

WESTCHESTER JOINT WATER WORKS
WATER QUALITY REPORT FOR 2018
Public Water Supply #5903435

INTRODUCTION

To comply with State regulations, WESTCHESTER JOINT WATER WORKS (WJWW) will be 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 met all State drinking water health standards. We are proud to report that our system did not violate a maximum contaminant level or any other water quality standard. 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, contact Paul Kutzy, P.E. Manager at 914-698-3500 ext. 612. We want you to be informed about your drinking water. If you want to learn more, you may attend any of our regularly scheduled meetings of our Board of Trustees. The Board of Trustees of the WJWW generally meets at 4:00 p.m. every second and fourth Tuesday of the month at 1625 Mamaroneck Avenue, Mamaroneck, New York. The public is welcome to attend these meetings.

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 it can also pick up substances resulting from the presence of animals or from human activities. As a result, 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. State Health Department and FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Our water supply is obtained from the upstate Catskill and Delaware watersheds of the New York City water system. We have two connections to the City system from which we take our water. One connection is at Shaft 22 of the Delaware Aqueduct in Yonkers and the other is at Rye Lake, the eastern portion of Kensico Reservoir, in Harrison. The water from Shaft 22 is a blend of water from the upstate Catskill and Delaware watersheds, while the water from Rye Lake is, under most circumstances, entirely from the Delaware watershed. During 2018, our system did not experience any water source restrictions.

Water Treatment

Water taken by WJWW from Shaft 22 is fluoridated and chlorinated by NYCDEP at Kensico Reservoir. Beginning in late 2012, NYCDEP also began UV treatment at its Eastview facility. Subsequently, at its Larchmont Station, WJWW provides additional chlorination, adds caustic soda to increase pH, and a blended poly-orthophosphate as a corrosion inhibitor.

Water taken by WJWW from the Kensico Reservoir at its Rye Lake Station is fluoridated, chlorinated and provided with a blended poly-orthophosphate at the Rye Lake Treatment Plant. After the water passes through WJWW's Purchase Tanks, caustic soda is added for pH control.

Source Water Assessment Program

The NYSDOH 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 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 occurred or will occur in the WJWW system. The WJWW provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards. Although surface waters in general are highly sensitive to microbial contaminants, NYSDOH's assessment found no noteworthy risks to water quality.

New York City Watershed Protection

The WJWW obtains its water from the Catskill/Delaware watersheds west of the Hudson River located in upstate New York. The reservoirs in this mountainous rural area are relatively deep with little development along their shorelines. The main water quality concern associated with land cover is agriculture, which can contribute microbial contaminants, pesticides, and algae producing nutrients. There are also some potential contamination concerns associated with residential lands and associated wastewater discharges. However, advanced treatments which reduce contaminants are in place for most of these discharges. There are also a number of other discrete facilities, such as landfills, chemical bulk storages, etc. that have the potential to impact local water quality, but large significant water quality problems associated with these facilities are unlikely due to the size of the watershed and surveillance and management practices.

Due to NYCDEP's intensive watershed protection efforts, the SWAP methodologies applied to the rest of the state were not applied for the WJWW. Additional information on the water quality and protection efforts in these New York City watersheds can be found at NYCDEP's web site http://www.nyc.gov/html/dep/html/watershed_protection.

The WJWW obtains its water from the New York City water supply system. The New York City Department of Environmental Protection (NYCDEP) has oversight of a series of programs to evaluate and protect source water quality within these watersheds. The three main areas of focus of these programs are: the enforcement of strengthened Watershed Rules and Regulations; the acquisition and protection of watershed lands; and the implementation of partnership programs that target specific sources of pollution in the watersheds. These efforts by the City are reviewed and tracked by Federal and State regulatory agencies and have resulted in a New 10-Year Filtration Avoidance Determination (FAD) being issued in 2017 by the New York State Department of Environmental Protection and New York State Department of Health. This FAD is effective until 2027.

FACTS AND FIGURES

The WJWW is a non-profit public benefit corporation consisting of the member municipalities of the Village of Mamaroneck, Town of Mamaroneck and the Town/Village of Harrison. The WJWW supplies water on a retail basis to its member municipalities and to portions of the City of Rye and the City of New Rochelle. It also sells water on a wholesale basis to the Village of Larchmont and Suez Water Westchester.

The WJWW serves a retail population of 59,629 persons through 14,819 service connections. In 2018, the WJWW purchased 4.29 billion gallons of water and sold 3.78 billion gallons of it to consumers. The difference of approximately 509 million gallons or 11.9% of total water purchased from NYC is classified as unbilled water (formerly referred to as unaccounted water). Unbilled-water consists of water lost due to leaks and main breaks, under-registration of meters, use at fires and hydrant flushing. The daily average water treated and pumped into the distribution system was 11.7 million gallons per day. The highest single day was 21.9 million gallons.

The WJWW does not have any rate-making power. Each of its member municipalities establishes its own rate schedule. Therefore, the cost of water varies by community. Assuming the average annual usage is 100,000 gallons, the equivalent of 134 hundred cubic feet, the annual cost based on rates in effect as of July 2018 for a typical customer having a 5/8" meter, consuming water evenly over the year, would be:

Village of Mamaroneck	\$ 795.78
Town of Mamaroneck	\$ 886.30
Town of Harrison	\$ 766.74
City of Rye	\$1,095.78*
City of New Rochelle	\$1,147.78*

*The cost of water in the outside districts of the City of Rye (Subject to Village of Mamaroneck water rates) and the City of New Rochelle (Subject to Town of Mamaroneck water rates) are higher than those of their associated member municipalities, since these cities tax the water mains of the WJWW, whereas the WJWW water mains within its member municipalities are tax exempt. Additionally, as upgrades of local infrastructure in these non-member districts are not directly financed by them, costs associated with financing these upgrades are also recovered through their water rates.

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. Please refer to the “Analytical Testing Results - 2018” table for a depiction of compounds which 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.

It should be noted that all drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800) 426-4791 or the Westchester County Health Department at (914) 813-5000.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the “Analytical Testing Results – 2018” table, our system did not have any MCL 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. We 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 WJWW 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 (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATION?

Variances, Exemptions, Administrative or Judicial Orders under the federal Surface Water Treatment Rule, provide that surface supplies, such as that used by the City of New York, require filtration unless certain rigid requirements can be met. New York City's filtration avoidance for its Catskill-Delaware supply was renewed for a 10-year period in December 2017 (for further information visit http://www.nyc.gov/html/dep/html/watershed_protection/fad.shtml). This filtration avoidance declaration will remain in effect until July 2027 and applies to the WJWW Shaft 22 connection.

Despite the fact that the WJWW's Rye Lake connection derives its water from the Kensico Reservoir, WJWW is in violation of the surface water treatment rule and is subject to a pending order which requires the WJWW to build a filtration plant for the Rye Lake portion of its supply. Therefore, we are required to include the following statement in this report: “Inadequately treated water may contain disease –causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.” The WJWW has hired design engineers to develop plans to comply with the surface water treatment rule.

INFORMATION ON CRYPTOSPORIDIUM

Cryptosporidium is a microbial pathogen found in surface water and groundwater under the influence of surface water. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100% removal. During 2018, as part of their routine sampling The City of New York Department of Environmental Protection – Bureau of Water Supply collected a total of fifty-three (53) routine samples from the Kensico Reservoir effluents and tested them for Cryptosporidium oocysts. Of the fifty-three (53) routine samples, five (5) samples were positive for Cryptosporidium. When detected, current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, a gastrointestinal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their health care provider regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

INFORMATION ON GIARDIA

Giardia is a microbial pathogen present in varying concentrations in many surface waters and groundwater under the influence of surface water. Giardia is removed/inactivated through a combination of filtration and disinfection or by disinfection alone. During 2018, as part of their routine sampling, The City of New York Department of Environmental Protection – Bureau of Water Supply collected a total of fifty-three (53) routine samples from the Kensico Reservoir effluents and tested them for Giardia cysts. Of the fifty-three (53) routine samples, thirty-seven (37) were positive for Giardia. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Giardia may cause giardiasis, an intestinal illness. People exposed to Giardia may experience mild or severe diarrhea, or in some instances no symptoms at all. Fever is rarely present. Occasionally, some individuals will have chronic diarrhea over several weeks or a month with significant weight loss. Giardiasis can be treated with anti-parasitic medication. Individuals with weakened immune systems should consult with their health care providers about what steps would best reduce their risks of becoming infected with Giardiasis. Individuals who think that they may have been exposed to Giardiasis should contact their health care providers immediately. The Giardia parasite is passed in the feces of an infected person or animal and may contaminate water or food. Person to person transmission may also occur in day care centers or other settings where hand washing practices are poor.

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, as well as the elderly and infants are at greater risk for 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.

Unregulated Contaminant Monitoring Rule (UCMR)

Under the 1996 amendments to the federal Safe Drinking Water Act and the Fourth Unregulated Contaminant Monitoring Rule (UCMR4), EPA is required once every five years to issue a new list of up to 30 unregulated contaminants which public water systems must monitor. The intent of the rule is to provide baseline occurrence data that EPA can combine with toxicological research to make decisions about potential future drinking water regulations. Westchester Joint Water Works is currently participating in the fourth round of this contaminant testing. The data from this sampling can be found in the tables of this report. Please see the “Analytical Testing Results – 2018” table for a list of the unregulated contaminants. For more information on the rule or any questions, please call Frank Arcara, Chief Water Treatment Plant Operator at 914-698-3500 ext. 616.

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 level of 0.7 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 we monitor fluoride levels on a daily basis. Fluoride is added to your water by the NYCDEP for the Shaft 22 Delaware Aqueduct connections and by WJWW for the Rye Lake intake.

During 2018 at Shaft 22, other than brief outages to perform preventative and corrective maintenance, NYCDEP provided continuous fluoride treatment on the Catskill/Delaware supply. WJWW provided continuous fluoride treatment for its Rye lake supply throughout 2018. WJWW had a system-wide annual average fluoride level of 0.70 mg/l, equal to the target level. The New York State Dental Health Association has indicated that an intermittent interruption of fluoridation is not expected to have a significant impact on dental health. During 2018, none of the monitoring results showed fluoride levels that approach the 2.2 mg/l MCL

INFORMATION FOR NON-ENGLISH-SPEAKING RESIDENTS:

Este informe contiene informacion muy importante sobre su agua beber. Traduzcalo o hable con alguien que lo entienda bien.

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 conserves a precious resource;
- ♦ 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 that would otherwise be necessary to provide for essential firefighting capability.

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 water whenever possible. 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 and you can save almost 6,000 gallons a year.
- ♦ Check your toilets for leaks by putting a few drops of food coloring in the tank and watching 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 and then check the meter after 15 minutes. If the numbers on the meter register move, you have a leak.

Other conservation measures you can take include:

- Use low flow shower heads - save 2 gallons per minute or more
- Don't flush toilets unnecessarily - use a wastebasket for tissues, etc.
- Use a toilet dam or install a low flush model toilet
- Water your lawn late at night to avoid evaporation loss
- Don't cut the lawn too short - longer grass saves water
- Mulch your trees and plants to retain moisture

SYSTEM IMPROVEMENTS

In 2018, WJWW made a number of improvements within its system to provide more reliable and efficient water service to its customers. Among these improvements were: i) Additional upgrades of computer based SCADA (Supervisory Control and Data Acquisition) system to expand ability to monitor and control water treatment plants and distribution system; ii) Repair and reconstruction of transmission lines and valves to improve water flow and pressure throughout the system; iii) Projects to reduce vulnerability and increase resiliency of facilities, such as the new Barry Avenue/Macy Road water transmission main and new pressure regulators at 3 key areas within the distribution system ; iv) Continuation of lead service connection replacements; v) Continuation of transite water main replacements.

ADDITIONAL INFORMATION

In 2018, all of WJWW's source water came from the New York City water system. The City conducted numerous tests on the water prior to it reaching our Shaft 22 connection and WJWW Rye Lake intake in the Kensico reservoir. New York City's Annual Water Quality Report can be viewed on:
http://www.nyc.gov/html/dep/html/drinking_water/wsstate.shtml.

CLOSING:

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all of our customers help us protect our water sources, which are a critical resource for our community. Please visit our website at www.wjww.com or call our office at 914-698-3500 if you have questions.

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

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.

The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

The level of a drinking water disinfectant below which there is no known or expected risk to health. MRLD/Gs do not reflect the benefits of the use of disinfectants to control microbial contamination.

Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

The contaminant was not detected in the water by laboratory analysis.

No level has been established for drinking water.

A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

A measure of the radioactivity in water.

The average value of multiple samples taken over the latest twelve month period at a particular location.

A required process intended to reduce the level of a contaminant in drinking water.

Unregulated Contaminant Monitoring Rule There are currently no federal drinking water standards for the following contaminants:

(g) The level presented represents the 90th percentile of the 84 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 values detected at your water system. In the case of lead, 84 samples were collected at your water system and the 90th percentile value was 5.9 ug/L, the 11th highest value of the samples taken. In the case of copper, 84 samples were collected from your water system and the 90th percentile value was 259.0 ug/L, the 11th highest value of the samples taken. Of the 84 sites tested, zero sites exceeded the action level for lead and zero sites exceeded the action level for copper.

(h) Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight declines in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Infants and young children are typically more vulnerable to lead in drinking water than the general population. 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. 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 to 2 minutes before using your tap water. Additional information regarding lead in drinking water is available from the Safe Drinking Water Hotline (1-800-426-4791).
