



managed by VEOLIA

# Annual Drinking

## Water Quality Report For Calendar Year 2014

Buffalo Water Authority/Managed by Veolia

2 Porter Avenue

Buffalo, NY 14201

PWS ID # NY1400422

**MAYOR BYRON W. BROWN**

**COMMISSIONER OF PUBLIC WORKS: STEVEN J. STEPNIAK**

**Buffalo Water Board:**

**Chairperson: Oluwole McFoy**

**Members: Gerald E Kelly; William Sunderlin; Michael Finn**

**Veolia Manager:**

**Project: Timothy Cupo**

Billing & Customer Service 281 Exchange Street Buffalo, NY 14204		Water Treatment Plant 2 Porter Avenue Buffalo, NY 14201	
<b>Useful Phone Numbers</b>			
Customer Service & Emergency	847-1065	Water Quality Inquiries	847-1065 ext 133
Website: <a href="http://www.buffalowater.org">www.buffalowater.org</a>			
For health issues, contact: Erie County Health Dept: 961-6800			
<i>Senior Citizens' Discount:</i> Contact Dept of Assessments at 851-5733			

*Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.*

### INTRODUCTION

To comply with State regulations, the Buffalo Water Authority/Managed by Veolia will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year, your tap water met all State drinking water standards. This report is an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards. We are pleased to provide you with this information because informed customers are our best customers.

If you have any questions about this report or concerning your drinking water, please contact Frank J. Sparacino, Water Treatment Supervisor at 716-851-4747 ext 130. We want you to be informed about your drinking water. If you want to learn more, please attend any regularly scheduled Water Board meetings, held the second Wednesday of each month at 8AM, Room 502 – City Hall.

### WHERE DOES OUR WATER COME FROM?

In general, 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 materials, and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Our water source is Lake Erie (a surface water source) which is the southernmost of the Great Lakes, bounded on the north by the Canadian province of Ontario, on the south by the U.S. states of Ohio, Pennsylvania, and New York, and on the west by the state of Michigan. Lake Erie is the shallowest of the Great Lakes, with an average depth of only 62-ft. It also has the shortest detention time of the Great Lakes. Water remains in the



lake for only 2.6 years before it is replaced by fresh water (as compared with 191 years in Lake Superior or 22.6 years in Lake Huron). It is also the siltiest of the Great Lakes. Its bottom consists of fine sand, easily upset during turbulent storms. The combination of its shallowness, short detention time and sandy unstable bottom is especially beneficial to our water quality. The lake is able to flush itself of harmful contaminants such as pesticides and other organic wastes. When Lake Erie becomes turbulent, fine particles of sand and silt become agitated and suspended throughout the lake. Organic contaminants will cling to these particles and be flushed from the lake. Therefore water treatment begins as a natural process due to the structure and makeup of Lake Erie. During 2014, our system did not experience any restriction of our water source.

### SOURCE WATER ASSESSMENT (SUMMARY)

A source water assessment was completed under the NYS DOH's Source Water Assessment Program (SWAP). The following is the Executive Summary of this report.

*"The New York State Department of Health recently completed a draft Source Water Assessment of the raw water supply's source under the state's Source Water Assessment Program (SWAP). The purpose of this program is to compile, organize, and evaluate information regarding possible and actual threats to the quality of public water supply (PWS) sources. It is important to note that source water assessment reports estimate the potential for untreated drinking water sources to be impacted by contamination. These reports do not address the safety or quality of treated finished potable tap water.*

*The Great Lakes' watershed is exceptionally large and too big for a detailed evaluation in the SWAP. General drinking water concerns for public water supplies which use these sources include: storm generated turbidity, wastewater, toxic sediments, shipping related spills, and problems associated with exotic species (e.g. zebra mussels – intake clogging and taste and odor problems). The SWAP is based on the analysis of the contaminant inventory compiled for the drainage area deemed most likely to impact drinking water quality at this public water supply raw water intake. This assessment found a moderate susceptibility to contamination for this source of drinking water. The amount of agricultural lands in the assessment area results in elevated potential for protozoa and disinfection byproduct precursor contamination. There is also a high density of sanitary wastewater discharges, which results in elevated susceptibility for nearly all contaminant categories.*

*There is also noteworthy contamination susceptibility associated with other discrete contaminant sources, and these facility types include: Toxics Release Inventory facilities, Chemical Bulk Storage facilities, inactive hazardous waste sites, landfills and Resource Conservation and Recovery Act facilities."*

If you have any questions about the state's Source Water Assessment Program, please contact the Erie County Health Department at 716-961-6800.

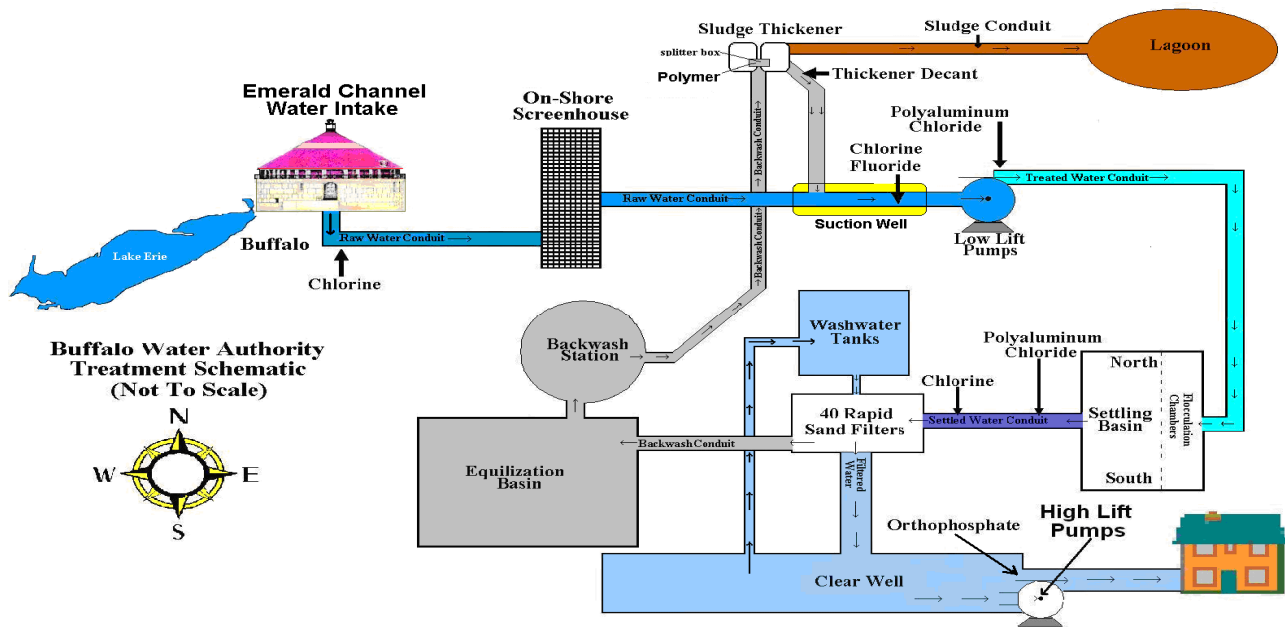
### WATER TREATMENT PROCESS

Buffalo's water intake is located in the northeastern region of Lake Erie, just upstream of the Niagara River. This region is known as the Emerald Channel, due to the sparkling clarity of its water. Water enters into the intake through 12 grates and collects in a circular conduit where it drops 60 feet to a 12-foot diameter, mile-long tunnel burrowed under the lake bed. Chlorine may initially be applied in this conduit to control zebra and quagga mussels, and disinfect the water. The water is gravity fed to an onshore screen house at the Colonel Francis G. Ward Pumping Station. There, traveling screens remove large objects such as fish and other debris that can damage equipment.

Gravity continues to deliver the water through a conduit where fluoride is added and chlorine may be fed. Fluoride is added to guard against tooth decay and Chlorine is added here if feed at the intake is suspended. Six Low Lift pumps controls the amount of water withdrawn from the lake depending on usage. At the pump's discharge, a polyaluminum chloride (PACl) is fed and mixed. PACl is a coagulant designed to cause debris in the water to bind together forming floc. The treated water is directed to an underground basin for flocculation and sedimentation. At the flocculation section, the water is slowly mixed by mechanical paddles to enhance floc formation. This treated water then travels to the settling basins where the heavy floc is allowed to settle out by gravity. The treated water, still containing light floc, is directed over rapid sand anthracite filter beds where filtration occurs, removing the light floc. A filter aid (PACl) can be added when necessary to enhance filtration and additional chlorine can also be added if needed. This filtered water enters a 28 million gallon clearwell, where it is stored until needed in the distribution system.

The 40 rapid sand filters need to be cleaned of trapped debris on a regular basis; this is done by backwashing the filters with potable water stored in two washwater tanks. To comply with EPA's Filter Backwash Recycle Rule; the backwash water containing filter bed debris is recycled back to the raw water conduit after sludge production takes place in the Thickening Tanks. The Thickening Tanks concentrate the debris into sludge using a polymer and settling tubes. The sludge portion is pumped to an onsite centrifuge where further processing takes place before removal to a landfill. The decant portion is directed over a weir at the top of the Thickening Tanks to the Raw water conduit, where the water treatment process begins all over again.

As the potable water leaves the clearwell, a corrosion control additive (a sodium ortho/polyphosphate chemical blend) is added. This serves as a shield against lead leaching into the water from aged residential water pipes and service lines. High lift pumps located at the Ward and Massachusetts Pumping Stations deliver the treated water to the community. Our in-house laboratory tests the quality and safety of the water at every stage of the treatment process. Additional tests are conducted from samples taken throughout the city, including private homes, businesses and public facilities to ensure our water remains safe.



## FACTS AND FIGURES

Water is essential for all life. Besides drinking, bathing and recreation, water is used to fight fire, and has countless industrial applications. The City of Buffalo treated over 25.9 billion gallons last year averaging over 71.0 million gallons each day for a population of approximately 261 thousand people, covering 46 square miles of piping network. On our highest single day, February 19<sup>th</sup>, we treated over 88.5 million gallons of water for distribution.

This enormous network of pipes, valves, service connections and hydrants is maintained, day and night, throughout all seasons. In the past year the Buffalo Water Authority has replaced or renovated approximately 1.30 miles of water mains.

This water must be transported, after treatment, throughout the city. Pumps transport the treated water from a 28 million-gallon clear well, located below the filter beds, through two large conduits. The water travels through 809 miles of pipes and 23,860 valves to 80,000 service connections and 7,970 fire hydrants.

## Customer Cost

The average 2014 annual water charge was only \$496.66 per year. The total quarterly bill includes the cost of water used and the service charge. Eligible senior citizens receive a discount.

Water Usage (gallons)		Price per 1000 gallons		Quarterly Service Charge as of July 1, 2012					
Monthly	Quarterly	Regular	Seniors	Meter Size	Regular	Seniors	Meter Size	Regular	
Up to 29,913	Up to 74,793	\$3.05	\$1.84	5/8"	\$34.90	\$17.17	3"	\$523.47	
29,920 - 97,240	74,800 - 269,280	\$2.86	\$1.71	3/4"	\$49.22	\$25.86	4"	\$872.42	
				1"	\$87.30	\$42.96	5"	\$1,744.88	
				1 1/2"	\$174.61	\$86.02	8"	\$2,829.61	
				2"	\$279.19	\$137.42	10"	\$4,013.26	

## ABBREVIATIONS AND DEFINITIONS OF TERMS USED IN THIS REPORT

**MCLG (Maximum contaminant level goal):** The level of contaminant in drinking water below which there is no known or expected risk to health, MCLGs allows for a margin of safety.

**MCL (Maximum contaminant level):** The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MGLGs as possible.

**MRDL (Maximum Residual Disinfectant Level):** The highest level of a disinfectant (chlorine) allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG (Maximum Residual Disinfectant Level Goal):** The level of a drinking water disinfectant (chlorine) below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

## ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological and synthetic organic compounds. The table presented below depicts which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, is more than one year old.

It should be noted that all drinking water, including bottled drinking water, may be reasonably 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 EPA's Safe Drinking Water Hotline (800-426-4791) or the Erie County Health Department at 716-961-6800.

**TT (Treatment Technique):** A required process intended to reduce the level of contamination in drinking water.

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

**NTU (Nephelometric Turbidity Units):** A measure of clarity (turbidity) of water, turbidity in excess of 5NTU is just noticeable to the average person.

**Poly/Ortho - phosphate:** A chemical blend used as a (Treatment Technique) TT intended to reduce the level of lead and copper contamination in drinking water. EPA's Action Level (AL) for lead in water delivered to users of public drinking water systems is 15 µg/L. Its goal for lead is zero.

**Floc:** Clumps or tufts formed when suspended particles combine with chemical substance or compound that promotes the combination, agglomeration, aggregation or coagulation of suspended particles in the water.

**Sedimentation:** The process of suspended solid particles settling out (going to the bottom of the vessel) in water.

**Coagulation:** Agglomeration of finely divided particles into larger particles, which can then be removed by settling and/or filtration.

**ppm:** Parts per million, or milligrams per liter(mg/L). Corresponds to one part of liquid in one million parts of liquid.

**ppb:** Parts per billion, or micrograms per liter(µg/L). Corresponds to one part of liquid in one billion parts of liquid.

**ND:** Not Detected. **N/A:** Not applicable.

**TTHM (Total Trihalomethanes):** Organic compounds, which are disinfection by-products of the chlorination of drinking water. Some people who drink water with TTHMs 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.

**HAA (Halogenated Acetic Acids):** Organic compounds, which are disinfection by-products of the chlorination of drinking water, currently the EPA lists HAA's as a health advisory

**TOC (Total Organic Carbon); SUVA (Specific Ultraviolet Absorption):** A measure of the organic content of the water. This is a precursor to disinfection by-product when combined with the chlorination of drinking water.

**90th % Value:** The values reported for lead & copper represent the 90th percentile for each of these contaminants. A percentile is a value on a scale of 100 that indicates a percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead (or copper) values detected at your water system.

2014 Table of Detected Contaminants - Inorganics Entry Point								
Location	Contaminant	Violation Yes/No	Date of Sample	Level Detected (Min/Max) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
entry point	Barium	No	11/12/14	0.0206-0.0224 AVG. 0.022	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; and erosion of natural deposits.
	Fluoride	No	12/31/14	0.46 - 1.25 Avg: 0.84	ppm	N/A	2.2	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
	**SODIUM	No	5/23/07	11	mg/L	N/A	**	Naturally-occurring; Road salt; Water softeners; Animal waste
	SULFATE	No	5/23/07	23	mg/L	N/A	250	Naturally-occurring mineral
	Nitrate	No	11/12/14	0.12 - 0.36 Avg: 0.24	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage, Erosion of natural deposits.
distribution	COPPER <sup>(1)</sup>	No: 90% = 0.067 ppm	6/4/14	ND - 0.158 Avg. 0.027	ppm	1.3	AL = 1.3	Corrosion of household plumbing; erosion of natural deposits; leaching from wood preservatives.
	LEAD <sup>(2)</sup>	No: 90% = 4.1 ppb	6/17/14	ND - 33.5 Avg. 2.5	ppb	0	AL = 15	Corrosion of household plumbing; erosion of natural deposits.
2014 Table of Detected Contaminates - Microbiological								
dist	Heterotrophic Bacteria	No	12/10/14	ND - 225 Avg: 3.74	count / ml	N/A	N/A	Naturally occurring
	Turbidity <sup>(3)</sup>	No	10/7/14	0.05 - 1.20 Avg: 0.13	NTU	N/A	MCL ≤ 5.0	soil runoff
entry point	Turbidity <sup>(3)</sup>	No	4/22/14	0.05 - 0.95 Avg: 0.10	NTU	N/A	TT ≤ 1.0	soil runoff
		No		95.16%-100% <0.3	NTU	N/A	TT: 95% ≤0.3	
	Heterotrophic Bacteria	No	6/17/14	ND-5 Avg: 0.08	count / ml	N/A	N/A	Naturally occurring
2014 Table of Detected Contaminates - Total and Free Chlorine Residuals - Disinfectants								
entry point	Total Chlorine	No	3/20/14	1.00 - 1.71 Avg:1.31	ppm	N/A	N/A	Water additive used to control microbes
	Free Chlorine	No	7/9/14	0.80 - 1.59 Avg: 1.10	ppm	(MRDLG) 4.0	(MRDL) 4.0	
dist	Free Chlorine	No	2/13/14	0.02 - 2.30 Avg: 0.79	ppm	(MRDLG) 4.0	(MRDLG) 4.0	Water additive used to control microbes
2014 Table of Detected Contaminates - Lead & Copper in the Distribution System								
distribution	TTHM <sup>(4)</sup>	No	5/29/14	12.9 - 58.9 RAA = 47.95 ppb	ppb	N/A	MCL =80ppb	By-product of drinking water chlorination needed to kill harmful microorganisms. TTHM's are formed when source water contains large amounts of organic matter.
	HAA	No	8/6/14	10.3- 29.1 RAA = 23.8 ppb	ppb	N/A	MCL=60ppb	By-product of drinking water disinfection needed to kill harmful microorganisms.
entry point	TOC	No	7/9/14	1.70-2.50 Avg. 2.13	ppm	N/A	TT < 2.0	Precursors to by-products of drinking water chlorination
	SUVA	No	9/9/14	0 - 1.00 Avg: 0.49	L/mg-m	N/A	TT < 2.0	
2014 Table of Detected Contaminated - Other Properties of Water								
entry point	Total Solids	No	10/13/14	147 - 182 Avg: 168.8	ppm	N/A	N/A	Naturally occurring
	Total Dissolved Solids	No	10/13/14	118 - 180 Avg: 155.8	ppm	N/A	N/A	
	Alkalinity (as CaCO <sub>3</sub> )	No	12/29/14	87 - 107 Avg: 93.71	ppm	N/A	N/A	
	Calcium Hardness (as CaCO <sub>3</sub> )	No	12/29/14	83.5- 110 Avg: 91.94	ppm	N/A	N/A	
	pH	No	12/31/14	7.3-8.0 Avg. 7.6	SU	N/A	N/A	
distribution	pH	No	12/31/14	7.2 -8.0 Avg. 7.6	SU	N/A	N/A	Naturally occurring
	Alkalinity (as CaCO <sub>3</sub> )	No	9/26/14	77-92.2 Avg: 88.4	ppm	N/A	N/A	
	Calcium Hardness (as CaCO <sub>3</sub> )	No	9/26/14	83 - 100 Avg: 92.1	ppm	N/A	N/A	

### Stage 2 Disinfection Byproducts 2014

Sample Site	Avg. (range) THM, ppb	Avg. (range) HAA, ppb
1625 Bailey Ave	38.5 (35.1-52.6)	23.1 (18.7-28.5)
3043 Main St	25.8 (13.9-36.9)	22.0 (13-29)
1110 Abbott Rd	28.7 (21.5-57)	18.8 (14.1-18.8)
150 Reading St	32.9 (23.8-41.5)	11.8 (7.7-18.6)
396 Kenmore Ave	27.1 (15-39.1)	18 (15.2-24.7)
262 Grider St	22.2 (12.9-30.8)	20.7 (12.5-29.1)
398 Dingens St	27.6 (15.7-39.2)	18.8 (7.0-31.7)
3396 Bailey Ave	29.4 (15-41.2)	22.9 (16.1-27.8)
300 Dorrance Ave	30.6(17.2-43.3)	18.4 (13.8-28.0)
24 Westminster Ave	26.2 (15.1 -37.2)	17.1 (12.8-22.9)
2 Templeton Terr.	48.7 (39.9-58.9)	22.9 (11.5-37)
939 Abbott Rd	30.5 (19.6-42.6)	23.9 (18.6-34.3)

#### **Footnotes for Table of Detected Contaminants:**

\*\* Water containing more than 20 mg/l of sodium should not be used for drinking by anyone on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets.

(1) Out of 60 homes tested, in 2014 only 2 were above the AL of 15 ppb for Lead, and none were above or the AL of 1.3 ppm for Copper. The TT employed by the Buffalo Water Authority, intended to reduce lead and copper contamination of drinking water is the addition of a poly/orthophosphate blend as a part of water treatment. This chemical serves to coat water lines, to prevent lead and copper from leaching into the drinking water. Ingesting copper in excess of the 1.3 ppm AL may result in gastrointestinal distress. Long term exposure to copper above the 1.3 ppm AL may result in liver or kidney damage. Infants & children who drink water containing lead in excess of the AL could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning disabilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Infants & young children are more vulnerable to lead in drinking water than the general population. Lead levels in your home might be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested, and you should flush your tap for 30 seconds – 2 minutes before using your tap water. Additional information is available from the Safe Drinking Water Hotline (1-800-426-4791). We will be testing again for lead and copper during summer of 2014.

(2) Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Our highest single distribution measurement for 2014 occurred on 10/17/14 (1.20 NTU). State regulations require that the distribution average monthly turbidity must be below 5.0 NTU.

(3) The regulations also require that 95% of the effluent turbidity samples collected have measurements below 0.3 NTU and that no single turbidity measurement be above 1.0 NTU. Although December was the month that had the highest effluent measurement, 100% for all the months met TT for turbidity (0.3 NTU), and were in the acceptable range allowed and did not constitute a violation.

(4) Representative testing for TTHM included samples collected through 2014. Our highest detected reading occurred in May, (58.9 ppb), which was below the MCL of 80 ppb. Some people who drink water, containing TTHM in excess of the MCL over many years experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

#### **WHAT DOES THIS INFORMATION MEAN?**

As you can see by the table, our system had no water quality violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the State.

#### **UNDETECTED CONTAMINANTS:**

According to State regulations, the Buffalo Water Authority routinely monitors your drinking water for various contaminants. Your water is tested for inorganic contaminants, nitrate, lead and copper, volatile organic contaminants, synthetic organic contaminants and total trihalomethanes. Additionally, your water is tested for coliform bacteria a minimum of 150 times a month. The contaminants detected in your drinking water are included in the Table of Detected Contaminants. Below is a list of contaminants that were tested for in 2014, but **were not detected** in our drinking water:

1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,1-Dichloroethene, 1,1-Dichloropropene, 1,2,3-Trichlorobenzene, 1,2,3-Trichloropropane, 1,2,4-Trichlorobenzene, 1,2,4-Trimethylbenzene, 1,2-Dibromo-3-chloropropane, 1,2-Dichlorobenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,3,5-Trimethylbenzene, 1,3-Dichlorobenzene, 1,3-Dichloropropane, 1,4-Dichlorobenzene, 2,2-Dichloropropane, 2-Chlorotoluene, 4-Chlorotoluene, 2,4-D, 3-Hydroxycarbofuron, Alachlor, Aldicarb, Aldicarb Sulfoxide, Aldicarb Sulfone, Aldrin, Antimony, Arsenic, Atrazine, Benzene, Benzopyrene, Beryllium, Bromobenzene, Bromochloromethane, Bromoform, Bromomethane, Butachlor, Cadmium, Carbaryl, Carbon Tetrachloride, Carbofuran, Chlordane, Chlorobenzene, Chloroethane, Chloromethane, cis-1,2-Dichloroethene, cis-1,3-Dichloropropene, Cyanide, Dalapan, Di(2-ethylhexyl)adipate, Di(2-ethylhexyl)phthalate, Dibromoethane, Dibromomethane, Dicamba, Dichlorodifluoromethane, Dieldrin, Dinoseb, Dioxin, Endrin, Ethylbenzene, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, Hexachlorobutadiene, Hexachlorocyclopentadiene, Isopropylbenzene, Lindane, Mercury, Methomyl, Methoxychlor, Methyl Ethyl Ketone, Methylene Chloride, Metolachlor, Metribuzin, Monobromoacetic acid, Monochloroacetic acid, MTBE, m-Xylene, Naphthalene, N-Butylbenzene, Nitrite as Nitrogen, n-Propylbenzene, Oxamyl vdyate, o-Xylene, p-Isopropyltoluene, Pentachlorophenol, Pichloram, Polychlorinated biphenyls, Propachlor, Propylene Glycol, p-Xylene, sec-Butylbenzene, Selenium, Silvex, Simazine, Styrene, tert-Butylbenzene, Tetrachloroethene, Thallium, Toluene, Toxaphene, trans-1,2-Dichloroethene, trans-1,3-Dichloropropene, Trichloroethene, Trichlorofluoromethane, Vinyl Chloride

#### **IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?**

During 2014, our system was in compliance with all applicable state drinking water operating, monitoring and reporting requirements.

#### **DO I NEED TO TAKE SPECIAL PRECAUTIONS?**

Some people may be more vulnerable to disease causing microorganisms or pathogens 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 infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

## **INFORMATION ON FLUORIDE ADDITION**

Our system is one of the many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range. In January 2011, the CDC proposed lowering the target concentration of 1.0 ppm (optimal range 0.80 – 1.2 ppm). Our new target range is 0.80 ppm (optimal range **0.70 to 1.0 ppm**). To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of Health requires that we monitor fluoride levels on a daily basis. During 2014 monitoring showed fluoride levels in your water were in the optimal range 91% of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 mg/l MCL for fluoride.

## **WHY SAVE WATER AND HOW TO AVOID WASTING IT?**

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- Saving water saves energy and some of the costs associated with both of these necessities of life
  - Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
  - Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.
- You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:**
- ❖ Run only full loads in the washing machine and dishwasher, saves 300 to 800 gallons per month.
  - ❖ Turn off the tap when brushing your teeth and shaving, saves three gallons each day.
  - ❖ Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
  - ❖ Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an otherwise invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
  - ❖ Put a plastic bottle or a plastic bag weighted with pebbles and filled with water in your toilet tank. Displacing water in this manner allows you to use less water with each flush. Saves 5 to 10 gallons a day. That's up to 300 gallons a month, even more for large families. Better yet, for even greater savings, replace your water-guzzling 5-7 gallon a flush toilet with a 1.6 gallon, low flush, or 1.28 gallon, ultra-low flush model.
  - ❖ Avoid flushing the toilet unnecessarily. Dispose of tissues, insects and other similar waste in the trash rather than the toilet.
  - ❖ Retrofit all household faucets by installing aerators with flow restrictors to slow the flow of water.
  - ❖ Don't run the hose while washing your car. Use a bucket of water and a quick hose rinse at the end. Saves 150 gallons each time. For a two-car family that's up to 1,200 gallons a month.
  - ❖ Place a bucket in the shower to catch excess water and use this to water plants. The same technique can be used when washing dishes or vegetables in the sink.
  - ❖ Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances, then check the meter after 15 minutes, if it moved, you have a leak.

## **SYSTEM IMPROVEMENTS**

**To insure continuing quality and safety in our communities' water supply, the Buffalo Water Authority has made or began the process of making the following improvements to our treatment facility in 2014:**

- The SCADA upgrade at Colonel Ward Pump Station has allowed for the pumping system, water tanks, and remote pump station to be monitored on a 24 hour basis.
- The SCADA upgrades at Colonel Ward filter plant will allow greater control of water treatment and production by filter plant operators. These upgrades will allow for effective use of the plants low lift pumps, amount of water treated per hour, and better control of electrical consumption.
- The installation of two new 20mgd high service pumps at the Colonel Ward Pumping Station has improved pumping efficiency and energy consumption.
- Approximately 1600 "Radio Read Meters" were installed improving the efficiency of meter reading and billing.
- A minimum of 120 fire hydrants are replaced annually.
- The completion of the refurbishment of the low lift pumps and switchgears at the filter plant has provided our operators with accurate control of the amount of water treated per hour and day. Electrical consumption will be decreased as an added benefit.
- The filter rehabilitation including sweep repairs will continue until completion. These repairs will enhance the effectiveness of the filter media and associated controls. The City's water quality will be enhanced at a lower production cost.
- The installation of "Radio Read Meters" for commercial and industrial customers continued in order to enhance the accuracy of metering reading and customer billing.
- Increased funding of capital program will aid in replace aging water mains, improving water quality, and water distribution.
- The new centrifuge dewatering facility constructed in 2012 was operational in 2013 and 2014. The new sludge dewatering process enhances sludge removal from the south and north sedimentation basins. The controlled removal of sludge from these two basins will result in improved water quality.
- An existing 50mgd pump was rehabilitated in order to increase our pumping scheme options and secure redundancy.
- Dewatering pumps at the Massachusetts Pumping Station were removed, evaluated, and repaired. The dewatering pumps are utilized in the event of large water line break within the pumping station.

## **Improvements Planned for 2015**

- An absolute commitment to produce the highest quality of drinking water available will remain the highest priority for the water service workers of the City of Buffalo during 2015.
- SCADA system upgrades will continue. The improved SCADA monitoring systems will optimize control over water treatment and plant pumping systems.
- Over 120 hydrants will be replaced in 2015.
- Construction of a dechlorination station is scheduled for this year. The dechlorination station will aid in the reduction of organics within the water treatment process.
- The fluoride feed system upgrade is scheduled to begin within this time period. The upgrade will allow for optimum fluoride feed rates necessary to ensure safe water quality.
- A pilot project with "Radio Read Meters" in residential applications has been implemented and will continue throughout 2015.
- The Massachusetts Ave substation transformers will be scheduled for rehabilitation.
- An asbestos abatement will be taking place at each of the pumping stations in order to remove any potential hazards and increase worker safety.
- We will be rehabilitating the five header valves, four venturi valves, four pump isolation valves, and the accumulator system at the Massachusetts Pumping Station.
- In order to increase worker and safety around the facility, upgrades will be made to security alarms, cameras, doors and access barriers at the Colonel Ward and Massachusetts Pumping Stations.
- A project will commence to install remote sampling points with chemical and biological monitoring equipment at strategic areas throughout the distribution system.
- A pilot project with streaming current monitoring and rapid mixing is anticipated to improve the water treatment efficiency.
- The chlorine scrubber will be replaced in 2015.
- Components of the headhouse, including the process piping, hangers and interior painting, will be rehabilitated.
- We will look to automate the greenhouse controls to the SCADA system.
- Plans to discuss distribution system chlorine booster stations will commence to maintain optimal chlorine residuals throughout the water distribution system.
- Filter backwashing monitoring system is planned for installation this year.

## **METERING PROGRAM**

The New York State's Department of Environmental Conservation has mandated that all households and businesses served by the Buffalo Division of Water have a water meter installed to insure equitable billing and to foster water conservation. The water meters installed under this program, are read from outside your residence, and accurately bill for the water that has been used, the same way you are currently billed by other utilities. The Buffalo Water Board currently reads and bills the majority of its metered accounts on a quarterly basis. If your meter is stopped, or we cannot read your meter, you may receive an estimated bill, which could result in an inaccurate bill. If you receive a notice regarding a problem with your meter, or an estimated bill, you should contact customer service at 847-1065 to schedule an appointment to have your meter serviced at no cost to you. Radio read meters are being installed in place of many manually read meters. Radio technology enables accurate meter reading without the need to enter your property.

## **REPORTING VIOLATIONS**

We constantly test for various contaminants in the water supply to comply with regulatory requirements. In November, the 3<sup>rd</sup> quarter TTHM and HAA sampling was done after the specified time.

## **CLOSING**

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community. An enhanced Annual Water Quality Report Supplement can be found on the Buffalo Water Authority's Website ([www.buffalowater.org](http://www.buffalowater.org)). Please call our treatment plant supervisor at 847-1065 ext. 130 or the laboratory at ext. 133 if you have questions about water quality.