

Annual Drinking Water Quality Report

Brielle Water Department

For the Year 2017, results from the Year 2016

We are pleased to present to you this year's Annual Drinking Water Quality Report. 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. We are pleased to report that our drinking water meets all federal and state safety requirements.

Some people may be more vulnerable to contaminants 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 about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

The Brielle Water Department and the New Jersey Water Supply Authority - Manasquan Reservoir Water Supply System routinely monitor for over 80 contaminants in your drinking water according to Federal and State laws. The tables list only detected contaminants, and show the results of our monitoring from January 1st to December 31st, 2016. We have learned through our monitoring and testing that some contaminants have been detected. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

Brielle Water Department Test Results PWS ID # NJ1308001						
Contaminant:	Violation Y/N	Level Detected	Units of Measurement	MC LG	MCL	Likely Source of Contamination
Radioactive Contaminants:						
Combined Radium 228 & 226 Test results Yr. 2015	N	1.5	pCi/l	N/A	N/A	Erosion of natural deposits
Inorganic Contaminants:						
Copper Test results Yr. 2014 Result at 90 th Percentile	N	0.1 No samples exceed the action level	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead Test results Yr. 2014 Result at 90 th Percentile	N	ND No samples exceed the action level.	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Barium Test results Yrs. 2014 & 2015	N	Range = ND - 0.06 Highest detect = 0.06	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium Test results Yrs. 2014 & 2015	N	Range = ND - 0.2 Highest detect = 0.2	ppb	4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Disinfection Byproducts:						
TTHM Total Trihalomethanes Test Results Yr. 2016	N	Range = 20 - 36 Highest LRAA = 31	ppb	N/A	80	By-product of drinking water disinfection
HAA5 Haloacetic Acids Test Results Yr. 2016	N	Range = 10 - 21 Highest LRAA = 19	ppb	N/A	60	By-product of drinking water disinfection
Regulated Disinfectants		Level Detected	MRDL		MRDLG	
Chlorine Test results Yr. 2016		Average = 0.5 ppm	4.0 ppm		4.0 ppm	

HAA5 and TTHM compliance is based on a Locational Running Annual Average (LRAA), calculated at each monitoring location. The LRAA calculation is based on four completed quarters of monitoring results.

Our water source: We have two sources of drinking water: our wells and the New Jersey Water Supply Authority, Manasquan Reservoir Water Supply System. One well draws water from the Kirkwood Aquifer and the other two draw their water from the Englishtown Aquifer. The Manasquan Water Treatment Plant, located on Hospital Road in the, Allenwood section of Wall Township, is owned by the Monmouth County Improvement Authority and is operated by the New Jersey Water Supply Authority. The Manasquan Water Treatment Plant takes its water from the Manasquan River in Wall Township and the Manasquan Reservoir in Howell Township.

The New Jersey Department of Environmental Protection (NJDEP) has completed and issued the Source Water Assessment Report and Summary for this public water system, which is available at WWW.state.nj.us/dep/swap or by contacting NJDEP's Bureau of Safe Drinking Water at (609) 292-5550. You may also contact your public water system to obtain information regarding your water system's Source Water Assessment. Brielle Water Department's and the Manasquan Water Supply System's source water susceptibility ratings and a list of potential contaminant sources is included.

Potential sources of contamination: 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 activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can, also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive Contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Definitions:

In the following table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

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

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

Total Organic Carbon - Total Organic Carbon (TOC) has no health effects. However, TOC provides a medium for the formation of disinfection byproducts.

The *Treatment Technique* for TOC requires that 35% - 45% of the TOC in the raw water is removed through a treatment processes. Turbidity - Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium microbial growth. Turbidity is measured as an indication of the effectiveness of the filtration process. The *Treatment Technique* for turbidity requires that no individual sample exceeds 1 NTU and 95% of the samples collected during the month must be less than 0.3 NTU.

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

Maximum Contaminant Level - The "Maximum Allowed" (MCL) is 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 Contaminant Level Goal -The "Goal"(MCLG) is 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 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

Waivers: The Safe Drinking Water Act regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for asbestos, volatile organic chemicals and synthetic organic chemicals. Our systems received monitoring waivers for asbestos and synthetic organic chemicals. The Manasquan Water Supply System received a monitoring waiver for synthetic organic contaminants.

Lead: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Brielle Water Department and the New Jersey Water Supply Authority, Manasquan Reservoir Water Supply System are 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 second to 2 minutes before using water for drinking and 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 or at <http://www.epa.gov/safewater/lead>.

For additional information: If you have any questions about this report or concerning your water utility, please call 732-528-5210. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled Borough Council meetings at Borough Hall, 601 Union Lane. Meetings are held on the second and fourth Monday of each month at 7:30 p.m.

We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future. Please call our office if you have questions.

2016 WATER QUALITY REPORT
MANASQUAN WATER SUPPLY SYSTEM

PWSID 1352005

A division of the New Jersey Water Supply Authority, serving the customer communities of BRIELLE, SEA GIRT, SPRING LAKE, SPRING LAKE HEIGHTS AND WALL TOWNSHIP

The Manasquan Water Treatment Plant, located on Hospital Road in the Allenwood section of Wall Township, is owned by the Southeast Monmouth Municipal Utilities Authority and is operated by the New Jersey Water Supply Authority. The Manasquan Water Treatment Plant provides an average of 60% of the water used by the residents of the above customer communities. Raw water for this facility is taken from the MANASQUAN RIVER in Wall Township and the MANASQUAN RESERVOIR in Howell Township. The Manasquan Water Supply System also provides raw water to New Jersey American Water, for treatment and distribution to other communities in Monmouth and Ocean Counties.

The water produced by the Manasquan Water Treatment Plant is monitored for a large number of contaminants. The contaminants, which have been detected in monitoring from January 1st, 2016 through December 31st, 2016, are listed in the **TEST RESULTS** tables below.

For the complete monitoring schedule or for further information about this report, you can contact Operations Supervisor Donald LeRoy or System Manager Paul McKeon at the Manasquan Water Supply System. Telephone - 1-732-974-8383; Fax - 1-732-974-8607 or E-mail – dleroy@njwsa.org or pmckeon@njwsa.org.

This report is available at <http://www.njwsa.org/mwssccr.pdf>

Some people may be more vulnerable to contaminants 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 about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

TEST RESULTS TABLE

CONTAMINANT	HIGHEST LEVEL DETECTED	RANGE DETECTED	UNIT OF MEASUREMENT	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION	VIOLATION
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MICROBIOLOGICAL CONTAMINANTS 2016

TOTAL COLIFORM BACTERIA	0	0	%	0	5% OF SAMPLES POSITIVE	NATURALLY PRESENT IN THE ENVIRONMENT	NO
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SUSPENDED MATTER REMOVAL 2016

TOTAL ORGANIC CARBON (TOC)	ANNUAL AVERAGE REMOVAL 35.3	MONTHLY SAMPLES	%	N/A	TT REQUIRED REMOVAL MINIMUM IS 35% TO 45% OF AVERAGE RAW WATER TOC OR 0% IF THM AND HAA RESULTS ARE BELOW A PERCENTAGE OF THEIR MCL	NATURALLY PRESENT IN THE ENVIRONMENT	NO
	MINIMUM REMOVAL 15.2	15-48	%	N/A			
TURBIDITY FILTERED WATER	MAXIMUM 0.44	0.03-0.44	NTU	N/A	> 1 NTU (1.49 due to rounding)	SOIL AND ORGANIC MATTER RUNOFF	NO
	Goal is for > 95% of samples to be <0.3NTU	> 99.8% of samples were <0.3NTU (Only 2 results out of 30,600 exceeded 0.30 NTU) Average =0.05 NTU	%	N/A	TT = 95 % OF MONTHLY SAMPLES < 0.3 NTU	SOIL AND ORGANIC MATTER RUNOFF	NO

RADIOACTIVE CONTAMINANTS (RESULTS BASED ON DATA FROM 2011)

GROSS ALPHA EMITTERS	0.96	048 – 1.25	pCi/L	0	15	EROSION OF NATURAL DEPOSITS	NO
RADIUM 228	<1	ND – 0.18	pCi/L	0	5	EROSION OF NATURAL DEPOSITS	NO

INORGANIC CONTAMINANTS

TEST RESULTS TABLE							
CONTAMINANT	HIGHEST LEVEL DETECTED	RANGE DETECTED	UNIT OF MEASUREMENT	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION	VIOLATION
BARIUM	0.039	0.039	PPM	2	2	EROSION OF NATURAL DEPOSITS	NO
FLUORIDE	0.20	0.20	PPM	4	4		
INORGANIC CONTAMINANTS							
NITRATE	0.0987	0.0987	Mg/l	10	10	RUNOFF FROM FERTILIZER USE; INDUSTRIAL AND DOMESTIC WASTE WATER DISCHARGES; EROSION OF NATURAL DEPOSITS	No
ASBESTOS	<0.093	<0.093	Million Fibers /Liter		7x10 ⁶ fibers/l >10 um	EROSION OF NATURAL DEPOSITS	No
ORGANIC CONTAMINANTS							
BROMATE	<0.005	N/A	Mg/l		0.010 RUNNING ANNUAL AVERAGE OF ONE MONTHLY SAMPLE	REACTION OF NATURALLY OCCURRING BROMIDE WITH OZONE	No

TEST RESULTS TABLE
DISINFECTANT/DISINFECTANT BY-PRODUCTS (BASED ON SAMPLES OF WATER LEAVING THE PLANT AND IN THE DISTRIBUTION SYSTEM)

CHLORINE	Highest Value 1.79	Range 1.07-1.79	PPM	4 MRDL GOAL	4 MRDL	WATER ADDITIVE USED TO CONTROL MICROBES	NO
TTHM (TOTAL TRICHALOMETH ANES) FROM THE END OF THE DISTRIBUTION SYSTEM	HIGHEST SINGLE PARAMETER VALUE.	<.05-19.9	PPB	N/A	ANNUAL SITE SAMPLING 80	BY-PRODUCTS OF DRINKING WATER CHLORINATION	NO
	19.9						
HAA5 (HALOACETIC ACIDS) FROM THE END OF THE DISTRIBUTION SYSTEM	HIGHEST SINGLE PARAMETER VALUE.	<1.0-19	PPB	N/A	ANNUAL SITE SAMPLING 60	BY-PRODUCT OF DRINKING WATER CHLORINATION	NO
	19						

MONITORING WAIVERS

The Safe Drinking Water Act regulations allow *monitoring waivers* to reduce or eliminate the monitoring requirements for asbestos, volatile organic chemicals, and synthetic organic chemicals. The NJDEP conducted monitoring of synthetic organic chemicals (SOC) during 2012 that included sampling during storm conditions at our surface water intake. Based on these results, a waiver for the 2011 – 2013 period was received. The waiver for the 2014-2016 period is under NJDEP review.

SECONDARY CONTAMINANTS / WATER QUALITY PARAMETERS				
CONTAMINANT OR PARAMETER	AVERAGE LEVEL DETECTED	UNIT OF MEASUREMENT	MCL (RUL)	LIKELY SOURCE OF CONTAMINATION
IRON	<0.05	Mg/L	0.3	EROSION OF NATURAL DEPOSITS;
MANGANESE	0.015	Mg/L	0.05	EROSION OF NATURAL DEPOSITS;
HARDNESS	84	Mg/L	50 – 250	N/A
SODIUM	20.6	Mg/L	50	EROSION OF NATURAL DEPOSITS; ROADWAY ICE AND SNOW CONTROL
ALUMINUM	<0.15	Mg/L	0.5	BASE ELEMENT OF ADDITIVE USED IN WATER TREATMENT
CHLORIDE	45	Mg/l	250	ROADWAY ICE AND SNOW CONTROL, SALT WATER INTRUSION INTO FRESH WATER

SECONDARY CONTAMINANTS / WATER QUALITY PARAMETERS				
CONTAMINANT OR PARAMETER	AVERAGE LEVEL DETECTED	UNIT OF MEASUREMENT	MCL (RUL)	LIKELY SOURCE OF CONTAMINATION
ZINC	0.341	Mg/L	5.0	CORROSION CONTROL ADDITIVE USED IN WATER TREATMENT ZINC - ORTHOPHOSPHATE
COPPER	<0.010	Mg/L	1.3	EROSION OF NATURAL DEPOSITS;

Additional Inorganic compounds tested that could be the product of erosion, human activity or natural deposits:

<u>Analysis</u>	<u>Result</u>	<u>Units</u>	<u>MCL</u>
Antimony	<0.0004	mg/l	0.006
Arsenic	<0.0005	mg/l	0.005
Barium	0.039	mg/l	2.0
Beryllium	<0.0003	mg/l	0.004
Cadmium	<0.0005	mg/l	0.005
Chromium	<0.0005	mg/l	0.1
Cyanide	<0.0050	mg/l	0.2
Mercury	<0.0002	mg/l	0.002
Nickel	0.001	mg/l	0.1
Orthophosphate	0.128	mg/l as P	
Total Dissolved Solids	206	mg/l	500
Selenium	<0.0025	mg/l	0.05
Sulfate	31.6	mg/l	250
Silver	<0.002	mg/l	0.1

MBAS	<0.1	mg/l	0.5
Thallium	<0.0003	mg/l	0.002

Information on the hardness of water in “grains per gallon” can improve the function of dishwashers, cooling equipment, and other process applications. To convert the Hardness value shown above into grains per gallon, divide the Hardness value in milligrams per liter by 17.

Volatile Organic Compounds results required for the three year cycle of 2014 through 2016 were reported with the 2015 CCR which referenced 2014 results. Below are the results of another set of samples that were tested in 2016:

ANALYSIS	RESULT	UNITS	MCL
Volatile Organic Compounds			
Method: 524.2; page 1 of 3			
Dichlorodifluoromethane	<0.5	ug/l	
Chloromethane	<0.5	ug/l	
Vinyl Chloride	<0.5	ug/l	2
Bromomethane	<0.5	ug/l	
Chloroethane	<0.5	ug/l	
Trichlorofluoromethane	<0.5	ug/l	
1,1-Dichloroethylene	<0.5	ug/l	2
Methylene Chloride	<0.5	ug/l	3
Methyl tert-Butyl Ether	<0.5	ug/l	70
t-1,2-Dichloroethylene	<0.5	ug/l	100
Isopropyl Ether	<0.5	ug/l	
1,1-Dichloroethane	<0.5	ug/l	50
2,2-Dichloropropane	<0.5	ug/l	
cis-1,2-Dichloroethylene	<0.5	ug/l	70
Chloroform	13.0	ug/l	
Bromochloromethane	<0.5	ug/l	
1,1,1-Trichloroethane	<0.5	ug/l	30
1,1-Dichloropropylene	<0.5	ug/l	
Carbon Tetrachloride	<0.5	ug/l	2
Benzene	<0.5	ug/l	1
1,2-Dichloroethane	<0.5	ug/l	2
Trichloroethylene	<0.5	ug/l	1
1,2-Dichloropropane	<0.5	ug/l	5
Bromodichloromethane	6.7	ug/l	

< = less than, not detected.

DEFINITIONS :

In the preceding **Test Results** table you will find terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND) - laboratory analysis indicates that the constituent is not detectable above the minimum

detection level for that analysis method.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

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

MBAS - Methylene blue active substances assay - is a colorimetric analysis test method that uses methylene blue to detect the presence of anionic surfactants (such as a detergent or foaming agent) in a sample of water.

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

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 contaminants.

Total Organic Carbon - Total Organic Carbon has no health effects. However, total organic carbon provides a medium for the formation of *Disinfection By-products*. The *Treatment Technique* for total organic carbon requires that 35% to 45% of the total organic carbon in the raw water is removed through the treatment processes.

Turbidity - Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity is measured as an indication of the effectiveness of the filtration process. The *Treatment Technique* for turbidity requires that no individual sample exceeds 1 NTU and 95% of the samples collected during a month must be less than 0.3 NTU.

TTHM - Total Trihalomethanes are carcinogenic compounds created when Chlorine is added to water as a disinfectant. The *MCL* for TTHM's requires that one annual sample from an approved location does not exceed 80 parts per billion.

Secondary Contaminant - Substances that do not have an impact on health. Secondary Contaminants affect aesthetic qualities such as odor, taste or appearance. Secondary standards are recommendations, not mandates.

Recommended Upper Limit (RUL) - Recommended maximum concentration of secondary contaminants. These reflect aesthetic qualities such as odor, taste or appearance. RULs are recommendations, not mandates.

Disinfection By-products - These compounds are by-products of the addition of chlorine or ozone employed in the disinfection of drinking water. These compounds are confirmed or suspected carcinogens for which *MCLs* have been set.

HAA5 - Haloacetic Acids are compounds created when Chlorine is added to water as a disinfectant. The MCL for HAA5's requires that one annual sample from an approved location does not exceed 60 *parts per billion*.

Monitoring Waiver - Permission from NJDEP or EPA to reduce or eliminate sampling for specific contaminants.

SPECIAL HEALTH CONCERNS

Special considerations regarding children, pregnant women, nursing mothers, and others:

Children may receive a slightly higher amount of a contaminant present in the water than do adults, on a body weight basis, because they may drink a greater amount of water per pound of body weight than do adults. For this reason, reproductive or developmental effects are used for calculating a drinking water standard if these effects occur at lower levels than other health effects of concern. If there is insufficient toxicity information for a chemical (for example, lack of data on reproductive or developmental effects), an extra uncertainty factor may be incorporated into the calculation of the drinking water standard, thus making the standard more stringent, to account for additional uncertainties regarding these effects. In the cases of lead and nitrate, effects on infants and children are the health endpoints upon which the standards are based.

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. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. New Jersey Water Supply Authority – Manasquan Water Treatment Plant 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 or at <http://www.epa.gov/safewater/lead>.

Please note that the New Jersey Water Supply Authority is not responsible for lead testing within the customer communities. Consult the Consumer Confidence Report of your community water system for lead results.

Cryptosporidium

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Cryptosporidium is usually removed through the filtration process and inactivated by other treatment processes such as ozonation. In order to check for the presence of Cryptosporidium, USEPA issued the Long Term 2 Enhanced Surface Water Treatment Rule in January 2006. As part of this rule, the Manasquan System

began monthly sampling and testing for *Cryptosporidium* in April 2008 and this testing continued through its completion in March 2010. The sample results did not show any presence of *Cryptosporidium*. All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. These substances can be microbes, inorganic or organic chemicals and radioactive substances. All 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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 activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater run-off, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater run-off and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and can also, come from gas stations, urban stormwater run-off and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations (MCL's) which limit the amounts of certain contaminants in water provided by public water systems. Further information about EPA safe drinking water regulations can be obtained over the Internet at EPA's drinking water website, <http://www.epa.gov/safewater>. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

The New Jersey Department of Environmental Protection (NJDEP) has completed Source Water Assessment Reports and Summaries for all the public water systems in New Jersey. A summary of the report for NJWSA/Manasquan is included below. A complete copy of the Source Water Assessment Report with appendices and a four-page summary are available on-line at the NJWSA website: <http://www.njwsa.org/mwssrpt.pdf>. Further information on the Source Water Assessment Program can be obtained by logging onto NJDEP's source water web site at <http://www.state.nj.us/dep/swap> or by contacting NJDEP's Bureau of Safe Drinking Water at 609-292-5550. You may also contact the Manasquan Water Supply System at 732-974-8383.

The New Jersey Department of Environmental Protection issues an individual Public Water System Identification Number (PWSID) to each water supply facility. The PWSID for the NJWSA/Manasquan Water Treatment Plant is **1352005**. You can use this PWSID number to assist you in obtaining local drinking water quality information on the Internet at the USEPA website at <http://www.epa.gov/safewater/dwinfo/nj.htm> or at the NJDEP Bureau of Safe Drinking Water website at <http://www.state.nj.us/dep/watersupply/waterwatch/>

Interested individuals may participate in discussions of the operation of the Manasquan Water Supply System by attending the regular monthly meetings of the New Jersey Water Supply Authority or Southeast Monmouth Municipal Utilities Authority.

- New Jersey Water Supply Authority: first working Monday of each month at the NJWSA headquarters, 1851 Route 31, Clinton, NJ 08809. Call 1-908-638-6121 for details. Information on the New Jersey Water Supply Authority can also be obtained over the Internet at <http://www.njwsa.org>.
- Southeast Monmouth Municipal Utilities Authority: first Thursday of each month in the Main Meeting Room, First Floor, Wall Township Municipal Complex, 2700 Allaire Road, Wall, NJ 07719. Call 1-732-449-8444 for specific meeting dates and times or e-mail ph805@optonline.net.

Brielle Water Department-PWSID # NJ1308001

Brielle Water Department is a public community water system consisting of 3 wells and 1 purchased surface water source.

This system's source water comes from the following aquifers: Atlantic City "800-foot" Sand Aquifer System, Englishtown Aquifer System

This system purchases water from the following water system: NJ Water Supply – Manasquan System

Susceptibility Ratings for Brielle Water Department Sources

The table below illustrates the susceptibility ratings for the seven contaminant categories (and radon) for each source in the system. The table provides the number of wells and intakes that rated high (H), medium (M), or low (L) for each contaminant category. For susceptibility ratings of purchased water, refer to the specific water system's source water assessment report.

The seven contaminant categories are defined at the bottom of this page. DEP considered all surface water highly susceptible to pathogens, therefore all intakes received a high rating for the pathogen category. For the purpose of Source Water Assessment Program, radionuclides are more of a concern for ground water than surface water. As a result, surface water intakes' susceptibility to radionuclides was not determined and they all received a low rating.

If a system is rated highly susceptible for a contaminant category, it does not mean a customer is or will be consuming contaminated drinking water. The rating reflects the potential for contamination of source water, not the existence of contamination. Public water systems are required to monitor for regulated contaminants and to install treatment if any contaminants are detected at frequencies and concentrations above allowable levels. As a result of the assessments, DEP may customize (change existing) monitoring schedules based on the susceptibility ratings.

	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radionuclides			Radon			Disinfection Byproduct Precursors		
Sources	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L
Wells - 3			3			3			3			3		2	1			3			3	1	2	

Pathogens: Disease-causing organisms such as bacteria and viruses. Common sources are animal and human fecal wastes.

Nutrients: Compounds, minerals and elements that aid growth, that are both naturally occurring and man-made. Examples include nitrogen and phosphorus.

Volatile Organic Compounds: Man-made chemicals used as solvents, degreasers, and gasoline components. Examples include benzene, methyl tertiary butyl ether (MTBE), and vinyl chloride.

Pesticides: Man-made chemicals used to control pests, weeds and fungus. Common sources include land application and manufacturing centers of pesticides. Examples include herbicides such as atrazine, and insecticides such as chlordane.

Inorganics: Mineral-based compounds that are both naturally occurring and man-made. Examples include arsenic, asbestos, copper, lead, and nitrate.

Radionuclides: Radioactive substances that are both naturally occurring and man-made. Examples include radium and uranium.

Radon: Colorless, odorless, cancer-causing gas that occurs naturally in the environment. For more information go to <http://www.nj.gov/dep/rpp/radon/index.htm> or call (800) 648-0394.

Disinfection Byproduct Precursors: A common source is naturally occurring organic matter in surface water. Disinfection byproducts are formed when the disinfectants (usually chlorine) used to kill pathogens react with dissolved organic material (for example leaves) present in surface water.

NJ Water Supply Authority - Manasquan System - PWSID # NJ352005

NJ Water Supply Authority - Manasquan System is a public community water system consisting of 2 surface water intakes.

This system's source water comes from the following surface water bodies: Manasquan Reservoir, Manasquan River

Susceptibility Ratings for NJ Water Supply Authority - Manasquan System Sources

The table below illustrates the susceptibility ratings for the seven contaminant categories (and radon) for each source in the system. The table provides the number of wells and intakes that rated high (H), medium (M), or low (L) for each contaminant category. For susceptibility ratings of purchased water, refer to the specific water system's source water assessment report.

The seven contaminant categories are defined at the bottom of this page. DEP considered all surface water highly susceptible to pathogens, therefore all intakes received a high rating for the pathogen category. For the purpose of Source Water Assessment Program, radionuclides are more of a concern for ground water than surface water. As a result, surface water intakes' susceptibility to radionuclides was not determined and they all received a low rating.

If a system is rated highly susceptible for a contaminant category, it does not mean a customer is or will be consuming contaminated drinking water. The rating reflects the potential for contamination of source water, not the existence of contamination. Public water systems are required to monitor for regulated contaminants and to install treatment if any contaminants are detected at frequencies and concentrations above allowable levels. As a result of the assessments, DEP may customize (change existing) monitoring schedules based on the susceptibility ratings.

Sources	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radionuclides			Radon			Disinfection Byproduct Precursors		
	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L
Surface water intakes - 2	2				2			2			2			2			2			2				

Pathogens: Disease-causing organisms such as bacteria and viruses. Common sources are animal and human fecal wastes.

Nutrients: Compounds, minerals and elements that aid growth, that are both naturally occurring and man-made. Examples include nitrogen and phosphorus.

Volatile Organic Compounds: Man-made chemicals used as solvents, degreasers, and gasoline components. Examples include benzene, methyl tertiary butyl ether (MTBE), and vinyl chloride.

Pesticides: Man-made chemicals used to control pests, weeds and fungus. Common sources include land application and manufacturing centers of pesticides. Examples include herbicides such as atrazine, and insecticides such as chlordane.

Inorganics: Mineral-based compounds that are both naturally occurring and man-made. Examples include arsenic, asbestos, copper, lead, and nitrate.

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Disinfection Byproduct Precursors: A common source is naturally occurring organic matter in surface water. Disinfection byproducts are formed when the disinfectants (usually chlorine) used to kill pathogens react with dissolved organic material (for example leaves) present in surface water.

Solutions to Stormwater Pollution

Easy Things You Can Do Every Day To Protect Our Water

A Guide to Healthy Habits for Cleaner Water

Pollution on streets, parking lots and lawns is washed by rain into storm drains, then directly to our drinking water supplies and the ocean and lakes our children play in. Fertilizer, oil, pesticides, detergents, pet waste, grass clippings: You name it and it ends up in our water.

Stormwater pollution is one of New Jersey's greatest threats to clean and plentiful water, and that's why we're all doing something about it.

By sharing the responsibility and making small, easy changes in our daily lives, we can keep common pollutants out of stormwater. It all adds up to cleaner water, and it saves the high cost of cleaning up once it's dirty.

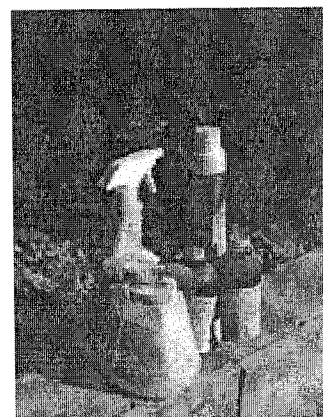
As part of New Jersey's initiative to keep our water clean and plentiful and to meet federal requirements, many municipalities and other public agencies including colleges and military bases must adopt ordinances or other rules prohibiting various activities that contribute to stormwater pollution. Breaking these rules can result in fines or other penalties.



As a resident, business, or other member of the New Jersey community, it is important to know these easy things you can do every day to protect our water.

Limit your use of fertilizers and pesticides

- Do a soil test to see if you need a fertilizer.
- Do not apply fertilizers if heavy rain is predicted.
- Look into alternatives for pesticides.
- Maintain a small lawn and keep the rest of your property or yard in a natural state with trees and other native vegetation that requires little or no fertilizer.
- If you use fertilizers and pesticides, follow the instructions on the label on how to correctly apply it.



Make sure you properly store or discard any unused portions.

Properly use and dispose of hazardous products

- Hazardous products include some household or commercial cleaning products, lawn and garden care products, motor oil, antifreeze, and paints.
- Do not pour any hazardous products down a storm drain because storm drains are usually connected to local waterbodies and the water is not treated.

- If you have hazardous products in your home or workplace, make sure you store or dispose of them properly. Read the label for guidance.

- Use natural or less toxic alternatives when possible.

- Recycle used motor oil.

- Contact your municipality, county or facility management office for the locations of hazardous-waste disposal facilities.



Keep pollution out of storm drains

- Municipalities and many other public agencies are required to mark certain storm drain inlets with messages reminding people that storm drains are connected to local waterbodies.

- Do not let sewage or other wastes flow into a stormwater system.

Clean up after your pet

- Many municipalities and public agencies must enact and enforce local pet-waste rules.

- An example is requiring pet owners or their keepers to pick up and properly dispose of pet waste dropped on public or other people's property.

- Make sure you know your town's or agency's requirements and comply with them. It's the law. And remember to:

- Use newspaper, bags or pooper-scoopers to pick up wastes.

- Dispose of the wrapped pet waste in the trash or unwrapped in a toilet.

- Never discard pet waste in a storm drain.



Don't litter

- Place litter in trash receptacles.

- Recycle. Recycle. Recycle.

- Participate in community cleanups.

Dispose of yard waste properly

- Keep leaves and grass out of storm drains.

- If your municipality or agency has yard waste collection rules, follow them.

- Use leaves and grass clippings as a resource for compost.

- Use a mulching mower that recycles grass clippings into the lawn.



Contact information

For more information on stormwater related topics, visit www.njstormwater.org or www.nonpointsource.org

Additional information is also available at U. S. Environmental Protection Agency Web sites www.epa.gov/npdes/stormwater or www.epa.gov/nps

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Nonpoint Pollution Control
Municipal Stormwater Regulation Program
(609) 633-7021



www.cleanwater.nj.org



Simple Tips to Help You Conserve Water INSIDE Your Home

[View Video of simple tips to help you conserve water inside your home](#)

Here are some tips for saving water and money in the bathroom ...

- Update your shower with a low-flow showerhead and **save up to 7,665 gallons and up to \$50 per year.**
- Cut down the time you spend in the shower to 5 minutes ... and remember the suggestion of switching from baths to 5-minute showers and **save 76,650 gallons and up to \$498 per year.**
- Replace that old water guzzling toilet with a WaterSense low-flow version and **save 10,986 gallons and up to \$70 per year.**
- Get your family to turn the water off while brushing their teeth and **save up to 11,680 gallons and up to \$75 per year.**
- Update your faucet or attach an inexpensive faucet aerator to your existing one and **save 15,622 gallons and up to \$100 per year.**
- Fix a constantly running toilet and **save up to \$480 per year**
- Install a [Gate Tube Toilet Water Saver](#) in your toilet tank and **save up to 7,300 gallons and up to \$144 per year off your water and sewer bill...** homes with wells and septic systems may significantly reduce the load and demand of the well and septic field.

For the kitchen ...

- Only wash dishes when the dishwasher is full and **save up to 2,920 gallons and up to \$19 per year.**
- Replace the old dishwasher with a new high-efficiency model and **save up to 1,314 gallons and up to \$8 per year.**
- Use a faucet aerator and change to a low-flow faucet when possible and **save up to 15,622 gallons and up to \$100.**
- Store drinking water in the refrigerator instead of running the faucet until the water is cold.

And in the laundry room ...

- Upgrade to a high efficiency clothes washer and **save up to 14,585 gallons and up to \$94 per year.**
- Wash only full loads of clothing by adding until the washer is full and **save up to 10,534 gallons and up to \$68 per year.**
- Adjust the water-setting level to correspond with the size of the wash load.

These few tips add up to more than 167,000 gallons and up to approximately \$1,500 a year for the family to save,

and enjoy.

**Calculations for water and money savings are based on estimated water use for a family of four with a water rate of \$6.50 per 1,000 gallons. Note: Water rates vary around the State.*

More Indoor Water Saving Tips:

- Wash fruits and vegetables in a basin and not under running water
- Do not defrost frozen food under running water; instead thaw in the refrigerator overnight
- Add food wastes to your compost pile instead of using the garbage disposal
- Take care of household leaks and save up to 10% on your water bill
- To detect leaks, check your water meter before and after two hours of no water use

Simple Tips to Help You Conserve Water OUTSIDE Your Home

[Video of simple tips to help you conserve water outside your home](#)

Here are some tips for saving water and money while watering lawns and landscapes...

- Only water when needed, New Jersey landscapes need approximately one inch of water a week ... most of which often comes from natural rainfall
- Water flowers with rain collected from your roof with a barrel connected to your gutter downspout
- Use 30-50% less water with drip irrigation and micro-sprays compared to sprinklers
- If you have an irrigation system, get a system audit done by an irrigation specialist who is certified as a USEPA WaterSense Partner

Here are some tips for saving water and money in the Garden:

- Use native plants that survive best in local conditions, and group plants together based on water need
- Choose drought-tolerant grass varieties such as tall fescues
- Mulch around trees and plants to reduce evaporation and water-consuming weeds
- Cut back on lawn areas and increase the size of low water using and native plant garden beds.

Here are some tips for saving water and money while doing household chores:

- Wash the car with a bucket, or use a commercial car wash that recycles water
- When using a hose, control the flow with an automatic shut-off nozzle
- Raise your lawn mower blade to at least 3 inches to promote deeper roots and root system shade that holds soil moisture best
- Don't over fertilize lawns as they need more water to survive
- Sweep driveways, sidewalks and steps rather than hosing them off

Here are some tips for saving water and money during recreational times:

- Avoid recreational toys that require a constant stream of water
- If you have a pool, remember to purchase a water-saving filter
- Cover your pool to reduce evaporation when not in use

More Outdoor Water Saving Tips:

- You are over watering when puddles are forming on the landscape or in the street
- Do not water during the heat of the day - water in the early morning hours or early evening hours to reduce evaporation
- Save water and reduce diseases by watering the root zone instead of the foliage
- Water deeply, less frequently for a deeper, healthier root systems
- Refer to these manuals for more ideas:
 - [Conserving Water on Home Lawns and Landscapes in New Jersey](#)
 - [Landscaping for Water Conservation](#)
 - [Low Maintenance Landscaping \(pdf\)](#)
- Add organic matter to the soil to improve water and nutrient-holding capacity for healthier plants
- Use dehumidifier and air-conditioner condensation to water your plants