

# City of Bethlehem

## 2019 Annual Consumer Report on the Quality of Tap Water

**Este informe contiene información importante** acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

**The City of Bethlehem's drinking water** surpasses all federal and state drinking water standards. This report is a snapshot of the quality of the water that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. We are committed to providing you with information because informed customers are our best allies. For more information about your water, call Diane Beatty at 610-865-7144. You can also visit the City's website, [www.bethlehem-pa.gov](http://www.bethlehem-pa.gov), for tips on how to conserve water.

**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 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 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).

**We encourage public interest and participation** in our community's decisions affecting our drinking water. Regular City Council meetings occur on the first and third Tuesdays of every month at 7:00 PM in Town Hall, 10 East Church Street, Bethlehem, PA. The Bethlehem Authority meetings occur on the second Thursday of each month at 3:30 PM in City Hall, Room B-504, 10 East Church Street, Bethlehem, PA. Any changes to these meeting schedules will be published in the local newspaper. The public is welcome.

**City of Bethlehem's water comes entirely from surface sources**, namely the Wild Creek Reservoir, Towamensing Township, Carbon County, in a watershed that covers 22 square miles and the Penn Forest Reservoir, Penn Forest Township, Carbon County and Polk Township, Monroe County, in a watershed that covers 17 square miles. This primary water supply is located 22 miles north of the City. The Tunkhannock Creek, Tunkhannock Township, Monroe County, provides a supplemental supply to the Penn Forest Reservoir. Dual transmission mains can carry up to 47 million gallons of water per day to the City's water filtration plant in Lehigh Township and from there to the distribution system.

**A Source Water Assessment of the Tunkhannock Creek Intake**, which supplies water to the Bethlehem Filtration Plant, was completed in 2001 by Spotts, Stevens and McCoy, Inc. for the PA DEP. The Assessment has found that the Tunkhannock Intake is potentially most susceptible to road deicing materials, accidental spills along roads, and leaks in underground storage tanks. Overall, the Tunkhannock Creek Watershed has little risk of significant contamination. In the event that monitoring of either the raw or finished water identifies or detects any of these contaminants then additional required health effects information will be included in this report noting these detections and attempting to identify the potential source(s) of the contamination. Complete reports were distributed to the City of Bethlehem's Water Bureau, local municipalities, county planning agencies and PA DEP offices. Copies of the complete report are available from the PA DEP Northeast Regional Office, Records Management Section at 570-826-5472. A summary report of the Assessment is available on the PA DEP website at [www.dep.state.pa.us](http://www.dep.state.pa.us) (directLINK "source water"). A Source Water Assessment of the Wild Creek Watershed was conducted. Copies of the final July 2004 report are available from the PA DEP Regional Office, Records Management Section. The final assessment found that the Wild Creek Watershed is potentially most susceptible to individual point source activities including above ground storage tanks and underground petroleum storage tanks and to non point source activities including fuel oil storage tanks, household cleaning supplies, highway spills, highway salt applications, lawn care supplies, on-lot sewage disposal, petroleum pipelines, swimming pools, wells (abandoned or active), and bore holes (abandoned or active). Overall, because of all the potential threats identified near the water supply, the adoption of a source water protection plan was recommended. The City developed and implemented a Source Water Protection plan in 2010 and the plan was approved by the PA Department of Environmental Protection in 2011.

**The Bethlehem Authority owns** approximately 13,600 acres around the Wild Creek and Penn Forest Reservoirs and approximately 9,000 acres around the Tunkhannock Creek and restricts any activities on these lands that could contaminate these water supplies. There is no public access, such as boating, allowed on these reservoirs. As a result of this restriction, past test results for MTBE, a fuel additive known to be contaminating some water supplies throughout the country, indicated non-detectable levels in our raw water supply. This boating restriction has eliminated another potential source of contamination of our water supply.

**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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

**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 and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

**Contaminants that may be present** in source water before we treat it include:

- *Microbial contaminants*, such as viruses and bacteria, which may come from septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals, which can be naturally-occurring or result from stormwater runoff, industrial or domestic wastewater discharges, or farming.
- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture and residential uses and stormwater runoff.
- *Radioactive contaminants*, which are naturally occurring.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are by-products of industrial processes, and can also come from gas stations, stormwater runoff, and septic systems.

**More information is available online at [www.bethlehem-pa.gov](http://www.bethlehem-pa.gov)**

**In order to ensure that tap water is safe** to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. We treat our water according to EPA's regulations. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

*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. In 2019, we had the following violations:*

- *In August, due to an oversight, we only collected 97 of the 100 required total coliform samples and associated chlorine residual samples for the month. All distribution areas were monitored in that month, but we can't be sure of the quality of our drinking water for that month.*
- *In December, TTHM samples should have been collected within 3 days of December 10, 2019, but had to be resampled out of the required date range due to a sampling error. The resamples were collected on December 26, 2019, but we can't be sure of the quality of our drinking water within the required sample date range.*
- *Also in December, we did not collect a weekly distribution chlorine residual sample for the last week of the month as required. This was due to an oversight and it has been corrected, but we can't be sure of the quality of our drinking water for that week.*

## **WATER QUALITY DATA**

The tables on the next two pages lists all the drinking water contaminants that we detected during the 2019 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 – December 31, 2019. The state requires 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. Some of the data, though representative of the water quality, is more than one year old.

**Terms & abbreviations used below:**

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

**Maximum Contaminant Level (MCL):** 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.

**Maximum Contaminant Level Goal (MCLG):** 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.

**Maximum Residual Disinfectant Level (MRDL):** 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.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected health risks. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water. For turbidity this means any monthly sample greater than 1 NTU or 95% of the monthly samples are greater than or equal to 0.3 NTU.

**ppm:** parts per million, or milligrams per liter (mg/L)

**ppb:** parts per billion, or micrograms per liter (µg/L)

**NTU:** Nephelometric Turbidity Units

**NA:** not applicable

**ND:** not detected

<i>Inorganic Contaminants</i>	Units	MCL	MCLG	Detected Level	Range of Detection	Violation	Major Sources
Fluoride <sup>1</sup>	ppm	4	4	<1.0	NA	NO	Water additive which promotes strong teeth
Iron	ppm	0.3	NA	0.03	NA	NO	Naturally occurring element
Sodium	ppm	NA	NA	6.5	NA	NO	Naturally occurring element
Zinc	ppm	5	NA	0.059	NA	NO	Naturally occurring element
Sulfate	ppm	250	NA	4	NA	NO	Natural sources
Total Dissolved Solids	ppm	500	NA	42	NA	NO	Natural sources, chemicals used in the water treatment process, and distribution piping.

<i>Organic Contaminants</i>	Units	MCL	MCLG	Detected Level	Range of Detection	Violation	Major Sources
Total Trihalomethanes (TTHMs)	ppb	80	0	56	18 - 66	NO	By-product of drinking water chlorination
Five Haloacetic Acids (HAA5s)	ppb	60	NA	36	18 - 38	NO	By-product of drinking water chlorination

<i>Microbiological Contaminants</i>	MCL	MCLG	Highest % of Positive Samples Collected in Any One Month	Violation	Major Sources
Total Coliform <sup>2</sup>	presence of coliform in >5% of monthly samples	NA	0.98	NO	Naturally present in the environment

<i>Lead &amp; Copper</i>	Units	AL	MCLG	Detected Level	# of Sites Found Above AL	Violation	Major Sources
Lead	ppb	15	0	7	3	NO	Corrosion of household plumbing
Copper	ppm	1.3	1.3	0.093	none	NO	Corrosion of household plumbing

<sup>1</sup> The City of Bethlehem has been adding fluoride to their drinking water since June 1971.

<sup>2</sup> In July and December 2019, 1 location out of our 102 routine sample sites had coliform bacteria detected. Check samples at these locations came back negative.

<i>Performance Monitoring</i>	Units	MCL	MCLG	Detected Level	Date Detected	Lowest Monthly % of Samples Meeting TT	Violation	Major Sources
Turbidity <sup>3</sup>	NTU	TT	NA	0.045	February 2019	100	NO	Soil runoff

<i>Performance Monitoring</i>	Units	MCL	MCLG	Highest Monthly Average	Lowest Monthly Average	Violation	Major Sources
Distribution Chlorine Residual	ppm	4	4	0.92	0.69	NO	Product of drinking water disinfection

<i>Performance Monitoring</i>	Units	Minimum Chlorine Residual	MCLG	Range of Detection	Violation	Major Sources
Entry Point Chlorine Residual	ppm	0.2	4	0.98 – 1.42	NO	Water additive used to control microbes

### Additional Health Information

If present, elevated lead 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 Bethlehem 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, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or <http://www.epa.gov/safewater/lead>.

<i>Unregulated Contaminant Monitoring*</i>	<i>Reported Level</i>	<i>Range</i>	<i>Major Sources</i>
Chromium	0.24 µg/L	0.16 - 0.33 µg/L	Naturally occurring element
Chromium, hexavalent	0.064 µg/L	0.050 - 0.080 µg/L	Naturally occurring element
Manganese	2.80 µg/L	2.25 - 3.98 µg/L	Naturally occurring element
Strontium	11.18 µg/L	10.80 - 11.70 µg/L	Naturally occurring element
4-androstene-3,17-dione	0.00079 µg/L	ND - 0.00079 µg/L	Steroidal hormone naturally produced in the body
Bromochloroacetic acid	1.48 µg/L	0.47 - 2.13 µg/L	By-product of drinking water chlorination
Bromodichloroacetic acid	1.72 µg/L	1.21 - 3.24 µg/L	By-product of drinking water chlorination
Dichloroacetic acid	13.34 µg/L	1.35 - 27.2 µg/L	By-product of drinking water chlorination
Monochloroacetic acid	2.84 µg/L	ND - 2.84 µg/L	By-product of drinking water chlorination
Trichloroacetic acid	19.22 µg/L	5.76 - 29.3 µg/L	By-product of drinking water chlorination

**\* Unregulated contaminant monitoring helps the EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.**

For more information, please contact Diane Beatty at 610-865-7144. Please share this information with all the other people who drink this water, especially those who may not have received this notice directly such as 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.

**The City of Bethlehem's Public Water Supplier ID (PWSID) Number is 3480046.**

<sup>3</sup> Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.