



New York City 2013 Drinking Water Supply and Quality Report

NYC
Environmental
Protection

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New York City's Water Supply System



NEW YORK CITY 2013 DRINKING WATER SUPPLY AND QUALITY REPORT

The New York City Department of Environmental Protection (DEP) is pleased to present its 2013 Annual Water Supply and Quality Report, which contains important information about your drinking water. This report was prepared in accordance with the New York State Sanitary Code and the National Primary Drinking Water Regulations of the United States Environmental Protection Agency (EPA), which require all drinking water suppliers to provide the public with an annual statement describing the water supply and the quality of its water. DEP is pleased to report that in 2013, the quality of your drinking water remained high and met all health-related State and federal drinking water standards.

This report is divided into sections containing the following information:

- ◆ An introduction to the City's water supply including information on our sources of drinking water and how we protect, treat and disinfect our drinking water;
- ◆ A brief discussion of some of the programs that DEP has in place to help ensure a safe, reliable and sufficient water supply into the future;
- ◆ Water quality test results and information regarding our compliance with drinking water standards and State Sanitary Code requirements; and
- ◆ Additional educational and other information including a list of answers to frequently asked questions.

A. New York City's Water Supply

The New York City Water Supply System provides approximately one billion gallons of safe drinking water daily to more than eight million residents of New York City, and to the millions of tourists and commuters who visit the City throughout the year, as well as about 110 million gallons a day to one million people living in Westchester, Putnam, Ulster, and Orange Counties. In all, the New York City Water Supply System provides nearly half the population of New York State with high quality drinking water.

Sources of New York City's Drinking Water

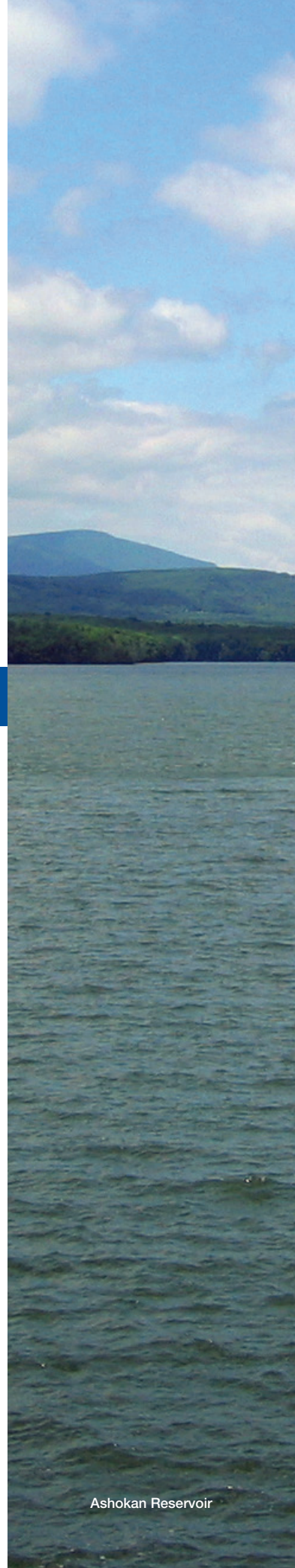
New York City's surface water is supplied from a network of 19 reservoirs and three controlled lakes in a nearly 2,000 square-mile watershed, roughly the size of the state of Delaware which extends 125 miles north and west of New York City. The New York City Water Supply System (PWSID NY7003493) consists of three individual water supplies: the Catskill/Delaware supply, located in Delaware, Greene, Schoharie, Sullivan, and Ulster Counties; and the Croton supply, the City's original upstate supply, made up of 12 reservoir basins in Putnam, Westchester, and Dutchess counties; and a groundwater supply system in southeastern Queens.

Water Supply Operations

The New York City Water Supply System map, shown on the adjacent page, represents the Catskill/Delaware and Croton service areas, and groundwater supply system. The map provides further detail on the systems' locations. In 2013, 100% of the City's drinking water came from the Catskill/Delaware supply. Water from the Croton and groundwater supply systems was not fed into distribution during 2013.

Water Treatment

This section provides information about the types of treatment your water receives prior to distribution. Due to the high quality of our Catskill/Delaware supply, New York City is one of only five large cities in the country with a surface drinking water supply of such high quality that filtration is not required as a form of treatment. The water is still disinfected to prevent microbial risk. DEP disinfects its water with chlorine and ultraviolet light (UV). Chlorine is a common disinfectant added to kill germs and stop bacteria from growing on pipes. Ultraviolet light treatment is a disinfection process that works by passing the water by special lamps that emit UV waves, which can inactivate harmful microorganisms. Ultraviolet treatment does not change the water chemically, as nothing is added except energy. DEP also treats the water with food grade phosphoric acid, sodium hydroxide, and fluoride. Phosphoric acid 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 raise the pH and reduce corrosivity, which also leads to a reduction in potential exposure to lead.





DEP is one of the many water suppliers in New York State that, since 1966, has been treating its drinking water with a controlled, low level of fluoride for consumer dental health protection. On February 14, 2012, after receiving authorization from the New York City Department of Health and Mental Hygiene, DEP reduced the target dosage of fluoride from 1.0 mg/L to 0.8 mg/L.

During 2013, DEP did not continuously supply fluoride due to modifications to the fluoride delivery system, damaged equipment and other construction activities. Fluoridation on the Catskill and Delaware aqueducts was off-line 24% of the time. The longest continuous period for which DEP completely shut down fluoride delivery was 16 days, from January 1 to January 16, 2013, which took place while the system was under repair at Delaware Shaft 18.

B. Ensuring a Safe, Reliable, and Sufficient Water Supply

DEP has developed and is implementing a number of programs designed to maintain NYC's world-renowned water supply and ensure a safe, reliable, and sufficient water supply system into the future. The program elements, which are described below, include:

- ◆ Watershed protection and pollution prevention programs
- ◆ Capital construction programs
 - to meet new regulatory requirements for treatment
 - to improve water supply conveyance and reliability
- ◆ Water conservation programs

Watershed Protection and Pollution Prevention Programs

Source Water Assessment Program

Federal regulations require states to develop and implement Source Water Assessment Programs to: identify the areas that supply public tap water; inventory contaminants and assess water system susceptibility to contamination; and inform the public of the results. The states are given a great deal of flexibility on how to implement Source Water Assessment Programs. These assessments are created using available information to help estimate the potential for source water contamination. Elevated susceptibility ratings do not mean that source water contamination has occurred or will occur in the water supply; rather, they indicate the need for water suppliers to implement additional precautionary measures.

In 1993, New York City secured its first Filtration Avoidance Determination (FAD) for the Catskill/Delaware supply, and, in 1997, the historic New York City Watershed Memorandum of Agreement was signed. Since that time, New York City has been implementing a series of programs to reduce the susceptibility of all of its surface water supply to contamination from a variety of sources. These ongoing programs operate under the close scrutiny of both New York State Department of Health (NYS-DOH) and EPA. Because of these efforts, which are reported on in the *Watershed Water Quality Annual Report*, NYSDOH did not deem it necessary to perform a Source Water Assessment Program on the New York City Water Supply.

Maintaining New York City's World-Renowned Water Supply 10-Year Filtration Avoidance Determination from EPA

The key elements for maintaining the high quality of our drinking water are the watershed protection and pollution prevention strategies that are designed to keep pollution out of our upstate reservoirs and water courses. DEP is currently implementing a 10-year FAD, issued by EPA in July 2007. Through watershed protection programs specified in the FAD, New York City maintains a high quality surface drinking water supply without a requirement for filtration. As part of the FAD, New York City continues to enhance its existing source water protection programs including a commitment from DEP to continue to acquire certain undeveloped land in the Catskill/Delaware watershed as a means of water quality protection. In 2007, the City allocated an additional \$241 million (beyond the \$300 million committed in 1997) to be spent over a 10-year period for this purpose. DEP also secured a 15-year water supply permit in 2010 from the New York State Department of Environmental Conservation that allows New York City to continue acquisition of sensitive watershed land to protect the largest unfiltered drinking water supply in the world. Furthermore, DEP is developing new programs in our watershed to protect water quality and enhance community resiliency during flood events. At the midpoint of the current FAD

NYC Water-On-the-Go

Throughout the summer months, DEP's Water-On-the-Go program brings portable drinking fountains to transit hubs, highly trafficked pedestrian areas, and special events throughout the five boroughs, to educate New Yorkers about the high quality of the City's drinking water and to promote environmental stewardship. The 2013 season launched on June 21st, the first official day of summer, and ran through the end of October. DEP served up 225,000 gallons of water to the more than 595,000 people who visited the fountains during this time.

agreement, New York City reassessed the watershed protection programs comprising the FAD, which is documented in *Long-Term Watershed Protection Program for 2012-2017*, submitted to our State and federal regulators in December 2011. Over the past two decades of source water protection, New York City has consistently demonstrated the commitment and ability to deliver effective programs to ensure the long-term purity of the water supply. For more information on DEP's watershed protection programs visit www.nyc.gov/dep.

Key programs and selected accomplishments include:

- ◆ **Land Acquisition** – New York City acquires real property interests from willing sellers to further protect and buffer its 19 reservoirs and three controlled lakes in the Catskill/Delaware and Croton watersheds. In 2013, New York City signed contracts with landowners to purchase more than 3,000 acres of sensitive watershed land. Since 1997, DEP has secured more than 131,500 acres of land and easements, adding to the roughly 45,000 acres surrounding the reservoirs that New York City owned in 1997. The property DEP owns is protected from development, which helps create natural buffers and reduce degradation of the water supply. The State of New York also owns and protects more than 200,000 acres of land in the New York City watershed.
- ◆ **Land Management** – With the acquisition of land over the past 15 years, New York City has become one of the largest landowners in the watershed region. DEP manages these properties to ensure that water quality is protected. DEP believes that protecting the watershed lands does not conflict with providing recreational access to members of the surrounding communities. Since 1997, DEP has increased the acreage of land and water open for recreation every year, and approximately 120,000 acres are now available for fishing, hiking, hunting, trapping, cross-country skiing and other activities. DEP now has four of its west of Hudson reservoirs open for recreational boating, which includes rowboats, canoes, kayaks, and small sailboats. In addition, DEP initiated an electric trolling motor pilot program on the Cannonsville Reservoir in 2013.
- ◆ **Partnership Programs** – Many of New York City's watershed protection programs west of the Hudson River are administered by a nonprofit organization called the Catskill Watershed Corporation. Together, DEP and the Catskill Watershed Corporation have repaired or replaced more than 4,350 failing septic systems and authorized the construction of more than 70 stormwater control measures on properties in the watershed. New York City has also made available more than \$185 million for new community wastewater projects. When all projects are completed, they will be capable of treating a total of 1.7 million gallons of wastewater per day. Another partnership program is the Stream Management Program that encourages the stewardship of streams and floodplains in the watershed west of the Hudson River. Additionally, the Watershed Agricultural Program and Watershed Forestry Program both represent long-term successful partnerships between DEP and the nonprofit Watershed Agricultural Council. The underlying goal of both programs is to support and maintain well-managed family farms and working forests as beneficial land uses for water quality protection and rural economic viability. Together, these partnerships work with watershed residents to identify and eliminate potential pollution sources.

Capital Construction Programs

Treatment and Disinfection

Catskill/Delaware Water Ultraviolet Disinfection Facility

The Catskill/Delaware Ultraviolet (UV) Disinfection Facility began treating Catskill/Delaware water in October 2012. The facility is located on a New York City-owned 153-acre property in the towns of Mount Pleasant and Greenburgh in Westchester County. The UV Disinfection Facility, the largest of its kind in the world, consists of fifty-six 40-million-gallons-per-day UV disinfection units, and is designed to disinfect a maximum of 2.4 billion gallons of water per day.

The facility was built in part to fulfill the requirements of the Long Term 2 Enhanced Surface Water Treatment Rule, which requires additional treatment for many water suppliers that use surface water sources. For unfiltered surface water sources, such as the Catskill/Delaware system, the Long Term 2 Enhanced Surface Water Treatment Rule requires two types of disinfection. First, water is disinfected with chlorine before arriving at the UV Disinfection Facility. Once at the facility, the water flows under UV light as an additional measure to protect against potentially harmful microbiological contaminants, such as *Cryptosporidium* and *Giardia*.

Although EPA now requires that most surface drinking water be filtered, due to New York City's \$1.5 billion investment in watershed protection programs, and its operation of the UV Disinfection Facility, the federal government allows DEP to continue supplying unfiltered drinking water from the Catskill/Delaware watersheds. This comprehensive and adaptive approach exempts New York City from building a mandated filtration plant estimated to cost \$10 billion or more.

AWARD WINNING

DEP's extensive efforts to protect our watersheds was recognized in 2013 by the American Water Works Association (AWWA), who presented DEP with the "Exemplary Source Water Protection Award." The AWWA award for metropolitan-size systems recognizes organizations that protect drinking water at its source by setting ambitious goals and implementing programs that are effective and innovative.





City Water Tunnel No. 3

Croton Water Filtration Plant

The Croton water supply, because of factors related to the surrounding area and water quality, is not covered by the Filtration Avoidance Determination. Therefore, New York City is building a filtration plant for the Croton water supply under a Consent Decree entered into between New York City and the United States and the State of New York. The Croton Water Filtration Plant is expected to reduce color levels, the risk of microbiological contamination and disinfection by-products, and will ensure compliance with stricter water quality standards.

In addition to constructing the filtration plant, New York City remains committed to maintaining a comprehensive watershed protection program for the Croton water supply. Although the Croton water supply is not currently being used, and is not anticipated to provide any drinking water to New York City until DEP begins to filter Croton water, DEP is required by law 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.

Improved Reliability or Redundancy City Water Tunnel No. 3

For over 30 years, the City has been building City Water Tunnel No. 3. Being built in stages, City Water Tunnel No. 3 is one of the largest capital projects in New York City's history. Begun in 1970, City Water Tunnel No. 3 will enhance and improve New York City's water delivery system and create redundancy to allow the City to inspect and repair City Water Tunnels Nos. 1 and 2 for the first time since they were put into service in 1917 and 1936, respectively.

- ◆ The 13-mile Stage 1 section of City Water Tunnel No. 3 went into service in August 1998. It runs from Hillview Reservoir in Yonkers, through the Bronx, down Manhattan across Central Park, and into Astoria, Queens.
- ◆ Stage 2 of City Water Tunnel No. 3 consists of the Manhattan leg and the Brooklyn/Queens leg.
 - Tunneling on the 9-mile Manhattan leg of Stage 2 began in 2003 and was completed in 2008. Since 2008, ten new supply shafts have been constructed that will integrate the new tunnel section with the existing distribution system. The Manhattan leg was activated on October 16, 2013.
 - The Brooklyn/Queens leg is a 5.5-mile section in Brooklyn that connects to a 5-mile section in Queens. The City completed the Brooklyn/Queens leg of the tunnel in May 2001, and substantially completed the shafts in 2006. The project is expected to be online by 2023. When activated, the Brooklyn/Queens leg will deliver water to Staten Island, Brooklyn, and Queens.

Delaware Bypass Tunnel

One major component of DEP's Water for the Future Program is aimed at addressing the known leaks in the Rondout-West Branch Tunnel section of the Delaware Aqueduct, which conveys more than 50% of the daily drinking water for New York City. In November 2010, DEP unveiled a design to repair leaks in the 85-mile Delaware Aqueduct to ensure the integrity of New York City's vital infrastructure, which is fundamental to New York City's long-term growth and prosperity. The construction of the bypass tunnel and the repair of the lining will ensure that DEP can continue to deliver high quality drinking water every day for decades to come. DEP began work on the bypass tunnel in the spring of 2013, and plans to connect to the Delaware Aqueduct in 2021.

Other Water Supply Projects

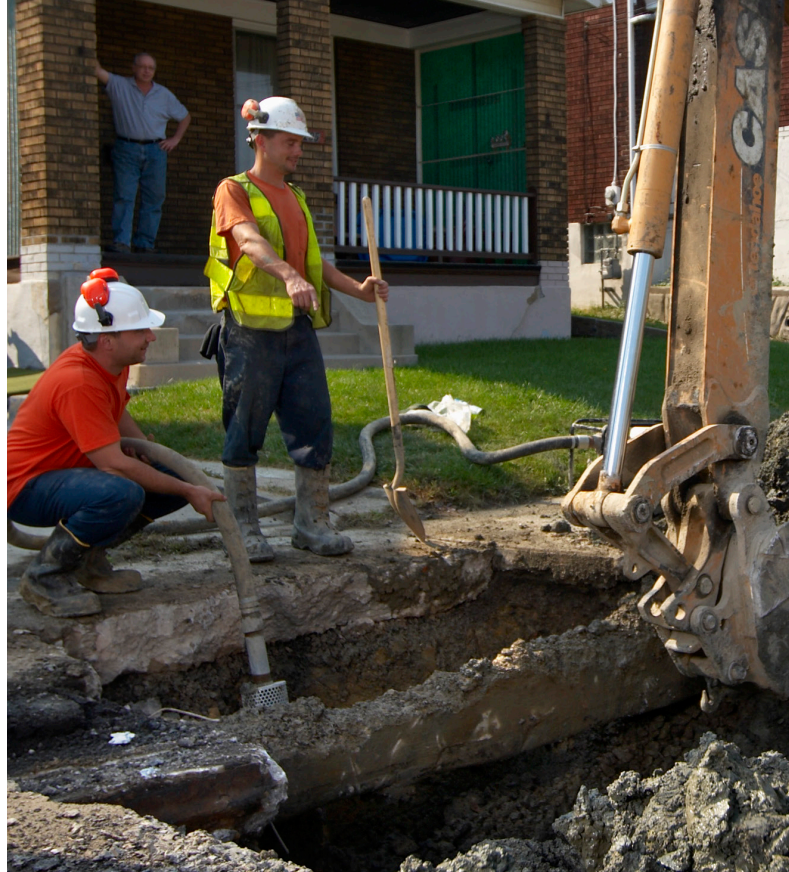
As part of the Water for the Future Program, the City will implement additional projects to supplement DEP's water supply, which can also help meet water demands in an emergency. These projects include the repair and rehabilitation of the Catskill Aqueduct, conservation initiatives, and the reactivation of the City-owned groundwater supply system in Queens. DEP is currently planning upgrades to the facilities and treatment systems at existing groundwater facilities to provide high quality drinking water that will meet all State and federal drinking water standards. DEP plans to re-activate the groundwater supply system before 2021, when the Rondout-West Branch Tunnel is scheduled to be shut down for the connection of the new bypass tunnel to the Delaware Aqueduct.

Water Conservation

DEP values the role of water conservation and demand management as a responsible way to plan for long-term use of New York City's water supply. As a result, actual water demand is down 30% since the 1990s, despite consistent increases in our population.

The goal of DEP's water conservation efforts is to reduce water use in New York City and in upstate communities by a total of 5% by 2020. This is equal to a reduction of approximately 50 million gallons of water per day. The five major strategies that DEP will implement to reduce water use include:

- ◆ **Municipal Water Efficiency Program** – This program involves the retrofitting of City-owned properties which can save up to nine million gallons of water per day. DEP established working partnerships with two key municipal partners – the NYC Department of Education (DOE) and the Department of Parks and Recreation (DPR) and executed a total of 112 individual retrofit projects in partnership with them. Through its new partnership with the DOE, DEP funded the replacement of over a thousand old toilets and urinals with high-efficiency fixtures in nine schools in Brooklyn and Queens. As part of its new partnership with the DPR, DEP funded the retrofitting of spray showers in 103 parks across Brooklyn, the Bronx, Manhattan and Queens with push-button activation features to prevent water from being wasted when no one is around to enjoy it.
- ◆ **Residential Water Efficiency Program** – Centered upon the Toilet Replacement Program for multi-family buildings and other residential properties, which will begin early 2014, this program can save up to 30 million gallons of water per day. In addition to the establishment of the Toilet Replacement Program, DEP has offered the service of complementary household water surveys, conducted by its contractor Honeywell, to building owners, to promote water conservation at their properties. In these surveys, Honeywell helps the building owners identify opportunities for water savings, as well as any leaks which may exist. In 2013, on behalf of DEP, Honeywell conducted surveys in 433 apartment buildings and in a total of 13,286 individual apartments. Within these properties they surveyed 3,086 1-3 unit properties, and 6,761 individual units. In addition they surveyed 352 small commercial properties and 11 restaurants.
- ◆ **Non-Residential Water Efficiency Program** – Encouraging collaborations with private sector organizations like businesses, hospitals, universities and theatres, DEP helps implement programs on water efficiency. In June of 2013, DEP officially launched an initiative in partnership with the Mayor’s Office, the Hotel Association of New York, and eleven NYC hotels called The Mayor’s Water Challenge to Hotels. The Challenge encourages participating hotels to reduce their annual water consumption by an average of 5% from their baseline year.
- ◆ **Water Distribution System Optimization** – DEP has developed a strategy to handle system repairs and upgrades, to manage water pressure, and to refine water meter accuracy and leak detection, in order to optimize our water distribution system. In 2013, DEP surveyed a total of 3,866 miles and replaced 38.2 miles of water mains. DEP estimates that 0.9 million gallons of water per day were saved as a result of these efforts. Leaking and/or vandalized fire hydrants can also contribute significantly to water waste, as an illegally opened fire hydrant can release more than 1,000 gallons per minute. In 2013, DEP repaired 10,764 hydrants, replaced another 1,549, and provided other maintenance services to 5,267 hydrants. DEP also installed 53 new meters and replaced a total of 9,995 meters, reaching a grand total of 10,048 meters – an increase of over nine times the amount of last year’s total.
- ◆ **Water Supply Shortage Management** – DEP reviewed and revised plans to prepare for a drought and other water shortages.



Water and Sewer Service Line Protection Program

DEP has partnered with American Water Resources (AWR) to offer a Water and Sewer Service Line Protection Program to our customers. This voluntary program is designed to protect New York City homeowners from the unexpected costs of service line repairs.

Most homeowners are not aware that they are responsible for all of the costs associated with repairing damaged water or sewer service lines that run from their building’s exterior to the municipal service lines in the street. These repairs are not covered by most homeowners’ insurance policies and can cost thousands of dollars.

The New York City Water Board selected AWR as the exclusive provider of the Water and Sewer Service Line Protection Programs for DEP customers. If you are a homeowner and DEP customer, you can enroll in the protection programs, and AWR will take the responsibility of paying for service line repairs off your shoulders.

Rates of \$4.49 per month for water line protection and \$7.99 per month for sewer line protection will be offered until June 30, 2014. For future years, the New York City Water Board will adopt the annual rates for the programs along with regular water and sewer service charges. These charges will be included in your DEP water and sewer bill and must be paid for you to remain eligible.

For more information about the Water and Sewer Service Line Protection Program, call AWR toll-free at (888) 300-3570 or visit www.nyc.gov/dep.



New York City is fortunate to have reasonably priced drinking water as compared to other cities around the country. The average single-family household in New York City uses approximately 80,000 gallons of water each year, at a cost of \$3.58 per 100 cubic feet of water (748 gallons), or about \$383 a year. Since nearly all New York City residences receive wastewater collection and treatment services in addition to water service, the combined annual water and sewer charge for the typical New York City household using 80,000 gallons per year is \$991, consisting of \$383 for water service and \$608 for wastewater services (based on the Fiscal Year 2014 rates).

However, DEP asks that everyone do his or her part to conserve this important resource. All New Yorkers should observe good water conservation habits, and are required to obey New York City's year-round water use restrictions, which include a prohibition on watering sidewalks and lawns between November 1 and March 31, and between 11 am and 7 pm from April 1 to October 31. Remember, it is illegal to open fire hydrants at any time. However, during the summer, you can contact your local fire-house to have a City-approved spray cap installed on a hydrant.

C. Drinking Water Quality

Regulation of Drinking Water

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 NYSDOH and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The NYSDOH and the federal Food and Drug Administration's (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health. The presence of contaminants does not necessarily indicate that water poses a health risk. These regulations also establish the minimum amount of testing and monitoring that each system must undertake to ensure that the tap water is safe to drink.

DEP's water quality monitoring program – far more extensive than that 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. Additional information concerning drinking water can be found at: www.epa.gov/safewater/ or www.health.state.ny.us.

Drinking Water Sampling and Monitoring

DEP monitors the water in the distribution system, upstate reservoirs and feeder streams, and wells that are sources for New York City's drinking water supply. Certain water quality parameters are monitored continuously as the water enters the distribution system, and DEP regularly tests water quality at nearly 1,000 water quality sampling stations throughout the City. DEP conducts analyses for a broad spectrum of microbiological, chemical, and physical measures of quality. In 2013, DEP collected more than 30,938 samples from the distribution system and performed more than 354,048 analyses, meeting all State and federal monitoring requirements. Additionally, DEP performed 105,576 analyses on 17,304 samples from the upstate reservoir watersheds to support FAD watershed protection programs and to optimize water quality. Results of this regular monitoring are an indicator of whether New York City drinking water meets all health-based and other drinking water standards. The results of the tests conducted in 2013 under DEP's Distribution System Monitoring Program are summarized in the tables in this report.

How to Read the New York City Drinking Water Quality Testing Results

This section of the *2013 Drinking Water Supply and Quality Report* compares the quality of your tap water to federal and State standard for each parameter (if applicable). Table 1 reflects the compliance monitoring results for all detected regulated and non-regulated parameters, the number of samples collected, the range of values detected, the average of the values detected, and the possible sources of the parameters, unless otherwise footnoted. The monitoring frequency of each parameter varies and is parameter specific. All data presented are for the Catskill/Delaware system, which was the only source of water in 2013. Table 2 represents those parameters monitored for, but not detected in any sample. The monitoring results indicate that our drinking water met all health-based and other drinking water standards in 2013. For previous results you can view our reports at: www.nyc.gov/dep

Definitions

Action Level (AL):

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

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.

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.

Units of Measurement & Abbreviations:

CFU/mL = colony forming units per milliliter

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

MPN/100mL = most probable number per 100 milliliter

ND = Lab analysis indicates parameter is not detected

NTU = Nephelometric Turbidity Units

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

µS/cm = microsiemens per centimeter

NDL = No Designated Limit



Table 1: Detected Parameters

This table summarizes the monitoring results for all detected parameters

CONVENTIONAL PHYSICAL AND CHEMICAL PARAMETERS							
PARAMETERS	NYSDOH MCL (Highest Level Allowed)	EPA MCLG (Ideal Goal)	CATSKILL/DELAWARE SYSTEM			MCL VIOLATION	SOURCES IN DRINKING WATER
			# SAMPLES	RANGE	AVERAGE		
Alkalinity (mg/L CaCO ₃)	-		251	13.9 - 18.7	15.9	No	Erosion of natural deposits
Aluminum (µg/L)	50 - 200 ⁽¹⁾		278	11 - 53	25	No	Erosion of natural deposits
Barium (mg/L)	2	2	278	0.013 - 0.020	0.017	No	Erosion of natural deposits
Calcium (mg/L)	-		275	5.3 - 6.9	5.8	No	Erosion of natural deposits
Chloride (mg/L)	250		273	8 - 12	9	No	Naturally occurring; road salt
Chlorine Residual, Free (mg/L)	4 ⁽²⁾		15,052	0.00 - 1.46	0.58 ⁽²⁾	No	Water additive for disinfection
Chromium VI (µg/L)	100 ⁽³⁾		6	0.039 - 0.056	0.04	No	Erosion of natural deposits
Color - distribution system (color units - apparent)	-		13,957	4 - 28	6	No	Presence of iron, manganese, and organics in water
Color - entry points (color units - apparent)	15 ⁽⁴⁾		1,095	4 - 9	6	No	Presence of iron, manganese, and organics in water
Copper (mg/L)	1.3 ⁽⁵⁾	1.3	278	0.003 - 0.025	0.007	No	Corrosion of household plumbing systems; erosion of natural deposits
Corrosivity (Langelier index)	0 ^{(1) (6)}		251	-2.85 to -1.94	-2.46	No	
Fluoride (mg/L)	2.2 ⁽⁴⁾	4.0	1,691	ND - 1.0	0.6	No	Water additive which promotes strong teeth; erosion of natural deposits
Hardness (mg/L CaCO ₃)	-		275	18 - 23	20	No	Erosion of natural deposits
Hardness (grains/gallon[US] CaCO ₃) ⁽⁷⁾	-		275	1.0 - 1.3	1.1	No	Erosion of natural deposits
Iron (µg/L)	300 ^{(4) (8)}		278	23 - 68	40	No	Naturally occurring
Lead (µg/L)	15 ⁽⁵⁾	0	278	ND - 14	<1	No	Corrosion of household plumbing systems; erosion of natural deposits
Magnesium (mg/L)	-		275	1.1 - 1.4	1.3	No	Erosion of natural deposits
Manganese (µg/L)	300 ^{(4) (8)}		278	9 - 41	17	No	Naturally occurring
Nickel (µg/L)	-		278	ND - 0.5	ND	No	Erosion of natural deposits
Nitrate (mg/L nitrogen)	10	10	273	0.09 - 0.18	0.15	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
pH (pH units) ⁽⁹⁾	6.5 - 8.5 ⁽¹⁾		15,052	6.9 - 8.3	7.3	No	
Phosphate, Ortho- (mg/L)	-		15,052	0.94 - 4.02	2.13	No	Water additive for corrosion control
Potassium (mg/L)	-		275	0.5 - 0.7	0.6	No	Erosion of natural deposits
Silica [silicon oxide] (mg/L)	-		273	1.8 - 3.5	2.4	No	Erosion of natural deposits
Sodium (mg/L)	NDL ^{(4) (10)}		275	6 - 10	8	No	Naturally occurring; road salt; water softeners; animal waste

Table 1 (continued)

CONVENTIONAL PHYSICAL AND CHEMICAL PARAMETERS (continued)							
PARAMETERS	NYSDOH MCL (Highest Level Allowed)	EPA MCLG (Ideal Goal)	CATSKILL/DELAWARE SYSTEM			MCL VIOLATION	SOURCES IN DRINKING WATER
			# SAMPLES	RANGE	AVERAGE		
Specific Conductance (µS/cm)	-		15,052	69 - 123	82	No	
Strontium (µg/L)	-		281	18 - 27	20	No	Erosion of natural deposits
Sulfate (mg/L)	250		273	3.9 - 4.9	4.4	No	Naturally occurring
Temperature (°F)	-		15,054	36 - 82	54	No	
Total Dissolved Solids (mg/L)	500 ⁽¹⁾		273	39 - 60	49	No	Metals and salts naturally occurring in the soil; organic matter
Total Organic Carbon (mg/L carbon)	-		273	1.3 - 1.8	1.5	No	Organic matter naturally present in the environment
Turbidity ⁽¹¹⁾ - distribution system (NTU)	5 ⁽¹²⁾		13,957	0.1 - 11.4	1.6 ⁽¹²⁾	No	Soil runoff
Turbidity ⁽¹¹⁾ - source water (NTU)	5 ⁽¹³⁾		-	-	2.2 ⁽¹³⁾	No	Soil runoff
UV 254 Absorbency (cm ⁻¹)	-		273	0.023 - 0.037	0.031	No	Organic matter naturally present in the environment
Zinc (mg/L)	5 ⁽⁴⁾		278	ND - 0.027	ND	No	Naturally occurring

ORGANIC PARAMETERS							
PARAMETERS	NYSDOH MCL (Highest Level Allowed)	EPA MCLG (Ideal Goal)	CATSKILL/DELAWARE SYSTEM			MCL VIOLATION	SOURCES IN DRINKING WATER
			# SAMPLES	RANGE	AVERAGE		
Bromochloroacetic Acid (µg/L)	50		267	ND - 2.7	1.6	No	By-product of drinking water chlorination
Chloropicrin (µg/L)	50		16	0.36 - 0.74	0.5	No	By-product of drinking water chlorination
Haloacetic Acid 5 (HAA5) (µg/L)	60 ⁽¹⁴⁾		267	9 - 61	45	No	By-product of drinking water chlorination
Halogenated Ketones (HKs) (µg/L)	50		16	2.07 - 3.60	2.5	No	By-product of drinking water chlorination
Hexachlorocyclopentadiene (µg/L)	5		15	ND - 0.056 ⁽¹⁵⁾	ND	No	Discharge from chemical factories
Total Organic Halogen (µg/L)	-		84	86 - 310	177	No	By-product of drinking water chlorination
Total Trihalomethanes (TTHM) (µg/L)	80 ⁽¹⁴⁾		268	12 - 80	48	No	By-product of drinking water chlorination

LEAD AND COPPER RULE SAMPLING AT RESIDENTIAL WATER TAPS: JANUARY TO DECEMBER 2013							
PARAMETERS	NYSDOH AL	EPA MCLG (Ideal Goal)	90% OF YOUR LEVELS WERE LESS THAN	RANGE	# SAMPLES EXCEEDING AL	VIOLATION	SOURCES IN DRINKING WATER
Copper (mg/L)	90% of homes less than 1.3	1.3	0	0.007 - 0.753	0 out of 220	No	Corrosion of household plumbing systems
Lead (µg/L)	90% of homes less than 15	0	11	ND - 34	10 out of 220	No	Corrosion of household plumbing systems

Table 1 (continued)

MICROBIAL PARAMETERS									
PARAMETERS	NYSDOH MCL (Highest Level Allowed)	EPA MCLG (Ideal Goal)	CITYWIDE DISTRIBUTION					MCL VIOLATION	SOURCES IN DRINKING WATER
			# SAMPLES	RANGE	# SAMPLES POSITIVE	AVERAGE	HIGHEST MONTH % POSITIVE		
Total Coliform Bacteria (% of samples positive/month)	5%	0	9,793	-	18	-	0.9%	No	Naturally present in the environment
<i>E. coli</i> (MPN/100mL)	(16)	0	9,793	-	0	-	0.0%	No	Human and animal fecal waste
Heterotrophic Plate Count (CFU/mL)	TT	-	11,641	ND - 720	361	ND	-	No	Naturally present in the environment

Table 2: Not-Detected Parameters

The following parameters were monitored for, but not detected in any sample

CONVENTIONAL PHYSICAL AND CHEMICAL PARAMETERS
Antimony, Arsenic, Asbestos *, Beryllium, Bismuth-212 *, Bismuth-214 *, Cadmium, Cesium-134 *, Cesium-137 *, Chromium, Cyanide, Gross Alpha *, Gross Beta *, Lead-212 *, Lead-214 *, Lithium, Mercury, Nitrite, Potassium-40 *, Radium-226 *, Radium-228 *, Selenium, Silver, Thallium, Thallium-208 *, Thorium-234 *, Uranium *, Uranium-235 *
ORGANIC PARAMETERS
Principal Organic Contaminants:
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-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, Hexachlorobutadiene, Isopropylbenzene, p-Isopropyltoluene, Methylene chloride, n-Propylbenzene, Styrene, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, Tetrachloroethylene, 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, m-Xylene, o-Xylene, p-Xylene
Specified Organic Contaminants:
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, Methyl-tertiary-butyl-ether (MTBE), Metolachlor, Metribuzin, Oxamyl (Vydate), Pentachlorophenol, Picloram, Polychlorinated biphenyls [PCBs], Propachlor, Simazine, Toxaphene, 2,4,5-TP (Silvex), 2,3,7,8-TCDD (Dioxin), Vinyl chloride
Unspecified Organic Contaminants:
Acenaphthene, Acenaphthylene, Acetochlor, Acetone, Acifluorfen, Ametryn, Anthracene, Bentazon, Benzo[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Benzo[g,h,i]perylene, a-BHC, b-BHC, d-BHC, Bromacil, 2-Butanone (MEK), Butylate, Butylbenzylphthalate, tert-Butyl ethyl ether, Carbon disulfide, Caffeine, Carboxin, Chloramben, a-Chlordane, g-Chlordane, Chlorobenzilate, 2-Chlorobiphenyl, Chloroneb, Chlorothalonil (Draconil, Bravo), Chlorpropham, Chlorpyrifos (Dursban), Chrysene, Cycloate, 2,4-DB, DCPA(Dacthal), DCPA (total mono & diacid degradate), p,p'DDD, p,p'DDE, p,p'DDT, DEF(Merphos), Diazinon, Dibenz[a,h]anthracene, Di-n-Butylphthalate, 3,5-Dichlorobenzoic acid, 2,3-Dichlorobiphenyl, Dichlorprop, Dichlorvos (DDVP), Diethylphthalate, Di-isopropyl ether, Dimethoate, Dimethylphthalate, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Di-N-octylphthalate, Diphenamid, Disulfoton, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin aldehyde, EPTC, Ethoprop, Etridiazole, Fenamiphos, Fenarimol, Fluoranthene, Fluorene, Fluridone, alpha-HCH, beta-HCH, delta-HCH, 2,2',3,3',4,4',6-Heptachlorobiphenyl, Heptachlor epoxide (isomer B), 2,2',4,4',5,6'-Hexachlorobiphenyl, Hexazinone, Indeno[1,2,3-cd]pyrene, Isophorone, Malathion, Methiocarb, Methyl Paraoxon, 4-Methyl-2-Pentanone (MIBK), Mevinphos, MGK264-isomer a, MGK264-isomer b, Molinate, Naphthalene, Napropamide, 4-Nitrophenol, cis-Nonachlor, trans-Nonachlor, Norflurzon, 2,2',3,3',4,5',6,6'-Octachlorobiphenyl, Paraquat, Parathion, Pebulate, Pendimethalin, 2,2',3',4,6-Pentachlorobiphenyl, Permethrin (cis- & trans-), Phenanthrene, Prometryn, Pronamide, Propazine, Propoxur (Baygon), Pyrene, 2,4,5-T, Simetryn, Stirofos, Tebuthiuron, Terbacil, Terbufos, Terbutylazine, Terbutryn, 2,2',4,4'-Tetrachlorobiphenyl, Thiobencarb, Triademefon, 2,4,5-Trichlorobiphenyl, Trichlorotrifluoroethane (Freon 113), Tricyclazole, Trifluralin, Vernolate
Unregulated Contaminant Monitoring Rule (UCMR3) parameters:
Androstenedione, Bromochloromethane, Bromomethane, 1,3-Butadiene, Chlorate, Chlorodifluoromethane, Chloromethane, Cobalt, 1,1-Dichloroethane, 1,4-Dioxane, Equilin, Estradiol, Estriol, Estrone, Ethynylestradiol, Molybdenum, Perfluorobutanesulfonic acid (PFBS), Perfluoroheptanoic acid (PFHpA), Perfluorohexanesulfonic acid (PFHxS), Perfluorononanoic acid (PFNA), Perfluorooctanesulfonic acid (PFOS), Perfluorooctanoic acid (PFOA), Testosterone, 1,2,3-Trichloropropane, Vanadium

Footnotes

- (1) EPA Secondary MCL: NYSDOH has not set an MCL for this parameter.
 - (2) 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 an MCL and is the calculated running annual average. Data presented are the range of individual sampling results and the highest of the four quarterly running annual averages.
 - (3) Chromium (VI) also known as hexavalent chromium was monitored for in December 2013 under the requirements of the Unregulated Contaminant Monitoring Rule. The NYSDOH MCL is for chromium (Total).
 - (4) Determination of MCL violation: If a sample exceeds the MCL, a second sample must be collected from the same location within two weeks. If the average of the two results exceeds the MCL, then an MCL violation has occurred.
 - (5) Action Level (not an MCL) measured at the tap. The data presented in this table were collected from sampling stations at the street curb. For at-the-tap monitoring, see the Lead and Copper Rule Sampling at Residential Water Taps table.
 - (6) A Langelier Index of less than zero indicates corrosive tendencies.
 - (7) Hardness values of up to 3 grains per gallon are considered soft water; between 3 and 9 is moderately hard water.
 - (8) If iron and manganese are present, the total concentration of both should not exceed 500 µg/L.
 - (9) The reported average value for pH is the median value.
 - (10) 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.
 - (11) 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.
 - (12) This MCL for turbidity is the monthly average rounded off to the nearest whole number. Data presented are the range of individual sampling results and the highest monthly average from distribution sites.
 - (13) This MCL for turbidity is on individual readings taken every four hours at the source water entry point. The value presented is the highest individual sampling result.
 - (14) The MCLs for HAA5 and TTHMs are the calculated locational running annual average. The data in the Range column are the minimum and maximum values of all sample sites monitored in the distribution system whether for compliance purposes or not. The values in the Average column are the highest locational running annual averages under the Stage 2 DBP Rule.
 - (15) Only one sample had a detection, all others were ND.
 - (16) 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.
- * The State allows monitoring for these contaminants less frequently than once per year. These data, though representative, are from 2012.

Turbidity

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. DEP is required to monitor its drinking water supply for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not drinking water meets health standards. DEP monitors for turbidity every four hours at selected compliance locations representative of the raw source waters. In 2013, the highest single turbidity measurement was 2.2 NTU; at no time did a value exceed the MCL of 5 NTU.

Lead in Drinking Water

New York City water is virtually lead-free when it is delivered from New York City's upstate reservoir system, but water can absorb lead from solder, fixtures, and pipes found in the plumbing of some buildings or homes. DEP has an active corrosion control program aimed at reducing lead absorption from service lines and internal plumbing. Under the federal Lead and Copper Rule, mandated at-the-tap lead monitoring is conducted at select households throughout New York City. In 2013, based on the results of this monitoring, the 90th percentile did not exceed 15 µg/L, the established standard or Action Level for lead. The at-the-tap monitoring results are presented in a separate table in this report.

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. DEP 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.

DEP offers a Free Residential Lead Testing Program that allows all New York City residents to have their tap water tested at no cost. The Free Residential Testing Program is the largest of its kind in the nation: DEP has distributed more than 97,000 sample collection kits since the start of the program in 1992. To request a free kit to test for lead in your drinking water, call New York City's 24-hour helpline at 311 or visit www.nyc.gov/apps/311/.

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800) 426-4791 or at www.epa.gov/safewater/lead.

Monitoring for *Cryptosporidium* and *Giardia*

In 1992, New York City started a comprehensive program to monitor its source waters and watersheds for the presence of *Cryptosporidium* and *Giardia*. In 2013, DEP collected samples weekly from one outflow of the Kensico Reservoir, before water is chlorinated in the Catskill/Delaware and Croton systems, and before it is treated at the Catskill/Delaware UV Disinfection Facility. DEP also collected samples monthly from the outflow of New Croton Reservoir. While there is no evidence that any cases of cryptosporidiosis or giardiasis have been attributed to the New York City water supply, federal and State law requires all water suppliers to notify their customers about the potential risks from *Cryptosporidium* and *Giardia*. Cryptosporidiosis and giardiasis are intestinal illnesses caused by microscopic pathogens, which can



Watershed Stream

be waterborne. Symptoms of infection include nausea, diarrhea, and abdominal cramps. 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 providers about their drinking water.

From January 1 to December 31, 2013, a total of 52 routine weekly samples were collected and analyzed for *Cryptosporidium* oocysts and *Giardia* cysts at the Kensico Reservoir effluent, and 12 routine monthly samples were collected at the New Croton Reservoir effluent. Samples were analyzed using standard EPA methods. The test method, however, is limited in that it does not differentiate whether organisms are dead, alive or capable of causing disease. Of the 52 routine Kensico Reservoir effluent samples, none were positive for *Cryptosporidium*, and 30 were positive for *Giardia* (0 to 5 cysts/50L). Of the 12 routine New Croton Reservoir effluent samples, none were positive for *Cryptosporidium*, and 4 were positive for *Giardia* (0 to 3 cysts/50L). The presence of these low levels of *Cryptosporidium* and *Giardia*, detected in the source water required no action on the part of DEP. DEP's *Cryptosporidium* and *Giardia* data from 1992 to the present, along with weekly updates, can be viewed on the DEP Website at www.nyc.gov/dep.

DEP's Waterborne Disease Risk Assessment Program conducts disease surveillance for cryptosporidiosis and giardiasis to track the disease incidence and syndromic surveillance for gastrointestinal illness to identify citywide gastrointestinal outbreaks. All persons diagnosed with cryptosporidiosis are interviewed concerning potential exposures, including tap water consumption. Disease and syndromic surveillance indicates that there were no outbreaks of cryptosporidiosis or giardiasis attributed to tap water consumption in New York City. 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 at (800) 426-4791.

Unregulated Contaminant Monitoring Rule (UCMR)

Under the 1996 amendments to the federal Safe Drinking Water Act, and the Third Unregulated Contaminant Monitoring Rule (UCMR3), EPA is required once every five years to issue a new list of up to 30 unregulated contaminants for which public water systems must monitor. The intent of this rule is to provide baseline occurrence data that the EPA can combine with toxicological research to make decisions about potential future drinking water regulations. DEP is currently participating in the third round of this contaminant testing. The data from this sampling can be found in the tables of this report. For more information on the rule, and to see a list of the 30 unregulated contaminants, go to www.water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/index.cfm.

Variations, Exemptions or Administrative or Judicial Orders

Hillview Reservoir is the last reservoir in the Catskill/Delaware system prior to distribution. On May 24, 2010, New York City and EPA entered into an Administrative Order on Consent which sets forth a milestone schedule to install a cover over the Hillview Reservoir by mid-2028. The milestones of a previous Administrative Order on Consent from 2008 between New York City and NYSDOH were incorporated into the 2010 Administrative Order on Consent. Additionally, in August of 2011, EPA released a report called *Improving Our Regulations: Final Plan for Periodic Reviews of Existing Regulations*, in which EPA indicated that it will evaluate the reservoir cover requirement of the Long Term 2 Enhanced Surface Water Treatment Rule. DEP has been actively involved in EPA's review process.

The Catskill/Delaware Ultraviolet (UV) Disinfection Facility, which began treating Catskill/Delaware water in October 2012, was constructed, and is operating, pursuant to an Administrative Order with EPA. DEP is in compliance with the Administrative Order.

DEP is required to construct a filtration plant for the Croton water supply under a Consent Decree entered into between New York City and the United States and the State of New York. DEP has missed several milestones in the Consent Decree. DEP did not deliver any water to consumers from the Croton System during 2013.

D. Where to Go for Additional Information

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 at (800) 426-4791.

Resources

For additional copies of this report, to report unusual water characteristics, or to request a free kit to test for lead in your drinking water, call 311 or from outside NYC call (212) New-York or visit 311 online. TTY services are available by calling (212) 504-4115.

For more information about *Cryptosporidium* and *Giardia*, contact the Bureau of Communicable Diseases of the New York City Department of Health and Mental Hygiene at (212) 788-9830 or call 311 or visit www.nyc.gov/apps/311/.

To contact the New York City Department of Health and Mental Hygiene about other water supply health-related questions, call 311 or visit 311 online, or call New York State Department of Health, Bureau of Water Supply Protection at (518) 402-7650.

To report pollution, crime or terrorism activity occurring in the watershed, call (888) H2O-SHED (426-7433).

To view the *2013 Annual Water Supply and Quality Report*, announcements of public hearings, and other information about the New York City Water Supply System, visit DEP's Website at www.nyc.gov/dep.

Frequently Asked Questions

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, bubbles 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 water is drawn from the tap and the excess air is released.

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 most effective way to address a chlorine odor in drinking water.)
- 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.

Does my drinking water contain fluoride?

Yes, New York City tap water contains fluoride. In accordance with Article 141.05 of the New York City Health Code, DEP, as the New York City water supplier, adds a fluoride compound that provides the water supply with a concentration of about 0.8 mg/L of the fluoride ion. Fluoridation began in 1966.

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. Brown water can also result from street construction or water main work being done in your 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 will vary, depending on the size of the water main.

Why should I choose tap water over bottled water?

New York City has safe, award-winning, affordable, and great tasting tap 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. In addition, bottled water costs up to 1,000 times more per year than New York City's drinking water.

When purchasing bottled water, consumers should look for the New York State Health Department (NYSHD) CERT #. Consumers can access additional information on New York State certified bottled water facilities within the United States that can sell water within New York State at www.health.state.ny.us/environmental/water/drinking/bulk_bottle/bottled.htm. As an alternative to purchasing bottled water, use a reusable bottle and fill it with New York City tap water.

Is New York City's water "hard"?

Hardness is a measure of dissolved calcium and magnesium in drinking water. The less calcium and magnesium in the water ("soft" water), the easier it is to create lather and suds. New York City's Catskill/Delaware System water is predominantly "soft" with a hardness of about 1.0 grain/gallon (CaCO₃).



Please share this information with other people who drink New York City tap water, especially those who may not have received this publication directly such as people who live in apartment buildings or nursing homes, attend schools, or have businesses. You can do this by posting this publication in a public place or distributing copies by hand mail or email.

This report was prepared 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 United States Environmental Protection Agency (EPA), which require all drinking water suppliers to provide the public with an annual statement describing the water supply and the quality of its water.

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.

Questo documento contiene informazioni importanti sulla vostra acqua potabile. Traducete il documento, or parlatene con qualcuno che lo può comprendere.

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 informację 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.



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