

Board of Commissioners

**James M. Logan**, Chairman:

jlogan@greenlawnwater.org

**John T. McLaughlin**, Treasurer:

jmclaughlin@greenlawnwater.org

**John H. Clark**, Secretary:

jclark@greenlawnwater.org

Superintendent

**Robert Santoriello**

bob@greenlawnwater.org



# GREENLAWN

## Water District

Water is precious...use it wisely

## 2018 Drinking Water Quality Report

Public Water Supply Identification No. 5103271

### ANNUAL WATER SUPPLY REPORT

MAY 2019

The Greenlawn Water District is pleased to present this 2018 Water Quality Report. The report is required to be delivered to all residents of our District in compliance with Federal and State regulations. We are happy to report that our water supply is in full compliance with all Federal, State and County regulations as presented on page 3. 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 Commissioners and the District employees are committed to ensuring that you and your family receive the highest quality water.

### SOURCE OF OUR WATER

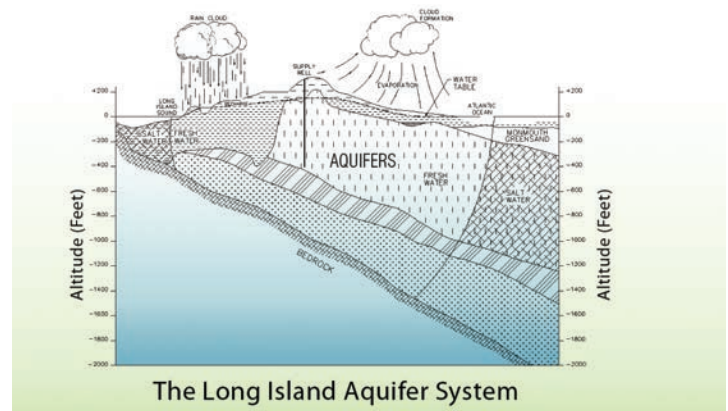
The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick 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 our 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 source of water for the District is groundwater pumped from 14 active wells located throughout the community that are drilled into the Magothy aquifers beneath Long Island, as shown on the figure to the right. Generally, the water quality of the aquifer is good to excellent, although there are localized areas of contamination. The water from these areas is treated by the District to remove any

contaminants prior to the delivery of any water to the consumer. It should also be noted that the District maintains electrical generators at many of our well sites in order to continuously provide water to the community, even during emergency situations such as power outages.

The population served by the Greenlawn Water District during 2018 was 42,000. The total amount of water withdrawn from the aquifer in 2018 was 2.03 billion gallons, of which approximately 92 percent was billed directly to consumers.



### COST OF WATER

The District utilizes a step billing schedule as shown in the table. The average residential consumer is being billed at \$1.05 per 1,000 gallons of water used.

#### QUARTERLY WATER RATES - RESIDENTIAL

Consumption (gallons)	Charges
Up to 10,000	\$16.00 minimum
10,001 - 60,000	\$1.05/thousand gallons
60,001 - 100,000	\$1.45/thousand gallons
Over 100,000	\$1.75/thousand gallons

Copies of a Supplemental Data Package, which includes the water quality data for each of our supply wells utilized during 2018, are available at the Greenlawn Water District office located at 45 Railroad Street, Greenlawn, New York and the Commack, Elwood and Harborfields Public Libraries.

We at Greenlawn Water District work around the clock to provide top quality water to every tap throughout the community. We ask that all our customers help us protect our water resources, which are the heart of our community, our way of life and our children's future.

---

## CONTACTS FOR ADDITIONAL INFORMATION

We are pleased to report that our drinking water is safe and meets all Federal and State requirements. If you have any questions about this report or the Greenlawn Water District, please contact Water District Superintendent Robert Santoriello at (631) 261-0874 or the Suffolk County Department of Health Services at (631) 852-5810. We want our residents to be informed about our water system. Major issues concerning the Greenlawn Water District can be discussed at the regularly scheduled District meetings. They are normally held on Wednesday at 9:00 a.m. at the District Office, 45 Railroad Street, Greenlawn.

The Greenlawn Water District routinely monitors for different parameters and possible 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 impurities. It's important to remember that the presence of these impurities 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](http://www.epa.gov/safewater).

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

by *Cryptosporidium*, *Giardia* and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

Water from some of the wells within the Greenlawn Water District have a slightly elevated nitrate level. This level is below the maximum contaminant level of 10.0 parts per million. Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. The source of the nitrates is the nitrogen in fertilizers and from on-site septic systems. If you are caring for an infant, you should ask advice from your health care provider.

During 2016, the District collected 30 samples for lead and copper. The next round of samples will occur in 2019. 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. Greenlawn 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>.

---

## WATER CONSERVATION MEASURES

In 2018, the Greenlawn Water District continued to implement a water conservation program in order to minimize any unnecessary water use. The pumpage for 2018 was 2.0 percent less than in 2017. This decrease can most likely be attributed to the relatively cooler and wetter weather in 2018 compared to 2017.

Residents are urged to 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. 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).

---

## WATER TREATMENT

The Greenlawn Water District provides treatment at all of its 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. Granular activated carbon filters are also installed at Plant Nos. 3, 8, 11 and 13 to treat potable water for the removal of volatile organic compounds. An air stripping treatment facility is in service at Plant No. 12, also for the removal of volatile organic compounds.

Beginning in June 2010, the District also started to add a small amount of chlorine as a disinfecting agent to prevent the growth of bacteria in the distribution system.

# 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
<b>Inorganic Contaminants</b>							
Lead	No	September 2016	ND - 3.7 1.5 <sup>(1)</sup>	ug/L	0	AL = 15	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	No	September 2016	0.047 - 0.33 0.14 <sup>(1)</sup>	mg/L	1.3	AL = 1.3	Corrosion of household plumbing systems; Erosion of natural deposits
Barium	No	02/01/18	0.0026 - 0.026	mg/L	2	MCL = 2.0	Naturally occurring
Calcium	No	01/31/18	1.3 - 16.8	mg/L	n/a	No MCL	Naturally occurring
Zinc	No	02/01/18	ND - 0.054	mg/L	n/a	MCL = 5	Naturally occurring
Sodium	No	02/01/18	3.6 - 30.9	mg/L	n/a	No MCL <sup>(2)</sup>	Naturally occurring
Chloride	No	02/01/18	3.8 - 63.0	mg/L	n/a	MCL = 250	Naturally occurring
Iron	No	02/01/18	ND - 59	ug/L	n/a	MCL = 300	Naturally occurring
Nitrate	No	04/12/18	0.5 - 9.4	mg/L	10	MCL = 10	Runoff from fertilizer and leaching from septic tanks and sewage
Nickel	No	02/01/18	ND - 5.6	ug/L	n/a	MCL = 100	Naturally occurring
Nitrite	No	04/12/18	ND - 0.28	mg/L	n/a	MCL = 1.0	Runoff from fertilizer and leaching from septic tanks and sewage
Sulfate	No	01/31/18	ND - 29.0	mg/L	n/a	MCL = 250	Naturally occurring
Manganese	No	01/31/18	ND - 14.0	ug/L	n/a	MCL = 300	Naturally occurring
Magnesium	No	01/31/18	0.6 - 7.5	mg/L	n/a	No MCL	Naturally occurring
<b>Synthetic Organic Contaminants</b>							
Bis(2-ethylhexyl)phthalate	No	07/11/18	0.895 - 2.51	ug/L	0	MCL = 6.0	Discharge from rubber & chemical factories
<b>Volatile Organic Contaminants</b>							
1,1,1-Trichloroethane	No	10/18/18	ND - 2.2	ug/L	0	MCL = 5	Industrial/Commercial discharge
Tetrachloroethene	No	07/11/18	ND - 1.9	ug/L	0	MCL = 5	Industrial/Commercial discharge
1,1,2-Trichlorotrifluoroethane	No	01/31/18	ND - 0.81	ug/L	0	MCL = 5	Industrial/Commercial discharge
Trichloroethene	No	07/11/18	ND - 2.1	ug/L	0	MCL = 5	Industrial/Commercial discharge
1,1-Dichloroethane	No	07/11/18	ND - 1.9	ug/L	0	MCL = 5	Industrial/Commercial discharge
1,1-Dichloroethene	No	10/18/18	ND - 1.6	ug/L	0	MCL = 5	Industrial/Commercial discharge
1,2-Dichloropropane	No	01/31/18	ND - 1.1	ug/L	0	MCL = 5	Industrial/Commercial discharge
cis-1,2-Dichloroethene	No	07/11/18	ND - 1.5	ug/L	0	MCL = 5	Industrial/Commercial discharge
MTBE	No	10/18/18	ND - 1.7	ug/L	0	MCL = 10	Release from gasoline storage tanks. Former gasoline additive.
Trihalomethanes (THMS)	No	04/12/18	ND - 7.9	ug/L	0	MCL = 80	Disinfection By-Products
<b>Radionuclides</b>							
Gross Alpha	No	07/19/17	0.38 - 2.73	pCi/L	n/a	MCL = 15	Naturally occurring
Combined Radium 226 & 228	No	07/19/17	0.62 - 0.97	pCi/L	n/a	MCL = 5 <sup>(3)</sup>	Naturally occurring
Uranium	No	07/19/17	0.19 - 1.37	ug/L	n/a	MCL = 30	Naturally occurring
<b>Unregulated Contaminant Monitoring Rule<sup>(5)</sup> and Follow-Up Sampling</b>							
1,4-dioxane	No	07/31/18	0.063 - 1.1	ug/L	n/a	MCL = 50	Industrial/Commercial discharge
Hexavalent Chromium	No	07/12/18	0.08 - 2.0	ug/L	n/a	No MCL	Natural deposits and industrial discharge
Strontium	No	11/17/14	ND - 54.6	ug/L	n/a	No MCL	Natural deposits
Chlorate	No	08/07/18	20.8 - 44.1	ug/L	n/a	No MCL	Naturally occurring
<b>Bacteriologicals</b>							
Total Coliform <sup>(7)</sup>	No	07/31/18 10/30/18	2 positive out of 248 samples	Positive or Negative	n/a	MCL = 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).

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

**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.

<sup>(1)</sup> - During 2016, we collected and analyzed 30 samples for lead and copper. The result indicated represents the 90th percentile as defined by the Lead and Copper Rule. No sample exceeded the action level for copper and lead. Next testing is scheduled for 2019. 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. Greenlawn 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>.

<sup>(2)</sup> - 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.

<sup>(3)</sup> - MCL for Radium is for Radium 226 and Radium 228 combined.

<sup>(4)</sup> - NYS Dept. of Health has established an action level of 18.0 ug/L, even though perchlorate is unregulated by the USEPA.

<sup>(5)</sup> - 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. Follow-up sampling for some parameters may have occurred in 2016. If 2016 were higher than the UCMR3 sampling program, the results are listed on this table.

<sup>(6)</sup> - MCL of 100 ug/L is for Total Chromium. There is no MCL for Hexavalent Chromium.

<sup>(7)</sup> - Total coliform bacteria was detected in 2 out of 248 routine compliance samples collected within our distribution system once in July and once in October 2018. No positive samples were detected for the rest of the year. All repeat samples were negative for bacteria. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present.

## WATER QUALITY

In accordance with State regulations, the Greenlawn 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. As listed in this newsletter, over 135 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 the water supply. It should be noted that many of these parameters are naturally found in all Long Island drinking water and do not pose any adverse health effects.

## 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. Please refer to section "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.

As mentioned before, our water is derived from 14 drilled wells. The source water assessment has rated most of the wells as having a high susceptibility to industrial solvents and nitrates. The elevated susceptibility to nitrates is due primarily to point sources of permitted discharge facilities (industrial/commercial facilities that discharge wastewater into the environment and are regulated by the state and/or federal government), and activities associated to unsewered residential land use and activities, such as fertilizing lawns. The susceptibility to industrial solvents is primarily due to point sources of contamination related to transportation routes and commercial/industrial activities in the assessment area.

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

The Greenlawn Water District conducts over 1,000 water quality tests throughout the year, testing for over 130 different contaminants which have been undetected in our water supply including:

Cadmium	Dicamba	Bromochloromethane
Mercury	Pentachlorophenol	1,1-Dichloropropene
Selenium	Hexachlorocyclopentadiene	1,2-Dichloroethane
Silver	bis(2-Ethylhexyl)adipate	Dibromomethane
Color	Hexachlorobenzene	Trans-1,3-Dichloropropene
Turbidity	Benzo(A)Pyrene	cis-1,3-Dichloropropene
Odor	Aldicarb Sulfone	Carbon Tetrachloride
Ammonia	Aldicarb sulfoxide	1,3-Dichloropropane
Zinc	Aldicarb	Chlorobenzene
Total Alkalinity	Total Aldicarbs	1,1,1,2-Tetrachloroethane
Total Dissolved Solids	Oxamyl	1,2,3-Trichloropropane
Detergents (MBAS)	Methomyl	Bromobenzene
Free Cyanide	3-Hydroxycarbofuran	1,1,2,2-Tetrachloroethane
Antimony	Carbofuran	2-Chlorotoluene
Beryllium	Carbaryl	4-Chlorotoluene
Thallium	Glyphosate	1,2-Dichlorobenzene
Lindane	Diquat	1,3-Dichlorobenzene
Heptachlor	Endothall	1,4-Dichlorobenzene
Aldrin	1,2-Dibromoethane (EDB)	1,2,4-Trichlorobenzene
Heptachloro Epoxide	1,2-Dibromo-3-Chl.Propane	Hexachlorobutadiene
Dieldrin	Dioxin	1,2,3-Trichlorobenzene
Endrin	Chloroacetic Acid	Benzene
Methoxychlor	Bromoacetic Acid	Toluene
Toxaphene	Dichloroacetic Acid	Ethylbenzene
Chlordane	Trichloroacetic Acid	M,P-Xylene
Total PCBs	Dibromoacetic Acid	O-Xylene
Propachlor	Total Haloacetic Acid	Styrene
Alachlor	Gross Beta	Isopropylbenzene (Cumene)
Simazine	Dichlorodifluoromethane	N-Propylbenzene
Atrazine	Chloromethane	1,3,5-Trimethylbenzene
Metolachlor	Vinyl Chloride	Tert-Butylbenzene
Metribuzin	Bromomethane	1,2,4-Trimethylbenzene
Butachlor	Chloroethane	Sec-Butylbenzene
2,4-D	Trichlorofluoromethane	4-Isopropyltoluene (P-Cumene)
2,4,5-TP (Silvex)	Chlorodifluoromethane	N-Butylbenzene
Dinoseb	Methylene Chloride	Fluoride
Dalapon	Trans-1,2-Dichloroethene	1,1,2-Trichloro-1,2,3-Trifluoroethane
Picloram	2,2-Dichloropropane	
Perchlorate	Chromium	