



PWS ID# 1150026
2017 Annual Drinking Water Quality Report



Downingtwn Municipal Water Authority
100 Water Plant Way
Downingtwn, PA 19335



Mission Statement
Partnership for Safe Water

The Downingtwn Municipal Water Authority is dedicated to supplying its customers with the highest quality water at the most reasonable cost. Furthermore, the Authority will assist in, and create an ideal atmosphere for employee advancement, education and welfare.

Authority Members
Chairman - Alexander D. Rakoff
Vice Chairman - Joshua A. Maxwell
Director - Anthony Gazzo
Secretary - Anthony D'Addazio
Treasurer - James A. "Hank" Hamilton
Administrative Staff
Executive Director - David L. Busch
Operations Manager - Dennis King
Solicitor
Sean Kilkenny - Kilkenny Law

Downingtwn Municipal Water Authority

Water quality - call the U.S. Environmental Protection Agency's Safe Drinking Water Hotline, 800-426-4791
Website: www.epa.gov/safewater/
Pennsylvania Department of Environmental Protection, Southeast Region
Phone: 484-250-5900
Website: www.depweb.state.pa.us/
Local drinking water quality - contact the Downingtwn Municipal Water Authority at
Phone: 610-269-5362
e-mail: info@dtownwater.com
Website: www.dtownwater.com/

For more information about...

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We are pleased to present to you DMWA's 2017 Annual Drinking Water Quality Report.

This report is designed to inform you about the quality water and services the Downingtown Municipal Water Authority (DMWA) delivers to you every day. As a regional member of the national EPA-sponsored Partnership for Safe Water, our constant goal is to provide you with a dependable supply of high-quality drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Where does my water come from?

The raw water we treat comes from Marsh Creek Lake and the East Branch of the Brandywine Creek and a groundwater supply well that was placed into service in July of 2014. Each day we produce approximately 1.4 million gallons of high-quality drinking water for our customers. Our raw water quality can be affected by the seasonal algae growth and vegetation decay in the Marsh Creek Lake and East Branch Brandywine Creek watershed. Occasionally, higher than normal algae/organic-laden raw water can cause short-term taste and odor (T/O) problems in our treated water. DMWA is implementing a long range plan to improve its water system, in order to alleviate the T/O and other potential water quality issues.

How is my water treated?

The DMWA's water treatment plant uses conventional treatment processes consisting of chemical pre-treatment, coagulation, sedimentation, filtration and disinfection, along with corrosion control treatment and fluoridation (for dental protection). More information can be obtained from DMWA's website. www.dtownwater.com.

A Source Water Assessment of our Brandywine Creek source was completed by the PA Department of Environmental Protection (PA DEP). The Assessment has found that our source of is potentially most susceptible to transportation corridors, railroads and bridges, auto repair shops, storm water runoff, wastewater treatment, on-lot waste disposal, and lakes. Overall, our source has little to moderate risk of significant contamination. A summary report of the Assessment is available on the Source Water Assessment Summary Reports library web page: <http://www.eibrary.dep.state.pa.us/dsweb/View/Collection-10045>. Complete reports were distributed to municipalities, water supplier, local planning agencies and PADEP offices. Copies of the complete report are available for review at the Pa. DEP Regional Office, Records Management Unit at (484)250-5900.

How is the drinking water quality?

The DMWA routinely monitors for quality in your drinking water according to Federal and State laws. The Table contained herein shows the results of our monitoring for the period of January 1st to December 31st, 2017. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some impurities. The presence of impurities does not necessarily indicate that water poses a health risk. More information about impurities and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800-426-4791.

What if I have questions?

If you have any questions about either this Water Quality Report or your water utility, please contact DMWA's Executive Director at 610-269-5362. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled public meetings. They are held at 7:00 p.m. on the first Monday of each month at DMWA, 100 Water Plant Way.

People with Special Health Concerns

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 guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Since 9/11/01, DMWA has been proactive in taking steps to ensure the security of your drinking water. It is very important that any suspected vandalism, terrorism or suspicious activity be reported to your regional PADEP Water Supply Office IMMEDIATELY at 800-541-2050 (24-hour hotline).

How do drinking water sources become polluted?

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 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 storm water runoff, industrial or domestic wastewater discharges, oil or gas production, mining, or farming.

- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic or volatile organic chemicals which may include pesticides and herbicides which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses or by-products of industrial processes and petroleum production, gas stations, or septic systems.
- **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA and DEP prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration and DEP regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

DMWA's 2017 Drinking Water Quality Results

PWSID# 1150026

Contaminant (Units)	Violation Y / N	Level Detected	Range of Detections and/or Sample Date	MCLG / MRDLG	MCL / MRDL in CCR Units	Likely Sources of Contamination	Potential Health Effects
Microbiological Contaminants							
Total Coliform Bacteria (number of monthly positive samples)	N	Total Number of positive samples for 2017 = 0	0 to 0	0	>1	Naturally present in the environment	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio.
Turbidity (NTU)	N	0.029 100.0% ≤ 0.3 NTU	0.021- 0.051	N/A	TT < 1 NTU	Soil runoff	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
				N/A	TT = 95% of samples ≤ 0.3 NTU		
Disinfection Byproducts							
HAA5 Haloacetic Acids (ppb)	N	45.2	23.0 - 56.4	N/A	60	By-product of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
TTHMs Total Trihalo-methanes (ppb)	N	50.4	24.2 - 66.7	N/A	80	By-product of drinking water disinfection	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
Inorganic Contaminants							
Copper (ppm)	N	0.22 (90th percentile)	ND - 0.29(a) 6/2016 & 8/2016 (b)	1.3	AL = 1.3 (c)	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood	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.
Lead (ppb)	N	2.4(d) (90th percentile)	ND - 69.0 (d) 6/2016 & 8/2016 (b)	0	AL = 15 (c)	Corrosion of household plumbing systems, 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.
Nitrate as nitrogen (ppm)	N	3.57	5/15/2017	10	10	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.
Disinfectants							
Chlorine (ppm)	N	1.04 (f)	1.04 - 2.27(f)	0.2 (h)	0.2 (h)	Water additive used to control microbes	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
		2.03 (g)	0.94 - 2.03(g)	4	4		
Secondary Contaminants							
Fluoride (ppm)	N	0.43	0.03 - 1.18	2	2	Water additive which promotes strong teeth	At low levels, fluoride can prevent cavities, but children drinking water containing more than 2 mg/L of fluoride may develop cosmetic discoloration of their permanent teeth (dental fluorosis).
Total Organic Carbon							
TOC	Violation Y/N N	Range of % Removal Required 25-50	Range of % Removal Achieved 36 - 72	Number of quarters out of compliance 0		Naturally present in the environment	TOC has no health effects. However, it provides a medium for the formation of disinfection byproducts including Trihalomethanes and Haloacetic Acids. Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

Footnotes: (a) None of the 20 samples we collected exceeded the Action Level.
 (b) The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently.
 (c) Lead and Copper MCLs have not yet been established for community water systems. Currently only Action Levels of 1.3 ppm for Copper and 15 ppb for Lead apply.
 (d) One of the 20 samples taken exceeded the Action Level.
 (e) The required removal of TOC depends on the raw water TOC and alkalinity levels.
 (f) Samples were collected at the entry point of the water distribution system.
 (g) Samples were collected at a representative location within the water distribution system.
 (h) Minimum residual Chlorine level required at entry point of distribution system.



DMWA is a member of the EPA's Partnership for Safe Water Program (an association of water utilities and government) which is committed to voluntarily provide drinking water of a quality far better than required by Federal regulations. In 2017, DMWA is one of the three (3) authorities in Pennsylvania that received a national award for maintaining active Phase III Director's Award Status for 15 years.

"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 your drinking water meets health standards. During February, we did not sample for TOC and alkalinity on the same day and therefore cannot be sure of the quality of your drinking water during that time. Please share this information with all the other 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."

What does this Table mean? Test results from analysis of DMWA system water quality samples show that your water meets all US EPA and Commonwealth of Pennsylvania health-based drinking water standards. Neither Maximum Contaminant Levels (MCLs) nor limits associated with Treatment Techniques (TTs) were exceeded.

GLOSSARY

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 risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

Nephelometric Turbidity Unit (NTU)

Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Non-Detects (ND)

Laboratory analysis indicates that the contaminant is not present at a detectable level.

Not Applicable (N/A)

Parts per million (ppm)

One part per million is equivalent to a single penny in ten thousand dollars.

Parts per billion (ppb)

One part per billion is equivalent to a single penny in ten million dollars.

Picocuries per liter (pCi/L)

Picocuries per liter is a measure of radioactivity in water.

Recommended Upper Limit (RUL)

The RUL is suggested by EPA for secondary contaminants. EPA recommends secondary standards to water systems but does not require systems to comply.

Treatment Technique (TT)

A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Information about 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 Downingtown Municipal Water Authority 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 or at: <http://www.epa.gov/safewater/lead>

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