NEW YORK CITY 2001 DRINKING WATER SUPPLY AND QUALITY REPORT

The New York City Department of Environmental Protection is pleased to present its 2001 Annual Water Quality Report. This presentation is in accordance with Part 5-1.72 of the New York State Sanitary Code (10NYCRR), and the National Primary Drinking Water Regulations, 40 CFR Part 141 Subpart O, of the Environmental Protection Agency, which require all drinking water suppliers to provide the public with an annual statement describing the water supply and the quality of its water.

Cover graphics are adapted from winners of DEP's annual Water Conservation Art & Poetry Contest, submitted by NYC 5th and 6th grade students.

Ashokan Reservoir Spillway

New York City's Water Supply

The New York City surface (reservoir) water supply system provides approximately 1.3 billion gallons of safe drinking water daily to over 8 million residents of New York City, approximately one million people living in Westchester, Putnam, Ulster, and Orange counties, as well as millions of tourists and commuters who visit the City throughout the year. In addition to our surface water supplies, approximately 350,000 people in southeastern Queens receive groundwater or a blend of groundwater and surface water. In all, the City system supplies high quality water to nearly half the population of New York State.

Where does it come from?

New York City's surface water is supplied from a network of 19 reservoirs and three controlled lakes in a 1,972 square-mile watershed that extends 125 miles north and west of New York City. Approximately 90% of our water comes from the Catskill/Delaware System (Public Water System Identification Number [PWSID] NY7003493), located in Delaware, Greene, Schoharie, Sullivan, and Ulster counties, west of the Hudson River. The Croton System (PWSID NY70036666), the City's original upstate supply, normally provides about 10% of our daily water from 12 reservoir basins in Putnam, Westchester, and Dutchess counties. In 2001, New York City's Groundwater System (PWSID NY7011735) in southeastern Queens operated 13 wells and supplied a daily average of 12 million gallons of drinking water, or less than 1% of the City's total usage.

What's in source water?

Sources of drinking water worldwide (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.

How is drinking water regulated?

In order to ensure that tap water is safe to drink, the New York State Department of Health and the United States Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the federal Food and Drug Administration's regulations establish limits for contaminants in bottled water.

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.


New York City's Water Supply System
Catskill/Delaware Watersheds
Croton Watershed
OTSEGO COUNTY
CHENANGO COUNTY
SCHOHARIE COUNTY
ALBANY COUNTY
RENSSELAER COUNTY
GREENE COUNTY
COLUMBIA COUNTY
DELAWARE COUNTY
DUTCHESS COUNTY
ULSTER COUNTY
SULLIVAN COUNTY
ORANGE COUNTY
PUTNAM COUNTY
ROCKLAND COUNTY
WESTCHESTER COUNTY
NASSAU COUNTY
CONNECTICUT
MASSACHUSETTS
PENNSYLVANIA
NEW YORK
NEW JERSEY
Albany
Oneonta
Gilboa
Delhi
Hunter
Phoenicia
Kingston
Poughkeepsie
Liberty
Ellenville
Walton
Downsville
Deposit
Cannonsville Reservoir
Pepacton Reservoir
Schoharie Reservoir
Ashokan Reservoir
Neversink Reservoir
Rondout Reservoir
Shandaken Tunnel
Esopus Creek
West Branch Delaware
East Branch Delaware
East Delaware Aqueduct
West Delaware Aqueduct
Neversink Tunnel
Delaware Aqueduct
Catskill Aqueduct
Croton Aqueduct
Catskill Delaware
Hudson River
Delaware River
Neversink River
125 Miles
100 Miles
75 Miles
50 Miles
25 Miles (from City Hall)
Chelsea Pumping Station
Boyds Corner Reservoir
Lake Gleneida
Middle Branch Reservoir
Lake Gilead
Bog Brook Reservoir
East Branch Reservoir
Kirk Lake
Croton Falls Reservoir
Diverting Reservoir
West Branch Reservoir
Titicus Reservoir
Amawalk Reservoir
Cross River Reservoir
New Croton Reservoir
Muscoot Reservoir
Kensico Reservoir
White Plains
Hillview Reservoir
Jerome Park Reservoir
Bronx
Manhattan
Queens
Brooklyn
Staten Island
Groundwater Service Area
Long Island Sound
New York Bay
Atlantic Ocean
NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEP
Catskill/Delaware Watershed Area
Croton Watershed Area
Rivers and Reservoirs
Catskill Aqueduct and Tunnels
Croton Aqueduct
Delaware Aqueduct and Tunnels
County Borders
State Borders
www.nyc.gov/dep
NYCDEP/BW&SO/AJ 4/02

New York City's Water Quality

The New York City Department of Environmental Protection (DEP) operates the water supply system that delivers water to City residents. DEP's monitoring program – far more extensive than required by law – demonstrates that the quality of New York City's drinking water remains high and meets all health-related State and federal drinking water standards. Color, an aesthetic condition in the Croton and Groundwater Systems, may exceed the standard occasionally.

DEP monitors the water in the distribution system, the upstate reservoirs and feeder streams, and the wells that are the sources for our supply. Water quality is monitored continuously as the water enters the distribution system, and is regularly tested at sampling points throughout the entire City. DEP conducts analyses for a broad spectrum of microbiological, chemical, and physical measures of quality. In 2001, DEP collected more than 43,000 in-City samples and performed approximately 500,000 analyses. These samples and analytical results include the Agency's intensified monitoring efforts following the events of September 11.

Test Results

The results of the tests conducted in 2001 on distribution water samples under DEP's Distribution System Monitoring Program are summarized in the tables in this Statement. Data is presented separately for the Catskill/Delaware, Croton, and Groundwater Systems. Whether a particular user receives Catskill/Delaware, Croton, groundwater, or a mixture, depends on location, system operations, and consumer demand.

The State requires monitoring for some parameters at a frequency of less than once per year because the concentrations of these parameters do not change frequently. Accordingly, some of these data, though representative, are more than one year old. Unregulated parameter monitoring is conducted to provide a more robust picture of water quality and to help EPA determine where certain parameters occur and if it needs to regulate those parameters.

Electron Microscope

Sampling Stations

DEP conducts most of its distribution water quality monitoring at approximately 1000 fixed sampling stations throughout the City. These stations, which you may have seen in your neighborhood, allow DEP to collect water samples throughout the distribution system in an efficient and sanitary manner.

Lead in Drinking Water

New York City water is virtually lead-free when it is delivered from the City's upstate reservoir system, but water can absorb lead from solder, fixtures, and pipes found in the plumbing of some buildings or homes. Mandated at-the-tap lead monitoring is conducted at a set number of households located throughout the City. Based on the results of this monitoring, in 2001, New York City met the established standard or Lead Action Level (AL).

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 flush your cold-water tap for 30 seconds to 2 minutes, until the water turns cold, before using water that has been standing in the pipes for more than six hours. Use only water from the cold water tap for cooking, drinking, and making baby formula. You also may wish to have your water tested. To request a free kit to test for lead in your drinking water, call DEP's 24-hour Help Center (718) DEP-HELP. Additional information is available from the EPA's Safe Drinking Water Hotline (800) 426-4791.

Cryptosporidium and Giardia

While there is no evidence of illness related to the New York City water supply, federal and New York State law requires all water suppliers to notify their customers about the potential risks of *Cryptosporidium* and *Giardia*. Cryptosporidiosis and giardiasis are intestinal illnesses caused by microscopic pathogens, which can be waterborne. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome both of these diseases within a few weeks.

According to the EPA and the Centers for Disease Control and Prevention (CDC), it is unclear how most cases of cryptosporidiosis in the United States are contracted. The relative importance of various risk factors is unknown. Risk factors include eating contaminated food, swallowing contaminated recreational water while swimming or camping, contact with animals, contact with human waste, certain sexual practices, and drinking contaminated water. Individuals who think they may have cryptosporidiosis or giardiasis should contact their health care provider.

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 Crohn's disease or 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 providers about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium*, *Giardia* and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline (800) 426-4791.

DEP's Monitoring for Pathogens

In 1992, the City added a pathogen monitoring component to its comprehensive watershed monitoring program. Since then, samples have been collected weekly from the effluents of the Kensico and New Croton Reservoirs, before water is first chlorinated in the Catskill/Delaware and Croton Systems, respectively. Since 1992, DEP has modified its laboratory protocols twice to provide more sensitive pathogen analysis, once in May 1999 and again in October 2001. These enhancements improved the Department's ability to detect both *Giardia* cysts and *Cryptosporidium* oocysts. Even these new test methods, however, have substantial limitations in that they do not allow us to determine if organisms identified are dead or if they are capable of causing disease.

In 2001, as part of the routine sampling program using the Information Collection Rule (ICR) Method, 82 samples of Kensico Reservoir effluent and 41 samples of New Croton Reservoir effluent were collected and analyzed for *Giardia* cysts and *Cryptosporidium* oocysts. Of the 82 Kensico Reservoir samples, 55 samples were presumed positive for *Giardia* and 4 samples were confirmed positive. Seven samples were presumed positive for *Cryptosporidium* at Kensico and 3 samples confirmed positive. The New Croton Reservoir samples produced 12 presumed positive *Giardia* samples with no samples confirmed positive; and, one presumed positive *Cryptosporidium* sample, and three samples confirmed positive.

On October 15, 2001, DEP began analyzing samples using the new Method 1623 HV. Method 1623 HV is more sensitive than the previously used ICR Method and thus greater, or more frequent, findings are anticipated. A total of 24 samples of Kensico Reservoir effluent and 12 samples of New Croton Reservoir effluent were collected and analyzed for *Giardia* cysts and *Cryptosporidium* oocysts using this new method. Of the 24 Kensico Reservoir samples, 14 were positive for *Giardia* and 5 were positive for *Cryptosporidium*. Of the 12 New Croton Reservoir samples, two were positive for *Giardia* and four were positive for *Cryptosporidium*. DEP's *Giardia* and *Cryptosporidium* data from 1992 to the present, along with weekly updates, can be viewed on our web site, www.nyc.gov/html/dep/html/pathogen.html.

Ensuring a Safe and Sufficient Supply of Water

Water Supply Security

After the events of September 11, the City took additional steps to ensure the security of the water supply system, both upstate and within the five boroughs of New York City. DEP's security program has been reviewed by federal agencies, including the FBI and the Army Corps of Engineers. Security efforts are coordinated with federal, State and local law enforcement agencies. Surveillance at facilities and properties is conducted in a number of ways, some of which may not be apparent to residents or passers-by. Access has been limited on some roadways and all permitted recreational activity was suspended immediately following September 11. Water quality monitoring was intensified at reservoirs and throughout the distribution system. Water samples are analyzed for an extensive variety of potential contaminants. The analytical results of these intensified monitoring efforts are included in the data presented in this report.

Watershed Programs

During 2001, New York City continued implementation of its comprehensive watershed protection programs, many elements of which were incorporated in the January 1997 Watershed Memorandum of Agreement (MOA). These efforts focused on three key program areas: the acquisition of watershed lands; the enforcement of strengthened Watershed Regulations; and the expansion of partnership programs that target specific sources of pollution in the watershed. In addition, DEP continued work on a number of water quality studies, and continued implementing and funding the upgrades of non-City-owned wastewater treatment plants (WWTPs).

Land Acquisition

In 2001, DEP met the goals for procuring watershed lands set forth in the 1997 Filtration Avoidance Determination (FAD) and the MOA. Specifically, DEP solicited 55,265 acres of watershed lands in designated priority areas. As of December 2001, DEP had 34,709 acres either acquired or under purchase contract for a cost of $98.9 million including some important parcels in the Kensico Reservoir Basin in Westchester County.

Watershed Regulations

On May 1, 1997, enhanced Watershed Regulations became effective, replacing regulations that had been in place since 1953. The Regulations are vital to water supply protection and provide a higher level of defense against modern-day threats to water quality. By vigorously enforcing the new Regulations, DEP is ensuring that the City's source waters are protected. The steps taken to ensure a high quality water supply include: aggressive policing and inspection of the watersheds; increased water quality monitoring; systematic inspections of wastewater treatment plants; investigations of other potentially polluting activities; and legal actions against polluters. Since 1997, DEP has reviewed thousands of applications for new or remediated septic systems, stormwater pollution prevention plans, and other projects that included one or more regulated activities to ensure compliance with the Regulations.

Partnership Programs

West of the Hudson River, many of the partnership programs are being administered by the Catskill Watershed Corporation (CWC), a non-profit corporation formed solely for this purpose. Together, CWC and DEP have implemented programs that remediated more than 1,300 failing septic systems, completed construction of 30 winter road de-icing materials storage facilities, and funded construction of best management practices to address existing stormwater runoff.

The Watershed Agricultural Program, funded by DEP and implemented by the Watershed Agricultural Council has become a national model. More than 85% of watershed farms have joined the program, which develops Best Management Practices to reduce agricultural pollution and enhance the economic viability of participating farms. The Program includes a watershed forestry component and the Conservation Reserve Enhancement Program (CREP). Under CREP, the United States Department of Agriculture (USDA) pays enhanced annual rental rates and other incentives to agricultural landowners to take environmentally sensitive lands out of production. The City and USDA each pay half the cost of treating those lands with conservation practices. To date, more than 140 landowners have expressed interest in the program and over 1,480 acres of riparian buffer lands have been planned.

Wastewater Treatment Plant Upgrades

The City continues to advance the program to upgrade all of the approximately 100 non-City-owned wastewater treatment plants (WWTPs) in the watershed. All facilities have signed agreements to participate in the upgrade program and have hired engineers to complete upgrade designs. Construction began on the first of these upgrades in 2001, and the first facilities will be completed in 2002. The City had upgraded its own watershed WWTPs in the late 1990s.

2001 Watershed Protection Program Assessment and 5-year Plan

In December 2001, DEP released New York City's 2001 Watershed Protection Program Summary, Assessment and Long-term Plan. The report is the single most comprehensive evaluation of the City's watershed protection efforts to date. The report details the significant achievements made by DEP and its partners in designing and implementing the overall watershed protection program. Further, it uses information from DEP's comprehensive water quality monitoring and modeling programs to confirm that the quality of the Catskill/Delaware system remains high and that specific watershed protection programs are beginning to yield benefits. Finally, the report contains the City's proposal to extend the watershed protection efforts and secure another filtration waiver. This proposal commits the City to continue, and in some cases significantly expand, certain ongoing programs that target key potential pollution sources. Included are the Land Acquisition Program, the Watershed Agricultural Program, the Waterfowl Management Program, the Septic Remediation and Replacement Program and the Stormwater Retrofit Program administered by the Catskill Watershed Corporation (CWC), the New Infrastructure Program, the Wastewater Treatment Plant Upgrade Program, the Stream Management Program, and the programs

This map of the City indicates the general areas where water can be supplied by the Croton and Groundwater Systems when they are on-line. It is possible to supply the entire City from the Catskill/Delaware System.

designed to protect the Kensico Reservoir. In addition, the City proposed new programs to target areas with concentrations of failing septics; to support proper operation and maintenance of septics in the watershed; to support water quality planning and undertake certain water quality studies; and to design and construct an enhanced disinfection facility for Catskill/Delaware water if such a facility is feasible. DEP's December 2001 report is available on the DEP website, www.nyc.gov/dep.

Upstate Capital Improvements

The City continued to implement a multi-year program to upgrade and improve its upstate water supply facilities, including gatehouses, aqueducts, water testing laboratories, and other facilities, which are important to ensuring a safe and reliable supply of drinking water. An ongoing dam reconstruction program has been in effect for the rehabilitation of dams. Work has been completed on five dams, and designs or engineering studies are underway for all remaining dams. In addition, work is expected to begin on five more reservoirs in 2002.

The Distribution System

City Water Tunnel No. 3

The Third Water Tunnel begun in 1970, is being built in stages. The first stage of Tunnel No. 3, which became operational in July 1998, has already helped to improve the reliability of the City's drinking water distribution system. Stage 2 of Tunnel No. 3 includes two sections. The tunnel component of the first section of Stage 2, which is in Brooklyn and Queens, was completed in May 2001. The supply shafts, which will feed water from this new tunnel to the distribution system, are currently under construction. Once completed, this first section of Stage 2 will improve service to Staten Island, Brooklyn and Queens when it begins delivering water in 2005. A Groundbreaking Ceremony for the second and last portion of Stage 2 of City Tunnel No. 3 was held in Manhattan in December 2001. The Manhattan section is expected to be completed in 2008.

When completed, Tunnel No. 3 will create a more flexible means of supplying drinking water to the entire City and will provide delivery alternatives in the event of disruption in any of the older tunnels. It will also permit New York City to drain, examine and rehabilitate City Tunnel Nos. 1 and 2.

Operations

In our ongoing efforts to maintain the appropriate volume and high quality of water in the distribution system, there is some rotation in the water sources used by DEP. In the Groundwater System, wells are routinely removed and returned to service for maintenance or due to changes in demand. The


Croton Dam

Croton System was operated in a limited capacity from January through September 2001 with the Mosholu Pumping Station activated, which pumped about 35 million gallons per day (MGD) of Croton water into Tunnel No. 1 of the Catskill/Delaware Supply. Beginning on October 9 and through the end of the year, the Croton System was placed back into full service and its water was fed directly into distribution, feeding areas of Manhattan and the Bronx.

Croton Filtration Plant

The City is planning to build a treatment facility to filter water from the Croton System. The federal Surface Water Treatment Rule (SWTR) requires that all water supplies be filtered by June 29, 1993, unless the system meets special criteria to receive a waiver. Even though Croton water quality is high, it experiences occasional color problems and will be subjected to stricter standards for disinfection by-products in the near future. In November 1998, a Consent Decree, committing the City to design, construct, and operate a Croton filtration facility was signed by the City, the United States and the State of New York. Although the Consent Decree called for the City to complete and commence operation of the filtration facility by 2007, the project timetable has been delayed as a result of litigation against the City involving the site initially chosen for this facility. In light of the delay, the parties to the Consent Decree have reached agreement on a Supplement to the Consent decree, which calls for the City to evaluate and choose between two new sites (one in the Bronx and one in Westchester County), and to complete and commence operation of the facility by 2010 (if at the Westchester site), or by 2011 (if at the Bronx site). The facility is expected to reduce color levels in the Croton water supply and ensure compliance with stricter drinking water standards to be imposed in the future.

Until DEP begins to filter Croton water, we are required to make the following statement: 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.

New York City's Water Treatment

All surface water and groundwater entering New York City's distribution system is treated with chlorine, fluoride, orthophosphate, and, in some cases, sodium hydroxide. New York City uses chlorine to meet the New York State Sanitary Code and federal Safe Drinking Water Act disinfection requirements. Fluoride, at a concentration of one part per million, is added to help prevent tooth decay and has been added since 1964 in accordance with the New York City Health Code. Orthophosphate is added to create a protective film on pipes that reduces the release of metals such as lead from household plumbing. Sodium hydroxide is added to Catskill/Delaware water to raise the pH and reduce corrosivity.

A sequestering phosphate is applied at several wells to prevent the precipitation of naturally occurring minerals, mostly iron and manganese, in the distribution mains and customers' household piping. Air stripper facilities operate at several wells to remove volatile organic chemicals.

Frequently Asked Questions

Does my drinking water contain fluoride?

Yes, all New York City tap water contains fluoride. In accordance with Article 141.08 of the New York City Health Code, DEP, as the New York City water supplier, adds a fluoride compound that provides our water supply with a concentration of approximately 1.0 part per million (ppm) fluoride. Fluoridation commenced in 1964.

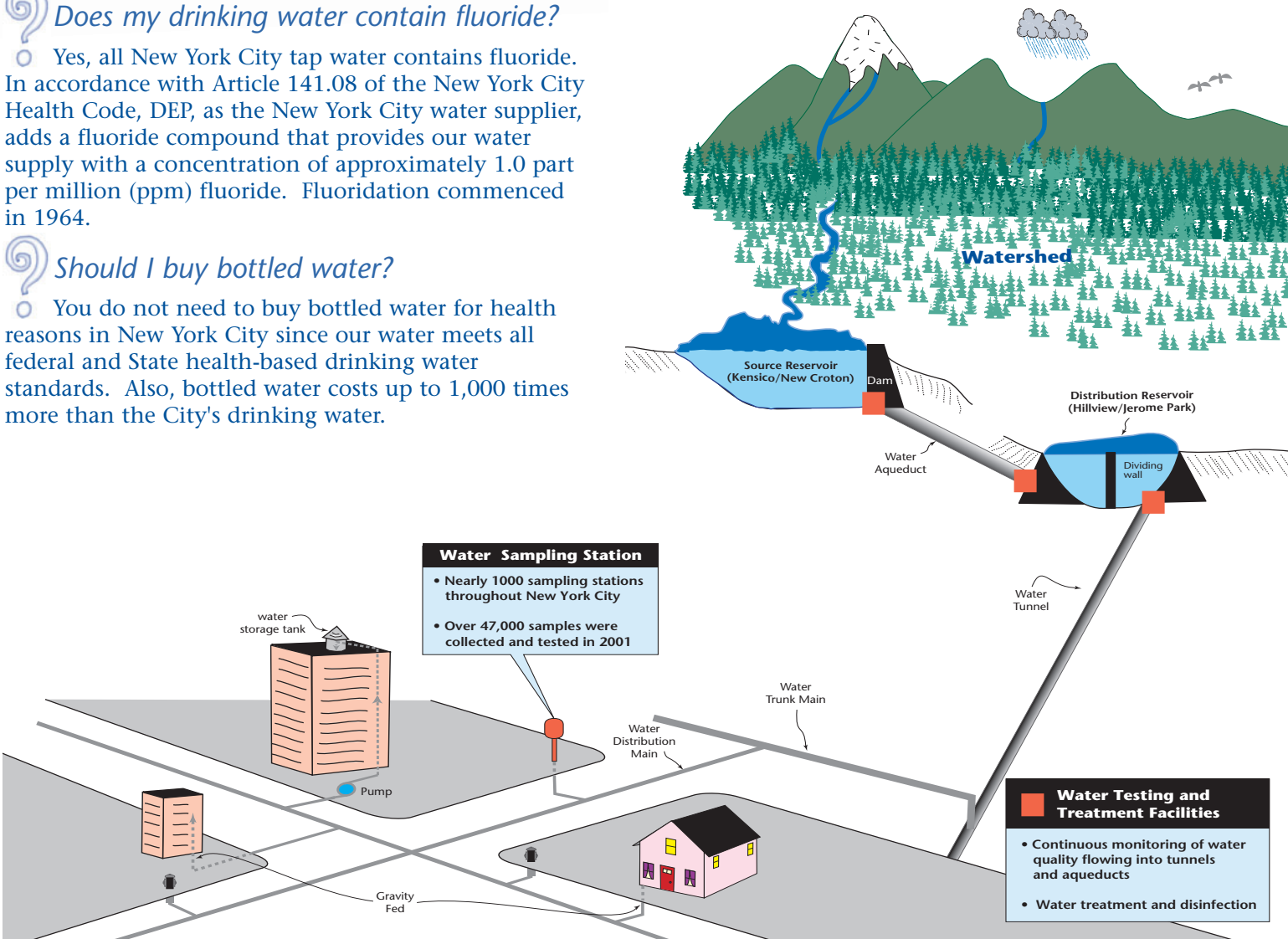
Should I buy bottled water?

You do not need to buy bottled water for health reasons in New York City since our water meets all federal and State health-based drinking water standards. Also, bottled water costs up to 1,000 times more than the City's drinking water.

At times I can detect chlorine odors in tap water. What can I do about it?

Chlorine odors may be more noticeable when the weather is warmer. Chlorine is a disinfectant and is added to the water to kill germs. The following are ways you can remove the chlorine and its odor from your drinking water:

- Fill a pitcher and let it stand in the refrigerator overnight. (This is the best way.)
- Fill a glass or jar with water and let it stand in sunlight for 30 minutes.
- Pour water from one container to another about 10 times.
- Heat the water to about 100 degrees Fahrenheit.
- Once you remove the chlorine, be sure to refrigerate the water to limit bacterial regrowth.



The aerators in my home are clogging with pieces of a small, whitish material. What is causing this to occur?

This problem may be accompanied by a significant drop in water pressure at the affected faucet in addition to a decrease in your hot water supply. The culprit is the hot water heater's "dip-tube." This is a long internal tube that delivers cold water to the bottom of the hot water heater tank. The tube, which is composed of polypropylene, may disintegrate. The problem affects approximately 16 million water heaters manufactured between 1993 and 1996.

At times, my drinking water looks "milky" when first taken from a faucet, but then clears up. Why?

Air becomes trapped in the water as it makes its long trip from the upstate reservoirs to the City. As a result, microbubbles of air can sometimes cause water to appear cloudy or milky. This condition is not a public health concern. The cloudiness is temporary and clears quickly after the water is drawn from the tap and the excess air is released.

Sometimes my water is a rusty brown color. What causes this?

Brown water is commonly associated with plumbing corrosion problems inside buildings and from rusting hot water heaters. If you have an ongoing problem with brown water, it is probably due to rusty pipes. It is recommended that you run your cold water for 2 - 3 minutes if it has not been used for an extended period of time. This will flush the line. You can avoid wasting water by catching your "flush" water in a container and using it to water plants or for other purposes. In addition, brown water can result from street construction or water main work being done in the area. Any disturbance to the main, including the opening of a fire hydrant, can cause pipe sediment to shift, resulting in brown water. The settling time of the main will vary, depending on the size of the water main.

Is New York City's water "hard"?

Hardness is a measure of dissolved calcium and magnesium in the water. The less calcium and magnesium in the water ("soft" water), the easier it is to create lather and suds. Depending upon location, the hardness can be 1.0 grain/gallon ($CaCO_3$) for the Catskill/Delaware System, and 5 grains/gallon for the Croton System. New York City's water is predominantly "soft."

DEFINITIONS

Action Level (AL):

The concentration of a contaminant, which if exceeded, triggers treatment or other requirements that a water system must follow. An exceedence occurs if more than 10% of the samples exceed the Action Level.

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 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 using the best available treatment technology.

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.

Treatment Technique (TT):

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

90th Percentile Value:

The values reported for lead and copper represent the 90th percentile. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below the value. The 90th percentile is equal to or greater than 90% of the lead and copper values detected at your water system.

ABBREVIATIONS

CFU/ml = colony forming units per milliliter

mg/L = milligrams per liter (10^{-3} grams per liter)

NA = Not Applicable

ND = Lab analysis indicates parameter is not present

NDL = No Designated Limit

NTU = Nephelometric Turbidity Units

pCi/L = picocurie per liter (a measure of radioactivity)

µg/L = micrograms per liter (10^{-6} grams per liter)

µmho/cm = micromhos per centimeter

NEW YORK CITY
DRINKING WATER QUALITY TESTING RESULTS 2001

DETECTED REGULATED PARAMETERS

PARAMETERS	NYS DOH MCL	US EPA MCLG	CATSKILL/DELAWARE SYSTEM			CROTON SYSTEM			GROUNDWATER SYSTEM			SOURCES IN DRINKING WATER
			# SAMPLES	RANGE	AVERAGE	# SAMPLES	RANGE	AVERAGE	# SAMPLES	RANGE	AVERAGE	
REGULATED CONVENTIONAL PHYSICAL AND CHEMICAL PARAMETERS												
Barium (mg/L) [1]	2	2	462	ND - 0.03	0.02	109	ND - 0.06	0.03	65	ND - 0.09	0.02	Erosion of natural deposits
Chloride (mg/L)	250	NA	522	7 - 32	11	34	33 - 63	54	235	11 - 148	38	Naturally occurring; road salt
Chromium (µg/L)	100	100	404	ND	ND	109	ND	ND	65	ND - 3	< 2	Erosion of natural deposits
Color - entry points (color units)	15 [2]	NA	1103	3 - 15	7	89	10 - 26	15	377	1 - 44	5	Iron and manganese; or organic sources, such as algal growth
Copper (mg/L)	1.3 [3]	1.3	544	ND - 0.4	0.01	109	ND - 0.21	0.02	242	ND - 0.17	0.02	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride (mg/L)	2.2	NA	9392	0.1 - 1.3	1	148	1 - 1.3	1.1	646	0.3 - 1.5	1	Erosion of natural deposits; water additive which promotes strong teeth; runoff from fertilizer
Gross Beta Particle (pCi/L)	50 [4]	0	3	ND	ND	1	2.5	2.5	1	ND	ND	Decay of natural deposits and man-made emissions
Iron (µg/L)	300 [5]	NA	524	ND - 180	30	127	40 - 600	90	242	ND - 1500	290	Naturally occurring
Lead (µg/L)	15 [3]	0	544[6]	ND - 119	1	109	ND - 5	<1	242	ND - 9	<1	Corrosion of household plumbing systems; erosion of natural deposits
Manganese (µg/L)	300 [5]	NA	471	ND - 180	21	117	32 - 1212	90	237	ND - 286	51	Naturally occurring
Nitrate (mg/L nitrogen)	10	10	521	0.1 - 2.1	0.2	34	0.1 - 0.6	0.2	235	0.0 - 8.7	2.9	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (mg/L nitrogen)	1	1	197	ND - 0.005	0.001	12	0.001 - 0.003	0.002	93	ND - 0.004	0.001	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium (µg/L)	50	50	398	ND	ND	109	ND	ND	65	ND - 3	<2	Erosion of natural deposits
Sodium (mg/L)	NDL [7]	NA	410	5 - 31	8	111	18 - 31	28	107	9 - 53	29	Naturally occurring; road salt; water softeners; animal waste
Sulfate (mg/L)	250	NA	521	7 - 20.5	7.7	34	9.4 - 12.6	11.5	235	7.3 - 87.4	33.7	Naturally occurring
Turbidity [8]- distribution system (NTU)	5 [9]	NA	9146	0.8 - 1.7	1.1	141	1.3 - 1.6	1.4	648	0.5 - 1.0	0.7	Soil runoff
Turbidity [8]- entry points (NTU)	1 [10]	NA	-	-	-	83		1	-	-	-	Soil runoff
Zinc (mg/L)	5	NA	470	ND - 0.127	0.006	109	ND - 0.006	0.002	237	ND - 0.622	0.072	Naturally occurring
REGULATED ORGANIC CONTAMINANTS												
Total Trihalomethanes (µg/L)	100 [11]	NA	506	9 - 56	34	154	28 - 74	53	148	ND - 40	25	By-product of drinking water chlorination
Principal Organic Contaminants detected:												
Bromomethane (µg/L)	5	NA	506	ND	ND	150	ND	ND	148	ND - 0.9	< 0.5	Used to kill a variety of pests; used to make other chemicals or as a solvent to get oil out of nuts, seeds, and wool.
Chloromethane (µg/L)	5	NA	506	ND - 0.5	ND*	154	ND	ND	148	ND	ND	Used as an exatractant for greases, oils, and resins; as a solvent in the rubber industry; as a refrigerant, blowing agent and propellant in polystyrene foam production; as an anesthetic; as an intermediate in drug manufacturing; as a food additive, a fumigant and a fire extinguisher.
Dichlorodifluoromethane (µg/L)	5	NA	501	ND	ND	154	ND	ND	149	ND - 0.9	< 0.5	Refrigerant; aerosol propellant; foaming agent
n-Propylbenzene (µg/L)	5	NA	506	ND	ND	154	ND - 0.6	ND*	149	ND	ND	Occurs naturally in petroleum and bituminous coal. It is also released into the atmosphere in emissions from combustible sources such as incinerate, gasoline engines and diesel engines. Solvent evaporation, landfill leaching and general use of asphalt also release this compound to the environment.
Tetrachloroethylene (µg/L)	5	NA	506	ND	ND	154	ND	ND	149	ND - 3.4	0.6	Discharge from dry cleaners
Toluene (µg/L)	5	NA	506	ND - 0.8	ND*	154	ND	ND	149	ND	ND	Discharge from petroleum factories
1,2,3-Trichlorobenzene (µg/L)	5	NA	506	ND	ND	154	ND	ND	149	ND - 0.6	ND*	Discharge from textile finishing factories
1,2,4-Trichlorobenzene (µg/L)	5	NA	506	ND - 0.6	ND*	154	ND	ND	149	ND - 0.6	ND*	Discharge from textile finishing factories
Trichloroethene (µg/L)	5	0	506	ND	ND	154	ND	ND	149	ND - 1.3	< 0.5	Residual of cleaning solvents and metal degreasers
m-Xylene (µg/L)	5	NA	506	ND - 1.1	ND*	154	ND	ND	149	ND	ND	Leaks from gasoline tanks; discharge from petroleum factories; leaching of solvent from lining of potable water tanks
p-Xylene (µg/L)	5	NA	506	ND - 1.1	ND*	154	ND	ND	149	ND	ND	Leaks from gasoline tanks; discharge from petroleum factories; leaching of solvent from lining of potable water tanks
Specified Organic Contaminants detected:												
Hexachlorocyclopentadiene (µg/L)	5	NA	10	ND	ND	3	ND - 0.08	ND*	2	ND	ND	Discharge from chemical factories
Simazine (µg/L)	4	4	10	ND	ND	3	ND - 0.05	ND*	2	ND	ND	Herbicide runoff
MICROBIAL PARAMETERS												
Total Coliform Bacteria (% of samples positive/month)	5%	0	10242	ND - 0.7%	0.2%	224	ND	0.0%	648	ND - 1.6%	0.3%	Naturally present in the environment
E. coli (CFU/100mL)	[12]	0	10242	ND	ND	224	ND	ND	648	ND	ND	Human and animal fecal wastee
Heterotrophic Plate Count (CFU/mL)	TT	-	7459	ND - 629	1	153	ND - 124	1	502	ND - 14	ND	Naturally present in the environment

LEAD AND COPPER RULE SAMPLING AT RESIDENTIAL WATER TAPS: January - June 2001

PARAMETERS	NYS DOH AL	US EPA MCLG	# SAMPLES	RANGE	90th PERCENTILE VALUES	# SAMPLES EXCEEDING AL	SOURCES IN DRINKING WATER
Copper (mg/L)	1.3	1.3	107	0.005 - 0.397	0.278	0	Corrosion of household plumbing systems
Lead (µg/L)	15	0	107	ND - 3555	15	10	Corrosion of household plumbing systems

DETECTED UNREGULATED PARAMETERS

PARAMETERS	NYS DOH MCL	CATSKILL/DELAWARE SYSTEM			CROTON SYSTEM			GROUNDWATER SYSTEM			SOURCES IN DRINKING WATER
		# SAMPLES	RANGE	AVERAGE	# SAMPLES	RANGE	AVERAGE	# SAMPLES	RANGE	AVERAGE	
UNREGULATED CONVENTIONAL PHYSICAL AND CHEMICAL PARAMETERS											
Alkalinity (mg/L $CaCO_3$)	-	293	9.9 - 28.7	13.8	12	49.2 - 58.2	55.2	254	5.5 - 194.9	64.3	Erosion of natural deposits
Aluminum (µg/L)	50 - 200 [13]	524	ND - 109	24	121	ND - 133	14	61	ND - 58	13	Erosion of natural deposits
Boron (µg/L)	-	17	10 - 60	38	-	-	-	4	70 - 120	90	Erosion of natural deposits
Calcium (mg/L)	-	491	3.2 - 25.1	6.6	111	17 - 28	25.6	256	6.8 - 81.6	24.9	Erosion of natural deposits
Chemical Oxygen Demand (mg/L O_2)	-	17	4.2 - 6.2	5	-	-	-	4	2.6 - 4.8	3.7	
Chlorine Residual, Free (mg/L)	4 [14]	10249	0 - 1.6	0.6	224	0.2 - 1.2	0.9	648	ND - 1.4	0.6	Water additive for disinfection
Color - distribution system (color units)	-	9146	2 - 30	7	135	5 - 36	14	648	1 - 23	5	Presence of iron, manganese, and organics in water
Corrosivity (Langelier index)	0 [13] [15]	197	-3.0 to -1.6	-2.4	12	-1.6 to -1.1	-1.2	94	-2.1 to 0.5	-0.9	
Foaming Agents (mg/L linear alkyl sulfonate)	0.5 [13]	21	ND	ND	-	-	-	53	ND - 0.01	<0.01	Residual of washing detergents
Hardness (mg/L $CaCO_3$)		417	12 - 96	23	111	63 - 105	98	255	35 - 349	110	Erosion of natural deposits
Hardness (grains/gallon[US]$CaCO_3$) [16]	-	417	0.7 - 5.5	1.3	111	3.6 - 6.1	5.7	255	2.0 - 20.2	6.3	Erosion of natural deposits
Magnesium (mg/L)	-	417	ND - 8	1.5	111	4.9 - 8.9	8.3	255	3 - 35.3	11.6	Erosion of natural deposits
Nickel (µg/L)	-	462 [6]	ND - 802	8	109	ND - 4	<2	65	ND - 5	<2	Erosion of natural deposits
pH (pH units) [17]	6.5 - 8.5 [13]	10249	6.8 - 8	7.3	224	7 - 7.4	7.2	648	6 - 8.4	7.3	
Phosphate, Ortho- (mg/L)	-	10249	1 - 3.1	2	224	1.2 - 3.1	2.2	648	0.6 - 2.8	1.5	Water additive for corrosion control
Phosphate, Total (mg/L)	-	196	1 - 2.4	1.8	12	1.2 - 2.3	1.8	94	0.4 - 5.7	2.1	Water additive for corrosion control
Potassium (mg/L)	-	410	0.4 - 6.1	0.6	111	1.5 - 2.6	2.3	55	0.8 - 2.2	1.3	Erosion of natural deposits
Silica [silicon oxide] (mg/L)	-	204	1.8 - 9	2.7	12	3.6 - 6.7	4.6	182	4.3 - 24	12.6	Erosion of natural deposits
Specific Conductance (µmho/cm)	-	10249	61 - 214	88	224	215 - 355	323	648	152 - 613	308	
Strontium (µg/L)	-	214	10 - 76	22	103	50 - 83	78	53	10 - 130	37	Erosion of natural deposits
Temperature (°F)	-	10249	32 - 76	53	224	44 - 64	54	648	36 - 78	58	
Total Dissolved Solids (mg/L)	500 [13]	197	32 - 91	52	12	174 - 218	187	101	78 - 455	205	Metals and salts naturally occurring in the soil; organic matter
Total Organic Carbon (mg/L carbon)	-	196	0.8 - 2.1	1.3	12	2.1 - 2.9	2.5	53	ND - 1.3	0.7	Organic matter naturally present in the environment
UV 254 Absorbency (absorbency unit)	-	197	0.021 - 0.035	0.029	12	0.057 - 0.063	0.059	54	0.004 - 0.077	0.022	Organic matter naturally present in the environment
UNSPECIFIED ORGANIC CHEMICALS											
Disinfection By-Products detected:											
Bromochloroacetic Acid (µg/L)	50	183	0.6 - 2.3	1.5	17	1.3 - 4.1	3.2	61	ND - 2.1	1	By-product of drinking water chlorination
Chloral Hydrate (µg/L)	NA	163	1.5 - 18.2	6.6	8	5.7 - 25.7	15.2	53	ND - 9.3	2.5	By-product of drinking water chlorination
Chloropicrin (µg/L)	NA	152	0.2 - 0.8	0.5	4	0.6 - 0.7	0.6	52	ND - 0.6	0.2	By-product of drinking water chlorination
Haloacetic Acid 5 (HAA5) (µg/L)	60 [18]	148	16.5 - 63.7	35.7	13	49.2 - 72.2	58.9	53	ND - 35.9	15.4	By-product of drinking water chlorination
Haloacetonitriles (HANs) (µg/L)	50	142	1.2 - 4.7	3	4	4.6 - 5.6	5.2	46	0.05 - 4.4	2	By-product of drinking water chlorination
Halogenated Ketones (HKs) (µg/L)	50	152	1.5 - 4.8	3.1	4	4 - 4.7	4.4	52	ND - 3	1.1	By-product of drinking water chlorination
Total Organic Halogen (µg/L)	NA	197	91 - 209	144	12	202 - 278	248	54	ND - 157	71	By-product of drinking water chlorination
Unspecified Organic Chemicals detected:											
Acetone (µg/L)	50	178	ND - 12	< 10	144	ND	ND	48	ND	ND	Occurs naturally and is used in the production of paints, varnishes, plastics, adhesives, organic chemicals and alcohol. Also used to clean and dry parts of precision equipment.
Methyl Tert-Butyl Ether (MTBE) (µg/L)	50	502 [19]	ND - 14	0.5	154	ND	ND	149	ND - 11.7	0.8	Additive to gasoline in the winter

UNDETECTED PARAMETERS

NON-DETECTED CONVENTIONAL PHYSICAL AND CHEMICAL PARAMETERS

Regulated Conventional Physical and Chemical Parameters not detected:

Antimony, Arsenic, Asbestos [20], Beryllium, Cadmium, Cyanide, Gross Alpha Particle, Mercury, Silver, Thallium

Unregulated Conventional Physical and Chemical Parameters not detected:

Bromide, Chlorate, Lithium, Phenols, ^{90}Strontium - radiological , Tritium (^{3}H) - radiological

NON-DETECTED ORGANIC CONTAMINANTS

Principal Organic Contaminants not detected:

Benzene, Bromobenzene, Bromochloromethane, n-Butylbenzene, sec Butylbenzene, tert-Butylbenzene, Carbon tetrachloride, Chlorobenzene, Chloroethane, 2-Chlorotoluene, 4-Chlorotoluene, Dibromomethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethene, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene, 1,2-Dichloropropane, 1,3-Dichloropropane, 2,2 Dichloropropane, 1,1-Dichloropropene, cis-1,3-Dichloropropene, trans-1,3 Dichloropropene, Ethylbenzene, Isopropylbenzene, p-Isopropyltoluene, Methylene chloride, Styrene, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,2,3-Trichloropropane, Trichlorofluoromethane, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, o-Xylene

Specified Organic Contaminants not detected:

Alachlor, Aldicarb (Temik), Aldicarb sulfone, Aldicarb sulfoxide, Aldrin, Atrazine, Benzo(a)pyrene, Butachlor, Carbaryl, Carbofuran (Furadan), Chlordane, 2,4-D, Dalapon, 1,2-Dibromo-3-chloropropane, Dicamba, Dieldrin, Di(2-ethylhexyl)adipate, Di(2-ethylhexyl) phthalate, Dinoseb, Diquat, Endothall, Endrin, Ethylene dibromide (EDB), Glyphosate, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, 3-Hydroxycarbofuran, Lindane, Methomyl, Methoxychlor, Metolachlor, Metribuzin, Oxamyl (Vydate), Pentachlorophenol, Picloram, Polychlorobiphenyls [PCBs], Propachlor, Toxaphene, 2,4,5-TP (Silvex), Vinyl chloride

Unspecified Organic Chemicals not detected:

Acenaphthene, Acenaphthylene, Acetochlor, Acifluorfen, Anthracene, Bentazon, Benzo[a]anthracene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Benzo[g,h,I]perylene, a-BHC, b-BHC, d-BHC, Bromacil, Bromodichloroacetic acid, Butylbenzylphthalate, Caffeine, a-Chlordane, g-Chlordane, Chlorobenzilate, Chloroneb, Chlorothalonil (Draconil, Bravo), Chrysene, Cloramben, Clorpyrifos, 2,4-DB, DCPA, DCPA mono-acid degradate, p,p'DDD, p,p'DDE, p,p'DDT, Diazinon, Dibenz[a,h]anthracene, Di-n-Butyl phthalate, 3,5-Dichlorobenxoic acid, Dichlorprop, Diclorvos, Diethylphthalate, Dimethoate, Dimethylphthalate, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Di-N-octylphthalate, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin aldehyde, Etridiazole, EPTC, Fluoranthene, Fluorene, Indeno[1,2,3-cd] pyrene, Isophorone, Malathion, Methiocarb, MGK - 264, Molinate, Naphthalene, Nitrobenzene, 4-Nitrophenol, trans-Nonachlor, Norflurazon, Paraquat, Parathion, Perchlorate, Permethrin, Phenanthrene, Prometryn, Propoxur (Baygon), Pyrene, 2,4,5-T, Terbacil, Terbufos, Tetrachloroterephthalic acid (DCPA di-acid degradate), Thiobencarb, Trifluralin, Vernolate

FOOTNOTES

(1) Included are 186 samples analyzed by Westchester County Lab for barium, all of which were non detects (<0.2 mg/L). However, these results were not included in the average due to a higher detection limit (Distribution Lab's detection limit is <0.002).

(2) Determination of MCL violation: If a sample exceeds 15 color units, a second sample must be collected from the same location within 2 weeks. If the average of the two results exceeds 15 color units, then an MCL violation has occurred.

(3) Action Level (not an MCL) measured at the tap. The data presented in this table were collected from sampling stations at the street curb.

(4) New York State considers 50 pCi/L to be the level of concern for beta particles.

(5) If iron and manganese are present, the total concentration of both should not exceed 500 µg/L. Values in the groundwater system above the MCL are not a violation because the water at particular wells is treated, as allowed by the State, to meet aesthetic concerns.

(6) On January 9, 2001, elevated levels of lead were detected in all Catskill/Delaware System samples of which 6 were above the Action Level. On the same day, nickel was detected in 2 samples: site 38250 at 620 ug/L and site 18450 at 802 ug/L. These unusual findings prompted an investigation which determined that the January 9, 2001 samples represented an isolated event.

(7) 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.

(8) Turbidity is a measure of cloudiness of the water. Turbidity is monitored because it is a good indicator of water quality and can hinder the effectiveness of disinfection.

(9) MCL for turbidity is the monthly average rounded off to the nearest whole number. Data presented are the range and average of monthly averages.

(10) This MCL only applies to the Croton System. The MCL and data presented are monthly averages rounded off to the nearest whole number. The highest monthly average turbidity measurement (1.43 NTU) occurred in October 2001. This MCL was not exceeded.

(11) MCL for TTHMs is the calculated quarterly running average. In 2001 the MCL was never exceeded. Data presented are the range of individual sampling results and the highest running average.

(12) If a sample and its repeat sample are both positive for coliform bacteria and one of the two samples is positive for E. coli, then an MCL violation has occurred.

(13) USEPA Secondary MCL; NYSDOH has not set an MCL for this parameter.

(14) Value represents MRDL which 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. The MRDL is enforceable in the same manner as MCLs.

(15) A Langelier Index of less than zero indicates corrosive tendencies.

(16) Hardness of up to 3 grains per gallon is considered soft water; between 3 and 9 is moderately hard water.

(17) The average of pH is the median value.

(18) HAA5 were not regulated in 2001. The data presented are individual sampling results. The MCL, which will be 60 as a quarterly running average, will take effect for the Catskill/Delaware and Croton Systems in 2002 and for the Groundwater System in 2004.

(19) 146 of the Catskill/Delaware MTBE samples were analyzed by Westchester County Lab; of these, 6 positve results were considered suspect but were included in the data presented here.

(20) Reported asbestos data was collected in 1993. Regulations require this parameter to be sampled every 9 years.

* The contaminant was detected in only one sample. The level found was below the MCL.

EXCEEDENCES

Color:

In the Croton System there were 5 color violations on 10/10/01, 10/29/01, 11/12/01, 12/17/01, and 12/22/01. In the Groundwater System there were 3 color violations on 1/10/01, 2/7/01, and 5/7/01. Color has no health effects unless detected in very high concentrations. In some instances, color may be objectionable to some people at as low as 5 units. Its presence is aesthetically objectionable and suggests that the water may need additional treatment.

Iron:

On the Croton System, the MCL for iron was exceeded on 10/10/01 at site 33450 with a value of 370 ug/L, and at site 33950 with a value of 600 ug/L. Iron has no health effect. At 1,000 ug/L, a substantial number of people will note the bitter astringent taste of iron. Also, at this concentration, it imparts a brownish color to laundered clothing and stains plumbing fixtures with a characteristic rust color. Staining can result at levels of 50 ug/L, lower than those detectable to taste buds. Therefore, the MCL of 300 ug/L represents a reasonable compromise as adverse effects are minimized at this level. Many multivitamins may contain 3000 to 4000 ug/L of iron per capsule.

Manganese:

On the Croton System, the MCL for manganese was exceeded on 10/10/01 at site 33450 with a value of 670 ug/L; and at site 33950 on 10/10/01 and 11/14/01 with values of 1,212 ug/L and 330 ug/L, respectively. The Food and Nutrition Board of the National Research Council determined an estimated safe and adequate daily dietary intake of manganese to be 2000-5000 ug/L for adults. However, many people's diet leads them to consume even higher amounts of manganese, especially those who consume high amounts of vegetables or are vegetarian. The infant population is of greatest concern. It would be better if the drinking water were not used to make infant formula since it already contains iron and manganese.

Excess manganese produces a brownish color in laundered goods and impairs the taste of tea, coffee, and other beverages. Concentrations may cause a dark brown or black stain on porcelain plumbing fixtures. As with iron, manganese may form a coating on distribution pipes. These may slough off, causing brown blotches on laundered clothing or black particles in the water.

Water Conservation

On December 26, 2001, the Department of Environmental Protection declared an official Drought Watch for the City's water supply system. A Drought Watch is declared when there is less than a fifty percent chance that City reservoirs will be full by June 1, the start of the water year when reservoirs are normally full. Reservoirs were well below their normal level, which was attributed to below average rainfall throughout the City's nearly 2,000 square mile watershed over a period of months. Under a Drought Watch New York City residents and businesses are urged to practice voluntary water conservation. The Department made available simple water-saving tips and launched an extensive public outreach campaign on the drought and the need to save water. The Drought Watch was extended to a Drought Warning on January 28, 2002 and water supply users had reduced daily water consumption by over 30 million gallons a day.

DEP's ongoing efforts to save water include: use of sonar equipment to survey all water supply piping for leaks; replacement of approximately 70 miles of old water supply pipe a year; equipping fire hydrants with special locking devices; and installing home water meters to encourage conservation. These programs and others have proven successful and together have reduced water consumption in the City by approximately 200 million gallons per day in the last ten years. This is more water than the City of Boston or Westchester County uses in a day.

The average single family household in New York City uses approximately 100,000 gallons of water each year, at a cost of $1.35 per 100 cubic feet of water (748 gallons), or about $175.00 each year. New York City is fortunate to have reasonably priced drinking water, however, everyone should do their part to conserve this precious resource.

You can help save water by ordering a Home or Apartment Water Saving Kit. If you are an apartment building owner/manager or a homeowner, you can obtain a free leak survey. Call our Leak Survey contractor at (718) 326-9426 for information.

For additional water saving tips follow *The Dos and Don'ts of Water Conservation* on the following page.

Ashokan Reservoir
under Drought Conditions

The DOs & DON'Ts of Water Conservation

In or out of a drought, every New Yorker can save hundreds of gallons of water each week by following these simple water-saving tips.

BATHROOM

- ✔ Do take short showers and save 5 to 7 gallons a minute.
- ✔ Do fill the tub halfway and save 10 to 15 gallons.
- ✔ Do install water-saving toilets, showerheads and faucet aerators. Place a plastic bottle filled with water in your toilet tank if you can't switch to a low flow toilet.
- ✖ Don't run the water while shaving, washing your hands or brushing your teeth. Faucets use 2 to 3 gallons a minute.
- ✖ Don't use the toilet as a wastebasket, and don't flush it unnecessarily.

KITCHEN & LAUNDRY

- ✔ Do run the dishwasher and washing machine only when full. Save even more by using the short cycle.
- ✔ Do install faucet aerators.
- ✖ Don't let the water run while washing dishes. Kitchen faucets use 2 to 3 gallons a minute. Filling a basin only takes 10 gallons to wash and rinse.
- ✖ Don't run water to make it cold. Have it chilled in the refrigerator, ready to drink.

EVERYWHERE

- ✔ Do repair leaky faucets and turn taps off tightly. A slow drip wastes 15 to 20 gallons each day.
- ✖ Don't open fire hydrants.

OUTDOORS

- ✔ Do use a self-closing nozzle on your hose.
- ✖ Don't water your sidewalk or driveway - sweep them clean.
- ✖ Don't overwater your lawn or plants. Water before 9 a.m. or after 7 p.m.

Do share this information with family and friends.

REPORT LEAKS & WATER WASTE
Call (718) DEP-HELP

Visit DEP's Web site at: www.nyc.gov/dep

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION — DEP

Michael R. Bloomberg, Mayor
Christopher O. Ward, Commissioner

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Cut along dotted line and post in your home or office.

Contact Us

For a copy of this report, to report unusual water characteristics, or to request a free kit to test for lead in your drinking water, call DEP's 24-hour Help Center at (718) DEP-HELP (337-4357).

For more information on *Giardia* and *Cryptosporidium*, please contact the Parasitic Disease Surveillance Unit of the New York City DEP and New York City Department of Health (NYCDOH) at: (212) 788-4728.

To contact NYCDOH about other water supply health related questions call (212) 442-9666 or call the New York State Department of Health Bureau of Public Water Supply Protection at (518) 402-7650.

To report any polluting activities occurring in the watershed, call 1-888-DEP-NYC1 (1-888-337-6921), 24-hours a day.

To view this 2001 Statement, announcements of public hearings, or other information, visit DEP's Web site at:

www.nyc.gov/dep

Este reporte contiene información muy importante sobre el agua que usted toma. Haga que se la traduzcan o hable con alguien que la entienda.

Ce rapport contient des informations importantes sur votre eau potable. Traduisez-le ou parlez en avec quelqu'un qui le comprend bien.

Rapò sa a gen enfòmasyon ki enpòtan anpil sou dlo w'ap bwè a. Fè tradwi-l pou ou, oswa pale ak yon moun ki konprann sa ki ekri ladan-l.

Ten raport zawiera bardzo istotną informacje o twojej wodzie pitnej. Przetłumacz go albo porozmawiaj z kimś kto go rozumie.

В этом материале содержится важная информация относительно вашей питьевой воды. Переведите его или поговорите с кем-нибудь из тех, кто понимает его содержание.

這個報告中包含有關你的飲用水的重要信息。
請將此報告翻譯成你的語言，或者詢問懂得這份報告的人。

이 보고서는 귀하의 식수에 관한 매우 중요한 정보를 포함하고 있습니다. 이 정보에 대해 이해하는 사람에게 그 정보를 번역하거나 통역해 받으십시오.

New York City
Department of Environmental Protection
59-17 Junction Boulevard
Flushing, New York 11373-5108