

# 2016 drinking water quality report

RIVERHEAD WATER DISTRICT  
PUBLIC WATER SUPPLY IDENTIFICATION NO. 5103705

**Town Board Members**  
Supervisor Sean M. Walter  
Councilman John Dunleavy  
Councilwoman Jodi Giglio  
Councilman Tim Hubbard  
Councilman James Wooten

**Superintendent**  
Mark Conklin

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## ANNUAL WATER SUPPLY REPORT

MAY 2017

Dear Water District Resident:

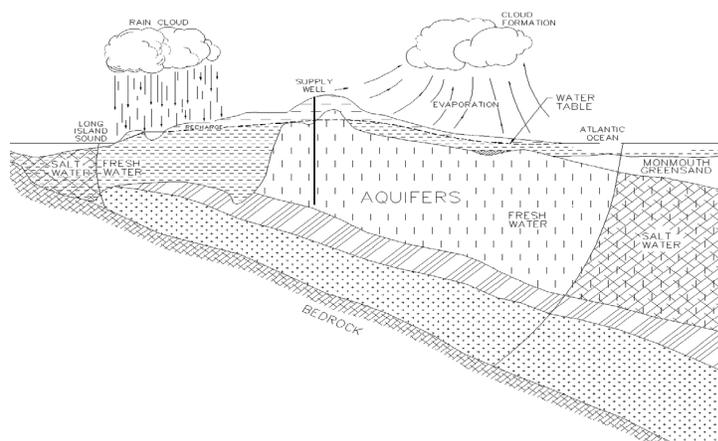
We are pleased to present to you the Riverhead Water District's 2016 Consumer Confidence Report/Annual Water Supply Statement. As shown in this report, the Riverhead Water District continues to provide the residents with a source of water for all of our domestic needs which is reliable and of high quality. Our water is continuously tested to ensure that it meets all drinking water standards. As the Town grows, so does our Water District. In order to meet their increasing water demands, the District is investigating additional source and storage points and hopes to implement these new facilities in the coming year. Simultaneously, we encourage all of our residents to conserve water so we can limit the expense connected with the construction of new additional facilities just to meet the water demands for the few peak days during the summer.

Our Water District staff works hard to make sure every resident has clean water every time he or she turns on the tap. Additional information about our Water District and our water supply can be found on our Town website, [www.townofriverheadny.gov](http://www.townofriverheadny.gov).

## SOURCE OF OUR WATER

The source of water for the District is groundwater pumped from seventeen (17) active wells located throughout the community that are drilled into the Glacial and Magothy aquifers beneath Long Island, as shown on the adjacent figure. Generally, the water quality of the aquifer is good to excellent, although there are localized areas of contamination.

The population served by the Riverhead Water District during 2016 was approximately 33,769. The total amount of water withdrawn from the aquifer in 2016 was 2.88 billion gallons, of which approximately 91.5 percent was billed directly to the residents of the District.



THE LONG ISLAND AQUIFER SYSTEM

## INFORMATION ABOUT OUR DRINKING WATER

This report is required to be available to all residents of our District in compliance with Federal and State regulations. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. The Riverhead Town Board and the District employees are committed to ensuring that you and your family receive the highest quality water.

## COST OF WATER

During 2017, the District is utilizing a unit price billing schedule with the consumer being billed at a rate of \$10.90 for the first 4,000 gallons per quarter plus \$1.73 for each additional 1,000 gallons for the District's 3/4 inch service size. The billing rate is \$19.90 per quarter for first 9,000 gallons for 1 inch service size plus \$1.73 for each additional 1,000 gallons. For additional rates and services, please go to the Town's website.

## CONTACTS FOR ADDITIONAL INFORMATION

We are pleased to report that our drinking water is safe and meets all Federal and State requirements with the exception of iron and manganese. If you have any questions about this report or concerning your water utility, please contact Water District Supt. Mark Conklin at (631) 727-3205 or the Suffolk County Department of Health Services at (631) 852-5810. Water District issues are normally discussed at Town Board meetings. Log on to the website at [www.townofriverheadny.gov](http://www.townofriverheadny.gov) for dates, times and locations or call (631-727-3205).

The Riverhead Water District 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's 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/safe-water](http://www.epa.gov/safe-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 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 suppliers. 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.

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 microbial pathogens are available from the Safe Drinking Water Hotline (1-800-426-4791).

The USEPA established a Lead and Copper Rule that requires all public water suppliers to sample and test for lead and copper at the tap. The first testing was required in 1992. All results were excellent indicating that the District's corrosion control treatment program was effective in preventing the leaching of lead and copper from your home's plumbing into your drinking water. The same testing was conducted in 2016 with the same excellent results.

## WATER CONSERVATION MEASURES

The underground water system of Long Island has more than enough water for present water demands. However, saving water will ensure that our future generations will always have a safe and abundant water supply.

The Riverhead Water District continues to implement a water conservation program to help reduce the peak day water use. Several years ago, there were a few days where the total water demand on the District started to exceed the pumping capacity of our system.

Most of this water use was due to lawn irrigation. Water conservation is necessary to insure we have sufficient water supply during these peak periods for our normal needs as well as the fire fighting protection. A detailed newsletter explaining the water conservation program is attached to this water report. The Riverhead Water District requests that all residents help us conserve water.

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## WATER QUALITY

In accordance with State regulations, the Riverhead 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 135 separate parameters are tested in each of our wells numerous times per year. The table presented on page 3 depicts the quality of your drinking water. 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.

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. To date, the District has not operated a well that exceeds this level. 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.

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## WATER TREATMENT

The Riverhead 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 corrosive action between the water and water mains and in-house plumbing by the addition of lime. The water is also chlorinated with calcium hypochlorite to protect against the growth of bacteria in the distribution system. The District also adds iron sequestering agents at all wells as part of the District's overall water treatment program to supplement corrosion control and to maintain iron in the soluble state to minimize water stains on laundry and plumbing fixtures.

The District operates an ion exchange treatment system for the removal of perchlorate at their Plant No. 16 site. Perchlorate is a man-made substance most often associated with the production of fertilizers. Although the USEPA has not set a drinking water standard for perchlorate, the NYS Dept. of Health has enacted an action level of 18 ug/l. As the perchlorate level at Plant No. 16 has never exceeded the action level, the District continues to treat this well in the interest of its consumers. Other sources are not impacted or contain low levels of perchlorate.

# 2016 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	August and September 2016	ND - 7.7 2.0 <sup>(1)</sup>	ug/l	0	AL = 15	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	No	August and September 2016	ND - 0.4 0.25 <sup>(1)</sup>	mg/l	1.3	AL = 1.3	Corrosion of household plumbing systems; Erosion of natural deposits
Arsenic <sup>(2)</sup>	No	07/25/16	ND - 5.4	ug/l	n/a	MCL = 10	Naturally occurring
Barium	No	05/18/16	ND - 0.07	mg/l	2	MCL = 2.0	Naturally occurring
Zinc	No	05/18/16	ND - 0.026	mg/l	n/a	MCL = 50	Naturally occurring
Ammonia (As Nitrogen)	No	05/18/16	ND - 0.25	mg/l	n/a	MCL = 5.0	Runoff from fertilizer and leaching from septic tanks and sewage
Sodium	No	05/18/16	4.6 - 18.0	mg/l	n/a	No MCL <sup>(3)</sup>	Naturally occurring
Chloride	No	08/18/16	4.7 - 76.1	mg/l	n/a	MCL = 250	Naturally occurring
Iron	Yes <sup>(4)</sup>	10/05/16	ND - 950	ug/l	n/a	MCL = 300 <sup>(4)</sup>	Naturally occurring
Manganese	No <sup>(4)</sup>	07/25/16	ND - 170	ug/l	n/a	MCL = 300	Naturally occurring
Nitrate	No	05/18/16	ND - 6.45	mg/l	10	MCL = 10 <sup>(5)</sup>	Runoff from fertilizer and leaching from septic tanks and sewage
Sulfate	No	06/03/16	ND - 47.1	mg/l	n/a	MCL = 250	Naturally occurring
<b>Unregulated Contaminants</b>							
Perchlorate	No	06/15/16	ND - 12.9	ug/l	n/a	AL = 18 <sup>(6)</sup>	Fertilizers
<b>Synthetic Organic Contaminants Including Pesticides and Herbicides</b>							
Aldicarb Sulfoxide	No	05/18/16	ND - 0.54	ug/l	--	MCL = 6	Discharge from industrial facilities
<b>Volatile Organic Contaminants and Disinfection By-Products</b>							
Total Trihalomethanes	No	07/11/16	ND - 2.24	ug/l	n/a	MCL = 8	Disinfection by-products
<b>Radionuclides</b>							
Gross Alpha	No	06/24/16	0.23 - 0.83	pCi/L	n/a	MCL = 15	Naturally occurring
Radium 226 & 228 Combined	No	06/08/16	ND - 0.926	pCi/L	n/a	MCL = 5	Naturally occurring
<b>Unregulated Contaminant Monitoring Rule and Follow-Up Testing<sup>(7)</sup></b>							
1,2,3-Trichloropropane	No	03/19/14	ND - 0.3	ug/l	n/a	MCL = 5	Industrial solvents, soil fumigant & degreasing agents
Chromium	No	03/19/14	ND - 2.6	ug/l	100	MCL = 100	Natural deposits
Molybdenum	No	03/19/14	ND - 1.2	ug/l	n/a	No MCL	Naturally occurring
Strontium	No	03/19/14	24.6 - 99.2	ug/l	n/a	No MCL	Naturally occurring
Vanadium	No	03/19/14	ND - 3.4	ug/l	n/a	No MCL	Naturally occurring
Hexavalent Chromium	No	09/02/16	ND - 3.3	ug/l	n/a	MCL = 100 <sup>(8)</sup>	Natural deposits
Chlorate	No	07/11/16	17.0 - 21.7	ug/l	n/a	No MCL	Disinfection by-product

## 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.

**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.

<sup>(1)</sup> - During 2016 we collected and analyzed 31 samples for lead and copper. The 90th percentile is presented as the maximum result. The Action Levels for both lead and copper were not exceeded at any site tested. Retesting 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. Riverhead 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> - NYS and EPA have promulgated a drinking water arsenic standard of 10 parts per billion. While your drinking water meets the standard for arsenic, it does contain low levels of arsenic. The standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effect on low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

<sup>(3)</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>(4)</sup> - Iron has no health effects. At 1,000 ug/L a substantial number of people will note the bitter astringent taste of iron. Also, at this concentration, it imparts a brownish color to laundered clothing and stains plumbing fixtures with a characteristic rust color. Staining can result at levels of 50 ug/L, lower than those detectable to taste buds. Therefore, the MCL of 300 ug/L represents a reasonable compromise as adverse aesthetic effects are minimized at this level. Many multi-vitamins may contain 3,000 or 4,000 micrograms of iron per capsule. The Food and Nutrition Board of the National Research Council determined an estimated safe and adequate daily dietary intake of manganese to be 2,000-5,000 micrograms for adults. However, many peoples diets lead them to consume even higher amounts of manganese, especially those who consume high amounts of vegetables or are vegetarian. The infant population is of the greatest concern. It would be better if the drinking water were not used to make infant formula since it already contains iron and manganese. Excess manganese produces a brownish color in laundered good and impairs the taste of tea, coffee and other beverages. Concentrations may cause a dark brown or black stain on porcelain plumbing fixtures. As with iron, manganese may form a coating on distribution pipes. These may slough off, causing brown blotches on laundered clothing or black particles in the water. At Plant No. 5 on Middle Road, Well No. 5-1 is blended with Well No. 5-2 to provide a manganese level below the MCL.

<sup>(5)</sup> - Water from some of the wells within the Riverhead 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.

<sup>(6)</sup> - Perchlorate is an unregulated contaminant. However, the NYS Dept. of Health has established an action level of 18 ug/l.

<sup>(7)</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>(8)</sup> - MCL of 100 ug/l is for Total Chromium. There is no MCL for Hexavalent Chromium.

# WATER SYSTEM IMPROVEMENTS

This past year, the District entered into a partnership with the United States Geological Survey (USGS) to begin to better understand the aquifer beneath Riverhead. It is the intent of the District to eventually locate new source points at strategic locations across the Town to meet continued demand. The District is evaluating what additional improvements to the water system that will be needed in the next few years, including distribution, storage and back up power improvements.

Copies of a Supplemental Data Package, which includes the water quality data for each of our supply wells utilized during 2016, are available at the Riverhead Water District office located at 1035 Pulaski Street, Riverhead, New York, the Town Clerk's office and the local Public Library.

We, at the Riverhead 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 supply, which will improve our way of life and our children's future.

The Riverhead Water District normally 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	Aldicarb Sulfone	Carbon Tetrachloride
Mercury	Aldicarb sulfioxide	1,1-Dichloropropene
Selenium	Aldicarb	1,2-Dichloroethane
Silver	Total Aldicarbs	Trichloroethene
Color	Oxamyl	1,2-Dichloropropane
Turbidity	Methomyl	Dibromomethane
Odor	3-Hydroxycarbofuran	Trans-1,3-Dichloropropene
Total Alkalinity	Carbofuran	cis-1,3-Dichloropropene
Detergents (MBAS)	Carbaryl	1,1,2-Trichloroethane
Free Cyanide	Glyphosate	Tetrachloroethene
Fluoride	Diquat	1,3-Dichloropropane
Antimony	Endothall	Chlorobenzene
Beryllium	1,2-Dibromoethane (EDB)	1,1,1,2-Tetrachloroethane
Thallium	1,2-Dibromo-3-Chl.Propane	Bromobenzene
Lindane	Dioxin	1,1,2,2-Tetrachloroethane
Heptachlor	Chloroacetic Acid	2-Chlorotoluene
Aldrin	Bromoacetic Acid	4-Chlorotoluene
Heptachloro Epoxide	Dichloroacetic Acid	1,2-Dichlorobenzene
Diieldrin	Trichloroacetic Acid	1,3-Dichlorobenzene
Endrin	Dibromoacetic Acid	1,4-Dichlorobenzene
Methoxychlor	Total Haloacetic Acid	1,2,4-Trichlorobenzene
Toxaphene	Chloroform	Hexachlorobutadiene
Chlordane	Bromodichloromethane	1,2,3-Trichlorobenzene
Total PCBs	Dibromochloromethane	Benzene
Propachlor	Bromoform	Toluene
Alachlor	Total Trihalomethanes	Ethylbenzene
Simazine	Gross Beta	M,P-Xylene
Atrazine	Radium 226	O-Xylene
Metolachlor	Dichlorodifluoromethane	Styrene
Metribuzin	Chloromethane	Isopropylbenzene (Cumene)
Butachlor	Vinyl Chloride	N-Propylbenzene
2,4-D	Bromomethane	1,3,5-Trimethylbenzene
2,4,5-TP (Silvex)	Chloroethane	Tert-Butylbenzene
Dinoseb	Trichlorofluoromethane	1,2,4-Trimethylbenzene
Dalapon	Chlorodifluoromethane	Sec-Butylbenzene
Picloram	1,1-Dichloroethene	4-Isopropyltoluene (P-Cumene)
Dicamba	Methylene Chloride	N-Butylbenzene
Pentachlorophenol	Trans-1,2-Dichloroethene	Methyl Tert. Butyl Ether (MTBE)
Hexachlorocyclopentadiene	1,1-Dichloroethane	Nickel
bis(2-Ethylhexyl)adipate	cis-1,2-Dichloroethene	Calcium
Trihalomethanes (THMs)	2,2-Dichloropropane	Magnesium
Hexachlorobenzene	Bromochloromethane	1,4-Dioxane
Benzo(A)Pyrene	1,1,1-Trichloroethane	

## SOURCE WATER ASSESSMENT

The NYSDOH has completed a source water assessment for this system, based on available information. Known and possible contamination sources to this drinking water source were evaluated. The state source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily 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 section "Water Quality" for a list of 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 17 active wells. The source water assessment has rated most of the wells as having a high susceptibility to industrial solvents, pesticides and nitrates and microbial contamination. The elevated susceptibility ratings are due primarily to the various land uses and their related point sources of contamination in the assessment area. The land uses include unsewered commercial, industrial and residential, as well as agricultural land use. While the source water assessment rates our well as being susceptible to microbials, please note that our water is disinfected to ensure that the finished water delivered into your home meets New York State's drinking water standards for microbial contamination.

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

