

CITY OF NEW BRUNSWICK

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Dear Water Consumer,

The City of New Brunswick is dedicated to the treatment and distribution of high quality water for all users. We are pleased to report that our ongoing investment in the City's water infrastructure have helped to improve the quality and efficiency of our treatment and distribution systems and allow us to continue to provide approximately 12 million gallons of high quality water for all consumers each and every day.

The City of New Brunswick has committed approximately \$20 million over the past five years to renovation and renewal projects intended to enhance the performance of our water system and continuously improve upon the quality of water provided to our customers.

We continue to develop plans and design improvements for our treatment plant and the Citywide distribution system, with several major projects in the design phase.

We will replace aging equipment used in the treatment process, improving both the efficiency of the treatment process and water quality. It will also put us in the best possible position to continue to meet current regulatory requirements and plan for future ones.

We have made excellent progress on a water main replacement project within the Rutgers Village neighborhood. Work there will continue into the summer. Further upgrades are scheduled this year for water mains on Somerset Street, Joyce Kilmer Avenue, Livingston Avenue, George Street at Landing Lane, Handy Street, Quentin Avenue, Ryders Lane and several railroad crossings.

Our Home News Row Water Storage tank will be serviced this year with sandblasting, painting and some minor structural repairs.

We have successfully replaced 3,500 water meters over the past two and a half years and will continue with a goal of replacing at least 1,500 per year going forward.

Our lead and copper testing program seeks to test household plumbing in homes built from 1982 through 1988 to check for lead and copper concentrations. Lead enters drinking water primarily as a result of corrosion or wear on lead-containing materials in household plumbing. We are pleased to report that New Brunswick has met the requirements of the Lead and Copper Rule, with the 90th percentile results being below the 15 ppb action level for lead.

If you own a home built from the years of 1982 through 1988 and wish to participate in this program, please contact my office at (732) 745-5004. In 2018, we reported one sampling violation to the NJDEP in 2018. Samples were collected in accordance with regulations and results were normal, but the results of one test for iron manganese was submitted late.

The Water Quality Report is provided annually to all water consumers and contains information about the water provided by the City of New Brunswick. This report meets the Federal and State requirements for Consumer Confidence Reports. We encourage you to read this report and study the water quality test results for the 2018 calendar year. We hope you find this report informative and that the information provides you with a better understanding of what is involved in the production of your drinking water.

If you would like additional information or if you have any questions concerning this report, please call the New Brunswick Water Utility at (732) 745-5060. You can also call the United States Environmental Protection Agency Safe Drinking Water Hotline at (800) 426-4791 or the New Jersey Department of Environmental Protection at (609) 292-5550 for further information.

Sincerely,

James M. Cahill
Mayor of New Brunswick

New Brunswick, New Jersey WATER QUALITY REPORT 2019

PWSID# NJ1214001

Sources of Drinking Water

Both tap water and bottled water may come from groundwater (springs, wells) or surface waters (rivers, lakes, ponds, streams, and reservoirs). As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activity.

Surface waters are the source of the supply for the City of New Brunswick. Water is pumped to the New Brunswick Water Treatment Plant from the following two locations: Weston's Mill Pond, which is fed by the Lawrence Brook, and the Delaware and Raritan Canal. The City will utilize the two different sources at various times of the year depending on raw water quality in order to provide the highest quality water delivered to New Brunswick customers. The water is filtered and disinfected before distribution.

The New Jersey Department of Environmental Protection (NJDEP) completed and issued the Source Water Assessment Report and Summary for this public water system in 2004. It is available at www.state.nj.us/dep/swap/ or by contacting the NJDEP, Bureau of Safe Drinking Water at 609.292.5550.

The assessment found medium to high susceptibility to contamination by pathogens, nutrients, pesticides, inorganics and disinfection by-products; and low susceptibility to radionuclide and radon contamination. This is typical for surface water sources in developed areas.

If a system is rated highly susceptible for a contamination 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.

Cryptosporidium

Cryptosporidium is a protozoan found in untreated surface waters throughout the United States (the organism is generally not present in a ground water source). Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100% removal. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, people with severely weakened immune systems have a risk of developing life-threatening illness. We encourage such people to consult their doctors regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it is spread through means other than drinking water.

USEPA issued a new rule in 2006 that requires systems with higher Cryptosporidium levels in their source water to provide additional treatment. In 2018, New Brunswick monitored for Cryptosporidium, a microbial parasite commonly found in surface water, and found some evidence of these microbes in the raw, untreated source water. Levels ranged from non-detect to 0.18 oocysts per liter. Although this organism is present, it is at levels low enough that no supplemental treatment is required by the New Brunswick water treatment facility, per USEPA standards. Current test methods do not enable us to determine if these organisms are capable of causing disease. We are not aware of a specific source of Cryptosporidium.

Important Health Information

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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline 800-426-4791.

Potential Contaminants

The types of contaminants that may be found in the raw water before it is treated to produce drinking 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 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 stormwater runoff, and residential uses.
- Organic Chemical Contaminants, including synthetic (SOC) and volatile organic chemicals (VOC), which are the by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive Contaminants, which can be naturally occurring or be the result of oil and gas production and mining.

Water System Improvements

The City of New Brunswick is committed to providing water that meets or exceeds all Federal and state requirements for drinking water. In general, the water system is in good condition as a result of rehabilitation and improvements to the water system. Please see the Mayor's letter included in this report for further details regarding water system improvements.

Concerning decisions that may affect the quality of water, the opportunity for public participation is provided during the regularly scheduled council meetings held on the first and third Wednesday of every month at 6:30 pm and 5:30 pm during the summer.

Compliance with Drinking Water Standards

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA), and the NJDEP prescribe regulations which limit the amount of certain contaminants in water provided by public water systems and require water suppliers to monitor and treat for potentially harmful contaminants.

Bottled water is similarly regulated by the Food and Drug Administration and must provide the same protection for public health as tap water. Our water, which is treated according to the EPA's and NJDEP's regulations, continually surpasses the quality standards set by those agencies.

NEW BRUNSWICK, NEW JERSEY

Contaminant	Unit	MCL	MCLG	Maximum Detected Level	Range	Compliance Achieved	Violation	Major Sources in Drinking Water
Turbidity ⁽¹⁾	NTU	TT: 1 NTU; 95% samples/ month below 0.3 NTU	N/A	0.27	100% <0.3 Average = 0.08	Yes	No	Soil Runoff
DISINFECTANTS AND DISINFECTION BY-PRODUCTS								
Chlorine ⁽²⁾	ppm	MRDL = 4.0	Same	Highest RAA: 0.9	0.09 - 2.18	Yes	No	Water additive used to control microbes
Total Trihalomethanes (TTHM) ⁽²⁾	ppb	80	N/A	Highest LRAA: 55	13 - 74	Yes	No	By-product of drinking water disinfection
Five Haloacetic Acids (HAA5) ⁽²⁾	ppb	60	N/A	Highest LRAA: 37	17 - 40	Yes	No	By-product of drinking water disinfection
INORGANIC CONTAMINANTS								
Barium	ppb	2000	2000	42	N/A	Yes	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nickel	ppb	N/A	N/A	0.99	N/A	Yes	No	Erosion from natural deposits
Nitrate	ppm	10	10	0.53	N/A	Yes	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	ppb	50	50	0.59	N/A	Yes	No	Erosion of natural deposits; discharge from chemical and metal refineries, and mines
LEAD AND COPPER								
Lead	ppb	AL=15	0	90th Percentile	4.0 No sites > AL	Yes	No	Corrosion of household plumbing systems
Copper	ppm	AL=1.3	1.3	90th Percentile	0.16 No sites > AL	Yes	No	Corrosion of household plumbing systems; erosion of natural deposits
TOC REMOVAL								
TOC Removal Ratio ⁽²⁾	N/A	RAA>1.0	N/A	Lowest Ratio (RAA) = 1.31	Range of Ratios: 1.14 - 1.65	Yes	No	Naturally present in the environment. The removal ratio is a measure of organic material removal, which can serve as precursors to disinfection by products
ORGANIC CONTAMINANTS								
Perfluoro nonanoic acid (PFNA) ⁽³⁾	ppb	0.013	N/A	0.0022	0.0010-0.0022	Yes	No	Used in products to make them stain, grease, heat and water resistant
UNREGULATED CONTAMINANTS ⁽⁴⁾								
Bromide	ppb	N/A	N/A	Finished water = 25.2 Untreated water = 34.6		Yes	No	Naturally present in the environment; road salts
Chlorate	ppb	N/A	N/A	180	84 - 180	Yes	No	By-product of drinking water disinfection
Chromium (total)	ppb	N/A	N/A	0.47	ND - 0.47	Yes	No	Erosion of natural deposits
Perfluoro butanoic acid (PFBA)	ppb	N/A	N/A	0.011	N/A	Yes	No	Used in products to make them stain, grease, heat and water resistant
Perfluoro butane sulfonic acid (PFBS)	ppb	N/A	N/A	0.021	N/A	Yes	No	Used in products to make them stain, grease, heat and water resistant
Perfluoro heptanoic acid (PFHpA)	ppb	N/A	N/A	0.004	0.0021 - 0.004	Yes	No	Used in products to make them stain, grease, heat and water resistant
Perfluoro octane sulfonic acid (PFOS)	ppb	N/A	N/A	0.0072	0.0035 - 0.0072	Yes	No	Surfactant or emulsifier; used in fire-fighting foam, circuit board etching acids, alkaline cleaners, floor polish, and as a pesticide active ingredient
Perfluoro octanoic acid (PFOA)	ppb	N/A	N/A	0.014	0.0077 - 0.014	Yes	No	Surfactant or emulsifier; used in teflon, fire-fighting foam, cleaners, cosmetics, greases and lubricants, paints, polishes, adhesives and photographic films
Strontium	ppb	N/A	N/A	95	84 - 95	Yes	No	Erosion of natural deposits
Vanadium	ppb	N/A	N/A	0.7	ND - 0.7	Yes	No	Erosion of natural deposits
Bromochloroacetic acid (BCAA)	ppb	N/A	N/A	3.4	1.1 - 3.4	Yes	No	By-product of drinking water disinfection
Bromodichloroacetic acid (BDCAA)	ppb	N/A	N/A	6.8	3.7 - 6.8	Yes	No	By-product of drinking water disinfection
Chlorodibromoacetic acid (CDBAA)	ppb	N/A	N/A	0.5	ND - 0.5	Yes	No	By-product of drinking water disinfection
Dichloroacetic acid (DCAA)	ppb	N/A	N/A	20	5.9 - 20	Yes	No	By-product of drinking water disinfection
Trichloroacetic acid (TCAA)	ppb	N/A	N/A	40	17 - 40	Yes	No	By-product of drinking water disinfection
Total Organic Carbon (TOC)	ppm	N/A	N/A	Finished water = 4.6 Untreated water = 6.6		Yes	No	Naturally present in the environment

Contaminant	Unit	Secondary MCL	MCLG	Maximum Detected Level	Range	Compliance Achieved	Violation	Major Sources in Drinking Water
SECONDARY CONTAMINANTS ⁽⁵⁾								
Aluminum	ppb	200	200	62.4	N/A	Yes	No	Treatment Process
Manganese ⁽⁶⁾	ppb	50	50	11.3	6.0 - 11.3	Yes	Yes	Erosion of natural deposits
Sodium	ppm	50	50	34	N/A	Yes	No	Naturally present in the environment; road salts
Zinc	ppb	5000	5000	5.5	N/A	Yes	No	Erosion of natural deposits; industrial discharge

Water Quality Data Tables

The tables list all drinking water contaminants detected during the 2018 calendar year. The presence of these contaminants does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data shown in the tables represent the highest result found from testing performed on samples of water taken from Jan.1 through Dec.31, 2018. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Also, monitoring waivers for synthetic organic chemicals was granted to New Brunswick by NJDEP for the 2018 calendar year.

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 (Centers for Disease Control) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the EPA Safe Drinking Water Hotline at: 800.426.4791.

Footnotes for Water Quality Data Tables

1. Turbidity is a measure of the cloudiness in the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.
2. Maximum Detected Level" indicated is the maximum running annual average (RAA) or Locational running annual average (LRAA). "Range" indicates the range of individual sample results.
3. Results for PFNA were obtained from voluntary monitoring efforts performed by New Brunswick. Perfluorinated compounds are widely found in the environment. EPA has identified a guidance level of 0.070 ppb for PFOA/PFOS (combined), and NJDEP New Jersey Department of Environmental Protection (NJDEP) has proposed to issue new drinking water Maximum Contaminant Level (MCL) standards for PFOA and PFOS of 14 ng/L (0.014 ppb) and 13 ng/L (0.013 ppb), respectively. It is likely that NJDEP will adopt a final rule regarding the new MCLs before the end of 2019. New Brunswick's results for unregulated contaminants are from 2013, 2014 and 2018.
4. Unregulated contaminants are those which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.
5. Secondary standards are non-mandatory guidelines to assist public water systems in managing their drinking water for aesthetic considerations such as taste, color and odor. These contaminants are not considered to present a threat to human health.
6. New Brunswick had a reporting violation in 2018. Results for Manganese and Iron were reported late to NJDEP due to a sample shipping error. Iron was not detected in the sample.

Terms and Abbreviations

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

LRAA: Locational Running Annual Average.

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.

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.

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 the control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant 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.

N/A: not applicable.

ND: not detected.

pCi/L: picocuries per liter, a measure of the radioactivity in water.

ppb (parts per billion): comparable to one minute in two thousand years or 1 cent in \$10,000,000.00.

ppm (parts per million): comparable to one minute in two years or 1 cent in \$10,000.00.
RAA: Running Annual Average.

RUL (Recommended Upper Limit): a non-enforceable recommendation limit.

TT (Treatment Technique): a required process intended to reduce the level of a contaminant in drinking water.

Please share this information with all the people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses.) You can do this by posting this notice in a public place or distributing copies by hand or mail.

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien. Para obtener una copia en Español favor llamar a La Alcaldía al 732-745-5004.

Health/Educational Information 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 EPA Safe Drinking Water Hotline at: 800.426.4791. MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Special Consideration 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 cases of lead and nitrate, effects on infants and children are the health endpoints upon which standards are based.

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 City of New Brunswick 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>.