uses surface water drawn from two intakes, a main intake located in Lake Erie and an emergency backup intake located in Sandusky Bay. 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 accessible and can be readily contaminated by chemicals and pathogens, with relatively short travel times from source to intake.

Although the water system's main intake is located offshore in Lake Erie, the proximity of several onshore sources increases the susceptibility of the source water to contamination. The City of Sandusky Public Water System's drinking water source protection area is susceptible to contamination from municipal sewage treatment plants, industrial wastewater, combined sewer overflows, home sewage disposal system discharges, open water dredge disposal operations, and accidental releases and spills, especially from commercial shipping operations and recreational boating.

The City of Sandusky 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 Lake Erie. More detailed information is provided in the City of Sandusky Public Water System's Drinking Water Source Assessment report, which can be obtained by calling (419) 627-5805 or by visiting the Ohio EPA'S Sources Water Assessment and Protection Program web page at: <http://www.epa.state.oh.us/ddagw/pdu/swap.html>.