



# TOWN OF GREENBURGH

## Consolidated Water & Sewer Districts

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## 2008 ANNUAL WATER QUALITY REPORT Public Water Supply ID# 5903429

### INTRODUCTION

To comply with State regulations the Town of Greenburgh Consolidated Water District No. 1 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 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, please contact Randy P. Cairns, Asst. Superintendent at (914) 993-1592. The Westchester County Health Department, Bureau of Environmental Quality has regulatory jurisdiction over the District and their phone number is (914) 813-5000. We want you to be informed about your drinking water. If you want to learn more all official business of the District is conducted as part of the Official business of the Town during regularly scheduled public Town Board Meetings. These meetings are normally held the second and fourth Wednesday of each month at Town Hall at 7:30 PM. Only one meeting is scheduled for July and August.

### SOURCE OF WATER SUPPLY

In general, the sources of drinking water (both tap 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 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 District normally purchases all of its water from the City of New York, Department of Environmental Protection - Bureau of Water Supply. This "surface" water originates in protected watershed areas 120 miles northwest of Greenburgh in the Catskill Mountains after which it travels through a N.Y.C. owned system. During 2008, our system did not experience any restriction of our water source. The water we receive from NYC's system has already undergone some of the required treatment prior to reaching us. This source water is of such high quality that it meets the requirements for a "Filtration Avoidance" waiver from the U.S Environmental Protection Agency (EPA). Additionally, NYC disinfects the water with chlorine and adds a small amount of fluoride (one part per million) to help prevent tooth decay. All treatment complies with the New York State Health Department and the U.S. EPA. The District performed additional treatment consisting of additional disinfection utilizing *chlorine* and corrosion control utilizing *blended liquid zinc orthophosphate* and *sodium hydroxide*.

### FACTS AND FIGURES

Our water system serves 45,500 people (including the Vil. of Irvington and some customers in Mt. Pleasant, Yonkers and White Plains), based on the 2000 census, through 11,000 service connections. In 2008 a total of 2.920 billion gallons of water was purchased from New York City's Delaware/Catskill system for the Greenburgh Consolidated Water District No. 1. 2,627.852 million gallons was delivered directly to consumers. This leaves an unaccounted for total of 291.984 million gallons. This water was used for fire fighting purposes, flushing of the system to maintain water quality, hydrant use by Town trucks for street sweeping and sewer cleaning and distribution system leaks. Of the total amount withdrawn from NYC's system, 16.3% or 474.566 million gallons was sold (wholesaled) to other water districts leaving a District NET consumption of 2.445 billion gallons. This figure translates to an average daily consumption of 6.699 million gallons or a *daily water usage of 174.1 gallons per person per day*. Our highest single day usage was 13.4 million gallons. The daily water usage per person per day for the City of New York in 2008 was 136.4 gallons. The water we receive from NYC's water distribution system is delivered to us by gravity from upstate reservoirs at low pressure. Since this pressure is not enough for domestic usage or for fire protection, the District must pump the water into our distribution system to reach all parts of the district. The charge for water in the District up to October 1, 2008 was \$2.39 per 1,000 gallons up through 500,000 gallons per month for in district users. Water consumed above 500,000 gallons per month is charged at \$2.88 per 1,000 gallons. The rates increased approximately 20% on Oct. 1, 2008. The average residential household uses approximately 120,000 gallons per year which costs \$286.80 for the year for "in district" customers. Compared to the twenty largest water districts in Westchester County, Greenburgh Consolidated Water District No. 1 ranks sixth lowest in annual costs to customers.<sup>1</sup> Out of District customers pay a premium rate that varies with location.

<sup>1</sup>Rate Study by the Westchester Water Works Conference, Inc., Fall 2001.

## 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, lead and copper, nitrite, nitrate, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological and synthetic organic compounds*. The table presented below depicts which contaminants were detected in your drinking water. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of the data, though representative of the water quality, is more than one year old. It should be noted that all drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the **EPA's Safe Drinking Water Hotline 1-800-426-4791** or the Westchester County Health Department at (914-813-5000).

**Table of Detected Contaminants**

<u>Contaminant</u>	<u>Violation Yes/No</u>	<u>Date of Sample</u>	<u>Level Detected (Maximum)</u>	<u>Unit Measurement</u>	<u>MCLG<sup>2</sup></u>	<u>Regulatory Limit (MCL)<sup>3</sup></u>	<u>Likely Source of Contamination</u>
<b><u>MICROBIOLOGICAL CONTAMINANTS:</u></b>							
Total Coliform	No	8/4/08	2 positive	n/a <sup>4</sup>	0	MCL=more than 2 positive samples in one month.	Naturally present in the environment
Turbidity <sup>5</sup>	No	4/7/09	1.95	NTU <sup>6</sup>	n/a	5	Soil Runoff.
<b><u>RADIOACTIVE CONTAMINANTS:</u></b>							
Gross Alpha	No	2004	-0.1 - 05	pCi/L <sup>7</sup>	0	15 <sup>8</sup>	Erosion of natural deposits.
Gross Beta	No	2004	1.0 - 3.3	pCi/L	0	50 <sup>9</sup>	Decay of natural deposits
Radium 226	No	2004	0.0 - 0.05	pCi/L	0	5 <sup>10</sup>	and man-made emissions.
Radium 228	No	2004	-1.2 - 0.6	pCi/L	0	5 <sup>11</sup>	"
<b><u>INORGANICS:</u></b>							
Barium	No	7/11/08	0.0193	mg/l	2	2	Discharge of drilling wastes
Chloride	No	7/11/08	11.9	mg/l <sup>12</sup>	n/a	250	Naturally occurring or indicative of road salt contamination.
Chromium	No	7/11/08	1.4	ug/l	100	100	Discharge from steel & pulp Mills. Erosion of natural deposites
Fluoride	No	7/5/08	1.40	mg/l	n/a	2.2	Erosion of natural deposites, Water additive that promotes strong teeth.
Iron	No	7/11/08	26.3	ug/l	n/a	300	Naturally occuring
Magnesium	No	7/11/08	1.01	mg/l	n/a	n/a	Naturally occurring
Manganese	No	7/11/08	21.3	ug/l <sup>13</sup>	n/a	300	Naturally occurring.
Sodium	No	7/11/08	9.21	mg/l	n/a	see note <sup>14</sup>	Naturally occurring; Road salt; Animal waste.
Zinc	No	7/11/08	911	ug/l	n/a	5000	Naturally occurring; Water additive for corrosion treatment
Color (apparent)	No	7/11/08	< 1	units	n/a	15	Large quantities of organic chemicals, decaying leaves, plants and soil organic matter.
<b><u>CORROSION RULE:</u></b>							
Lead	No	1/1/08-6/30/08	8.6 <sup>15</sup> (0-3000)	ug/l	0	AL <sup>16</sup> =15	Corrosion of household plumbing systems.
		7/1/08-12/31/08	13.0 (0-140)				
Copper	No	1/1/08-6/30/08	160 <sup>17</sup> (11-290)	ug/l	0	AL=1300	Corrosion of household plumbing systems.
		7/1/08-12/31/08	90 (11-370)				
<b><u>INORGANICS - NITRATE and NITRITE:</u></b>							
Nitrate	No	7/11/08	0.232	mg/l	10	10	Runoff from fertilizer

<sup>2</sup>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.

<sup>3</sup> Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as possible.

<sup>4</sup> "not applicable" or does not apply.

<sup>5</sup> Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

<sup>6</sup>Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

<sup>7</sup>Picocuries per liter (pCi/L) is a measure of the radioactivity in water.

<sup>8</sup> A MCL violation occurs when the annual composite of four quarterly samples or the average of the analysis of four quarterly samples exceeds the MCL.

<sup>9</sup> The State considers 50 pCi/L to be the level of concern for beta particles.

<sup>10</sup> MCL is 5 pCi/l combined with Ra 228.

<sup>11</sup> MCL is 5 pCi/L combined with Ra 226.

<sup>12</sup>Milligrams per liter (mg/l) corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

<sup>13</sup> Micrograms per liter (ug/l) corresponds to one part of liquid in one billion parts of liquid (parts per billion=ppb)

<sup>14</sup>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 of sodium should not be used for drinking by people on moderately restricted sodium diets.

<sup>15</sup>The level presented represents the 90th percentile of the 60 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 customer's taps in the distribution system. The action level for lead was exceeded at 5 of the sites tested.

<sup>16</sup>Action Level (AL): The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.

<sup>17</sup>The level presented represents the 90th percentile of the 60 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 customer's taps in the distribution system.

<u>Contaminant</u>	<u>Violation Yes/No</u>	<u>Date of Sample</u>	<u>Level Detected (Maximum)</u>	<u>Unit Measurement</u>	<u>MCLG</u>	<u>Regulatory Limit (MCL)</u>	<u>Likely Source of Contamination</u>
<b><u>DISINFECTION BYPRODUCTS:</u></b>							
Total Trihalomethanes (TTHMs - chloroform, bromodichloromethane, dibromochloromethane, and bromoform)	No	8 sites quarterly	38.8 (18.9-54.9)	ug/l	n/a	80	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter.
		8 sites 2/19/2008 4/17/2008 6/17/2008 8/18/2008	35.1 (9.7-41.3)	ug/l	n/a	80	
Haloacetic Acids (mono-, di-, and trichloroacetic acid, and mono- and di-bromoacetic acid)	No	8 sites quarterly	37.3 (21.0-47.0)	ug/l	n/a	60	By-product of drinking water chlorination.
		8 sites 2/19/2008 4/17/2008 6/17/2008 8/18/2008	33.8 (13.7-46.0)	ug/l	n/a	80	
Chlorine Residual	No	10/31/2008	2.15	mg/l	n/a	MRDL <sup>18</sup> =4	By-product of drinking water chlorination.

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

As you can see by the table above, our system did not have any MCL or Treatment Technique violations. We did, however, exceed the Lead Action Level of 15 parts per billion in 5 of the 60 homes tested. 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. Greenburgh Consolidated Water Dist. No. 1 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://epa.gov/safewater/lead>.

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

During 2008, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

### **INFORMATION ON CRYPTOSPORIDIUM:**

*Cryptosporidium* is a microbial pathogen found in surface water and groundwater under the influence of surface water. NYC has collected and analyzed for *Cryptosporidium* oocysts since 1992. During 2008 as part of their routine sampling The City of New York, Department of Environmental Protection - Bureau of Water Supply collected a total of 104 routine samples from the Kensico Reservoir effluent and analyzed them for *Cryptosporidium* oocysts. Of these samples, 11 were positive for *Cryptosporidium*. Therefore their testing indicates the presence of *Cryptosporidium* in our source water. 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 disease within a *few* weeks. However, immuno-compromised people are at 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 inactivated by disinfection. During 2008 as part of their routine sampling The City of New York, Department of Environmental Protection - Bureau of Water Supply collected a total of 104 routine samples from the Kensico reservoir effluent and analyzed them for *Giardia* cysts. Of these samples, 85 were positive for *Giardia* cysts. Therefore their testing indicates the presence of *Giardia* in our source water. 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.

<sup>18</sup> Maximum Residual Disinfectant Level (MRDL) is a level of disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects. MRDLs are currently regulated in the same manner as MCLs.

## **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 (1-800-426-4791)**.

## **INFORMATON 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. Fluoride is added to your water by City of New York, Department of Environmental Protection – Bureau of Water Supply. According to the United States Centers for Disease Control, fluoride is a very effective in preventing cavities when present in drinking water at an optimal range from .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 the City of New York, Department of Enviornmental Protection – Bureau of Water Supply monitor fluoride levels on a daily basis. During 2008, monitoring showed fluoride levels in your water were in the optimal range 90% of the time and that levels did not exceed the MCL of 2.2 mg/l.

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

Since we purchase all of our water from the NYC DEP, Bureau of Water Supply, we are limited in the amount of water we can consume. We are currently exceeding the allowable quantity of water use permitted to the Greenburgh Consolidated Water Dist. No. 1 and have been paying a penalty every month for exceeding our limit. Summer water usage sees a greater “excess” usage due to the wide use of outdoor irrigation. Every resident should take steps to lower their water usage, especially for outdoor use such as lawn irrigation. Water conservation does not have to mean suffering or inconvenience. It does mean making the most efficient use of the supply available. Water conservation means changing our habits permanently - being aware of water and thinking how much we can save every time we turn on a faucet, push the button to start a dish or clothes-washer, or flush a toilet. There are many things that you can do at home to cut back on unnecessary water use. Leaks can steal more than 10 percent of your water; in one month, a slow, steady drip can waste 350 gallons and an older toilet, without any telling sound, can sneak away enough water to fill a 10- foot cube. Many water saving ideas are simply common sense:<sup>19</sup>

- Use only the water needed to do the task.
- Turn off the water when you are not using it.
- Fix leaks. Often this merely requires replacing a washer.
- Use appliances efficiently; run full loads or adjust water level.
- Water your yard slowly and only when necessary. Mulch your plants. You could cut your outdoor use in half.
- Reduce the number of toilet flushes - put used tissues or gum wrappers in a waste basket instead of flushing them away.
- Reduce the water used in each flush by inserting toilet tank dams or weighted, water-filled one-quart plastic bags or bottles into the tank. (Don't use a brick - it can disintegrate over time, and the gritty crumbs could clog the mechanism.)
- Take your water-conserving habits to school or work. Leaks or running faucets are wasting your money here, too. Notify the building superintendent when something needs to be fixed.

## **SYSTEM IMPROVEMENTS**

The **Rum Brook Pumping Station and Treatment Plant** completed its fourth full year of operation supplying 100% of the water supply needs for the Village of Irvington and with the completion of construction of 2500 ft. of new 16” water main and a new metering station in mid 2007 we also supplied additional water to the Greenburgh system (E. Irvington area) from this new pumping facility to our high service zone. This project’s goals of improving our ability to meet overall peak demands, provide an improved source of water to Irvington and provide a backup source in case of an emergency to the entire District have largely been met.

## **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. Please call our office if you have questions. Bottled water is not any safer or better quality than our tap water. Coca Cola Bottling Co. uses an average of 1 million gallons of Greenburgh water each day in making various beverages. Take tap water with you in a re-usable container so the environment is not polluted with throw away plastic bottles.

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<sup>19</sup>Reprinted from NYS DEC's the Conservationist, May-June 1988