New Brunswick, New Jersey
WATER QUALITY REPORT 2017

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 New Brunswick, our 2017 monitoring of the raw untreated source water indicated the presence of this organism. The cryptosporidium levels ranged from 0.27 to 0.36 oocysts/L. Although this organism is present, it is at levels low enough that no supplemental treatment is required by our facility per USEPA standards.

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; 5% samples/ month below 0.3 NTU	N/A	0.26	100% < 0.3	Yes	No	Soil Runoff
DISINFECTANTS AND DISINFECTION BY-PRODUCTS								
Chlorine [2]	ppm	<4.0 (MRDL)	<4.0 (MRDLG)	Highest RAA: 1.83	0.53 - 2.73	Yes	Yes [3]	Water additive used to control microbes
Total Trihalomethanes (TTHM) [2]	ppb	80	N/A	Highest LRAA: 62	25 - 75	Yes	No	By-product of drinking water disinfection
Five Haloacetic Acids (HAA5) [2]	ppb	60	N/A	Highest LRAA: 37	8 - 56	Yes	No	By-product of drinking water disinfection
INORGANIC CONTAMINANTS								
Barium	ppb	2000	2000	26	N/A	Yes	No	Discharge of drilling wastes; Discharge from metal refineries; erosion of natural deposits
Nickel	ppb	N/A	N/A	0.96	N/A	Yes	No	Erosion from natural deposits
Nitrate	ppm	10	10	0.92	N/A	Yes	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
LEAD AND COPPER								
Lead	ppb	AL=15	0	90th Percentile 2 rounds in 2017	4.44 - 5.82 (3) sites > AL	Yes	No	Corrosion of household plumbing systems
Copper	ppm	AL=1.3	1.3	90th Percentile 2 rounds in 2017	0.063 - 0.067 (0) 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) = 1.34	Range of Ratios: 1.14 - 1.57	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.
UNREGULATED CONTAMINANTS [4]								
Perfluoro butanoic acid (PFBA)	ppb	N/A	N/A	0.011	N/A	Yes	No	Used in the manufacture of fluoropolymers
Perfluoro octane sulfonic acid (PFOS)	ppb	N/A	N/A	0.0072	N/A	Yes	No	Used in the manufacture of fluoropolymers
Perfluoro octanoic acid (PFOA)	ppb	N/A	N/A	0.008	N/A	Yes	No	Used in the manufacture of fluoropolymers
Strontium	ppb	N/A	N/A	95	84-95	Yes	No	Erosion of natural deposits
Vanadium	ppb	N/A	N/A	0.7	ND - 0.70	Yes	No	Erosion of natural deposits
Chlorate	ppb	N/A	N/A	180	84 - 180	Yes	No	Erosion of natural deposits
Chromium (total)	ppb	100	N/A	0.47	ND - 0.47	Yes	No	Erosion of natural deposits

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). "Range" indicates the monthly averages detected. "Range" indicates the range of individual samples results.
3. New Brunswick experienced Monitoring & Reporting (M&R) violations for chlorine in April 2017 and August 2017 due to late reporting and the monitoring issues mentioned in the attached notice. These violations were ultimately resolved. An improved scheduling reminder has been set up for all parties involved, for future Safe Drinking Water Act monitoring and reporting requirements.
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. PFOA, PFOS, PFBA and PFHA are a group of Perfluorinated compounds widely found in the environment. The overall health risk has not been determined but EPA has identified a guidance level of 0.070 ppb for PFOA/PFOS (combined), and NJDEP has identified a guidance level of 0.014 ppb for PFOA ONLY. These samples were analyzed independently of the UCMR3 testing. New Brunswick's results for unregulated contaminants are from 2013 and 2014.

Water Quality Data Table

The table lists all drinking water contaminants detected during the 2017 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 table represents the highest result found from testing performed on samples of water taken from Jan.1 through Dec.31, 2017. 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 2017 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.

Contaminant	Unit	RUL	Maximum level detected	Range	Compliance Achieved	Exceedance	
SECONDARY CONTAMINANTS							
Aluminum	ppb	200	48.6	N/A	Yes	No	Treatment process
Iron [5]	ppm	0.3	0.73	< 0.1 - 0.73	No	Yes	Erosion of natural deposits, oxidation of iron components
Manganese	ppb	50	39.7	10.7 - 39.7	Yes	No	Erosion of natural deposits
Sodium	ppm	50	26	N/A	Yes	No	Naturally present in the environment, road salts
Zinc	ppb	5000	1..6	N/A	Yes	No	Erosion of natural deposits, industrial discharge

5. The Iron result was above the RUL. Construction activities at the sampling site resulted in some disturbance and discoloration of water in the internal plumbing. The recommended upper limit for iron is based on unpleasant taste of the water and staining of laundry. Iron is an essential nutrient, but some people who drink water with iron levels well above the recommended upper limit could develop deposits of iron in a number of organs of the body. 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.

Terms and Abbreviations

AL (Action Level): the concentration

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): of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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.

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.

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.

CITY OF NEW BRUNSWICK
City Hall
78 Bayard Street
New Brunswick, NJ 08901-2113

Important Information About Your Drinking Water

Monitoring Requirements Not Met for New Brunswick System

Our water system violated drinking water requirements over the past year. Even though these were not emergencies, as our customers, you have a right to know what happened and what we are doing to correct these situations.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the compliance periods indicated below, we did not complete all monitoring or testing for the specified contaminants/parameters, and therefore cannot be sure of the quality of your drinking water during that time.

What should I do?

There is nothing you need to do at this time.

The table below lists the contaminants/parameters we did not properly test for during the last year, how often we are supposed to sample for these contaminants/ parameters, how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date on which follow-up samples were taken.

Contaminant / Parameter	Required sampling frequency	Number of samples taken	Compliance Period when samples should have been taken	When samples were taken
Water Quality Parameters (pH and Alkalinity)*	1 sample every 2 weeks	Samples were taken properly, but were recorded late due to a date format error	12/1/2017 – 12/14/2017 12/15/2017 – 12/28/2017	12/1/2017 – 12/14/2017 12/15/2017 – 12/28/2017
Coliform Bacteria and associated parameters (disinfectant residual and E.Coli)	60 samples/month	57	4/01/2017 – 4/30/2017	5/01/2017- 5/31/2017

What is being done?

An improved scheduling reminder has been set up for all parties involved, for future Safe Drinking Water Act monitoring and reporting requirements. For more information, please contact Alexei Walus at 732-745-5060 or 78 Bayard Street, New Brunswick NJ 08901.

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This notice is being sent to you by New Brunswick water system in the 2017 Annual Consumer Confidence Report. State Water System ID#: NJ1214001.
Date distributed: May 2018.

New Brunswick, New Jersey
WATER QUALITY REPORT 2017

PWSID# NJ1214001

Dear Water Consumer,
As we continue with our multi-million dollar improvements to the City of New Brunswick's Water Treatment and Distribution System, we are pleased to report on our past year's accomplishments and our plans for upgrades, renovations and repairs for this year.

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 all our customers.

Upgrades at the Utility's two raw water pump stations are nearly complete. New generators were installed at the D&R Canal Raw Water Pump Station and the Treatment and Distribution plant, to provide backup power in the event of the loss of electricity.

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 and Quentin Avenue.

Other improvements to our water operations include expansion of our water audit and leak detection program and continuation of our water meter replacement program. More than 2,200 meters with new technology were installed this past year. Another 1,000 are scheduled for 2018.

This past June, the New Jersey Water Supply Authority (NJWSA) conducted a 120-day treatment of the D&R Canal to combat the growth of a disruptive aquatic water weed called Hydrilla. The growth of this weed reduced the flow capacity of the D&R Canal and compromised raw water quality throughout the entire length of the D&R Canal.

In accordance with NJDEP and USEPA regulations, we successfully implemented a temporary carbon feed system at our water treatment plant throughout the treatment period, which safely neutralized the impacts of the NJWSA treatment procedure and preserved our drinking water quality.

Our New Brunswick Water Utility employees' commitment to professional development continues and we are pleased to announce that another Water Utility employee has attained state licensure. This brings our total number of state-licensed employees to eight. Six additional employees are enrolled or have completed the courses required to sit for state licensing exams.

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.

We reported sampling violations to the NJDEP in 2017. While samples were taken properly, in one instance, the samples were reported late due to a data format error and in the other instance, 57 samples were taken when 60 were required. The New Brunswick Water Utility continues to meet all USEPA and NJDEP health and safety standards.

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 2017 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) 745-5062. 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