City of Charlevoix

Water Conservation

Water conservation means protecting our water from pollution and being wasted. Water, unlike many other things, cannot be manufactured in a factory. When we lose water, it is gone forever.

There are several important things that conservationists do to save their water. These include:

1. Reducing water waste.
2. Protecting the clean water we do have.
3. Helping water management plants minimize the amount of water they need to use on a daily basis.
4. Encouraging companies to make devices that do not use as much water as they did before.

Annual Drinking Water Quality Report

Of the City of Charlevoix Water Supply

The Water Quality Report provides an update about the drinking water supplied by the City of Charlevoix. This report is a snapshot about the quality of water provided in **2015.** The Water Quality Report will explain where the City's drinking water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and State of Michigan's regulations.

Source Water

Charlevoix's water supply is from our intake pipe, which is located under the bottom of Lake Michigan. Drinking water comes from a variety of different water sources.

These sources (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, naturally occurring minerals and in some cases, radioactive material, water can pick up substances resulting from the presence of animals or from human activity.

In 2004, the State of Michigan performed an assessment on Charlevoix's source water. This study determined the water's sensitivity, susceptibility, and effects from contamination.

The State concluded that the City's source water, Lake Michigan, had a moderate sensitivity rating along with a moderate susceptibility to contamination. *To obtain a copy of the Source Water Assessment Report, contact the City of Charlevoix Water Treatment Plant.*

Are you at risk?

Some people may be more vulnerable to contaminants compared to the general population. If individuals are immune-compromised (i.e. chemotherapy), have undergone organ transplants, have HIV/AIDS or other immune system disorders, some elderly, and infants may be at risk from infections. These people should seek advice from their health care providers. The EPA/CDC guidelines regarding reducing the risk of infection by cryptosporidium and other microbiological contaminants are available from the **Safe Drinking Water Hotline: (800-426-4791).**

June 2016, Revised September 2016

2015 Water Results

The City of Charlevoix Water Supply routinely monitors for contaminants in the drinking water in accordance to Federal and State laws. This report examines the results from **January 1 thru December 31, 2015.**

In a study conducted at the Charlevoix Water Treatment Plant and Distribution System, personnel sampled and tested for over 100 contaminants.

Of these 100 contaminants tested, NO CONTAMINANTS were detected in the water supply. The elements that were detected in the water supply were safely at **low** levels, well below the Maximum Contaminant Levels (MCL).

The City is pleased to report that the drinking water is safe and meets all State and Federal requirements.

Water System

The City of Charlevoix Water Treatment Plant is a direct filtration process that pumps raw water in from Lake Michigan.

Built in 1987, the facility is operated by state certified operators. This facility is designed to treat up to 3 million gallons of water a day. Annually, water flow varies from 400,000 gallons per day in the winter and 2.5 million gallons per day in the summer.

The City has approximately 32 miles of distribution lines, serving approximately 5,000 customers in the City of Charlevoix and areas adjoining Charlevoix Township.

Last year, the water treatment facility staff produced 288 million gallons of safe, drinkable water.

Copper is essential nutrient, but some people who drink water containing copper in excess of the Action Level (AL) over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the AL over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

Lead in Drinking Water

Lead, if present, 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 City of Charlevoix 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 and cooking.

Infants and children who drink water containing lead in excess of the Action Level (AL) could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. **Safe Drinking Water Hotline (800-426-4791)** or at www.epa.gov/safewater/lead.

Water Safety

EPA regulations limit the amount of certain contaminants in water provided by municipal supplies. FDA regulations establish limits for contaminants in bottled water; these regulations provide the same protection for public health. The City of Charlevoix's drinking water meets and exceeds all Federal and State requirements. The EPA has determined that Charlevoix's Water is SAFE at current levels.

Contaminants and their presence in water

All sources of drinking water can have potential contamination by substances that are naturally occurring or manmade. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminates.
The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminates and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Definitions and Terms

In the table below, there are many terms and abbreviations that may be unfamiliar. The following definitions have been provided to help interpret the Drinking Water Quality Report.

- ***Parts per million (ppm) or Milligrams per liter (mg/l)***—one part per million corresponds to one minute in two years or a single penny in $10,000.
- ***Parts per billion (ppb) or Micrograms per liter***—one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
- ***Piocuries per liter (pCi/L)***—a pico equals one part per trillion, the measurement of radiation in water.
- ***Nephelometric Turbidity Unit (NTU)***—nephelometric turbidity unit is measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- ***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 treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- ***Maximum Contaminant Level (MCL)***—the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- ***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 residual disinfectant (MRDLG)***—the level of a 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 the addition of a disinfectant is necessary for control of microbial contaminants.
- ***NA***—not applicable
- ***ND***—not detectable at testing limit
- ***Unregulated contaminants***—are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

finalthoughts...

The City of Charlevoix believes in providing high-quality drinking water. This report is updated annually, and the City water customers will be informed about any problems that may occur throughout the year, when such problems are experienced. Copies of this report can be obtained by calling City Hall.

The City of Charlevoix invites public participation in the decisions that affect drinking water quality.

If you have any questions about this report, please contact:

- Shelley Mayer at the ***Charlevoix Water Treatment Plant (231) 547-3256*** Pat
- Elliott at the ***Charlevoix Water Department (231) 547-3276***

Also this report can be accessed at the City's website at: www.cityofcharlevoix.org. The City of Charlevoix values its customers and wants its citizens to be informed about their drinking water.

Test Results

Inorganic Contaminants	MCLG	MCL	System Water	Range of Detections	Sample Date	Violation	Typical Source of Contaminant
Fluoride (ppm)	4	4	0.68	0.44-0.99	2015	No	Water additive to encourage strong teeth, Erosion of natural deposits
Barium (ppm)	2	2	0.0200	NA	2015	No	Erosion of natural deposits
Turbidity (NTU)	2	TT	0.08	0.07-0.14	2015	No	Erosion of natural deposits
Radionuclides	**MCLG**	**MRDL**	**System Water**	**Range of Detections**	**Sample Date**	**Violation**	**Typical Source of Contaminant**
Gross Alpha (pCi/l)	0	15	1.1	+/-0.3	2014	No	Erosion of natural deposits
Combined Radium	0	5	0.14	+/-0.68	2014	No	Erosion of natural deposits
Chlorine	**MRDLG**	**MRDL**	**Quarterly Average**	**Range of Detections**	**Sample Date**	**Violation**	Typical Source of Contaminant
Chlorine, residual (ppm)	4	4	0.55	0.33-0.70	2015	No	Water additive used to control microbes
Disinfection Byproducts	**MCLG**	**MCL**	**System Water**	**Range of Detections**	**Sample Date**	**Violation**	**Typical Source of Contaminant**
Total Trihalomethanes (TTHMs) (ppb)	NA	80	14	14	2015	No	Disinfection Byproducts
Haloacetec Acids (ppb)	NA	60	4	4	2015	No	Disinfection Byproducts
Lead/Copper	**MCLG**	**AL**	**90TH Percentile**	**Range of Detections**	**Sample Date**	**Violation**	**Typical Source of Contaminant**
Lead (ppb)	0	15	ND	ND	2013	No	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	1.3	1.3	.035	ND-74	2013	No	Corrosion of household plumbing systems
Unregulated Contaminants	**MCLG**	**MCL**	**System Water**	**Range of Detection**	**Sample Date**	**Violation**	**Typical source of Contaminant**
Sodium (ppm)	NA	NA	8	8	2015	NA	Erosion of natural deposits
Sulfate (ppm)	NA	NA	26	26	2015	NA	Erosion of natural deposits