

Middlesex Water Company -
Bayview System

ANNUAL WATER QUALITY REPORT

2022



Get To Know Your Drinking Water



Your Drinking Water Meets or is Better Than State and Federal Primary Standards for Drinking Water Quality

This document is an annual report on the quality of water delivered by the Bayview Water System in 2022. It meets the Federal Safe Drinking Water Act for “Consumer Confidence Reports” and contains information on the sources of our water, its constituents, and the health risks associated with any contaminants.

We believe high quality drinking water is vital to the well-being of our communities and are committed to delivering a safe and plentiful drinking water supply. We encourage you to read this report to gain a better understanding of all that’s involved in bringing clean, clear tap water to your home.

Our Source of Water Supply

We continued to work hard in 2022 to provide high quality drinking water to our customers in the Fortescue Beach section of Downe Township. The Middlesex Water Company-Bayview System produced 6.7 million gallons of water last year. This water is supplied from two wells drilled about 400 feet deep in an artesian aquifer known as the Lower Kirkwood Formation. The Bayview System obtains its water solely from two wells, each with their own treatment facilities. Water quality is monitored at each wellfield, and throughout the distribution system, to determine that water delivered to our consumers meets federal and state drinking water quality standards. The Bayview System provides water service to about 300 customers in Fortescue Beach in Cumberland County.

Protecting the Source of Your Drinking Water

(SWAP) Source Water Assessment Program

The New Jersey Department of Environmental Protection (NJDEP) has completed and issued the Source Water Assessment Report and Summary for the Middlesex Water Company - Bayview System, which is available at State.NJ.US/dep/swap or by contacting the NJDEP, Bureau of Safe Drinking Water at (609) 292-5550. A summary of this report is found below.

The goal of the assessment was to measure each system's susceptibility to influences by potential sources of contamination. The NJDEP evaluated the susceptibility of the source water to various categories of contaminants defined below.

Susceptibility Ratings for the Middlesex Water Company - Bayview System

The table below illustrates the susceptibility ratings for each contaminant category for each source in the system. For susceptibility ratings of purchased water, refer to the specific water system's source water assessment report

Parameter	2 Wells
Pathogens	Low
Nutrients	Medium
Pesticides	Low
VOCs	Low
Inorganics	Low
Radionuclides	High
Radon	Medium
Disinfection Byproduct Precursors	Medium

Susceptibility Chart Definitions

Pathogens – Organisms such as bacteria and viruses.

Nutrients – Compounds such as phosphorus and nitrogen that aid in the growth of organisms.

Volatile Organic Compounds (VOCs) – Man-made chemicals used as solvents, degreasers and gasoline components such as MTBE.

Pesticides – Man-made chemicals used to control pests and weeds such as Atrazine.

Inorganics – Mineral-based, man-made and naturally occurring, compounds such as arsenic and nitrates.

Radionuclides – Radioactive, man-made and naturally occurring, substances such as radium and uranium.

Radon – Naturally occurring gas.

Disinfection Byproduct Precursors – Naturally occurring organic matter, mainly in surface waters, that when combined with disinfectants such as chlorine, produce unwanted byproducts.

A public water system's susceptibility rating (Low, Medium or High) is a combination of two factors:

- How sensitive the water supply is to potential contamination.
- How often a contaminant is used or exists near the source water.

The ratings are based on the potential for a contaminant to be at or above 50% of the MCL (High), between 10% and 50% of the MCL (Medium) and less than 10% of the MCL (Low).

DEP considered all surface water highly susceptible to pathogens; therefore, all intakes received a high rating for the pathogen category. For the purpose of the Source Water Assessment Program, radionuclides are more of a concern for groundwater than surface water. As a result, surface water intakes' susceptibility to radionuclides was not determined and they all received a low rating.

The Middlesex Water Company-Bayview System produced **6.35 million gallons** of water in 2022.

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, the DEP may customize (change existing) monitoring schedules based on the susceptibility ratings.

Source Water Assessment Reports and Summaries are available for public water systems at www.state.nj.us/dep/swap or by contacting the NJDEP's Bureau of Safe Drinking Water at (609) 292-5550.

Making Water Safe to Drink

About the Treatment Process

To provide you with quality drinking water, the Middlesex Water Company – Bayview System uses chlorine as a disinfectant for its groundwater supplies. Water quality is monitored in the distribution system to determine that state and federal water quality standards are met.

Groundwater passes through layers of soil and gravel prior to our wells, which act as a natural filter. Groundwater comes from an underground source of water known as an aquifer. These groundwater supplies are disinfected with chlorine to destroy bacteria that may be present and protect against microbial contaminants before being pumped into the distribution system. We monitor the level of this additive daily to ensure the proper dosage is being added.

What Substances May be Found in the Source Water Before it is Treated?

The sources of drinking water (both tap water and bottled water) generally include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water moves over land or through the ground, it dissolves naturally occurring minerals and organics and can pick up substances resulting from the presence of animal or human activity. Substances that may be present in source waters prior to the treatment process include:

Microbial Contaminants

Such as viruses and bacteria, which may come from sewage treatment plants, septic systems, livestock and wildlife.

Inorganic Contaminants

Such as salts and metals, which can be naturally occurring or result from storm water runoff, wastewater discharges, or farming.

For more information about contaminants and potential health effects, call the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Pesticides and Herbicides

May come from a variety of sources such as agriculture, storm water runoff, and residential uses.

Organic Chemical Contaminants

Including natural, synthetic and volatile organic chemicals, which are by-products of nature and industrial processes and petroleum production. Can also come from gas stations, storm water runoff and septic systems.

Radioactive Contaminants

Can be naturally occurring or may be the result of oil and gas production and mining activities.



What You Should Know About 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. Middlesex Water-Bayview System 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 is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>

Do I Need to Take Special Precautions?

To ensure that tap water is safe to drink, the EPA and the DEP Bureau of Safe Drinking Water prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The U.S. 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 **EPA Safe Drinking Water Hotline at (800) 426-4791**.

Notice to Landlords:

Landlords must distribute this information to every tenant as soon as practicable, but no later than three business days after receipt. Delivery must be done by hand, mail, or email, and by posting the information in a prominent location at the entrance of each rental premises, pursuant to section 3 of P.L. 2021, c. 82 (C.58:12A-12.4 et seq.).

General Safety Suggestions Regarding Water Main Breaks

During main breaks or other system disruptions, the Middlesex Water Company – Bayview System may encourage customers to boil their water used for drinking. **Customers should bring tap water to a rolling boil, boil for one minute, and cool before using.** Boiled or bottled water should be used for drinking, making ice, washing dishes, brushing teeth, and preparing food until further notice. This suggestion is offered to provide an extra margin of safety to our customers. This precautionary advisory is typically in effect from the time of the break, until 48 hours after service is restored.

These safety suggestions may be of particular interest to people with compromised immune systems, the elderly and infants who may be more vulnerable to possible contaminants in drinking water than the general population and have special needs regarding water quality. The Company suggests that these individuals discuss the boil water safety recommendation with their health care providers, should they experience any water service disruption to their homes in the future.

Based on past experience, the Company does not expect any water quality problems to be associated with main repairs. Its recommendation is simply a standard precautionary measure to better ensure the safety of its customers during distribution system and main repair work.



64,240 gallons

The amount of water used by the average American in one year. *Source: Water.org*

HEALTH INFORMATION

Required Additional Health Information

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, this 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.

A Word of Caution

Our treatment systems are designed and operated to produce water that meets all state and federal standards. Many substances and microscopic organisms found in water may be a concern if they occur at high concentrations. For some contaminants, MCL levels have not been set because the EPA has not determined at what level they pose a public health risk. This is often because a reliable detection method is unavailable and/or because the contaminant is rarely found in treated water.

Some naturally occurring organisms commonly found in the natural water supplies may not be eliminated during the treatment process. This means that even a well-run system may contain low levels of microscopic organisms. The levels, however, are normally of little concern to healthy individuals. It should be noted,

however, that under certain circumstances, these organisms might amplify to dangerous levels within a customer's own water supply system. All customers, including residential, commercial and industrial customers, and other large facilities such as schools, hospitals and hotels/motels, should follow appropriate procedures for maintaining their own internal plumbing systems and appliances. If you have any concerns about these matters, please call the **EPA Safe Drinking Water Hotline at (800) 426-4791**.

For Your Safety

A Message for People with Compromised Immune Systems

Although our drinking water meets all state and federal regulations, some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals 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 individuals 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 pathogens are available from the EPA Safe Drinking Water Hotline at (1-800 426-4791).

Definitions & Abbreviations used below:

Primary Standards: Standards which relate to public health. **MCLG:** Maximum Contaminant Level Goal. 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. **MCL:** Maximum Contaminant Level. 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. **MRDL:** Maximum Residual Disinfectant Level. 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. **MRDLG:** Maximum Residual Disinfectant Level Goal. 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. **Waiver:** State permission to reduce monitoring frequency because previous results have consistently been below the MCL. **ppt:** Parts Per Trillion. 1 ppt corresponds to 1 penny in \$10 billion. **ppb:** Parts Per Billion. 1 ppb corresponds to 1 penny in \$10 million. **ppm:** Parts Per Million. 1 ppm corresponds to 1 penny in \$10 thousand. **mrem/year:** Millirems per year. A measure of radiation absorbed by the body. **N/A:** Not Applicable. **ND:** None Detectable at testing limit. **NR:** Not Reported. **<:** Less Than. **>:** Greater Than. **AL:** Action Level. The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. **pCi/l:** Picouries per Liter. A measure of the radioactivity in water.

Monitoring Waivers

The Safe Drinking Water Act regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for some compounds because previous results have consistently been below the MCL. Middlesex Water Company-Bayview System received waivers for the following contaminants: Synthetic Organic Chemicals, Asbestos and Nitrites/Statewide Waiver.

What the Numbers Mean to You: The table shows the results of our monitoring during 2022. The EPA requires monitoring of over 100 drinking water contaminants. Those listed are the only contaminants detected. For a complete list of monitored contaminants, contact Middlesex Water Company-Bayview System at 800-549-3802. As you can see, the Middlesex Water Company-Bayview System had no MCL violations. The EPA has determined that your water is safe at these levels. The State requires water systems to monitor for certain contaminants less than once a year because the concentration of these contaminants is not expected to vary significantly from year to year. Therefore, some of these data may represent prior period testing that is considered representative of water quality.

ANNUAL WATER QUALITY RESULTS - 2022							Primary Standards
Parameter	Units	MCL (State/Federal Standard)	MCLG (Ideal Goal)	Results		MCL Violation Yes/No	Major Sources in Drinking Water
				Highest Level used for Compliance	Range		
INORGANIC							
Fluoride (1)	ppm	4	4	0.16	0.12 - 0.16	No	Erosion of natural deposits
Lead (2)	ppb	AL = 15	0	0.7	N/A	No	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (2)	ppm	AL = 1.3	1.3	0.06	N/A	No	Corrosion of household plumbing systems; Erosion of natural deposits
DISINFECTION BY-PRODUCTS							
Total Trihalomethanes	ppb	80	N/A	8	N/A	No	By-product of drinking water disinfection
Total Haloacetic Acids	ppb	60	N/A	1	ND - 1	No	By-product of drinking water disinfection
VOLATILE ORGANIC COMPOUNDS							
Total Xylenes	ppb	10,000	10,000	1	ND - 1	No	Discharge from petroleum factories; discharge from chemical factories
ADDITIONAL TESTING							
Disinfectant Residuals (Chlorine)	ppm	>4 (MRDL)	>4 (MRDLG)	1.5	0.2 - 1.5	No	Water additive used to control microbes

Secondary Standards (Non-Health Related)				
Parameter	Units	RUL*	Results	
			Average	Range
Alkalinity (1)	ppm	N/A	89	88 - 90
Aluminum (1)	ppm	0.2	ND	N/A
Chlorides (1)	ppm	250	7.5	6.8 - 8.1
Hardness (1)	ppm	250	82	79 - 85
Iron (1)	ppm	0.3	ND	N/A
Manganese (1)	ppm	0.05	0.02	0.01 - 0.02
pH (1)	N/A	6.5 - 8.5 (optimum range)	7.75	7.7 - 7.8
Sodium (1)	ppm	50	13.5	13 - 14
Sulfates (1)	ppm	250	9	7 - 11
Zinc (1)	ppm	5	.01	ND - .01

1: Bayview Water System is on reduced monitoring, once per three-year cycle. The listed contaminant concentrations are from 2021.

2: Bayview Water System is on reduced monitoring, once per three-year cycle. The listed Lead and Copper concentrations are the 90th Percentile. Results are from 2020. The next sampling will be conducted in 2023.

*RUL: Recommended Upper Limit

Middlesex Water Company- Bayview System

P. O. Box 1500
Iselin, New Jersey 08830

You can help

protect drinking water!

**Never flush unwanted or expired
medicine down the toilet or drain.**

Avoid using pesticides and fertilizers.

Pick up after your pets.

Use and dispose of chemicals properly.

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If you have any questions about this report or would like more information about your water quality, please call us at (732) 634-1500 or you may contact the Environmental Protection Agency (EPA) Safe Drinking Water Hotline at (800) 426-4791 for additional information about drinking water regulatory programs.

We invite you to become involved in decisions affecting your drinking water by sharing your comments and concerns. Please call or write to:

Dave Brogle

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Middlesex Water Company-
Bayview System

PLEASE SHARE THIS REPORT WITH OTHERS.
Landlords, businesses, schools, hospitals, and other groups are encouraged to share this Water Quality Report with all water users at their locations.

PWSID #060400