



**Environmental
Protection**

Michael R. Bloomberg
Mayor

Carter H. Strickland, Jr.
Commissioner

New York City 2011 Drinking Water Supply and Quality Report



Catskill/Delaware Ultraviolet Disinfection Facility

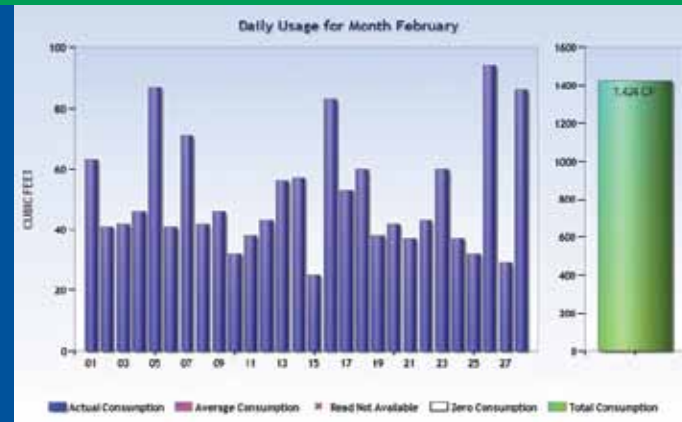
Customer Service

www.nyc.gov/dep

TRACK YOUR WATER USE

Use our new online system: My DEP Account

Did you know that you can track your water use online? Water customers with wireless water meters can register at www.nyc.gov/dep to see their water use online in real time. The online tracking system enables customers to manage their water use, reduce their water bills, and detect leaks more quickly. In addition, you can view your meter reads and see your payment and billing history online.



IDENTIFY COSTLY LEAKS

Receive alerts for increased water use

DEP will automatically send registered customers an electronic alert if we detect a dramatic increase in their daily water use. This tool allows you to react quickly to sudden changes in consumption that could indicate a potential leak. Instead of waiting months for your next water bill, you'll be alerted to a leak the next day. This means you can catch and fix the leak before it becomes a billing problem. Customers with properties larger than 4 units can even customize their own leak parameters.



GO GREEN

Sign up for paperless billing

DEP is now offering its customers the convenience of paperless billing. By signing up to receive your bills online you'll save time and help improve our environment by reducing paper consumption. Instead of a paper bill, you'll receive an email notification when your next bill is due. You can then log in to My DEP Account to see an electronic copy of your bill.



Dear Friends:

New York City's drinking water is recognized throughout the world for its quality and purity. Every day, the Department of Environmental Protection provides more than one billion gallons of water to nine million New Yorkers, and ensures that our water supply remains safe and reliable for future generations.

In order to make sure that our water supply remains one of the cleanest and well-maintained in the world, we must continue to protect the area that surrounds it. Land acquisition is critical to water supply protection, and is vital to developing a buffer for the 19 reservoirs and three controlled lakes in the Catskill/Delaware and Croton watersheds. In 2011, New York City protected nearly 7,000 sensitive watershed acres, bringing the total number of acres protected in the areas surrounding the reservoirs since 1997 to more than 121,000.

Protecting our water system also means preventing hydrofracking in the areas that surround our water supplies. New York State has recognized the value of our unfiltered water system by banning the practice in the upstate watersheds that supply New York City and the surrounding region with water.

Thanks to our work, and our strong partnership with the State, we can continue to enjoy great tap water and look forward to a healthier, more sustainable New York City.

Sincerely,

A handwritten signature in black ink that reads "Michael R. Bloomberg". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Michael R. Bloomberg
Mayor



Dear Friends,

New York City's inexpensive and delicious drinking water is delivered from a watershed that extends more than 125 miles away. In fact, the quality of the water in the Catskill and Delaware watersheds is so high that we are allowed to keep it unfiltered, a distinction that only five large cities in the country share. Some highlights of the capital work we undertook in 2011 to preserve the infrastructure of our world-class water supply system included completing \$96 million worth of reconstruction work on five of our older dams in Westchester and Putnam counties and beginning the last phase of reconstruction on the \$350 million upgrade of the Gilboa Dam, which was originally completed in 1927.

Later this year we will begin operating the \$1.6 billion Catskill/Delaware Ultraviolet Disinfection Facility. The facility, the largest of its kind in the world and located at a 153-acre property situated in Westchester County, will provide an additional barrier of protection to the unfiltered Catskill/Delaware water system.

I am proud to present this report and share with you some of the initiatives that help keep our drinking water world-class, to be appreciated by us and future generations of New Yorkers. And always remember to keep up to date on all DEP news by following us at www.facebook.com/nycwater and www.twitter.com/nycwater.

Sincerely,

A handwritten signature in black ink that reads "Carter H. Strickland, Jr.". The signature is cursive and somewhat stylized, with the first letters of the first and last names being capitalized and prominent.

Carter H. Strickland, Jr.
Commissioner



NEW YORK CITY 2011 DRINKING WATER SUPPLY AND QUALITY REPORT

The New York City Department of Environmental Protection (DEP) is pleased to present its 2011 Annual Water Supply and Quality Report. 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.

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, to the millions of tourists and commuters who visit the city throughout the year, as well as about 120 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.

Source 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 Delaware State that 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; 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 in southeastern Queens. In 2011, 100% of the city's drinking water came from the Catskill/Delaware supply.

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 New York State Department of Health (NYSDOH) and 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 (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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.

To stay up to date on all NYC Water news, like us on Facebook at www.facebook.com/nycwater, or follow us on Twitter at www.twitter.com/nycwater.

New York City's Water Supply System



Ensuring a Safe, Reliable, and Sufficient Water Supply

Source Water Assessment Program

Federal regulations require states to develop and implement Source Water Assessment Programs (SWAP) 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 SWAP. 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 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) 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 the surface water supply to contamination from a variety of sources. These programs, which are ongoing, operate under the close scrutiny of both NYSDOH and EPA. Due to these efforts, NYSDOH did not deem it necessary to perform a SWAP on the New York City Water Supply.

Maintaining New York City's World-Renowned Water Supply

10-Year Filtration Avoidance Determination from EPA

The year 2011 marked the fourth year of DEP's implementation of the latest 10-year FAD, issued by EPA in July of 2007. The FAD maintains New York City's status as 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 part of the agreement, New York City is enhancing existing watershed

protection programs as well as developing several new efforts, including an agreement to continue its commitment to acquire certain undeveloped land in the Catskill/Delaware watershed as a means of watershed protection; an additional \$241 million was allocated (beyond the \$300 million committed in 1997) to be spent over a 10-year period for this purpose. The 2007 FAD is a 10-year waiver requiring a five year reassessment of the programs. New York City issued the Long-Term Watershed Protection Program for 2012-2017 in December of 2011. Recently, New York State and New York City announced a landmark agreement to continue safeguarding New York City's drinking water. After three years of productive negotiations, New York State issued a 15-year water supply permit that allows New York City to continue acquisition of sensitive watershed land to protect the largest unfiltered drinking water supply in the world. Over the past 20 years 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 2011, New York City protected nearly 7,000 acres. Since 1997, DEP has secured more than 121,000 acres of land and easements, adding to the roughly 45,000 acres surrounding the reservoirs that New York City owned in 1997. New York State also owns and protects more than 200,000 acres of watershed land.
- **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. These properties must be managed to ensure that water quality is protected. Since 1997, DEP has increased the acreage of land open for recreation every year, and approximately 75,000 acres are now available for fishing, hiking, hunting, trapping, cross-country skiing and other activities. DEP also recently added about 12,500 acres of expanded recreational area by opening the Neversink, Pepacton and Schoharie reservoirs to rowboats, canoes, kayaks and small sailboats.
- **Partnership Programs** - Many of New York City's watershed protection programs west of the Hudson River are administered by the Catskill Watershed Corporation (CWC), a non-profit corporation formed for this purpose. Together DEP and CWC have addressed more than 3,700 failing septic systems and authorized the construction of more than 70 stormwater control measures. New York City has also funded the construction of new community wastewater solutions for more than a dozen watershed communities.
- **Streams, Farms and Forestry Programs** - The Stream Management Program (SMP) is a partnership program that encourages the stewardship of streams and floodplains in the west-of-Hudson watershed. The Watershed Agricultural Program and Watershed Forestry Program both represent long-term successful partnerships between DEP and the not-for-profit Watershed Agricultural Council (WAC). 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.



NYC Water-On-the-Go

The New York City Department of Environmental Protection has been showcasing the city's award-winning, high-quality great-tasting, healthy tap water—NYC Water—through its Water-On-the-Go program since its launch in 2010. In 2011, more than 200,000 New Yorkers stopped by and got a drink at Water-On-the-Go fountains at special events throughout the five boroughs. The portable fountains offer six faucets for direct drinking or filling water bottles and make NYC water easily accessible. To learn more about the summer program, visit www.nyc.gov/dep.

Croton Water Filtration Plant

New York City is building a filtration plant for the Croton drinking water supply under a federal Consent Decree entered into with the United States and the State of New York. The Croton Water Filtration Plant is also expected to reduce color levels, the risk of microbiological contamination, and disinfection by-products and ensure compliance with strict water quality standards. Plant startup and testing is expected to begin in late 2012.

In addition to the filtration plant, New York City remains committed to maintaining a comprehensive watershed protection program for the Croton water supply system. Although the Croton water supply system is currently offline, is not 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 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.*

City Water Tunnel No. 3

City Water Tunnel No. 3 is being built in stages and 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 allow for the inspection and repair of City Water Tunnel 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 Brooklyn/Queens leg and the Manhattan leg. The Brooklyn/Queens leg is a 5.5-mile section in Brooklyn that connects to a 5-mile section in Queens. The Brooklyn/Queens leg of the tunnel was completed in May 2001; the shafts with all equipment were substantially completed in 2006. The project is on hold, and is expected to be online by 2020. The Brooklyn/Queens leg will deliver water to Staten Island, Brooklyn and Queens. Tunneling on the 9-mile Manhattan portion of Stage 2 began in 2003 and was completed in 2008. Ten new supply shafts have been constructed that will integrate the new tunnel section with the existing distribution system. Work on installing the equipment into the distribution chambers, which are underground facilities atop the shafts, continues and should be completed in early 2013. The Manhattan leg is expected to begin water delivery in late 2013.

Hillview Reservoir

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 (AOC), which sets forth a milestone schedule to cover the Hillview Reservoir by mid-2028. A previous 2008 Administrative Order between New York City and NYSDOH automatically incorporates the provisions of the 2010 AOC. DEP is currently in compliance with the milestones set forth in the orders.

Delaware Bypass Tunnel

DEP's Water for the Future (WFF) Program is aimed at addressing the known leaks in the Rondout-West Branch Tunnel (RWBT) section of the Delaware Aqueduct, which conveys more than 50 percent 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. Under the plan, DEP will break ground on the bypass tunnel in 2013, and the projected completion of the connection to the Delaware Aqueduct is in 2021. The bypass tunnel and other internal repairs, along with other water projects to supplement the city's supply during part of the construction period, will cost approximately \$2.1 billion.

Groundwater

As part of the WFF Program, the city is implementing a number of additional projects to supplement DEP's water supply during the Delaware Aqueduct connection period, including reactivation of the groundwater supply system in Queens. DEP has plans to upgrade and repair the groundwater facilities, to restore the well stations to reliable operation and achieve maximum water production capacity, while at the same time ensuring that the water from the wells meets all drinking water quality standards. Completion of the upgrades and repairs, and subsequent start-up of the groundwater supply system is required to be complete before 2020, when DEP plans to shut down the Rondout West Branch Tunnel and connect the new bypass tunnel to the Delaware Aqueduct.

Ultraviolet Disinfection Facility (see next page)

Water Conservation

The average single-family household in New York City uses about 80,000 gallons of water each year, at a cost of \$3.17 per 100 cubic feet of water (748 gallons), or about \$339. Since virtually 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 \$878, consisting of \$339 for water service and \$539 for wastewater services (based on the FY 2012 rates).

New York City is fortunate to have reasonably priced drinking water compared to other cities around the country; however, everyone should do his or her part to conserve this important resource. All New Yorkers are encouraged to 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. It is illegal to open fire hydrants at any time. However, during the summer, you can contact your local firehouse to have a city-approved spray cap installed on a hydrant.

DEP's investments in wireless water meter readers, also known as AMR, allows customers to view their water consumption in real time and helps in detecting potential problems with leaks. Since DEP charges water customers based on consumption, varied usage and leaks can drastically affect quarterly bills. Customers can now sign up online under DEP's Leak Notification Program to receive email notifications when their water use increases significantly over a period of several days, enabling homeowners to quickly respond to potential leaks and fix them before they become a serious billing problem. In the first year of the program, DEP estimates that it has saved roughly \$10 million for more than 12,000 customers. For a free, comprehensive leak audit, call (718) 326-9426. You can also go to www.nyc.gov/dep for more information.



Catskill/Delaware Water Ultraviolet Disinfection Facility

EPA now requires that most surface drinking water be filtered. Due to New York City's \$1.5 billion investment in watershed protection programs, the federal government allows New York City to continue receiving unfiltered drinking water from the Catskill and Delaware watersheds. The holistic approach exempts New York City from being required to build a filtration plant that could cost \$10 billion or more. However, under the requirements of the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR), Catskill/Delaware water is required to have two types of disinfection. The water is already disinfected with chlorine, and the Catskill/Delaware Ultraviolet (UV) Disinfection Facility, once completed, will provide the federally-required secondary level of disinfection against potentially harmful microbiological contaminants such as *Cryptosporidium* and *Giardia*.

Site preparation for the UV Disinfection Facility began in 2006 and construction of the facility began in 2008. The plant, which is expected to begin operation in 2012, is located at the New York City-owned Eastview site, a 153-acre property situated in the towns of Mount Pleasant and Greenburgh in Westchester County. The UV Disinfection Facility, the largest facility of its kind in the world, will consist of fifty-six 40-million-gallon-per-day UV disinfection units and is designed to disinfect a maximum of 2.4 billion gallons of water per day.

What is UV?

Ultraviolet light (UV) is a form of energy called electromagnetic radiation. UV light is a small part of the entire electromagnetic spectrum made up of other types of radiation including visible light, x-rays, radio waves, and microwaves, all at different wavelengths. UV light is electromagnetic radiation with wavelengths in the range of 100-400 nanometers (nm). In contrast, visible light is in the range of 400-700 nm, so UV light is not visible.

What is UV treatment?

UV treatment is the disinfection process of passing water by special lamps that emit UV waves, which can inactivate harmful microorganisms.

How does UV treatment work?

Ultraviolet light is similar to the sun's rays but stronger. The UV alters the nucleic acid (DNA) of viruses, bacteria, molds or parasites, so that they cannot reproduce and are considered inactivated. Cells that cannot reproduce cannot cause disease. UV treatment does not change the water chemically, as nothing is added except energy.

Is UV-treated water safe to drink?

UV-treated water is safe to drink. UV treatment does not add chemicals or change the chemical composition of the water. UV only inactivates microorganisms in the water.

When UV treatment is used to disinfect water, does the water become radioactive?

Since UV is light, it travels through air and water at the speed of light and when the UV source is turned off, the UV is gone. Nothing remains behind and the water that has been exposed to UV is the same as it was before exposure, and it does not become radioactive. It is like shining a bright light into a glass of water.

Will you still use chlorine disinfection?

UV disinfection in combination with chlorine disinfection, which is currently in place, will provide a multiple disinfection barrier.

Does building and operating this new facility increase my water bill?

The construction and operation of the UV Disinfection Facility has already been incorporated into the water rate.



Water Treatment

Drinking water entering New York City's distribution system is treated with chlorine, fluoride, food grade phosphoric acid and sodium hydroxide. New York City uses chlorine to meet disinfection requirements. Fluoride, added since 1966, helps prevent tooth decay. 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 Catskill/Delaware water to raise the pH and reduce corrosivity, which also helps reduce potential exposure to lead.

Fluoride

DEP is one of the many water suppliers in New York State that treats drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control and Prevention (CDC), fluoride is very effective in preventing cavities when present in drinking water at an optimal range of 0.7 to 1.2 mg/L. The New York City Health Code requires a fluoride concentration of 1.0 mg/L, and the NYSDOH maximum contaminant level (MCL) for fluoride is 2.2 mg/L.

During 2011, fluoride was not continuously supplied due to maintenance to the fluoride feed system and other aqueduct construction activities that required the system to be turned off. Fluoridation on the Catskill and Delaware aqueducts was offline 7% and 20% of the time, respectively. There was an extended period of frequent fluoridation interruptions during a 106-day period, from March 15 to June 28, 2011, due to construction work at Delaware Shaft 19. The New York State Dental Association has indicated that a continuous interruption of fluoridation is not expected to have a significant impact on dental health. Outside of this time period, DEP met the required fluoride levels more than 85% of the time.

On January 13, 2011, the United States Department of Health and Human Services requested public comment on its proposal to lower the optimal fluoride target dose to 0.7 mg/L. In response NYSDOH issued guidance to public water supplies indicating that water suppliers in New York State could reduce the optimal fluoride target dose to 0.8 mg/L. Based on these developments the New York City Department of Health and Mental Hygiene authorized DEP to lower the target dose for fluoride to 0.8 mg/L. This dosage change took effect on February 14, 2012.

Operational Changes

Water from the Croton and groundwater systems was not fed into distribution during 2011. Operational information for the groundwater supply system can be found at www.nyc.gov/dep. The New York City Water Supply System map, located on page 3 of this report, represents the Catskill/Delaware and Croton service areas, and groundwater supply system. The map provides further detail on the system's locations.

Drinking Water Quality

DEP's water quality 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.

Drinking Water Sampling and Monitoring

DEP monitors the water in the distribution system, the 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 water quality is regularly tested at sampling points throughout the city at nearly 1,000 water quality sampling stations. DEP conducts analyses for a broad spectrum of microbiological, chemical, and physical measures of quality. In 2011, DEP collected more than 33,000 samples from the city's distribution system and performed more than 357,000 analyses, meeting all State and federal sampling requirements. Results of this regular monitoring are an indicator of whether or not drinking water meets health standards.

Test Results

The results of the tests conducted in 2011 under DEP's Distribution System Monitoring Program are summarized in the tables in this report. These tables reflect the compliance monitoring results for all regulated and non-regulated parameters. The tables present both the federal and State standard for each parameter (if applicable), the number of samples collected, the range of values detected, the average of the values detected, and the possible sources of the parameters. 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 citywide in 2011. Those parameters monitored, but not detected in any sample, are presented in a separate box.

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 (LCR), mandated at-the-tap lead monitoring is conducted at selected households located throughout New York City. In 2010, the results for the at-the-tap monitoring exceeded the lead Action Level (AL), which is 15 µg/L for the 90th percentile. The Action Level is a standard for the concentration of a substance, which no more than 10 percent of the samples should exceed, and/or 90 percent of the results must be at or below said standard. As a result, DEP returned to semi-annual at-the-tap monitoring in 2011. The results of the 2011 monitoring indicated that lead levels returned to normal and were below the AL. Therefore, DEP will return to annual monitoring under the LCR in 2012. The at-the-tap monitoring results are also presented in a separate table in this report.

In 2011, DEP continued a public education program on lead in drinking water. Additionally, as a result of the exceedance in 2010, DEP established a program to replace New York City-owned lead service lines (LSLs).

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 which 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: Over 88,000 sample collection kits have been distributed 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 (1-800-426-4791) or at www.epa.gov/safewater/lead.

Turbidity

Turbidity is a measure of water clarity related to the amount of suspended matter present in the water. DEP is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. DEP monitors for turbidity every four hours at selected compliance locations representative of the raw source waters.

On January 31, 2011, and from February 1, 2011 through February 11, 2011, the samples collected from one of the upstate Kensico Reservoir locations were determined to be not representative of source water entering the distribution system at that time, and therefore DEP cannot be sure of the quality of your drinking water from that location during that time. The samples were taken while the water supply system was in a non-routine operational configuration which impacted the turbidity measurement. Since the water samples collected on these dates were not representative of source water, DEP did not have valid sample results for this period. To address this, DEP made operational changes and installed a raw water sample pump in a location that is representative under all operational conditions.

Both of these incidents were determined by NYSDOH to constitute two separate Tier 3 monitoring violations as specified in the federal Safe Drinking Water Act regulation (40 CFR 141.71(a)(2)) and the New York State Sanitary Code (10 NYCRR 5-1.30(c)(2)). Public notification for the two violations was dated March 23, 2011 and was provided as an insert in the 2010 *Drinking Water Supply and Quality Report*. Although it was determined to be a monitoring violation, extensive water quality monitoring downstream and in New York City's distribution system during these time periods demonstrated that the water supply met all other drinking water quality standards.

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*. Since then, samples have been collected weekly from the outflows of the Kensico and New Croton Reservoirs, before water is chlorinated in the Catskill/Delaware and Croton systems. 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 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, 2011, a total of 104 routine samples were collected and analyzed for *Cryptosporidium* oocysts and *Giardia* cysts at the Kensico Reservoir effluents, and 52 routine samples were collected at the New Croton Reservoir effluent. Samples were analyzed using Method 1623 HV (US EPA). The test method, however, is limited in that it does not allow DEP to determine if organisms identified are alive or capable of causing disease. Of the 104 routine Kensico Reservoir effluent samples, three were positive for *Cryptosporidium* (0 to 1 oocysts/50L), and 81 were positive for *Giardia* (0 to 6 cysts/50L). Of the 52 routine New Croton Reservoir effluent samples, one was positive for *Cryptosporidium* (0 to 1 oocysts/50L), and 39 were positive for *Giardia* (0 to 12 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 active surveillance for cryptosporidiosis and giardiasis to track the incidence of illness and determine all possible causes, including tap water consumption. No cryptosporidiosis or giardiasis outbreaks have been 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.



Protecting the Water Supply from Natural Gas Drilling (Hydrofracking)

DEP is committed to protecting New York City's water supply from natural gas drilling. In 2011, the New York State Department of Environmental Conservation proposed banning high volume hydrofracking in the watershed — a significant and positive step that addressed many of the concerns previously raised by DEP. However, there is still concern about the impact of microseismicity, which are small earthquakes induced during the fracking process when fluids are injected during drilling and the fluids lubricate existing faults. A buffer zone around our underground tunnels is recommended to avoid damage that would have significant consequences on DEP's ability to meet in-City and upstate water demand and would be expensive and time consuming to repair. The City's proposal for a no-drill area includes a two-mile buffer zone from certain tunnels and a seven-mile buffer zone from major aqueducts. We will continue to discuss our concerns with DEC and work to ensure that the best decisions will be made to protect our water supply and its infrastructure. Learn more about the city's position on hydrofracking at www.nyc.gov/dep.

New York City Drinking Water Quality Testing Results 2011

Detected Parameters

PARAMETERS	NYSDOH MCL	USEPA MCLG	CATSKILL/DELAWARE SYSTEM			SOURCES IN DRINKING WATER
			# SAMPLES	RANGE	AVERAGE	
CONVENTIONAL PHYSICAL AND CHEMICAL PARAMETERS						
Alkalinity (mg/L CaCO ₃)	-		316	10.5 - 23.0	13.7	Erosion of natural deposits
Aluminum (µg/L)	50 - 200 ⁽¹⁾		324	16 - 138	44	Erosion of natural deposits
Barium (mg/L)	2	2	324	0.014 - 0.026	0.019	Erosion of natural deposits
Calcium (mg/L)	-		322	4.4 - 6.7	5.3	Erosion of natural deposits
Chloride (mg/L)	250		306	8 - 17	12	Naturally occurring; road salt
Chlorine Residual, Free (mg/L)	4 ⁽²⁾		15020	0.01 - 1.74	0.63	Water additive for disinfection
Color-distribution system (color units - apparent)	-		13924	4 - 38	7	Presence of iron, manganese, and organics in water
Color-entry points (color units - apparent)	15 ⁽³⁾		1095	4 - 15	7	Presence of iron, manganese, and organics in water
Copper (mg/L)	1.3 ⁽⁴⁾	1.3	324	0.003 - 0.025	0.007	Corrosion of household plumbing systems; erosion of natural deposits
Corrosivity (Langelier index)	0 ^(1,5)		316	-2.95 to -1.47	-2.27	
Fluoride (mg/L)	2.2 ⁽³⁾	4.0	1493	ND - 1.3	0.9	Water additive which promotes strong teeth; erosion of natural deposits
Hardness (mg/L CaCO ₃)	-		322	15 - 23	18	Erosion of natural deposits
Hardness (grains/gallon[US]CaCO ₃) ⁽⁶⁾	-		322	0.8 - 1.3	1.0	Erosion of natural deposits
Iron (µg/L)	300 ⁽³⁾⁽⁷⁾		322	21 - 198	54	Naturally occurring
Lead (µg/L)	15 ⁽⁴⁾	0	324	ND - 4	ND	Corrosion of household plumbing systems; erosion of natural deposits
Lithium (mg/L)	-		322	ND - 0.004	ND	Most probably source is improper cleaning of glassware, as it was only detected in one batch of samples including the control samples; erosion of natural deposits
Magnesium (mg/L)	-		322	0.9 - 1.5	1.2	Erosion of natural deposits
Manganese (µg/L)	300 ⁽³⁾⁽⁷⁾		324	9 - 157	21	Naturally occurring
Nickel (µg/L)	-		324	ND - 1	ND	Erosion of natural deposits
Nitrate (mg/L nitrogen)	10	10	306	ND - 0.22	0.12	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
pH (pH units) ⁽⁸⁾	6.5 - 8.5 ⁽¹⁾		15020	6.7 - 9.8	7.3	
Phosphate, Ortho- (mg/L)	-		15017	0.96 - 2.89	2.09	Water additive for corrosion control
Potassium (mg/L)	-		322	0.5 - 0.7	0.6	Erosion of natural deposits
Silica [silicon oxide] (mg/L)	-		290	2.0 - 3.7	3.0	Erosion of natural deposits
Sodium (mg/L)	NDL ⁽³⁾⁽⁹⁾		322	7 - 13	10	Naturally occurring; road salt; water softeners; animal waste
Specific Conductance (µS/cm)	-		15019	44 - 135	89	
Strontium (µg/L)	-		322	16 - 25	19	Erosion of natural deposits
Sulfate (mg/L)	250		306	4.1 - 7.9	5.3	Naturally occurring
Temperature (°F)	-		15020	35 - 82	55	
Total Dissolved Solids (mg/L)	500 ⁽¹⁾		317	13 - 65	51	Metals and salts naturally occurring in the soil; organic matter
Total Organic Carbon (mg/L carbon)	-		317	1.4 - 2.2	1.8	Organic matter naturally present in the environment
Turbidity ⁽¹⁰⁾ - distribution system (NTU)	5 ⁽¹¹⁾		13925	0.5 - 7.4	2	Soil runoff
Turbidity ⁽¹⁰⁾ - source water (NTU)	5 ⁽¹²⁾		-	-	5	Soil runoff
UV 254 Absorbency (cm ⁻¹)	-		317	0.029 - 0.37	0.040	Organic matter naturally present in the environment
Zinc (mg/L)	5 ⁽³⁾		324	ND - 0.015	0.003	Naturally occurring
ORGANIC PARAMETERS						
Specified Organic Chemicals detected:						
Dalapon (µg/L)	50		243	ND - 1.5	ND	By-product of drinking water chlorination; runoff from herbicide use
Di(2-ethylhexyl)phthalate (µg/L)	6		90	ND - 1.8	ND	Probable source is sample contamination from plastic gloves or air particulates
Isophorone (µg/L)	50		90	ND - 0.1	ND	Likely source of solvent is microbial degradation of organic matter
Bromochloroacetic Acid (µg/L)	50		243	ND - 2.8	1.5	By-product of drinking water chlorination
Chloral Hydrate (µg/L)	50		12	1.7 - 13.2	7.2	By-product of drinking water chlorination
Chloropicrin (µg/L)	50		16	0.6 - 1.0	0.8	By-product of drinking water chlorination
Haloacetonitriles (HANs) (µg/L)	50		16	1.5 - 5.9	3.4	By-product of drinking water chlorination
Halogenated Ketones (HKs) (µg/L)	50		16	1.9 - 4.4	2.9	By-product of drinking water chlorination
Total Organic Halogen (µg/L)	-		239	147 - 313	230	By-product of drinking water chlorination
CATSKILL/DELAWARE SERVICE AREA ⁽¹³⁾						
Haloacetic Acid 5 (HAA5) (µg/L)	60 ⁽¹⁴⁾		199	22 - 93	51	By-product of drinking water chlorination
Total Trihalomethanes (µg/L)	80 ⁽¹⁴⁾		220	12 - 94	50	By-product of drinking water chlorination
CROTON SERVICE AREA ⁽¹³⁾						
Haloacetic Acid 5 (HAA5) (µg/L)	60 ⁽¹⁴⁾		28	28 - 91	51	By-product of drinking water chlorination
Total Trihalomethanes (µg/L)	80 ⁽¹⁴⁾		48	20 - 97	57	By-product of drinking water chlorination
GROUNDWATER SERVICE AREA ⁽¹³⁾						
Haloacetic Acid 5 (HAA5) (µg/L)	60 ⁽¹⁴⁾		16	15 - 59	39	By-product of drinking water chlorination
Total Trihalomethanes (µg/L)	80 ⁽¹⁴⁾		48	19 - 71	42	By-product of drinking water chlorination

Detected Parameters (continued)

MICROBIAL PARAMETERS								
PARAMETERS	NYSDOH MCL	USEPA MCLG	CITYWIDE DISTRIBUTION					SOURCES IN DRINKING WATER
			# SAMPLES	RANGE	# SAMPLES POSITIVE	AVERAGE	HIGHEST MONTH % POSITIVE	
Total Coliform Bacteria (% of samples positive/month)	5%	0	9944	-	45	-	2.4%	Naturally present in the environment
<i>E. coli</i> (MPN/100mL)	(15)	0	9944	-	0	-	0.0%	Human and animal fecal waste
Heterotrophic Plate Count (CFU/mL)	TT	-	6297	ND - 599	255	1	-	Naturally present in the environment

LEAD AND COPPER RULE SAMPLING AT RESIDENTIAL WATER TAPS:							
PARAMETER	NYSDOH AL	USEPA MCLG	# SAMPLES	RANGE	90 th PERCENTILE VALUES	# SAMPLES EXCEEDING AL	SOURCES IN DRINKING WATER
JANUARY TO JUNE 2011							
Copper (mg/L)	1.3	1.3	114	0.005 - 0.354	0.224	0	Corrosion of household plumbing systems
Lead (µg/L)	15	0	114	ND - 43	6	2	Corrosion of household plumbing systems
JULY TO DECEMBER 2011							
Copper (mg/L)	1.3	1.3	238	0.000 - 0.440	0.204	0	Corrosion of household plumbing systems
Lead (µg/L)	15	0	238	ND - 80	13	18	Corrosion of household plumbing systems

Not Detected Parameters

UNDETECTED CONVENTIONAL PHYSICAL AND CHEMICAL PARAMETERS
Antimony, Arsenic, Asbestos, Beryllium, Cadmium, Chromium, Cyanide, Foaming Agents, Mercury, Nitrite, Selenium, Silver, Thallium, Gross Alpha ⁽¹⁶⁾ , Gross Beta ⁽¹⁶⁾ , Radium 228 ⁽¹⁶⁾
UNDETECTED ORGANIC PARAMETERS
Principal Organic Contaminants not detected: 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 Chemicals not detected: Alachlor, Aldicarb (Temik), Aldicarb sulfone, Aldicarb sulfoxide, Aldrin, Atrazine, Benzo(a)pyrene, Butachlor, Carbaryl, Carbofuran (Furadan), Chlordane, 2,4-D, 1,2-Dibromo-3-chloropropane, Dicamba, Dieldrin, Di(2-ethylhexyl)adipate, Dinoseb, Diquat, Endothal, Endrin, Ethylene dibromide (EDB), Glyphosate, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, 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 Chemicals not detected: 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, 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 degrade), 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 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, Malathion, Methiocarb, Methyl Paraoxon, 4-Methyl-2-Pentanone (MIBK), Mevinphos, MGK264-isomer a, MGK264-isomer b, Molinate, Naphthalene, Napropamide, 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, trans-Permethrin, Phenanthrene, Prometryn, Pronamide, Propazine, Propoxur (Baygon), Pyrene, 2,4,5-T, Simetryn, Stirofos, Tebuthiuron, Terbacil, Terbufos, Terbutylazine, Terbutryn, 2,2',4,4'-Tetrachlorobiphenyl, Thiobencarb, Triadimefon, 2,4,5-Trichlorobiphenyl, Trichlorotrifluoroethane (Freon 113), Tricyclazole, Trifluralin, Vernolate

Highlighted and **bolded** value indicates an exceedance of a drinking water standard.

Footnotes

- (1) USEPA 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) 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.
- (4) 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.
- (5) A Langelier Index of less than zero indicates corrosive tendencies.
- (6) Hardness of up to 3 grains per gallon is considered soft water; between 3 and 9 is moderately hard water.
- (7) If iron and manganese are present, the total concentration of both should not exceed 500 µg/L.
- (8) The reported average value for pH is the median value.
- (9) 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.
- (10) Turbidity is a measure of cloudiness of the water. Turbidity is monitored because it is a good indicator of water quality and it can hinder the effectiveness of disinfection.
- (11) 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.
- (12) 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.
- (13) Although Croton water and groundwater were not put into distribution in 2011, DBP monitoring is conducted at specified locations based on the potential distribution of the different source waters to consumers. As such, each source has a defined set of monitoring sites and the data are reported by service area.
- (14) The MCLs for HAA5 and TTHMs are the calculated quarterly running annual average. Data presented are the range of individual sampling results and the highest quarterly running annual average.
- (15) 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.
- (16) The State allows monitoring for these radioactive contaminants less frequently than once per year. These data, though representative, are from 2008.

Exceedence

pH: In the Catskill/Delaware System, pH was elevated at the following locations: site 26300 (East New York, 11207) on 1/19/11 and 5/2/11 at 9.8, site 50200 (Stapleton, 10304) on 2/7/11 at 8.8, site 76850 (Jamaica, 11412) on 6/28/11 at 8.6, and site 77650 (Southeast Queens, 11429) on 8/27/11 and 9/8/11 at 8.7 and 9.0 respectively. These elevated pH readings were temporarily localized in the specified areas and may have been attributed to stagnant water conditions. Subsequent samples from these locations reflected pH in the expected ranges.

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.

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.

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

NDL = No Designated Limit

NTU = Nephelometric Turbidity Units

µS/cm = microsiemens per centimeter

µg/L = micrograms per liter (10⁻⁶ grams per liter)

µmho/cm = micromhos per centimeter

Frequently Asked Questions

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).

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 1.0 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.

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. 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 Department of Health certification number (NYSHD CERT #). Consumers can access additional information on New York State certified bottled water facilities within the United States that can be sold 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.





Environmental Protection

59-17 Junction Boulevard
Flushing, New York 11373-5108

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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.

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 *2011 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.

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.