

# Annual Drinking Water Quality Report for 2016

## Fulton City Water Works

960 South First St, Fulton, New York 13069

Public Water Supply ID # 3704355, 3704367, 3717301, 3704356, 3721463, 3730168, 3730179, 3730192

### INTRODUCTION

To comply with State regulations, the City of Fulton 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 health standards. We are proud to report that our water system did not violate a maximum contaminant level or any other water quality standard as set forth in Part V of the New York State Sanitary Code. This report provides 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.

If you have any questions about this report or concerning your drinking water, please contact John Florek, Chief Water Treatment Plant Operator, at 315-592-7152. We want you to be informed about your drinking water. If you want to learn more, please call and set up an appointment for a tour of our facilities.

### 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 material, 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 sources consist of 10 groundwater sources (wells), and treated surface water from Lake Ontario purchased from OCWA. The finished water consists of a blend from groundwater and treated surface water. The more expensive OCWA source is only used as a supplement to meet system demand. Two wells are located on Water Works property on County Route 57, two wells are located approximately one mile south of the Water Works along Route 57, and six wells are located at the Great Bear well field, which is located approximately four miles south of the City on Route 57. Water produced from the two wells on Water Works property passed through an on-site Air Stripping Facility prior to the collapse of the K-1 well in May 2012. A new liner was installed inside the well by City personnel, and the rehabilitated K-1 well was returned to service in December 2012. The K-1 well pumps directly into the 50' holding tank on Water Works property, where it is mixed with all other sources of supply and disinfected with a chlorine gas solution. Also during the collapsed K-1 well event, the M-2A well was taken out of service due to elevated chloride levels and still discharges into the Oswego River. The Air Stripper has since been mothballed.

### FACTS AND FIGURES

The City of Fulton's water supply had a total capacity of approximately 5 million gallons per day for the year 2016, an average daily pumping rate of 1.2 million gallons per day, a peak day pumping rate of 2.27 million gallons per day, and an average daily consumption rate of 0.8 million gallons per day. Approximately 67 % of the total gallons pumped were returned to the City through water revenues. Unaccounted for water consists of the following: fire fighting and training, hydrant use for flushing and street sweeping, water main breaks, water leaks, faulty meters, free water users, and theft of services. In an effort to reduce its amount of unaccounted for water, the City in 2016 repaired several water leaks in its system, and replaced some old and

faulty registering water meters. The City hopes to further reduce its unaccounted for water loss by completing a leakage survey and fixing the leaks, installing more meters at non metered sites, replacing more old and/or faulty registering meters, and prosecuting water theft of services.

Treated water is pumped to three water towers with a total storage capacity of 2.5 million gallons. Our water system serves approximately 14,000 people through about 5,000 service connections. City customers are charged \$1.81 per thousand gallons of water used while some Town customers are charged up to \$3.17 per 1000 gallons consumed. In addition, all customers are also assessed a base rate charge (dependent upon meter size and units served) as part of their water bill. The consumers of Fulton City water include residents and businesses located in the City of Fulton, water districts in the Town of Volney (Maple Avenue, East River Road North, and County Route 57 South), and water districts in the Town of Granby (West River Road North, Route 48 South, Aspen Cove, & Hannibal St./West 11<sup>th</sup> St.). Since the City of Fulton is the sole provider of water for the outside districts, we are also issuing this report on their behalf.

## **SOURCE WATER ASSESSMENT**

The New York State Department of Health has completed a source water assessment for this system. Possible and actual threats to our drinking water sources were evaluated by reviewing existing mapped data and available information from past sanitary surveys. The State source water assessment provides a susceptibility rating based on the potential risk posed by each possible source of contamination, and how easily contaminants could move through the subsurface to the wells. The susceptibility rating is an estimate of the potential for contamination of the source waters. **It does not mean that the water delivered to consumers is, or will become contaminated.** The source water assessment was completed to provide owners and operators with additional information to help them protect your source waters into the future.

As mentioned previously, our water is derived from ten wells. They all draw from an unconfined aquifer with well yields usually greater than 100 gallons per minute. For this reason and due to their close proximity to low intensity residential areas, storm water release points, and nearby transportation routes, the source water assessment rated the wells as having a medium-high (Great Bear wells) to high (other wells) susceptibility rating for enteric bacteria and viruses, halogenated solvents, herbicides/pesticides, metals, nitrates, protozoa, petroleum products, and other industrial organics. **Please note that the water delivered to your home meets New York State drinking water standards.** County and State Health Departments will use this risk assessment information to direct future source water protection activities. These may include water quality monitoring, planning, and educational programs. A copy of the assessment can be obtained by contacting the Fulton Water Works (315-592-7152) or the Oswego County Health Department (315-349-3557).

## **ARE THERE CONTAMINANTS IN OUR DRINKING WATER ?**

As the State regulations require, we routinely test your drinking water for more than 100 different contaminants. These contaminants include: total coliform, e-coli, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, synthetic organic compounds, radiological contaminants, and some contaminants that are yet to be regulated. The table presented on the next page shows only those contaminants that 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, are more than one year old. All analytical testing results are available for review at the City of Fulton Water Works.

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 (1-800-426-4791) or the Oswego County Health Department (315-349-3557).

Table of Detected Contaminants

Contaminant (Sample Location)	Violation	Sample Date(s)	Maximum Level Detected	MCLG	Regulatory Limit (MCL or AL)	Likely Source of Contamination
Barium (Entry Point)	No	Dec-15	0.37 mg/L (Range 0.14-0.37)	2 mg/L	2 mg/L(MCL)	Erosion of natural deposits; Discharge of drilling wastes
Sodium (Entry Point)	No	Jan-16 to Dec-16	58 mg/L(Ave.) (Range 48-67)	N/A	*** NS	Naturally occurring; Road salt; Water softeners
Fluoride (Entry Point)	No	Dec-15	0.13 mg/L (Range ND-0.13)	N/A	2.2 mg/L(MCL)	OCWA additive for strong teeth; Erosion of natural deposits
Chromium (Entry Point/Distribution System)	No	Quarterly-15	1.2 ug/L (Range 0.3-4.8)	100 ug/L	100 ug/L(MCL)	Erosion of natural deposits
Hexavalent Chromium (Entry Point/Distribution System)	No	Quarterly-15	0.27 ug/L (Range 0.21-0.34)	N/A	***** NS	Erosion of natural deposits
Chlorate (Entry Point/Distribution System)	No	Quarterly-15	10.4 ug/L (Range ND-22)	N/A	***** NS	By-product of chlorination needed to kill micro-organisms
Selenium (Entry Point)	No	Dec-15	1.2 ug/L (Range ND-1.2)	50 ug/L	50 ug/L(MCL)	Erosion of natural deposits
Chloride (Entry Point)	No	Jan-16 to Dec-16	98 mg/L(Ave.) (Range 85-129)	N/A	250 mg/L(MCL)	Naturally occurring; Road salt
Sulfate (Entry Point)	No	Dec-15	32 mg/L (Range 16-32)	N/A	250 mg/L(MCL)	Naturally occurring
Nitrate (Entry Point)	No	Jun-16	1.9 mg/L (Range 0.3 - 1.9)	10 mg/L	10 mg/L(MCL)	Erosion of natural deposits; Septic systems; Fertilizers
Total Coliform & E-Coli (Distribution System)	No	Jul-16	1 Positive Sample each	0	2 or more positive samples	Naturally occurring in the environment; Human/Animal Feces
Copper (90th Percentile) (Distribution System-30 Sites)	No	Sep-14	* 0.35 mg/L (Range 0.13-0.35)	1.3 mg/L	1.3 mg/L(AL)	Household plumbing corrosion; Erosion of natural deposits
Lead (90th Percentile) (Distribution System-30 Sites)	No	Sep-14	** 4 ug/L (Range ND-13)	0 ug/L	15 ug/L(AL)	Household plumbing corrosion; Erosion of natural deposits
Total Trihalomethanes (Distribution System)	No	Quarterly-16	12.3 ug/L(Ave.) (Range 5.4-20)	N/A	80 ug/L(MCL)	By-product of chlorination needed to kill micro-organisms
Haloacetic Acids (Distribution System)	No	Quarterly-16	4 ug/L(Ave.) (Range 1-12)	N/A	60 ug/L(MCL)	By-product of chlorination needed to kill micro-organisms
Chlorine Residual (Entry Point/Distribution System)	No	Daily-16	1.56 mg/L(Ave.) (Range 0.50 - 2.12)	N/A	4 mg/L(MRD)	Water additive used to control microbes
Manganese (Entry Point)	No	Dec-15	29 ug/L (Range ND-29)	N/A	300 ug/L(MCL)	Naturally occurring
Strontium (Entry Point/Distribution System)	No	Quarterly-15	0.23 mg/L (Range 0.22-0.24)	N/A	***** NS	Erosion of natural deposits
Nickel (Entry Point)	No	Dec-15	1 ug/L (Range 0.8 - 1.0)	N/A	**** NS	Erosion of natural deposits

**DEFINITIONS**

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

**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 a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

**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 Goal (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 contamination.

**Non-Detects (ND):** Laboratory analysis indicates that the constituent is not present.

**Milligrams per liter (mg/L):** Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm). One part per million corresponds to one minute in two years or one penny in \$10,000.

**Micrograms per liter (ug/L):** Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb). One part per billion corresponds to one minute in 2000 years or one penny in \$10,000,000.

**Nanograms per liter (ng/L):** Corresponds to one part of liquid in one trillion parts of liquid (parts per trillion - ppt). One part per billion corresponds to one minute in 2,000,000 years or one penny in \$10,000,000,000.

**No Standard (NS):** There is no designated regulatory limit for this contaminant.

**NOTES**

\* The level presented represents the 90th percentile of the 30 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the copper values detected at your water system. In this case, 30 samples were collected at your water system and the 90th percentile was the 27th highest level. The action level for copper was not exceeded at any of 30 the sites tested.

\*\* The level presented represents the 90th percentile of the 30 samples collected. The action level for lead was not exceeded at any of the 30 sites tested.

\*\*\* There is no MCL for sodium. However, water containing more than 20 mg/L of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/L should not be used for drinking by people on moderately restricted sodium diets.

\*\*\*\* Nickel is a low toxicity compound compared to zinc, manganese, and chromium. It does not accumulate in human tissues and it is a known fact that gastrointestinal absorption of nickel is very low with 90% of nickel excreted in the feces. Due to the small percentage of nickel intake thru drinking water, Health authorities have decided not to set standards for nickel.

\*\*\*\*\* Hexavalent Chromium, Chlorate, & Strontium were part of unregulated contaminant testing required by the EPA in 2015.

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

As you can see by the table on the preceding page, our system had **no** violations for the year 2016. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the levels allowed by the State. Maximum contaminant levels (MCL's) are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water at the MCL every day for a lifetime to have a one in a million chance of having the described health effect.

A bacti water sample collected from the Water Works residence in July 2016 tested positive for total coliform and e-coli, but all repeat and future bacti samples collected from this site have tested negative for both. Phase 1 and Phase 2 Assessments were performed by the City of Fulton and Oswego County Health Department, respectively. It was determined that the faucet aerator had not been removed during the water sample collection. A double check valve was installed on the residence inlet water line, and it is now City policy for operators to **always** remove the faucet aerator prior to collecting a bacti water sample.

In 2015, we were required by EPA to collect and analyze drinking water samples quarterly for the following unregulated contaminants: Perfluorobutanesulfonic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonic acid, Perfluorononanoic acid, Perfluorooctanesulfonic acid, Perfluorooctanoic acid, 1,4-Dioxane, 1,1-Dichloroethane, 1,2,3-Trichloropropane, 1,3-Butadiene, Bromochloromethane, Bromomethane, Chlorodifluoromethane, Chloromethane, Chromium, Cobalt, Molybdenum, Strontium, Vanadium, and Hexavalent Chromium. EPA will now analyze the nationwide results and determine if those contaminants now need to be regulated. You may obtain the monitoring results by calling John Florek at 592-7152 or the Oswego County Health Department at 349-3557.

Even though the action level for lead was not exceeded in any Fulton City water samples taken, all water systems are required to present the following information on lead in drinking water. "If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. The Fulton City 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 (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>."

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

During the year 2016, the Fulton City water system was in compliance with all applicable State drinking water operating, monitoring, and reporting requirements. Our water system operated without any variances or monitoring waivers.

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

Although our drinking water met all State and Federal regulations, 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 (1-800-426-4791).

## **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:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons per 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 one of these otherwise invisible toilet leaks. Fix it and you can save more than 30,000 gallons per year.
- 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. Also check the rotating leak detection dial on your water meter at any time when water is not being used. If it is rotating, you have a leak.

## **SYSTEM IMPROVEMENTS**

Facility improvements for 2016 included the redevelopment & installation of Aqua Gard systems on three Great Bear wells by Subsurface Technologies. These improvements now allow for a greater volume of water to be pumped from each well, energy savings at each by not having to restrict as much flow through their water valves, and future cost savings by leaving the well pumps in place during the redevelopment process.

Distribution system improvements for 2016 included a leak detection survey of the east side, repair of water leaks, and the replacement of multiple hydrants, valves, and meters in the City's antiquated piping system.

In 2014, the Water Works contracted with KJ Electric to have VFD's installed on two of its high lift pumps, which led to electrical savings of \$33,528 in 2015 and \$50,440 in 2016 at the Water Works pumping station. The City will attempt to further upgrade its facilities and distribution system by using best management practices to implement a forestry program at Great Bear, enact a leak detection survey of the west side to further reduce its unaccounted for water losses, continue to upgrade its backflow prevention program, continue to color code its fire hydrants to aid in fire fighting, continue to redevelop its wells as necessary to increase their pumping capacity, install Aqua Gard systems onto the other three Great Bear wells, install VFD's to reduce energy usage at some of the wells, and take the initial steps to implement a SCADA system to increase system operation efficiency. The City will also once again flush its distribution system, as it remains committed to ridding itself of newly oxidized rust formations.

## **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. Be sure to check out the next page for tips on how you can help us protect our water. Please call John Florek at the Fulton Water Works (315-592-7152) if you have any questions regarding any portion of this report.

## WATER QUALITY PROTECTION TIPS

As nature's great dissolver, water absorbs a little bit of everything it touches. Non-point source pollution means that contamination is coming from many sources instead of one specific site such as a factory drain pipe. Non-point pollution is one of the greatest challenges to our country's water quality. The antifreeze or oil that we spill in our driveway can end up in our drinking water source.

Pollutant	Source	Prevent Water Pollution By:
Hazardous Chemicals	Household Products; Automotive Supplies	Make sure all hazardous household wastes such as motor oil, antifreeze, paints, and paint thinners are properly used and disposed of. Recycle used oil at the Oswego County transfer stations for free. Save products for a "Household Hazardous Waste Clean-Up" program.
Herbicides & Pesticides	Home, Lawn, and Garden Chemicals	Use pesticides and weed killers sparingly. Store and use according to label instructions. Most consumers apply more than is needed to discourage weed growth and encourage growth of plants. Do not apply pesticides and chemicals if rain is expected within 24 hours.
Nutrients	Lawn & Plant Fertilizers; Pet & Animal Wastes; Garbage & Yard Waste	Do not overuse fertilizers. Keep pet wastes, garbage, and yard waste cleaned up to prevent nutrients from reaching water supplies.
Disease Organisms	Septic Systems	Keep your septic system in good operating condition and have your tank pumped out every few years.
Metals, Solvents, & Other Chemicals	Car & Truck Spills of anti-freeze, brake fluid, gas, and oil; Vehicle(s) maintenance.	Clean up any oily sheen in driveways using rags or towels. Do not wash with a hose. Complete routine maintenance of vehicles. Never dump used oil, antifreeze, or gasoline down a storm drain or on the ground. Wash your car in a car wash - not on the lawn.