

2018 drinking water quality report

MASSAPEQUA WATER DISTRICT
PUBLIC WATER SUPPLY IDENTIFICATION NO. 2902837



ANNUAL WATER SUPPLY REPORT

SPRING 2019

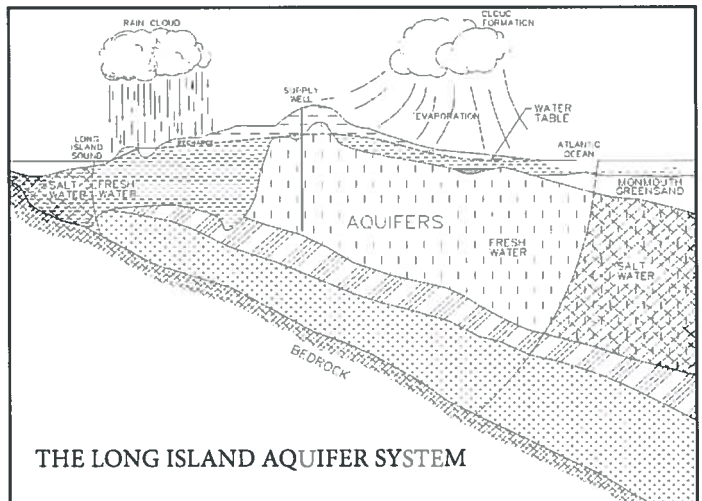
The Massapequa Water District is pleased to present to you this year's Water Quality Report. The report is required to be delivered to all residents of our District in compliance with Federal and State regulations. The Board of Commissioners is happy to report that our water is in full compliance with all Federal, State and County regulations and that no violations exist. Our constant goal is to provide you with a safe and dependable supply of drinking water every day. We also want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. The Board of Water Commissioners and the District employees are committed to ensuring that you and your family receive the highest quality water.

SOURCE OF OUR WATER

The source of water for the District is groundwater pumped from nine (9) wells located throughout the community that are drilled into the Magothy aquifer beneath Long Island, as shown on the enclosed figure. Generally, the water quality of the aquifer in Massapequa is excellent.

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

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



THE LONG ISLAND AQUIFER SYSTEM

The population served by the Massapequa Water District during 2018 was 43,000. The total amount of water withdrawn from the aquifer in 2018 was 1.80 billion gallons, of which approximately 93 percent was billed directly to consumers. The 7.0 percent loss is within industry standards and is lost during hydrant flushing, firefighting/training, water main breaks and well blow-off.

WHAT TYPE OF WATER TREATMENT IS USED?

The Massapequa Water District provides treatment at all wells to improve the quality of the water pumped prior to distribution to the consumer. The pH of the pumped water is adjusted upward to reduce the corrosive action between the water and water mains and in-house plumbing by the addition of sodium hydroxide. To provide optimum corrosion control, the Water District also adds blended polyphosphates to the water produced at each well site. This product will sequester the oxidation of metals such as iron (see section on page 2) and provide a passivating film on the interior surfaces of ferrous iron and copper piping to mitigate the potential leaching of lead and copper. It should be noted that all water treatment chemicals used by the District comply with ANSI/NSF Standard 60. This standard is the accepted health-effect standard for drinking water additives. The District is also required to chlorinate the water supply with small amounts of chlorine.

COST OF WATER

The District utilizes a step billing schedule, as shown on the table below. The average household pays \$1.30 per day for water service (based on water rates and ad valorem taxes).

2019 Semi-Annual Water Rates - Residential

Consumption (gallons)	Charges
Up to 25,000	\$1.46/thousand gallons
25,001 - 100,000	\$2.02/thousand gallons
100,001 - 150,000	\$2.28/thousand gallons
150,001 - 200,000	\$2.54/thousand gallons
Over 200,000	\$2.86/thousand gallons

Semi-Annual Billing

5/8" - 3/4" meter	\$36.50 min. charge
1" meter	\$66.80 min. charge

CONTACTS FOR ADDITIONAL INFORMATION

If you have any questions about this report, concerning the Massapequa Water District or your water supply, please contact the Water District Superintendent Stan Carey at (516) 798-5266 or the Nassau County Department of Health at (516) 227-9692. You may also want to visit our website at www.massapequawater.com. We want our valued customers to be informed about our water system. If you want to learn more, please attend any of our regularly scheduled meetings. They are normally held on Wednesday morning at 8:00 a.m. at the Water District office.

The Massapequa Water District routinely monitors for different parameters and contaminants in your drinking water as required by Federal and State laws. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It is important to remember that the presence of these constituents does not necessarily pose a health risk. For more information on contamination and potential health risks, please contact the USEPA Safe Drinking Water Hotline at 1-800-426-4791 or www.epa.gov/safewater.

During 2017, the District collected 30 samples for lead and copper. The next round of samples will occur in 2020. 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. The Massapequa Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines are appropriate means to lessen the risk of infection by *Cryptosporidium*, *Giardia* and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

WATER CONSERVATION MEASURES

In 2018, the Massapequa Water District continued to implement a water conservation program in order to minimize any unnecessary water use. The pumpage for 2018 was 5.3 percent less than in 2017. This decrease can most likely be attributed to the slightly cooler and wetter weather during 2018 and our Water Conservation Program.

Residents of the District can also implement their own water conservation measures such as retrofitting plumbing fixtures with flow restrictors, modifying automatic lawn sprinklers to include rain sensors, repairing leaks in the home, installing water conservation fixtures/appliances and maintaining a daily awareness of water conservation in their personal habits. Residents can pick up water conservation kits at the District office. In addition, consumers should be aware that the Nassau County Lawn Sprinkler Regulations are still in effect. This includes the ODD/EVEN day limitation and no irrigation between the hours of 10:00 a.m. and 4:00 p.m. Besides protecting our precious underground water supply, water conservation will produce a cost savings to the consumer in terms of both water and energy bills (hot water). Utilizing the water conservation measures listed above can reduce your water use by up to 5%.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

The natural geology of Long Island's south shore in areas like Massapequa contain significant amounts of minerals that result in naturally occurring elevated levels of iron in the water. The District adds iron sequestering agents (long chain polyphosphates) at all wells as part of the District's overall water treatment program to supplement corrosion control and to maintain the iron in the soluble state to minimize water stains on laundry and plumbing fixtures. The District continues to monitor the iron levels. Since the levels are approaching regulatory requirements for iron sequestering, the District has installed an iron removal system and plan to have it in service this year. In accordance with State regulations, the Massapequa Water District routinely monitors your drinking water for numerous parameters. We test your drinking water for coliform bacteria, turbidity, inorganic contaminants, lead and copper, nitrate, volatile organic contaminants, total trihalomethanes and synthetic organic contaminants. Over 130 separate parameters are tested for in each of our wells numerous times per year. The table presented on page 3 depicts which parameters or contaminants were detected in your drinking water. It should be noted that many of these parameters are naturally found in some Long Island drinking water and do not pose any adverse health affects.

Groundwater contamination for organic compounds has been a critical issue in Nassau County. Massapequa Water District is one of the last water suppliers in the County that does not have to treat their water due to groundwater contamination.

SOURCE WATER ASSESSMENT

The NYSDOH, with assistance from the local health department, has completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source were evaluated. The source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how rapidly contaminants can move through the subsurface to the wells. The susceptibility of a water supply well to contamination is dependent upon both the presence of potential sources of contamination within the well's contributing area and the likelihood that the contaminant can travel through the environment to reach the well. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is, or will become contaminated. See the section entitled "Water Quality" for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future.

Our drinking water is derived from nine (9) wells. The source water assessment has rated most of the wells as having a medium high to very high susceptibility to industrial solvents and a high susceptibility to nitrates. The elevated susceptibility to industrial solvents is due primarily to point sources of contamination related to transportation routes and commercial/industrial facilities and related activities in the assessment area. The high susceptibility to nitrate contamination is attributable to residential, commercial and institutional land use and related practices in the assessment area, such as fertilizing lawns.

A copy of the assessment, including a map of the assessment area, can be obtained by contacting the Water District.

2018 DRINKING WATER QUALITY REPORT - TABLE OF DETECTED PARAMETERS

Contaminants	Violation (Yes/No)	Date of Sample	Level Detected (Maximum Range)	Unit Measurement	MCLG	Regulatory Limit (MCL or AL)	Likely Source of Contaminant
Inorganic Contaminants							
Copper	No	June/July 2017	0.0064 - 0.22 0.14 ⁽¹⁾	mg/l	1.3	AL = 1.3	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	No	June/July 2017	ND - ND ND ⁽¹⁾	ug/l	0	AL = 15	Corrosion of household plumbing systems; Erosion of natural deposits
Arsenic	No	07/30/18	ND - 2.5	ug/l	n/a	MCL = 10	Naturally occurring
Ammonia	No	07/10/18	ND - 0.33	mg/l	n/a	No MCL	Naturally occurring
Barium	No	07/10/18	ND - 0.0088	mg/l	2	MCL = 2	Naturally occurring
Sodium	No	10/18/18	2.6 - 21.4	mg/l	n/a	No MCL ⁽²⁾	Naturally occurring
Zinc	No	07/11/18	ND - 0.16	mg/l	n/a	MCL = 5	Naturally occurring
Chloride	No	07/10/18	2.2 - 18.8	mg/l	n/a	MCL = 250	Naturally occurring
Iron	Yes ⁽³⁾	07/30/18	300 - 2700	ug/l	n/a	MCL = 300 ⁽³⁾	Naturally occurring
Manganese	No	07/10/18	ND - 54	ug/l	n/a	MCL = 300	Naturally occurring
Nickel	No	07/23/18	1.1 - 23	mg/l	n/a	MCL = 100	Naturally occurring
Thallium	No	07/30/18	ND - 1.3	ug/l	n/a	MCL = 2.0	Naturally occurring
Sulfate	No	07/10/18	ND - 14.1	mg/l	n/a	MCL = 250	Naturally occurring
Magnesium	No	07/10/18	0.2 - 1.9	mg/l	n/a	No MCL	Naturally occurring
Calcium	No	07/10/18	0.4 - 2.3	mg/l	n/a	No MCL	Naturally occurring
Total Alkalinity	No	10/18/18	ND - 35.4	mg/l	n/a	No MCL	Naturally occurring
Calcium Hardness	No	07/10/18	0.58 - 5.8	mg/l	n/a	No MCL	Naturally occurring
Total Hardness	No	07/11/18	1.4 - 7.7	mg/l	n/a	No MCL	Naturally occurring
Total Dissolved Solids (TDS)	No	10/18/18	ND - 83.0	mg/l	n/a	No MCL	Naturally occurring
Turbidity	No	07/30/18	ND - 4.3	mg/l	n/a	No MCL	Naturally occurring
Unregulated Contaminant Monitoring Rule and Follow-Up Testing⁴							
Bromide	No	10/03/18	ND - 43.2	ug/l	n/a	No MCL	Industrial discharge
Chromium	No	07/23/18	ND - 0.0082	ug/l	n/a	MCL = 100	Natural deposits
Hexavalent Chromium	No	11/03/16	ND - 0.026	ug/l	n/a	No MCL	Natural deposits
Cobalt	No	01/30/15	ND - 3.9	ug/l	n/a	No MCL	Naturally occurring
Strontium	No	01/30/15	2.4 - 21.8	ug/l	n/a	HA = 4000	Naturally occurring
Vandium	No	01/30/15	ND - 0.28	ug/l	n/a	No MCL	Naturally occurring
Radionuclides							
Gross Alpha	No	08/02/16	ND - 2.22	pCi/L	n/a	MCL = 15	Naturally occurring
Gross Beta	No	11/15/18	ND - 1.5	pCi/L	n/a	MCL = 50	Naturally occurring
Radium 226 & 228 Combined	No	08/04/16	0.44 - 1.42	pCi/L	n/a	MCL = 5 ⁽⁵⁾	Naturally occurring
Total Uranium	No	07/27/16	ND - 0.112	ug/l	n/a	MCL = 30	Naturally occurring
Bacteriologicals							
Total Coliform	No	06/13/18 06/27/18	2 positive in June	Positive or Negative	n/a	TT ⁽⁶⁾ = Positive results in more than 5% of the monthly samples	Commonly found in the environment

Definitions:

Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

Maximum Contaminant Level Goal (MCLG) - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

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

Health Advisory (HA) - An estimate of acceptable drinking water levels for a chemical substance based on health effects information; a health advisory is not a legally enforceable Federal standard, but serves as technical guidance to assist Federal, State and local officials.

Milligrams per liter (mg/l) - Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

Micrograms per liter (ug/l) - Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

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

pCi/L - pico Curies per Liter is a measure of radioactivity in water.

⁽¹⁾ - During 2017, we collected and analyzed 30 samples for lead and copper. The action level for lead was not exceeded at any site tested. The next round of sampling and testing will occur in 2020. 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 it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected at your water system. In our sampling program, the 90th percentile value is the 4th highest result.

⁽²⁾ - No MCL has been established for sodium. However, 20 mg/l is a recommended guideline for people on high restricted sodium diets and 270 mg/l for those on moderate sodium diets.

⁽³⁾ - Iron is only a secondary water standard. Iron has no health effects. Therefore, exceeding the MCL represents a level at which adverse aesthetics effects start to occur.

⁽⁴⁾ - UCMR3 - Unregulated Contaminant Monitoring Rule 3 is a Federal water quality sampling program where water suppliers sample and test their source water for 1 year. Results will be used by the USEPA to determine if the contaminants need to be regulated in the future. The District conducted additional voluntary testing in 2016 for some parameters. If follow-up test results were higher than the UCMR3 data, the results are included on this table.

⁽⁵⁾ - MCL is for Combined Radium 226 & 228.

⁽⁶⁾ - TT (Treatment Technique) - A required process intended to reduce the level of a contaminant in drinking water.

WATER SYSTEM IMPROVEMENTS

The District is also continuing with a Capital Improvement Program to rehabilitate existing equipment and facilities to ensure that the District is able to supply a safe and reliable source of drinking water and sufficient pumping capacity for fire flow protection.

The District has continued its diligent and proactive efforts to upgrade and keep current with our customer water quality and consumptive use demands, while meeting and exceeding the stringent regulatory requirements of the EPA, New York State Department of Environmental Conservation and New York State and the local health departments. Furthermore, progressive capital improvements will provide our residents with a safe and reliable source of drinking water at the lowest possible cost.

During 2018, the District worked on the following projects:

1. The iron removal treatment project for Well Nos. 3 and 8 are underway and is expected to be online for the 2019 pumping season. The wells remain in service during most of the construction period. Electrical upgrades at the Little May Booster Station has been completed. This project replaced all existing electrical equipment, pumps, and motors as they have reached their useful life expectancy.
2. The District is continuing with its commitment of replacing aging infrastructure. The District's water meter and fire hydrant replacement programs will continue in 2019.

Copies of the Supplemental Data Package, which includes the water quality data for each of our supply wells utilized during 2018, are available at the Massapequa Water District office which is located at 84 Grand Avenue, Massapequa, New York and the local Public Library.

We at the Massapequa Water District work continually to provide the highest quality water to every tap throughout the community. The security of our system is everyone's responsibility. We ask all of our consumers to be vigilant and if any suspicious activity is observed at any of our facilities, we ask you to call 911 and the Massapequa Water District at 516-798-5266.

The Massapequa Water District conducts over 10,000 water quality tests throughout the year, testing for over 130 different contaminants which have been undetected in our water supply including:

Total Trihalomethanes	Butachlor	Trichloroacetic Acid	1,1,2-Trichloroethane
Fluoride	2,4-D	Dibromoacetic Acid	Tetrachloroethane
1,3,5-Trimethylbenzene	2,4,5-TP (Silvex)	Total Haloacetic Acid	1,3-Dichloropropane
Selenium	Dinoseb	Chloroform	Chlorobenzene
Silver	Dalapon	N-Propylbenzene	1,1,1,2-Tetrachloroethane
Color	Picloram	N-Butylbenzene	Bromobenzene
Nitrate	Dicamba	Methyl Tert. Butyl Ether (MTBE)	1,1,2,2-Tetrachloroethane
Odor	Pentachlorophenol	Haloacetic Acid (HAA5)	1,2,3-Trichloropropane
Perchlorate	Hexachlorocyclopentadiene	Dichlorodifluoromethane	2-Chlorotoluene
Nitrite	bis(2-Ethylhexyl)adipate	Chloromethane	4-Chlorotoluene
Detergents (MBAS)	bis(2-Ethylhexyl)phthalate	Vinyl Chloride	1,2-Dichlorobenzene
Free Cyanide	Hexachlorobenzene	Bromomethane	1,3-Dichlorobenzene
Antimony	Benzo(A)Pyrene	Chloroethane	1,4-Dichlorobenzene
Beryllium	Aldicarb Sulfone	Trichlorofluoromethane	1,2,4-Trichlorobenzene
Metribuzin	Aldicarb sulfoxide	Chlorodifluoromethane	Hexachlorobutadiene
Lindane	Aldicarb	1,1-Dichloroethane	1,2,3-Trichlorobenzene
Heptachlor	Total Aldicarb	Methylene Chloride	Isopropylbenzene (Cumene)
Aldrin	Oxamyl	Trans-1,2-Dichloroethene	4-Isopropyltoluene (P-Cumene)
Heptachlor Epoxide	Methomyl	1,1-Dichloroethane	Ethylbenzene
Dieldrin	3-Hydroxycarbofuran	cis-1,2-Dichloroethene	M,P-Xylene
Endrin	Carbofuran	2,2-Dichloropropane	O-Xylene
Methoxychlor	Carbaryl	Bromochloromethane	
Toxaphene	Glyphosate	1,1,1-Trichloroethane	
Chlordane	Diquat	Carbon Tetrachloride	
Total PCBs	Endothall	1,1-Dichloropropene	
Propachlor	1,2-Dibromoethane (EDB)	1,2-Dichloroethane	
Alachlor	1,2-Dibromo-3-Chl.Propane	Trichloroethane	
E.coli	Dioxin	1,2-Dichloropropane	
Atrazine	Chloroacetic Acid	Dibromomethane	
Metolachlor	Bromoacetic Acid	Trans-1,3-Dichloropropene	
Benzene	Dichloroacetic Acid	cis-1,3-Dichloropropene	
Toluene	Tetrachlorethene	1,2,4-Trimethylbenzene	
Sec-Butylbenzene	Styrene	Tert-Butylbenzene	

The Board of Commissioners of the Massapequa Water District strongly encourages its customers to "Kick the Bottled Water Habit" and just drink tap water by offering environmentally friendly, reusable water bottles free of charge. Contrary to commonly held beliefs, tap water has been deemed safer than bottled water because of the more rigorous required drinking water testing standards. Residents can pick up their reusable tap water bottles at the Water District.

