# Kitchawan Water District
# Year 2014 Annual Drinking Water Quality Report
**1080 Spillway Road, Shrub Oak, NY 10588 PWS#5903831**

## INTRODUCTION

To comply with State regulations, the Kitchawan Water District is issuing an annual 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 quality met all State and Federal drinking water health standards. 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.

## HOW CAN THE PUBLIC BE INVOLVED?

The Yorktown Town Board discusses water-related issues on an as-needed basis. For more information please visit the Town's website at www.yorktownny.org. Additionally, Board of Directors meetings, which consist of Town Supervisors from Yorktown, Montrose, Somers and Cortlandt, are held monthly. For more information regarding the Board of Director's meetings please contact Northern Westchester Joint Waterworks at 914-788-3400.

## 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.

The Kitchawan Water District purchases all of its water from the New Castle Water System, which in turn, depends upon the New York City Aqueduct and Reservoir Systems for its entire raw water supply. New Castle's primary source is the Catskill Aqueduct System fed by the Ashokan Reservoir, and its secondary source is the New Croton Aqueduct fed by the Croton Reservoir System. The New Castle water System prefers the Catskill Supply for two reasons: the water quality is better and it is less costly to get it to the Millwood Water Treatment Plant. During 2014 there were no restrictions on use of the Catskill reservoir source.

The NYS DOH has evaluated the susceptibility of water supplies statewide to potential contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraph(s) below. It is important to stress that these assessments were created using available information and only estimate the potential for source water contamination. Elevated susceptibility ratings do not mean that source water contamination has or will occur for our water system. The Millwood Water Treatment Plant provides regular monitoring of the water as it leaves the treatment plant to ensure that the water delivered to the Kitchawan water District meets all applicable standards.

We obtain water from the New York City water supply system. Water can either come from the Catskill watershed west of the Hudson River and/or from the Croton watershed in Putnam and Westchester Counties. The New York City Department of Environmental Protection (DEP) implements a series of programs to evaluate and protect source water quality within these watersheds. Their efforts focus on three important program areas: the enforcement of strengthened Watershed Rules and Regulations; the acquisition and protection of watershed lands; and implementation partnership programs that target specific sources of pollution in the watersheds. Due to these intensive efforts, the SWAP methodologies applied to the rest of the state were not applied for our water system.

The main water quality concerns associated with land cover in these watersheds are agriculture and residential land uses, which can contribute microbial contaminants, pesticides, and algae producing nutrients. There are also some concerns associated with wastewater, but advanced treatments, which reduce contaminants, are in place for most of these discharges. Additionally, the presence of other discrete facilities, such as landfills, chemical bulk storages, etc., could lead to some local impacts on water quality, but significant problems associated with these facilities are unlikely due to the size of the watershed and surveillance and management practices. In addition, the shallow nature of the Croton reservoirs, along with excess algae nutrients and the presence of wetlands in the watershed, contribute to periods of elevated water color and disinfection by-product precursor levels. Additional information on the water quality and protection efforts in these New York City watersheds can be found at NYC DEP's web site:

http://www.nyc.gov/html/dep/html/watershed_protection/index.shtml

The Millwood Water Treatment Plant is supervised by a Grade 1-A New York State Certified Water Treatment Plant operator and staffed 24 hours per day, seven days per week, with New York State certified Grade 2-A Water Treatment Plant Operators. The Millwood Water Treatment Plant operating criteria adds the least amount of treatment chemicals necessary to be effective and then removes all of the chemicals during the treatment process. The treatment regime has five steps: First, the raw water is mixed for one minute to disperse coagulation chemicals such as polyaluminum chloride, polymer and potassium permanganate. Second, the flocculators provide 30 minutes of staged, controlled mixing to entrap impurities such as clay, viruses, bacteria, protozoan cysts, minerals and algae into floc particles. Third, the Dissolved Air Flotation (DAF) process releases compressed air as microscopic bubbles into the bottom of the process stream and floats the impurity laden floc particles to the surface of the tanks where they are skimmed off. Clarified water leaves the bottom of the tank and flows into the Ozone Contact Chambers. Fourth, ozone is injected into the water. Ozone is the strongest, commonly used oxidizing agent for disinfection and is the primary disinfectant at the plant. It is generated onsite and by injecting it into the clarified water, before filtration, the amount of ozone used is minimized

while any oxidized material can be removed by the filters. Finally, clarified, ozonated water is filtered through three feet of sand and anthracite filter media into an underdrain collection system to remove any floc particles that may have escaped the DAF clarification. Typically, the Plant physically removes 99.9% of the particulate matter and anything left in the water has been disinfected by the ozonation process. Chlorine and fluoride are also added before the water is pumped to the distribution system.

## FACTS AND FIGURES

The Kitchawan water distribution system consists of approximately 7750 feet of eight inch underground water main on Pinesbridge, Chadeayne, Syska and Barnes Roads and ten fire hydrants. The Kitchawan Water District provided water to approximately 37 homes in 2014. The total water purchased from the Town of New Castle in 2014 was 2,013,616 gallons. The amount of water delivered to customers in 2014 was 1,868,000 gallons. The average amount of water delivered to customers per day was 5,516 gallons. Water was used to flush the water mains for regular maintenance and to flush the mains during the course of the year to prevent stagnation and to maintain the water quality since only a little more than half of the homes located within the water district were connected to the mains in 2014.

During each four-month billing period customers were billed $59.20 for the first 5,000 gallons of water and $11.84 for each additional 1000 gallons. The rate of penalty charge was 10% per billing period. The annual average water charge was approximately $597 per household.

## ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test our drinking water for numerous contaminants. These contaminants include total coliform, turbidity, lead and copper, other inorganic compounds and organic compounds. Results for water tests for contaminants that were found in 2014 are summarized in the attached table, Table of Detected Contaminants, found at the end of this report. Our water is tested for most of these contaminants annually or more frequently. However, State regulations allow us to monitor for certain contaminants less than once per year because their concentrations are not expected to vary significantly from year to year.

Contaminants that were tested for and not detected in the source water include Copper, 3-Hydroxycarbofuran, Aldicarb, Aldicarb sulfone, Aldicarb sulfoxide, Carbaryl, Carbofuran, Methomyl, Oxamyl, Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Heptachlor Epoxide, Lindane, Methoxychlor, PCB's, Propachlor, Toxaphene, 2,3,7,8-TCDD (Dioxin), Diquat, Endothall, Glyphosate, 2,4,5-T, 2,4-D, Dalapon, Dicamba, Dinoseb, Pentachlorophenol, Picloram, Silvex, 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, Butachlor, Metolachlor, Metribuzin, Alachlor, Atrazine, Benzo(a)pyrene, bis(2-Ethylhexyl) adipate, bis(2-Ethylhexyl) phthalate, Hexachlorobenzene, Hexachlorocyclopentadiene, Simazine, 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-dichlorobenzene, 1,2-dichloroethane, 1,2-dichloropropane, 1,3,5-trimethylbenzene, 1,3-dichlorobenzene, 1,3-dichloropropane, 1,4-dichlorobenzene, 2,2-dichloropropane, 2-butanone, 2-chlorotoluene, 4-chlorotoluene, Benzene, Bromobenzene, Bromochloromethane, Bromomethane, Carbon tetrachloride, Chlorobenzene, Chloroethane, Chloromethane, cis-1,2-dichloroethene, cis-1,3-dichloropropene, Dibromomethane, Dichlorodifluoromethane, Ethylbenzene, Hexachlorobutadiene, Isopropylbenzene, Methyl iso-butyl ketone, Methyl tert-butyl ether (MTBE), Methylene Chloride, N-butylbenzene, N-propylbenzene, Naphthalene, O-xylene, P & M-xylene, P-isopropyltoluene, SEC-butylbenzene, Styrene, TERT-butylbenzene, Tetrachloroethene, Toluene, trans-1,2-dichloroethene, trans-1,3-dichloropropene, Trichloroethene, Trichlorofluoromethane, Vinyl chloride, Perchlorate, DCPA di-acid, 2,4-dinitrotoluene, 2,6-dinnitrotoluene, 4,4-DDE, Acetochlor, EPTC, Molinate, Terbacil, MTBE, nitrobenzene, Strontium 90, and Tritium).

It should be noted that all drinking water, including bottled drinking water, might 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 and **www.epa.gov/safewater** or the Westchester County Department of Health at (914) 813-5000 and **www.westchester.gov/health**.

## WHAT DOES THIS INFORMATION MEAN?

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. As you can see from the attached table, our water quality met or exceeded governing regulations in 2014. Although a few contaminants have been detected, these contaminants were detected below the level allowed by the State.

## DO I NEED TO TAKE SPECIAL PRECAUTIONS?

Although our drinking water met or exceeded 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 (800-426-4791).

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 Kitchawan Water District 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.

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. Fluoride is added to your water by the New Castle Water System before it is delivered to us. 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 from 0.7 to 1.2 mg/l (parts per million). To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of Health requires that the New Castle Water System monitor fluoride levels on a daily basis. During 2014 monitoring in the distribution system showed fluoride levels ranging between 0.71 mg/L and 0.81 mg/L. 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: It saves energy and some of the costs associated with both of these necessities of life; Also, it 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 a day. Fix it up 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 save more than 30,000 gallons a 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.
- Place mulch around trees and plants to lessen evaporation.

**In closing** we ask that all our customers help us protect our water sources, which are the heart of our community and our way of life. If you have questions concerning your drinking water, please don't hesitate to call us at (914) 245-6111.

Thank you for allowing us to provide your family with quality drinking water.

# KITCHAWAN WATER SYSTEM

## 2014 WATER ANALYSIS

### TABLE OF *DETECTED* CONTAMINANTS

| Contaminants (units) | Violation Yes or No | Date of Sample | MCL | Result 2014 | MCLG | Major Sources in Drinking Water |
|---|---|---|---|---|---|---|
| Turbidity (at treatment plant) | No | Every 4 hours | 0.3 NTU | .036 NTU | n/a | Soil runoff, Turbidity is a measurement of the cloudiness of the water. |
| Turbidity (in distribution system) | No | 5 days/wk | 5.0 NTU | 0.15 NTU | n/a | Soil runoff, Turbidity is a measurement of the cloudiness of the water. |
| **Inorganic Contaminants** | | | | | | |
| Fluoride (mg/L) | No | 1 x per Day | 2.2 | 0.77 mg/L | n/a | Erosion of natural deposits; Water additive which promotes good teeth; Discharge from fertilizer and aluminum factories |
| Nitrate (mg/L) | No | 10/20/2014 | 10 | 0.073mg/L | 10 | Runoff from fertilizer use. Leaching from septic tanks; Erosion of natural deposits |
| Barium (ug/L) | No | 10/20/2014 | 2000 ug/L | 7.2 ug/L | 2000 | Erosion of natural deposits. |
| Chloride (mg/L) | No | 10/20/2014 | 250 mg/L | 10.40 mg/L | n/a | Erosion of natural deposits; Road salt |
| Sodium (mg/L) | No | 10/20/2014 | N/A | 8.22mg/L | n/a | Road Salt. Water containing more than 20 mg/L of sodium should not be used for drinking by people who are on severely restricted diets. L/T 270 mg/L for moderate diets. |
| Sulfate (mg/L) | No | 10/20/2014 | 250 mg/L | 3.67mg/L | n/a | Erosion of natural deposits |
| Zinc (ug/L) | No | 10/20/2014 | 5000 ug/L | 2.8ug/L | n/a | Erosion of natural deposits |
| **Radioactive** | | | | | | |
| Gross Alpha (pCi/L) | No | 10/15/2013 | 15 | 0.43 pCi/L | 0 | Decay of natural deposits, or man-made emissions. |
| Gross Beta (pCi/L) | No | 10/15/2013 | 50 ** | 0.16 pCi/L | 0 | Decay of natural deposits, or man-made emissions. |
| **Disinfection Byproducts** | | | | | | |
| TTHMs [Total - Trihalomethanes] (ppb) Annual Average Results | No | 8/13/13 & 9/30/14 | 80 ug/L | 5.16-30 | n/a | By-product of drinking water chlorination to kill microbes. |
| Haloacetic acids (ppb) Annual Average Results | No | 8/15/14 & 9/30/14 | 60 ug/L | 6.9-11.45 | n/a | By-product of drinking water chlorination to kill microbes. |
| Chlorine Residual (entry point) | No | 1 x per day | 4 mg/L | 0.75 mg/L | n/a | By-product of drinking water chlorination to kill microbes. |
| Chlorine Residual (distribution system) | No | 1 x per day | 4 mg/L | 0.33 mg/L | n/a | By-product of drinking water chlorination to kill microbes. |

| Contaminant | Violation Yes or No | Date of Sample | Level Detected/ Maximum Range (ug/L) | Action Level | MCLG | Likely Sources of Contamination |
|---|---|---|---|---|---|---|
| Lead | No | 8/20-9/11/14 | 1.0 * LT 1.0 - 1.0 | AL 15 ug/L | 0 | Corrosion of household plumbing systems; Erosion of natural deposits. |
| Copper | No | 8/20-9/11/14 | 40 LT 20 - 43 | AL 1300 ug/L | 1300 | Corrosion of household plumbing systems; Erosion of natural deposits. |

* Levels presented represent the 90 percentile of the 5 sites tested. A percentile is a value on a scale of 100 that indicates the percent of the distribution that is equal to or below it. The 90th percentile is equal to the average of the fourth and fith highest sample for lead or copper values detected in our water system. In this case, the 90th percentile value was 1.0 ppb for lead and 40 ppb for copper). The action level for lead (15 ug/L) was not exceeded and the action level (1300 ug/L) for copper was not exceeded in 2014 (DOH monitoring is every three years).

** The State considers 50 pCi/L to be the level of concern for beta particles.

**NTU** = Nephelometric Turbidity Unit-a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**AL** = Action Level-the concentration of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow.

**ND**= Non Detected. **L/T** = Less Than. **pCi/L** = picocuries per Liter (a measure of radioactivity).

**MCL**= The highest level of a contaminant that is allowed in drinking water, and are set as close to the MCLGs as possible.

**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.

**mg/l**=Milligrams per Liter-corresponds to one part of liquid in one million parts of liquid (parts per million-ppm).

**ug/l**=Micrograms per Liter-corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).