

# ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2018

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

Ta broszura zawiera ważne informacje dotyczące jakości wody do picia. Przetłumacz zawartość tej broszury lub skontaktuj się z osobą która pomoże ci w zrozumieniu zawartych informacji.

”هذا التقرير يحتوي على معلومات مهمة تتعلق بمياه الشفة (أو الشرب).  
ترجم التقرير، أو تكلم مع شخص يستطيع أن يفهم التقرير.“

此份有关你的食水报告，  
内有重要资料和讯息，请找  
他人为你翻译及解释清楚。



*Presented By*  
**New Britain Water**

## Our Mission Continues

The Board of Water Commissioners and the staff of the New Britain Water Department are again proud to present our annual water quality report, which covers all testing performed between January 1 and December 31, 2018. We continue to produce drinking water that meets or exceeds all state and federal mandated standards, and, as always, we continually strive to deliver the best-quality drinking water at the most economical cost to all our customers. We are meeting new challenges to drinking water safety as they emerge and are constantly looking for new ways to improve service to our customers. We do this by protecting our source water, improving water quality, promoting conservation, and providing our community with information regarding their drinking water.



Please remember that we are always available should you ever have any questions or concerns about your water.

## Important Health Information

Sources of lead in drinking water include corrosion of household plumbing systems and erosion of natural deposits. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Sources of copper in drinking water include corrosion of household plumbing systems, erosion of natural deposits, and leaching from wood preservatives. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

Some people 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/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 at (800) 426-4791.



We remain vigilant in delivering the best-quality drinking water

## Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. 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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

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

## Where Does My Water Come From?

Your drinking water comes from reservoirs located throughout the state. New Britain Water Department customers get their water from eight sources. The Shuttle Meadow Water Treatment Plant draws water from the Shuttle Meadow, Wasel, Whigville, Wolcott, White Bridge, and Hart Ponds. The department also has three well fields: the Upper and Lower White Bridge well fields in Bristol and the Patton Brook well in the town of Southington.

New Britain can also supplement its water supply from the Metropolitan District Commission's Nepaug Reservoir.

## Protecting Your Water

Bacteria are a natural and important part of our world. There are around 40 trillion bacteria living in each of us; without them, we would not be able to live healthy lives. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern, however, because it indicates that the water may be contaminated with other organisms that can cause disease.

In 2016, the U.S. EPA passed a new regulation called the Revised Total Coliform Rule, which requires additional steps that water systems must take in order to ensure the integrity of the drinking water distribution system by monitoring for the presence of bacteria like total coliform and *E. coli*. The rule requires more stringent standards than the previous regulation, and it requires water systems that may be vulnerable to contamination to have in place procedures that will minimize the incidence of contamination. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment of their system and correct any problems quickly. The U.S. EPA anticipates greater public health protection under the new regulation due to its more preventive approach to identifying and fixing problems that may affect public health.

Though we have been fortunate to have the highest-quality drinking water, our goal is to eliminate all potential pathways of contamination into our distribution system, and this new rule helps us to accomplish that goal.



## Failure in Flint

The national news coverage of water conditions in Flint, Michigan, has created a great deal of confusion and consternation. The water there has been described as being corrosive; images of corroded batteries and warning labels on bottles of acids come to mind. But is corrosive water bad?

Corrosive water can be defined as a condition of water quality that will dissolve metals (iron, lead, copper, etc.) from metallic plumbing at an excessive rate. There are a few contributing factors, but, generally speaking, corrosive water has a pH of less than 7; the lower the pH, the more acidic, or corrosive, the water becomes. (By this definition, many natural waterways throughout the country can be described as corrosive.) While all plumbing will be somewhat affected over time by the water it carries, corrosive water will damage plumbing much more rapidly than water with low corrosivity.

By itself, corrosive water is not a health concern; your morning glass of orange juice is considerably more corrosive than the typical lake or river. What is of concern is that exposure in drinking water to elevated levels of the dissolved metals increases adverse health risks. And therein lies the problem.

Public water systems are required to maintain their water at optimal conditions to prevent it from reaching corrosive levels. Rest assured that we routinely monitor our water to make sure that what happened in Flint never happens here. For more information on how corrosivity impacts water quality, download this informative pamphlet: <http://goo.gl/KpTmXv>.

## Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The Board of Water Commissioners meets on the third Wednesday of every month at 6:30 p.m. at 50 Caretaker Road, New Britain, Connecticut.

## QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Deputy Director Ramon Esponda at (860) 826-3546.

## Stormwater Management

Stormwater is a big concern in Connecticut, and recently the state increased regulations to improve the quality of our ponds, lakes, streams, and rivers. The following is a list of simple things that you can do to help reduce pollution and improve water quality.

1. Check your car for leaking fluids, and repair it quickly.
2. If you change your own oil, collect the used oil in the empty containers from the replacement oil. By law any store that sells motor oil must accept your used oil for proper disposal or recycling.
3. Do not overfertilize your lawn. Use only the recommended amount during the correct season.
4. Bring old oil-based paints, solvents, and pesticides to the annual DPW Household Hazardous Waste Collection Day.
5. Pick up pet waste and put it in trash bags.
6. Take your car to the car wash instead of washing it in the driveway.
7. Have your septic tank pumped and your system inspected regularly.
8. Never dump anything down catch basins or into streams.
9. Direct downspouts away from pavement onto grass surfaces.
10. Consider starting a rain garden or planting native drought-resistant plants.
11. If you see dumping of pollutants into the streets, catch basins, or streams, report the problem at (860) 826-3536. Common pollutants include oils, paints, chemicals, wash water, leaves, trash, pool water, and pet waste.

## Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## Planning for the Future

The staff at the water department not only meets the day-to-day needs of its customers; they are always trying to improve the system's reliability and resiliency. In order to prepare for the future and ensure that New Britain's customers always have a safe and reliable source of drinking water, the leadership at the water department is looking to redevelop its groundwater supplies as sources of potable water.

These sources at present are used as sources of untreated water and must go through the treatment plant to meet drinking water standards. To achieve this goal of sustainability and resiliency, the water department is conducting a study to determine the feasibility and cost of creating wells as new sources of drinking water.

If the study determines that the wells are viable sources of drinking water, the department will have an alternative to ensure that its customers have a reliable and safe source of water in the event of any unforeseen problems or emergencies.

## Water Conservation Tips

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

## Source Water Protection

The New Britain Water Department takes great pride in having some of the best sources of water in the state of Connecticut. To ensure that they remain of the highest quality, the water department patrols and inspects its watersheds while performing many tests for potential contamination.

## Source Water Assessment

An assessment of New Britain's source water was completed by the Department of Public Health, Drinking Water Section. The updated assessment report can be found on the Department of Public Health website at [www.dir.ct.gov/dph/Water/SWAP/Community/CT0890011.PDF](http://www.dir.ct.gov/dph/Water/SWAP/Community/CT0890011.PDF).

The assessment found that one of our water sources has a high susceptibility to potential sources of contamination because it is located in an urban setting. It is important to understand that this susceptibility rating does not imply poor water quality, only the system's potential to become contaminated within the assessment area. Even though nothing has ever been detected there, the department is required to make this information public.

## What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (back pressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (back siphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial, commercial, and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection.

For more information on backflow prevention, contact the Safe Drinking Water Hotline at (800) 426-4791.

## FOG (fats, oils, and grease)

You may not be aware of it, but every time you pour fat, oil, or grease (FOG) down your sink (e.g., bacon grease), you are contributing to a costly problem in the sewer collection system. FOG coats the inner walls of the plumbing in your house as well as the walls of underground piping throughout the community. Over time, these greasy materials build up and form blockages in pipes, which can lead to wastewater backing up into parks, yards, streets, and storm drains. These backups allow FOG to contaminate local waters, including drinking water. Exposure to untreated wastewater is a public health hazard. FOG discharged into septic systems and drain fields can also cause malfunctions, resulting in more frequent tank pump-outs and other expenses.

Communities spend billions of dollars every year to unplug or replace grease-blocked pipes, repair pump stations, and clean up costly and illegal wastewater spills. Here are some tips that you and your family can follow to help maintain a well-run system now and in the future:

### NEVER:

- Pour fats, oil, or grease down the house or storm drains.
- Dispose of food scraps by flushing them.
- Use the toilet as a wastebasket.

### ALWAYS:

- Scrape and collect fat, oil, and grease into a waste container, such as an empty coffee can, and dispose of it with your garbage.
- Place food scraps in waste containers or garbage bags for disposal with solid wastes.
- Place a wastebasket in each bathroom for solid wastes like disposable diapers, creams and lotions, and personal hygiene products, including nonbiodegradable wipes.



## Water Treatment Process

Our treatment process consists of a series of steps. First, raw water is drawn from our sources and disinfected with ozone, which is used to protect against *Cryptosporidium*. Ozone has the added benefit of oxidizing metals and removing taste and odor compounds from water. The second step in the process is clarification, in which a coagulant is slowly mixed into the water and allowed to settle, removing most of the impurities. After settling, the water is filtered through granular activated carbon and fine sand to remove smaller suspended particles and organic compounds. The water is further disinfected and adjusted to control corrosion of plumbing fixtures. Fluoride is added to promote dental health. The water is then sent to a large tank to allow the required chemical reactions to take place prior to being sent out to you, our customers.

## Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the fourth stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water in order to determine if U.S. EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2018	2	2	0.23	0.23–0.23	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2018	[4]	[4]	1.09	0.6–1.09	No	Water additive used to control microbes
Fluoride (ppm)	2018	4	4	0.85	0.48–0.85	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2018	60	NA	17.8	4.6–17.8	No	By-product of drinking water disinfection
Nitrate (ppm)	2018	10	10	0.088	0.088–0.088	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2018	80	NA	76.8	23.1–76.8	No	By-product of drinking water disinfection
Total Organic Carbon <sup>1</sup> (ppm)	2018	TT	NA	2.18	1.48–2.18	No	Naturally present in the environment
Turbidity <sup>2</sup> (NTU)	2018	TT	NA	0.13	0.02–0.13	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2018	TT = 95% of samples meet the limit	NA	100	NA	No	Soil runoff
Tap water samples were collected for lead and copper analyses from sample sites throughout the community <sup>3</sup>							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2017	1.3	1.3	0.01	0/34	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2017	15	0	6	1/34	No	Lead service lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits

## SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2018	250	NA	33.3	33.3–33.3	No	Runoff/leaching from natural deposits
Sulfate (ppm)	2018	250	NA	5.7	5.7–5.7	No	Runoff/leaching from natural deposits; Industrial wastes
pH <sup>4</sup> (Units)	2018	9.3–9.7	NA	9.58	9.3–9.58	No	Naturally occurring

## UNREGULATED CONTAMINANT MONITORING RULE - PART 4 (UCMR4)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromochloroacetic Acid (ppb)	2018	2.8	0.8–2.8	By-product of drinking water disinfection
Bromodichloroacetic Acid (ppb)	2018	0.7	0.5–0.7	By-product of drinking water disinfection
Dibromoacetic Acid (ppb)	2018	0.4	0.3–0.4	By-product of drinking water disinfection
Dichloroacetic Acid (ppm)	2018	12.5	3.1–12.5	By-product of drinking water disinfection
HAA5 (ppb)	2018	15.5	6.8–15.5	By-product of drinking water disinfection
HAA6Br (ppb)	2018	3.8	1.4–3.8	By-product of drinking water disinfection
HAA9 (ppb)	2018	18.9	8.2–18.9	By-product of drinking water disinfection
Manganese (ppm)	2018	1.7	1.7–1.7	Erosion of natural deposits
Trichloroacetic Acid (ppb)	2018	3.5	2.5–3.5	By-product of drinking water disinfection

<sup>1</sup> The value reported under Amount Detected for TOC is the lowest ratio of percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than 1 indicates that the water system is in compliance with TOC removal requirements. A value of less than 1 indicates a violation of the TOC removal requirements.

<sup>2</sup> Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

<sup>3</sup> New Britain Water Department is required to test for lead and copper every three years.

<sup>4</sup> New Britain Water Department is required by Connecticut Department of Public Health to maintain a pH value between 9.3 and 9.7 for optimal corrosion control.

## Definitions

**90th %ile:** The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

**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):** The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

**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 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 contaminants.

**NA:** Not applicable.

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**SMCL (Secondary Maximum Contaminant Level):** These standards are developed to protect aesthetic qualities of drinking water and are not health based.

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