

# Village of Scarsdale



Water Department

Scarsdale, New York 10583

914-722-1138

## Annual Drinking Water Quality Report for 2007

Village of Scarsdale Water Department

Village Hall, Scarsdale, New York

(Public Water Supply ID# 5903457)

### **INTRODUCTION:**

To comply with State and Federal regulations, the Village of Scarsdale Water Department 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. 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 Jim Macri, Water Superintendent, at (914) 722-1138. We want you to be informed about your drinking water. If you want to learn more, please contact the Water Superintendent or information may be requested at any of the regularly scheduled village board meetings. Contact the Village Hall at (914) 722-1110 for meeting dates and times.

### **WHERE DOES OUR WATER COME FROM?**

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants.

In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Our source water is received from the New York City Water Supply System and then delivered to the public through a water distribution system comprising 100 miles of piping. The water is obtained through the Reeves Newsom Water Supply Station from the Kensico-Bronx 48" pipeline belonging to the Village of Scarsdale and the cities of Mount Vernon, White Plains and Yonkers, known as Westchester Water District No. 1. Water treatment includes the addition of fluoride, disinfection with chlorine, water pH adjustment with caustic soda, and the addition of orthophosphate prior to distribution. Under certain conditions water can be obtained from the Delaware Aqueduct, via the connection at Shaft 22, and delivered north to Scarsdale through the Kensico-Bronx 48" pipeline. Through the Ardsley Road Pumping Station, water is obtained from the United Water New Rochelle water system or directly from the New York City Catskill Aqueduct. During 2007, our system did not experience any restriction of our water source. This year all water was received from only the NYC Kensico Reservoir. No water was received from the NYC Delaware Aqueduct.

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 PWS. This PWS provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

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

Specifically, Scarsdale obtains its water from the Catskill/Delaware watersheds east of the Hudson. The reservoirs in this mountainous rural area are relatively deep with little development along their shorelines. The main water quality concerns 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.

#### **FACTS AND FIGURES:**

The Scarsdale Water System is owned and operated by the Village of Scarsdale. Water Service is provided to the Village of Scarsdale, Eastchester Water District No. 1 and some homes in Mamaroneck, New Rochelle and Greenburgh. Our water system serves an estimated population of 20,883 through 5,800 service connections. The total water delivered in 2007 was 1.318 billion gallons. The daily average of water treated and pumped into the distribution system was 3.605 million gallons per day. Our highest single day was 6.751 million gallons. The amount of water delivered to customers, (metered), was 1.041 billion gallons. This leaves an unaccounted for total of 277 million gallons, (21% of the total amount delivered). The percentage of unaccounted for total is higher than normal and the Village is investigating why this has occurred. The loss of water is a result of many factors. Losses arise from ruptured water mains, hydrants struck by automobiles, service line leaks, fire protection and training, testing of water meters, use of unmetered water for construction purposes and the unmetered water used for flushing water mains. In 2007 water customers were charged \$1.60 per 100 cu ft, (or \$2.14 per 1,000 gallons), for water used up to 5,000 cu ft per quarter and \$5.60 per 100 cu ft, (or \$7.49 per 1,000 gallons), for water used above 5,000 cu ft per quarter. The annual average water charge per user was \$535.

#### **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, and synthetic organic compounds. Some of the compounds we analyzed for were detected in your drinking water; however, these contaminants were detected below the level allowed by the State. The table presented below depicts which compounds 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. A supplement to this report has been prepared and will be printed in the Scarsdale Inquirer in May 2008. A copy can be obtained by contacting the Water Department.

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 (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 (Average) (Range)</u>	<u>Unit Measurement</u>	<u>MCLG</u>	<u>Regulatory Limit (MCL, TT or AL)</u>	<u>Likely Source of Contamination</u>
<b>Inorganic Chemical Contaminants (Distribution System):</b>							
Alkalinity as CaCO3	No	01/23/07	13.5	ug/l	N/A	MCL	Erosion of natural deposits
Aluminum	No	01/23/07	28.2	ug/l	N/A	MCL	Erosion of natural deposits
Barium	No	01/23/07	15.1	ug/l	2000	MCL	Erosion of natural deposits
Calcium as CaCO3	No	01/23/07	14	mg/l	N/A	MCL	Erosion of natural deposits
Calcium	No	01/23/07	5.49	mg/l	N/A	MCL	Erosion of natural deposits
Chloride	No	01/23/07	6.7	mg/l	250	MCL	Erosion of natural deposits
Copper	No	01/23/07	16.0	ug/l	1300	AL	Erosion of natural deposits & Corrosion of household plumbing
Fluoride	No	01/23/07	0.822	mg/l	2.2	MCL	Water Additive which Promotes strong teeth
Hardness	No	01/23/07	19	mg/l	N/A	MCL	Erosion of natural deposits
Iron	No	01/23/07	32.1	ug/l	300	MCL	Erosion of natural deposits
Manganese	No	01/23/07	16.4	ug/l	300	MCL	Erosion of natural deposits
Nitrate	No	01/23/07	0.214	mg/l	10	MCL	Runoff from fertilizer use
Orthophosphates	No	01/23/07	0.867	mg/l	N/A	MCL	Water Additive which reduces water corrosivity
pH	No	01/23/07	6.56	Units	N/A	MCL	
Sodium	No	01/23/07	6.62	mg/l	20	AL	Erosion of natural deposits
Total Dissolved Solids	No	01/23/07	41.7	mg/l	500	MCL	Metals & salts naturally occurring in the soil
Turbidity (1)	No	02/06/07	1.41	NTU	5	MCL	Soil erosion & stream sediments
Zinc	No	01/23/07	3.5	ug/l	5000	MCL	Naturally occurring
<b>Lead &amp; Copper Contaminant - System Wide Sampling – (every three years in the Distribution System):</b>							
Lead (3)	No	June & July 2006	6.8	ug/l	15	AL	Erosion of natural deposits & Corrosion of household plumbing
Copper (2)	No	June & July 2006	388	ug/l	1300	AL	Erosion of natural deposits & Corrosion of household plumbing
<b>Inorganic Chemical Contaminants (Source Water System):</b>							
Copper	No	01/23/07	18.3	ug/l	1300	AL	Erosion of natural deposits & Corrosion of household plumbing
<b>Organic Chemical Contaminants (Distribution System):</b>							
<b>Total Trihalomethanes – Quarterly Sampling (4)</b>							
	No	Jan, April, July & Oct 2007	37.0	ug/l	80	MCL	By-product of chlorination
<b>Haloacetic Acids – Quarterly Sampling (4)</b>							
	No	Jan, April, July & Oct 2007	35.0	ug/l	60	MCL	By-product of chlorination
<b>Organic Chemical Contaminants (Stage 2 DBP Sampling in Distribution System):</b>							
<b>Total Trihalomethanes – (5)</b>							
	No	11/21/07	20.5	ug/l	80	MCL	By-product of chlorination
<b>Haloacetic Acids – (5)</b>							
	No	11/21/07	21.5	ug/l	60	MCL	By-product of chlorination

Organic Chemical Contaminants (Source Water System – WWD#1 48 inch Pipeline):

Total Trihalomethanes

No	09/24/07	8.50	ug/l	80	MCL	By-product of chlorination
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**Notes:**

- 1 – Turbidity is a measure of the cloudiness of the water. We test it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants. Our highest single turbidity measurement in the distribution system for the year occurred on 02/06/07, (1.41 NTU). State regulations require that turbidity must always be below 5 NTU.
- 2 – The level presented represents the 90<sup>th</sup> percentile of the 30 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90<sup>th</sup> percentile is equal to or greater than 90% of the copper values detected at your water system. In this case, thirty samples were collected at your water system and the 90<sup>th</sup> percentile value was the 27th value which was 0.388 mg/l. The action level for copper was exceeded at only one site tested. The highest copper value was 1.420 mg/l.
- 3 – The level presented represents the 90<sup>th</sup> percentile of the 30 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90<sup>th</sup> percentile is equal to or greater than 90% of the lead values detected at your water system. In this case, thirty samples were collected at your water system and the 90<sup>th</sup> percentile value was the 27th value which was 6.8 ug/l. The action level for lead was not exceeded at any of the sites tested. The highest lead value was 9.0 ug/l.
- 4 – This level represents the annual quarterly average calculated from data collected. Highest level was 56.0 ug/l for Trihalomethanes and 54.0 ug/l for Haloacetic Acids.
- 5 – This level represents the average of eight samples taken during the year. Highest level was 30.0 ug/l for Trihalomethanes and 25.0 ug/l for Haloacetic Acids.

**Definitions:**

**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.

**Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

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

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

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

**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).

**Nanograms per liter (ng/l):** Corresponds to one part of liquid to one trillion parts of liquid (parts per trillion - ppt).

**Picograms per liter (pg/l):** Corresponds to one part per of liquid to one quadrillion parts of liquid (parts per quadrillion – ppq).

**Million Fibers per Liter (MFL):** A measure of the presence of asbestos fibers that are longer than 10 micrometers.

**LT:** Less Than

According to State regulations, we are required to routinely monitor drinking water for various contaminants. Drinking water is tested for inorganic and organic contaminants, trihalomethanes, and coliform bacteria. Contaminants detected are included in the Table of Detected Contaminants. Contaminants we analyzed for but did not detect were:

E.coli bacteria, Arsenic, Chromium, Mercury, Selenium, Antimony, Sulfate, Beryllium, Cyanide, Nickel, Apparent Color, Thallium, Nitrite, Vanadium, Silver, Cobalt, Boron, Molybdenum, Lead, Bromoform, Dibromochloromethane, Vinyl Chloride, Benzene, Bromobenzene, Bromochloromethane, Bromomethane, N-butylbenzene, Sec-butylbenzene, Tert-butylbenzene, Carbon tetrachloride, Chlorobenzene, Chloroethane, Chloromethane, 2-chlorotoluene, 4-chlorotoluene, Dibromomethane, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 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, Ethylbenzene, Hexachlorobutadiene, Isopropylbenzene, P-isopropyltoluene, Methylene chloride, N-propylbenzene, Styrene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, Tetrachloroethene, Toluene, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, Trichloroethene, Trichlorofluoromethane, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, P & M-xylene, O-xylene, 2-butanone (MEK), Naphthalene, Methyl T-Butyl Ether, Methyl Isobutyl Ketone, 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane, Alachlor, Atrazine, Simazine, Hexachlorobenzene, Hexachlorocyclopentadiene, Benzo(A)pyrene, bis(2-Ethylhexyl)adipate, bis(2-Ethylhexyl)phthalate, Aldicarb Sulfoxide, Aldicarb Sulfone, Oxamyl, Methomyl, 3-Hydroxycarbofuran, Aldicarb, Carbofuran, Carbaryl, Glyphosate, Diquat, 2,4-D, 2,4,5-T, Silvex, Dalapon, Dicamba, Dinoseb, Pentachlorophenol, Picloram, Dioxin, Endothall, Butachlor, Metolachlor, Metribuzin, 2,3,7,8-TCDD (Dioxin), DCPA di-mono-acids, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Acetochlor, EPTC, Molinate, Terbacil, MTBE, perchlorate, 4,4-DDE, Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Heptachlor Epoxide, Lindane, Methoxychlor, PCB's, Propachlor, Toxaphene

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

As you can see by the table, our system had no 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.

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

During 2007, our system was in compliance with all applicable State drinking water requirements.

### **Variations and Exemptions:**

In accordance with the Federal Safe Drinking Water Act of 1986 and New York State requirements regarding the quality of potable water, we submitted a request for filtration avoidance of our raw water sources for both the Reeves Newsom Water Supply Station and the Ardsley Road Pumping Station. We received a variance from the New York State Department of Health in December 1991. This variance is still in effect.

The Village of Scarsdale was granted a Biofilm Variance from the New York State Department of Health on August 29, 1994. The variance recognizes that the maximum contaminant level cannot be used to determine the public health significance of coliform bacteria being detected in the distribution system when biofilms, and not contaminated water, is in the system.

### **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 percent removal. During 2007, as part of routine sampling, NYC collected 110 samples from their source water at Kensico Reservoir and analyzed them for Cryptosporidium oocysts. Of these samples 6 were confirmed positive. Therefore, the testing indicates the presence of Cryptosporidium in our source water. 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 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. During 2007, as part of routine sampling, NYC collected 110 samples from their source water at Kensico Reservoir and analyzed them for Giardia cysts. Of these samples 89 were confirmed positive. Therefore, the testing indicates the presence of Giardia in our source water. The source water is disinfected prior to reaching our distribution system so to remove/inactivate the Giardia cyst. 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 handwashing 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, 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).

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

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- ◆ Saving water saves energy and some of the costs associated with both of these necessities of life;
- ◆ Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- ◆ Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.

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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.
- ◆ Do not over water lawns and gardens. Water grass and plants when they show signs of needing it.

**SYSTEM IMPROVEMENTS:**

In 2001 design began on the water supply improvements and upgrade of the Ardsley Road Pumping Station. We had expected construction to begin in 2002 but approval by the Westchester County Dept of Health and NYC Department of Environmental Protection were not received. In August 2006 NYC approved the improvements and then in December 2006 the Health Department granted their approval. In 2007 contracts were awarded for improvements and upgrade of the Ardsley Road Pumping Station. The work is expected to take approximately 1 year. In our continuing efforts to maintain a safe and dependable water supply it is necessary to make this improvement and additional improvements in your water system. The costs of these improvements are reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. In the near future we plan to upgrade all the Village Treatment and Pumping Stations and are planning to address improvements to the water distribution system.

**ADDITIONAL INFORMATION:**

All of Scarsdale's source water came from the New York City water system. The City conducted numerous tests on the water prior to it reaching Scarsdale. The NYC Annual Water Quality Report can be viewed on [www.nyc.gov/html/dep/html/wsstate.html](http://www.nyc.gov/html/dep/html/wsstate.html) or by contacting the Water Superintendent for the Village of Scarsdale .

**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 and our way of life. Please call our office if you have questions.

