

# **2023 Annual Drinking Water Quality Report**

**City Of New Castle  
Municipal Services Commission  
216 Chestnut Street  
New Castle, Delaware 19720  
Public Water System ID # DE0000634  
June 1, 2022**

The Municipal Services Commission (MSC) is charged with the responsibility of providing you reliable, high quality drinking water. Each spring MSC publishes this report in accordance with the requirements of the United States Environmental Protection Agency (US EPA) and Delaware Division of Public Health (DPH). This Consumer Confidence Report is designed to let you know where your water comes from, what it contains, and any risks water testing and treatment are designed to prevent.

The reporting period for this report is January 1, 2022 through December 31, 2022. The MSC wants you to know that we are committed to providing you with the most reliable, highest quality water supply available.

## **Where Does Municipal Services Commission Water Come From?**

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 radioactive materials, and can pick up substances resulting from the presence of animals or from human activity.

The source of the MSC's Water is the Potomac Aquifer which is a semi confined aquifer whose natural filtering characteristics helps to protect our customers from contaminants. The Division of Public Health in conjunction with the Department of Natural Resources and Environmental Control has conducted a Source Water assessment for the City of New Castle's community water system. Please contact Commission Water Utility Manager Jay Guyer at 302-221-4515 regarding how to obtain a copy of this assessment. You may also review the assessment on the website: <http://delawaresourcewater.org/assessments>.

## **Where Do Contaminants Come From?**

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

## **Are There Limits to Contaminants?**

In order to ensure tap water is safe to drink, the US EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establishes limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the US EPA's Safe Drinking Water Hotline at 1-800-426-4791.

## **Lead In Drinking Water.**

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and children who drink water containing lead in excess of the Action Level (AL) could experience delays in their mental development. Children could show slight deficits in attention span and learning disabilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Lead in drinking water is primarily from materials and components associated with service lines and household plumbing. The Municipal Services Commission 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 in your pipes for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using the water for drinking or cooking. If you are concerned about lead in your drinking 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 are available from the Safe Drinking Water Hotline at 1-800-426-4791 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## **Are Some People at a Greater Risk from Contaminants?**

Some individuals may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 health care providers. US EPA/Center for Disease Control (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 at 1-800-426-4791.



## **Does MSC Do Only The Minimum Testing Required by Law?**

The MSC has tested or has had its water tested by other agencies to look for contaminants which may not be regulated substances. The Commission had DNREC test for contaminants which may have leaked from landfills that are in close proximity to its wells. The EPA and State of Delaware have not set standards for monitoring Radon at this time, none the less the Commission has tested for Radon in its source water and found minimal traces.

MSC Staff continuously evaluates performance of the Granular Activated Carbon filtration system at our School Lane Treatment Facility which removes per- and polyfluoroalkyl (PFAS) substances. Monthly MSC collects water samples from the vessels to monitor carbon performance and to determine when a carbon media exchange should be scheduled. Every 6 months, MSC collects several finished water samples from representative locations in our distribution system testing for the presence of 18 PFAS compounds. There were Non-Detect results on all of the PFAS compounds in 2022. Annually, MSC collects samples from our water supply to monitor the levels of PFAS. MSC anticipates completing a 40,000lb carbon media exchange in one of the filtration vessels during 2023. Continuous sampling and carbon media exchange represents MSC's ongoing commitment to delivering the most reliable, highest quality drinking water to our customers that meets or exceeds all state and federal regulations.

## **What's The Bottom Line?**

Your drinking water meets or surpasses all Federal and State Drinking Water Standards. Staff at the Municipal Services Commission works hard to provide top quality water to every tap. We ask that all customers help us protect our water sources, which are the heart of our community, our way of life, and our children's future.

If you have any questions or concerns about this report or about your water utilities operations, please contact Water Utility Manager Jay Guyer by Phone at: 302-221-4515, by Fax at: 302-324-1842, or E-mail at: [guyerlj@newcastlemsc.delaware.gov](mailto:guyerlj@newcastlemsc.delaware.gov), or on the Web at [www.newcastlemsc.delaware.gov](http://www.newcastlemsc.delaware.gov).

## **Municipal Services Commission Water Quality Report.**

This report is based upon tests conducted by the Delaware Division of Public Health, Office of Drinking Water (ODW) and the MSC. Although many more contaminants were tested for only the contaminants listed below were detected in your water. The US EPA or ODW allows MSC 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. In the following tables, you may find terms and abbreviations that might not be familiar to you. To assist you with understanding these terms and abbreviations we have added definitions at the end of the report.

## Regulated Contaminants

Inorganic Contaminants	Unit of Measure	MCL	MCLG	Highest Level Detected	Annual Range	Date Sampled	Violation	Major Sources of Contaminants / Substances
Arsenic	ppb	10	0	0.8	0.8 - 0.8	2017	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium	ppm	2	2	0.1057	0.1057 - 0.1057	2017	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Fluoride (1)	ppm	2	1.2	1.43	0.45 - 1.43	2022	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nickel	ppb	100	100	7.1	7.1 - 7.1	2017	No	Occurs naturally in soils, ground waters, and surface waters.
Nitrate (as Nitrogen)	ppm	10	10	3.6	2.5 - 3.6	2022	No	Run off from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
Selenium	ppb	50	50	4.7	4.7 - 4.7	2017	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.

## Lead and Copper

Contaminant	Unit of Measure	MCLG	AL	90th Percentile	# of Sites Over AL	Date Sampled	Violation	Major Sources of Contaminants / Substances
Copper	ppm	1.3	1.3	0.116	0 out of 20	2022	No	Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems.
Lead	ppb	0	15	1	0 out of 20	2022	No	Erosion of natural deposits; corrosion of household plumbing systems.

<b>Radiological Contaminants</b>	<b>Unit of Measure</b>	<b>MCL</b>	<b>MCLG</b>	<b>Highest Level Detected</b>	<b>Annual Range</b>	<b>Date Sampled</b>	<b>Violation</b>	<b>Major Sources of Contaminants / Substances</b>
Radium, Combined (226/228)	pCi/l	5	0	3.4	3.4 - 3.4	2020	No	Erosion of natural deposits.
Gross Alpha Particle (excluding radon and uranium)	pCi/l	15	0	2.2	2.2 - 2.2	2020	No	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation.

**There are a number of ways to conserve water and they all start with YOU!**

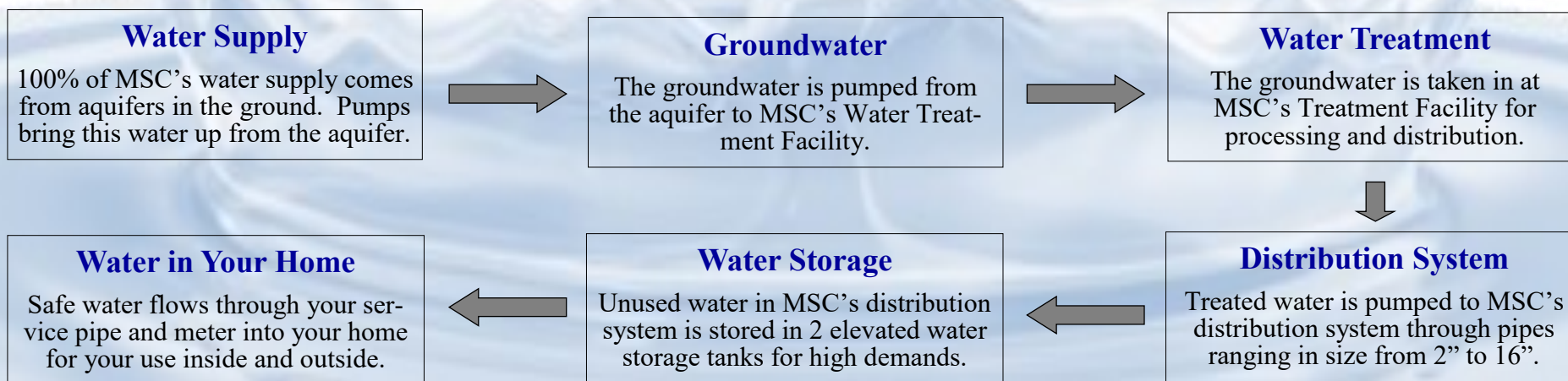
<b>Disinfection / Disinfection By - Products</b>	<b>Unit of Measure</b>	<b>MCL</b>	<b>MCLG</b>	<b>Highest Level Detected</b>	<b>Annual Range</b>	<b>Date Sampled</b>	<b>Violation</b>	<b>Major Sources of Contaminants / Substances</b>
Chlorine, Free (2)	ppm	4.00	4.00	1.74	1.12 - 1.74	2022	No	Disinfectant used in the drinking water industry.
Trihalomethanes, Total	ppb	80	0	2.32	2.32 - 2.32	2022	No	By - product of drinking water chlorination.
Total Haloacetic Acids (HAA5)	ppb	60	0	ND	0.0 - 0.0	2022	No	By - product of drinking water chlorination.



## Unregulated Contaminants

Contaminants	Unit of Measure	MCL	MCLG	Highest Level Detected	Annual Range	Date Sampled
Alkalinity	ppm	N / R	N / R	21.6	21.6 - 21.6	2022
Chloride	ppm	N / R	250.0	102.7	36.7 - 102.7	2022
Manganese	ppm	N / R	0.05	0.0021	0.0021 - 0.0021	2017
pH, Field (3)	0 - 14 scale	N / R	6.5 - 8.5	10.3	6.8 - 10.3	2022
Sodium	ppm	N / R	50	37.3	37.3 - 37.3	2022
Sulfate	ppm	N / R	250	15.5	3.9 - 15.5	2022
Temperature	Degree - C	N / R	N / R	18	11 - 18	2022
Zinc	ppm	N / R	5	0.0278	0.0278 - 0.0278	2017

## Water's Journey to Your Home



## **Microbiological Contaminants -Total Coliform Bacteria**

120 Samples, 10 Per month,  
were collected during 2022

120 samples collected were  
absent of Coliform Bacteria.

Number of Violations: None

Major Sources: Naturally  
present in the environment.

## **Annual Average Readings**

- 1) Average Fluoride reading -  
0.88 ppm
- 2) Average Chlorine Reading -  
1.39 ppm
- 3) Average pH Reading -  
7.4 on the 0 - 14 Scale

Note: Averages are based upon  
the daily water quality readings  
taken at the Commission's School  
Lane Treatment Facility.

## **Sharing the Report**

MSC requests landlords, apart-  
ment managers, businesses, and  
schools share this information  
with others who might not have  
received it directly. Consider  
posting it in a public area or ad-  
vise others that the report is avail-  
able on - line at [http://  
newcastlemsc.delaware.gov/](http://newcastlemsc.delaware.gov/) or  
by contacting the Commission.

## **Waters True Value**

MSC provides our customers  
with a reliable, high quality water  
supply that is priced much less  
than other utility services.

An average MSC residential wa-  
ter customer pays \$0.0147 per  
gallon or \$1.96 per day or \$58.85  
per month for water service.

(Estimate is based upon 2 individ-  
uals in a residential dwelling us-  
ing 4,000 gallons per month or  
133 gallons per day at MSC's  
current rates)

## **Municipal Services Commission Water System Facts**

Metered Customers: 2,337 Water Customers

Annual Water Supply: 147,759,896 Gallons

Miles of Water Mains: 30 Miles

2022 Average Daily Water Demand:  
423,934 Gallons per Day

2022 Peak Day Water Demand:  
861,050 Gallons

Active Supply Wells: 4 Wells - 3 located on  
the Penn Farm and 1 on Basin Road

Treatment Facilities: 1 Facility with a  
1.6MGD capacity

Storage Capacity: 2 Elevated Water Tanks  
with a capacity of 1.6 Million Gallons or ap-  
proximately 2 days supply.

Public Fire Hydrants: 184 - Flushed, inspect-  
ed, and maintained annually.

For Reliability MSC maintains 2 emergency  
interconnections with Artesian Water Compa-  
ny at different locations in our distribution  
system to ensure adequate supply and system  
pressure are always available should the need  
arise.



# Definitions:

**90th Percentile** - The ninth highest reading (of 10 samples), which is used to determine compliance with the Lead and Copper Rule.

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

**Action Level Goal (ALG)** - The level of a contaminant in drinking water below which there is no known or expected risk to health. ALG's allow for a margin safety.

**Maximum Contaminant Level (MCL)** - The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's 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. MCLG's allow for a margin of safety.

**Maximum Residual Disinfectant Goal (MRDLG)** - The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**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.

**Not Applicable (N / A)** - Field is not applicable to the substance.

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

**Not Regulated (N / R)** - No MCL is identified because these substances are unregulated.

**Parts Per Million (ppm)** - 1 Part Per Million corresponds to 1 minute in 2 years or a single penny in \$10,000.00.

**Parts Per Billion (ppb)** - 1 Part Per Billion corresponds to 1 minute in 2000 years or a single penny in \$10,000,000.00.

**Parts Per Trillion (ppt)** - 1 Part Per Trillion corresponds to 1 minute in 2,000,000 years or a single penny in \$10,000,000,000.00.

**Picocuries Per Liter (pCi/l)** - A measure of the radioactivity in water.