

Annual
WATER
QUALITY
REPORT

Reporting Year 2013



Presented By
New Britain
Water Department

PWS ID#: CT0890011

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.

There When You Need Us

The Honorable Mayor of New Britain, Erin E. Stewart, and the Board of Water Commissioners are proud to present to you the New Britain Water Department's annual water quality report. This report covers all testing completed in the past year. Once again the water department has met or exceeded all mandated water quality standards. The staff at the Water Department continually strives to adopt new and better methods for delivering the best-quality drinking water to our customers and as new challenges to drinking water safety emerge, they will remain vigilant in meeting these challenges by maintaining water of the highest quality for our community.



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 the first Tuesday after the first Wednesday of each month beginning at 7 p.m. at 50 Caretaker Road, New Britain, CT.

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 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 or at www.epa.gov/safewater/lead.

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.

QUESTIONS?

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

Where Does My Water Come From?

The New Britain Water Department's customers are fortunate because they enjoy an abundant water supply from 8 sources. The Shuttle Meadow Water Treatment Plant draws water from the Shuttle Meadow, Wasel, Whigville, Wolcott, White Bridge, Hart Ponds and Nepaugh Reservoirs, combined they hold about 3 billion gallons of water. The department also has two well fields, the upper and lower White Bridge well fields. Additionally the water department leases the Patton bridge well field to the Town of Southington. The Shuttle Meadow Water Treatment Plant is one of the most advanced plants in the state. It was completed in 2004 and provides roughly 3.2 billion gallons of drinking water every year.

Information on the Internet

The U.S. EPA Office of Water (<http://water.epa.gov>) and the Centers for Disease Control and Prevention (www.cdc.gov) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation and public health. Also, the Connecticut Department of Public Health has a Web site (www.dph.state.ct.us) that provides complete and current information on water issues in Connecticut, including valuable information about our watershed.

Water Conservation

You can play a role in conserving water and save 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.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent, according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Furthermore, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at www.nrdc.org/water/drinking/bw/exesum.asp.

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 the watersheds while performing many tests of its water for potential contamination.

Water Treatment Process

Our treatment process consists of a series of steps. First, raw water is drawn from our water sources and is disinfected by Ozone gas which is an advanced method of disinfection used to protect against cryptosporidium, it also has the added benefit of oxidizing metals and removing taste and odor compounds from the water. The second step in the process sends the water to a mixing tank where polyaluminumchloride is added, which causes small particles to adhere to one another making them heavy enough to settle into a basin from which sediment is removed. After settling the water is filtered through granular activated carbon and fine sand to remove smaller suspended particles and organic compounds. The water is now very clear and ready for final treatment. Chlorine is added to maintain a disinfectant residual in the distribution system. (We carefully monitor the amount of chlorine needed to protect the safety of your water without compromising taste.) additionally calcium carbonate is used to reduce corrosion of plumbing fixtures by adjust the pH and alkalinity of the water, and fluoride is also added to promote dental health. The water is then sent to a clear well where after a period of time in the water it is ready to flow to your home or business.

Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far, the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

How chlorination works:

Potent Germicide Reduction in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.

Taste and Odor Reduction of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and odors from decaying vegetation.

Biological Growth Elimination of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.

Chemical Removal of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

Source Water Assessment

A water assessment of the New Britain 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's Web site: www.dir.ct.gov/dph/Wate/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 a urban setting. Even though nothing has ever been detected there the departments is required to make this information public.

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen and disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at such times. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use, and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

Important Health Information

Sources of lead in drinking water includes 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 doctors.

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.

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often 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.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2013	15	0	0.54	0.54–0.54	No	Erosion of natural deposits
Chlorine (ppm)	2013	[4]	[4]	0.76	0.21–0.76	No	Water additive used to control microbes
Combined Radium (pCi/L)	2013	5	0	0.36	0.36–0.36	No	Erosion of natural deposits
Fluoride (ppm)	2013	4	4	1.09	0.8–1.09	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2013	60	NA	6.25	2–16	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	2013	80	NA	34	5–51	No	By-product of drinking water disinfection
Total Organic Carbon (ppm)	2013	TT	NA	1.5	0.5–1.5	No	Naturally present in the environment
Turbidity ¹ (NTU)	2013	TT	NA	0.11	0.02–0.11	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2013	TT=95% of samples <0.3 NTU	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2011	1.3	1.3	0.014	0/45	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2011	15	0	6.5	2/45	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2013	250	NA	21	21–21	No	Runoff/leaching from natural deposits
pH ² (Units)	2013	6.5–8.5	NA	9.6	9.3–9.6	No	Naturally occurring

¹Turbidity 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.

²The New Britain Water Department is mandated by the Connecticut Department of Public Health to maintain a pH value of greater than 9.3 to optimize corrosion control.

Definitions

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

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. Secondary MCLs (SMCLs) are established to regulate the aesthetics of drinking water (i.e., taste and odor).

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.

pCi/L (picocuries per liter): A measure of radioactivity.

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).

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