

# Annual Drinking Water Quality Report for 2011

The Yorktown  
Consolidated  
Water District

1080 Spillway Road  
Shrub Oak, NY 10588

Public Water Supply  
ID# 5903469

The Yorktown  
Consolidated Water  
District is managed  
by the Northern  
Westchester Joint  
Water Works

Michael Grace  
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Call (914) 788-3400 with  
questions concerning  
your drinking water

## INTRODUCTION

To comply with State and Federal regulations, the Yorktown Consolidated Water District annually issues 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 resources. This report provides an overview of last year's water quality, including details about your sources of water, what it contains, and how it compares to State and Federal standards.

Last year, your tap water met or exceeded all New York State and Federal drinking water health standards.

## WHERE DOES OUR WATER COME FROM?

In general, the sources of drinking water (both tap and bottled) 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 the following: 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 that 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.

During 2011, our major water sources were the Amawalk Reservoir, located in the Town of Somers and the Catskill Aqueduct in the Town of Cortlandt. Water at The Catskill and Amawalk Water Treatment Plants is treated with the following processes prior to distribution: pH adjustment, coagulation, filtration, chlorine disinfection, fluoridation, and corrosion control. Water was also purchased from the Town of New Castle and sold to IBM Corporation in the Kitchawan section of Yorktown.

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 paragraphs 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 this potable water supply (PWS). This PWS provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

This PWS obtains water from the New York City water supply system. Water either comes from the Catskill/Delaware watersheds 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 of 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 this PWS. Additional information on the water quality and protection efforts in these New York City watersheds can be found at DEP's web site [www.nyc.gov/dep/watershed](http://www.nyc.gov/dep/watershed).



This PWS obtains its water from both the Catskill/Delaware watersheds west of the Hudson and the Croton watershed in Putnam and Westchester counties. 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.

## **FACTS AND FIGURES**

Our water system serves approximately 36,000 people and has approximately 9,904 service connections. In 2011, the Water District purchased approximately 980 million gallons of water and sold 843 million gallons of water to metered customers in the towns of Yorktown, Cortlandt and Somers and bulk sales to Putnam Valley and Mill Pond Water District. The daily average amount of water treated and delivered to our customers was approximately 2.31 million gallons per day. This leaves 137 million gallons of water unaccounted for during the year, which is about 14% of the total amount purchased. Water that is unaccounted for was primarily lost during our semi-annual flushing program, used to fight fires, and was lost from water main breaks and through leakage.

In 2011, most water customers were charged a minimum charge of \$45.00 per four-month billing period for the first 9,000 gallons of water and \$5.00 per 1,000 gallons above the minimum (out of district customers paid double this amount). The Bulk rate paid by Putnam Valley and Mill Pond was \$14.24.

The rate of penalty charge for late payment of water charges was 10% per four month period. The average annual water charge was \$475 per household.

## **WATER SUPPLY AND TREATMENT SECURITY**

Since September 11, 2001, security in and around the water treatment plants and water storage areas was increased including better fencing, locks and surveillance equipment, increased visual inspections and patrols of all facilities.

## **SYSTEM IMPROVEMENTS**

In 2011 the following projects were completed: four hundred feet of water main and fire protection was added to Laurel Ct., thirty five new fire hydrants were installed and several hundred existing fire hydrants were painted and reflective markers were attached to them. In addition, both fall and spring hydrant flushing programs were performed.

## **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, volatile organic compounds, total trihalomethanes, haloacetic acids, radiologicals and synthetic organic compounds. Table 1 describes which parameters 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. Substances not detected in water samples are listed in the paragraph entitled "non-detected substances and the frequency of testing."

It should be noted that all drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of 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 at (800-426-4791) and [www.epa.gov/safewater](http://www.epa.gov/safewater) or the Westchester County Department of Health at (914) 813-5000 and [www.westchester.gov/health](http://www.westchester.gov/health).

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

Our drinking water quality met or exceeded state and federal regulations for 2011. Although a few contaminants were detected by our testing, however, their concentrations were below the levels determined by the State and the Environmental Protection Agency (EPA) to cause health concerns.

**TABLE 1 – DETECTED SUBSTANCES**

| Contaminants      | Violation Yes/No | Date of Sample   | Level Detected (Average & Range)    | Unit Measurement          | MCLG | Regulatory Limit (MCL, TT, or AL) | Likely Source of Contaminants                               |
|-------------------|------------------|------------------|-------------------------------------|---------------------------|------|-----------------------------------|---|
| <b>Inorganic</b>  |                  |                  |                                     |                           |      |                                   |   |
| Alkalinity        | no               | 1/1—12/31/11     | 41.3<br>8.5 –93.6                   | mg/L as CaCO <sub>3</sub> | N/A  | N/A                               | Naturally occurring   |
| Antimony          | no               | 5/24/11          | 0.45<br>0.4—0.5                     | µg/L                      | N/A  | N/A                               | In ceramics, electronics and solder                         |
| Hardness          | no               | 1/1—12/31/11     | 42.8<br>9.8 - 108                   | mg/L as CaCO <sub>3</sub> | N/A  | N/A                               | Naturally occurring   |
| Aluminum          | no               | 5/24/11          | .028<br>.022 - .035                 | mg/L                      | N/A  | N/A                               | In common water treatment chemical                          |
| Barium            | no               | 5/24/11          | .021<br>.007 - .036                 | mg/L                      | 2    | MCL 2                             | Erosion of natural deposits.                                |
| Chloride          | no               | 5/24/11          | 61<br>9 - 113                       | mg/L                      | N/A  | MCL 250                           | Naturally occurring or road salt                            |
| Chlorine, Free    | no               | 1/1 - 12/31/11   | 0.69<br>0.03 - 1.73                 | mg/L                      | N/A  | MRDL 4                            | Water additive to control microbes.                         |
| Chromium          | no               | 5/24/11          | 1.145<br>1.14—1.15                  | µg/L                      | 100  | 100                               | Naturally occurring   |
| Copper            | no               | 7/28 - 8/04/11   | 0.120 <sup>1</sup><br>0.010 - 0.207 | mg/L                      | 1.3  | AL 1.3                            | Corrosion of household plumbing.                            |
| Fluoride          | no               | 1/1 - 12/31/11   | 0.75<br>0.13 - 1.35                 | mg/L                      | N/A  | MCL 2.2                           | Additive to promote strong teeth                            |
| Iron              | no               | 5/24/11          | 0.008<br>ND—0.016                   | mg/L                      | N/A  | 300                               | Naturally occurring   |
| Lead              | no               | 7/28 - 8/04/11   | 2.0 <sup>2</sup><br>ND - 30         | µg/L                      | 0    | AL 15                             | Corrosion of household plumbing.                            |
| Manganese         | no               | 5/24/11          | 1.05<br>0.8 - 1.3                   | µg/L                      | N/A  | MCL 300                           | Naturally occurring   |
| Nickel            | no               | 5/24/11          | 0.3<br>0.2—0.4                      | µg/L                      | N/A  | N/A                               | N/A   |
| Nitrate           | no               | 2/08/11—10/12/11 | 0.22<br>0.09 - 0.36                 | mg/L                      | 10   | MCL 10                            | Fertilizer run-off, septic tank leaching, natural deposits. |
| pH                | no               | 1/1 - 12/31/11   | 7.66<br>7.09 - 8.12                 | N/A                       | N/A  | N/A                               | N/A   |
| Phosphorus, Ortho | no               | 1/1 - 12/31/11   | 0.97<br>0.33 - 1.57                 | mg/L                      | N/A  | N/A                               | Additive to prevent corrosion                               |
| Sodium            | no               | 5/24/11          | 30.4<br>6.2 - 54.6                  | mg/L                      | N/A  | (20) <sup>3</sup>                 | Naturally occurring or road salt                            |
| Sulfate           | no               | 5/24/11          | 9.1<br>5.7- 12.5                    | mg/L                      | N/A  | MCL 250                           | Naturally occurring   |
| Zinc              | no               | 5/24/11          | 0.004<br>0.002—0.007                | mg/L                      | N/A  | 5                                 | Naturally occurring   |



**TABLE 1 – DETECTED SUBSTANCES CONTINUED**

| Contaminants                        | Violation Yes/No | Date of Sample     | Level Detected (Average & Range) | Unit Measurement | MCLG | Regulatory Limit (MCL, TT, or AL)        | Likely Source of Contaminants                               |
|-------------------------------------|------------------|--------------------|----------------------------------|------------------|------|--|---|
| <b>Microbiological</b>              |                  |                    |                                  |                  |      |  |   |
| Distribution Turbidity <sup>4</sup> | no               | 1/1 - 12/31/11     | 0.27<br>0.07 - 2.60              | NTU              | N/A  | MCL 5.0 NTU                              | Soil run-off.   |
| Filtration Turbidity <sup>5</sup>   | no               | 5/1/11             | 0.77<br>98%                      | NTU              | N/A  | TT=95% of samples<0.3 NTU                | Soil run-off.   |
| <b>Organic</b>                      |                  |                    |                                  |                  |      |  |   |
| Haloacetic Acids                    | no               | 2/08/11 - 11/09/11 | 22.2<br>2.2 - 28.3               | µg/L             | N/A  | MCL 60                                   | By-product of drinking water chlorination to kill microbes. |
| T. Trihalo - methanes <sup>6</sup>  | no               | 2/08/11 - 11/09/11 | 45.8<br>23.4 - 77.2              | µg/L             | N/A  | MCL 80                                   | By-product of drinking water chlorination to kill microbes. |
| <b>Radioactive <sup>7</sup></b>     |                  |                    |                                  |                  |      |  |   |
| Radium 226                          | no               | 1/27/09            | 0.05                             | pCi/L            | 0    | MCL<br>Combined Radium<br>226 & 228 <5.0 | Decay of natural deposits.                                  |
| Radium 228                          | no               | 1/27/09            | 0.45                             | pCi/L            | 0    |  | Decay of natural deposits.                                  |
| Gross Alpha Activity                | no               | 1/27/09            | 1.33                             | pCi/L            | 0    | MCL < 15<br>excl. U238                   | Decay of natural deposits.                                  |
| Gross Beta Activity <sup>8</sup>    | no               | 1/27/09            | 3.1                              | pCi/L            | 0    | MCL <50                                  | Decay of natural deposits and human-made emissions          |

- 1) This concentration presented represents the 90<sup>th</sup> percentile of the 32 sites tested for copper in 2011. 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 90<sup>th</sup> percentile is equal to or greater than 90% of the copper values detected at your water system. This value was 0.120 mg/L. The action level was not exceeded at any of the sites tested.
- 2) This concentration represents the 90<sup>th</sup> percentile of the 32 sites tested for lead in 2011. This value was 2.0 ug/L. The action level for lead of 15 ug/L was not exceeded at the 90<sup>th</sup> percentile.
- 3) People on severely restricted sodium diets should not consume water containing more than 20 mg/L of sodium. Water containing more than 270 mg/L of sodium should not be used for drinking by people on moderately restrictive sodium diets.
- 4) Turbidity is a measure of the cloudiness of the water. All values measured must be below 5 NTU.
- 5) Turbidity is a good indicator of the effectiveness of our filtration system. This value is the highest single combined filter measurement. At least 95% of the samples collected must be equal to or below 0.30 NTU.
- 6) THMs are formed when source water contains large amounts of organic matter.
- 7) This is a quarterly composite sampling from the Amawalk water treatment plant.
- 8) This sample is from the Amawalk water Treatment Plant. This sample must be collected every 6 years. The State considers 50 pCi/L to be a level of concern for Beta particles.

**Definitions for Table 1:**

Picocuries per liter (pCi/L): A measure of the radioactivity in water. N/A: Not Applicable ND : not detected

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 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.

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

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

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

Milligrams per liter (mg/l): Corresponds to one part of liquid in one million parts of liquid (parts per million – ppm).

Micrograms per liter (ug/l): Corresponds to one part of liquid in one billion parts of liquid (parts per billion – ppb).

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 microbiological 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 microbiological contamination.

## **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, persons 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 EPA's Safe Drinking Water Hotline (800-426-4791).

The information summarized in Table 1 shows that our distribution system had no violations. Lead was below the Action Level of 15 ug/L in 30 of the 32 first draw water samples collected. We present the following required statement on lead in drinking water for your information:

"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 Yorktown 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>."

The amount of copper that we detected was generally low and in all cases was below the Action Level. The government's general health precaution on copper states that people who drink water containing excess copper could experience gastrointestinal distress and that people with Wilson's Disease should consult their personal doctor if they believe that they have ingested an excess amount of copper.

## **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 from 0.8 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 we monitor fluoride levels on a daily basis. During 2011 monitoring showed fluoride levels in your water varied from 0.13 to 1.35 mg/L and were in the optimal range 41% of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 mg/l MCL for fluoride.



## Yorktown Consolidated Water District

1080 Spillway Road  
Shrub Oak, NY 10588-1113

Return Service Requested

### NON-DETECTED SUBSTANCES AND THE FREQUENCY OF TESTING

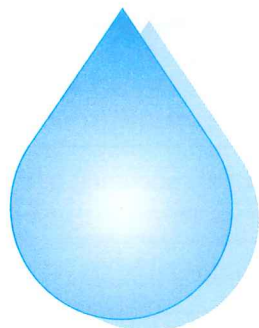
According to State regulations, the following lists of substances (along with test frequencies) were tested for in your drinking water and **not detected**. Bromoacetic acid and Bromoform were tested quarterly from four sites. Arsenic, beryllium, cadmium, cyanide, mercury, nitrite, selenium, silver, and thallium were tested for annually. Bromochloromethane, bromomethane, carbon tetrachloride, chloroethane, chloromethane, dibromomethane, dichlorodifluoromethane, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethene, cis-1, 2-dichloroethene, trans-1, 2-dichloroethene, 1,2-dichloropropane, 1,3-dichloropropane, 2,2-dichloropropane, 1,1-dichloropropene, cis-1, 3-dichloropropene, trans-1, 3-dichloropropene, methylene chloride, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, trichlorofluoromethane, 1,2,3-trichloropropane, vinyl chloride, benzene, bromobenzene, n-butylbenzene, sec-butylbenzene, tert-butylbenzene, chlorobenzene, 2-chlorotoluene, 4-chlorotoluene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, ethyl benzene, hexachlorobutadiene, isopropylbenzene, p-isopropyltoluene, naphthalene, n-propylbenzene, styrene, toluene, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,3,5-trichloromethylbenzene, p&m-xylene, o-xylene, methyl t-butyl ether, methyl isobutyl ketone, 1,2-dibromoethane, 1,2-dibromo-3-chloropropane, aldrin, dieldrin, chlordane, endrin, heptachlor, heptachlor epoxide, lindane, methoxychlor, toxaphene, proachlor, PCB's, 2,4-D, 2,4,5-T, silvex, dalapon, dicamba, dinoseb, pentachlorophenol, pichloram, alachlor, atrazine, simazine, hexachlorobenzene, hexachlorocyclopentadiene, benzo(a)pyrene, di (2-ethylhexyl) adipate, aldicarb sulfoxide, aldicarb sulfone, oxamyl, methomyl, 3-hydroxycarbofuran, aldicarb, carbofuran, carbaryl, glyphosate, and Diquat were tested annually.

### WHY SAVE WATER?

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 needed to treat and deliver the water; Saving water reduces the need to construct costly new sources, pumping systems and water storage reservoirs; 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.

### HOW CAN I CONSERVE MY WATER?

Know how much water your household uses, and look for ways to use less whenever you can:



- ✓ Automatic dishwashers use about 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 and when shaving.
- ✓ 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 and 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 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 it moved, you have a leak.

*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) 737-5380. Thank you for allowing us to provide your family with quality drinking water.*