

Annual Drinking Water Quality Report

Spring Lake Heights Water Department

For the Year 2018, Results from the Year 2017

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. We have three wells and we purchase water from the New Jersey Water Supply Authority, Manasquan Reservoir Water Supply System. Our wells draw their water from the Mount Laurel and Englishtown Aquifers and are between 400 and 500 feet deep. 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 Reports and Summaries for these public water systems, which are 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. The source water susceptibility ratings and a list of potential contaminant sources for these water systems is included.

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).

| Spring Lake Heights Water Department Test Results | | | | | | |
|--|------------------|---|-----------------------------|----------|--------------|--|
| Contaminant | Violation Y/N | Level Detected | Units of Measure ment | MC LG | MCL | Likely Source of Contamination |
| Radioactive Contaminants: | | | | | | |
| Gross Alpha Test results Yr. 2012 | N | 1.8 | pCi/l | 0 | 15 | Erosion of natural deposits |
| Combined Radium 228 & 226 Test results Yr. 2012 | N | 2.3 | pCi/l | 0 | N/A | Erosion of natural deposits |
| Inorganic Contaminants: | | | | | | |
| Copper Test results Yr. 2016 Result at 90 th Percentile | N | 0.1 No samples exceeded the action level. | ppm | 1.3 | AL=1.3 | Corrosion of household plumbing systems; erosion of natural deposits |
| Lead Test results Yr. 2016 Result at 90 th Percentile | N | 3 No samples exceeded the action level. | ppb | 0 | AL=15 | Corrosion of household plumbing systems; erosion of natural deposits |
| Nitrate (as Nitrogen) Test results Yr. 2017 | N | 0.3 | ppm | 10 | 10 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Disinfection Byproducts: | | | | | | |
| TTHM Total Trihalomethanes Test results Yr. 2017 | N | Range = 24 - 61 Highest LRAA = 48 | ppb | N/A | 80 | By-product of drinking water disinfection |
| HAA5 Haloacetic Acids Test results Yr. 2017 | N | Range = 15 - 36 Highest LRAA = 26 | ppb | N/A | 60 | By-product of drinking water disinfection |
| Regulated Disinfectants | | Level Detected | MRDL | | MRDLG | |
| Chlorine Test results Yr. 2017 | | Average = 1.0 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.

The Spring Lake Heights Water Department and the Manasquan Water Supply System routinely monitor for contaminants in your drinking water according to Federal and State laws. This table shows the results of monitoring for the period of January 1st to December 31st, 2017. 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.

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 Spring Lake Heights Water Department and the Manasquan 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 seconds 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>.

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 "Test Results" tables you may find some 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.

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

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.

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. RUL's are recommendations, not mandates.

Total Organic Carbon (TOC) - We are required to remove a certain percentage of (TOC) from our drinking water on a monthly basis. Total Organic Carbon has no adverse health effects. However, TOC provides a medium for the formation of disinfection byproducts.

Turbidity - A measure of the particulate matter or "cloudiness" of the water. High turbidity can hinder the effectiveness of disinfectants.

If you have any questions about this report or concerning your water utility, please call Robert Koches 732-294-2170. 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, 555 Brighton Avenue. Meetings are held on the first and third Mondays of each month at 8:00 p.m.

We at Spring Lake Heights Water Department work hard to provide top quality water to every tap. 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.

Manasquan Water Supply 2017 Test Results

PWSID # NJ1352005

| Contaminant | Violation Y/N | Level Detected | Units of Measurement | MC LG | MCL | Likely Source of Contamination |
|---|---------------|--|----------------------|-------------|--|---|
| Microbiological Contaminants: | | | | | | |
| Turbidity | N | Range = 0.03 – 0.17 100% < 0.3 NTU | NTU | N/A | TT 95% Of monthly samples < 0.3 NTU | Soil runoff |
| Total Organ Carbon (TOC) | N | Range = 20 - 54 Avg. Removal = 36% | % | N/A | TT 35% - 45% removal | Soil runoff |
| Inorganic Contaminants: | | | | | | |
| Barium | N | 0.04 | ppm | 2 | 2 | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits |
| Copper Result at 90 th Percentile | N | 0.4 No samples exceeded the action level. | ppm | 1.3 | AL=1.3 | Corrosion of household plumbing systems; erosion of natural deposits |
| Lead Result at 90 th Percentile | N | 3.9 No samples exceeded the action level. | ppb | 0 | AI=15 | Corrosion of household plumbing systems; erosion of natural deposits |
| Chromium | N | Range = ND – 1 Highest detect = 1 | ppb | 100 | 100 | Discharge from steel and pulp mills; erosion of natural deposits |
| Fluoride | N | 0.1 | ppm | 4 | 4 | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories |
| Nickel | N | Range = 1 – 3 Highest detect = 3 | ppb | N/A | N/A | Erosion of natural deposits |
| Nitrate (as Nitrogen) | N | Range = ND – 0.3 Highest detect = 0.3 | ppm | 10 | 10 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Disinfection Byproducts: | | | | | | |
| TTHM Total Trihalomethanes | N | 22 | ppb | N/A | 80 | By-product of drinking water disinfection |
| HAA5 Haloacetic Acids | N | 10 | ppb | N/A | 60 | By-product of drinking water disinfection |
| Regulated Disinfectants | | Level Detected | | MRDL | | MRDLG |
| Chlorine | | Average = 1.2 ppm | | 4.0 ppm | | 4.0 ppm |

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, the USEPA issued the Long Term 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.

Unregulated Contaminants for Which EPA Requires Monitoring

The Manasquan Water Supply System collected data as part of an ongoing study to determine the general occurrence of unregulated contaminants. Currently, there are no drinking water standards for these compounds. Unregulated contaminant monitoring helps the USEPA and the NJDEP to determine where certain contaminants occur and whether they should consider regulating those contaminants in the future.

| Contaminant | Detections |
|---------------------|------------|
| Chromium Total | 0.13 ppb |
| Hexavalent Chromium | 0.12 ppb |
| Hezavalent Chromium | 0.10 ppb |
| Strontium | 74.4 ppb |
| 1,4-Dioxane | 0.18 ppb |

Chromium: Naturally occurring element; used in making steel and other alloys; chromium -3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning and wood preservative.

Hexavalent Chromium: Naturally occurring element; used in making steel and other alloys; chromium -3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning and wood preservative.

Hezavalent Chromium: Naturally occurring element; used in making steel and other alloys; chromium -3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning and wood preservative.

Strontium: Naturally occurring element; historically commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.

1, 4 –Dioxane: Cyclic aliphatic ether; used as a solvent or solvent stabilizer in manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos.

Unregulated Contaminants for Which NJDEP Required Monitoring

| Contaminant | Detections |
|--------------------------------|------------|
| Perfluorooctanoic Acid PFOA | 3 ppb |

No MCL, Runoff from industrial and domestic waste discharges.

Borough of Spring Lake Heights- PWSID # NJ1349001

Borough of Spring Lake Heights is a public community water system consisting of 3 wells

This system’s source water comes from the following aquifers: Englishtown Aquifer System, Mount Laurel-Wenonah Aquifer System

This system purchases water from the following water system(s) (if applicable): NJWSA Manasquan System, Wall Township Water Department., Spring Lake Water Department

Susceptibility Ratings for Borough of Spring Lake Heights 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 |
| Wells - 3 | | | 3 | | | 3 | | | 3 | | | 3 | | 2 | 1 | | | 3 | | 1 | 2 | | | 3 |

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 # NJ1352005

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.

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| 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 | 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.