

ANNUAL WATER QUALITY REPORT

Reporting Year 2022

Presented By
North Wales Water Authority



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

PWS ID#: 1460048

Our Commitment to Quality

The North Wales Water Authority (NWWA) takes great pride in delivering water of the highest quality to our customers. We are proud to report that 2022 marked the 27th consecutive year NWWA exceeded all state and federal Safe Drinking Water Act requirements.

We want you to learn as much as you can about your tap water. This report is designed to help you learn about the science behind your water. It explains where your water comes from and how it is monitored, and it outlines which regulated substances were detected in the water supply over the last year. To view a list of all substances that were monitored, visit nwwater.com/go/quality.

To learn about the water treatment process at our Forest Park Water (FPW) facility, we encourage you to visit nwwater.com/go/videos. You'll be able to follow the path of your drinking water from the Delaware River all the way to FPW, tour the facility, and learn about the sophisticated treatment processes - all from the comfort of your home. We are also available to talk to your group. You may request a visit by calling our office at (215) 699-4836 or filling out a form on our website.

Substances Expected to Be in Drinking Water

To ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and Pennsylvania Department of Environmental Protection (DEP) prescribe regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration and DEP 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.

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.

Water treatment significantly reduces the level of these substances in drinking water. For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.



Sources of Water

In 2022 approximately 96 percent of the water that NWWA delivered to its customers was treated surface water from FPW. The source of the water that is treated at FPW is the North Branch Neshaminy Creek. The North Branch originates as a small stream near Route 413 in Central Bucks County. The creek then flows into Lake Galena, which is the reservoir for FPW. Water released from Lake Galena flows down the North Branch to where it is drawn into FPW in Chalfont. At times throughout the year, water is pumped from the Delaware River at Point Pleasant and diverted into the North Branch near Gardenville. This diversion controls the level of Lake Galena for recreational and stormwater retention purposes, ensures a sufficient drinking water supply, and maintains baseflow in the stream.

The remaining 4 percent of our water came from 10 groundwater supply wells that NWWA operates. These wells are located throughout our service territory. The water from these wells is chlorinated before it is delivered to our customers' homes.

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 two 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 www.epa.gov/safewater/lead.

QUESTIONS?

For free additional copies or more information about your water and this report, call the Water Quality Manager at (215) 699-4836.

Source Water Assessment

In June 2011, a source water assessment of the North Branch Neshaminy Creek intake was completed by Spotts, Stevens & McCoy for DEP. The assessment found that the intake is potentially most susceptible to point sources of pollution from auto repair shops, wastewater treatment plants, boating, quarries, on-lot septic systems, and gas stations. Nonpoint sources of potential contamination include major transportation corridors and runoff from areas of urban development, livestock farming, and industrial parks. The most serious potential sources are related to accidental release of a variety of materials along transportation corridors and high nutrients from Lake Galena.

FPW has the capability of treating a wide array of contaminants and minimizing any negative impacts from such sources. Regular and frequent monitoring of the water supply allows us to identify any concerns and remediate any problems in a timely manner. Contingency and emergency response plans are in place to deal with any release of contaminants or accidental occurrences that could compromise the integrity of your drinking water.

A source water assessment of our groundwater sources was also completed in June 2011 by Spotts, Stevens & McCoy. Most of the land that surrounds NWWA wells is highly developed residential areas. The assessment found that our groundwater sources are potentially most susceptible to transportation corridors, residential activities, railroad transportation, wastewater disposal, and golf courses.

Summary reports of the assessments are available on the DEP eLibrary web page, dep.greenport.state.pa.us/elibrary/. Complete reports were distributed to municipalities, water suppliers, local planning agencies, and DEP offices. Copies are available for review at the DEP Southeast Regional Office, Records Management Unit, by calling (484) 250-5910.

What Are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of manufactured chemicals used worldwide since the 1950s to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. During production and use, PFAS can migrate into the soil, water, and air. Most PFAS do not break down; they remain in the environment, ultimately finding their way into drinking water. Because of their widespread use and their persistence in the environment, PFAS are found all over the world at low levels. Some PFAS can build up in people and animals with repeated exposure over time.

The most commonly studied PFAS are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). PFOA and PFOS have been phased out of production and use in the United States, but other countries may still manufacture and use them.

Some products that may contain PFAS include:

- Some grease-resistant paper, fast food containers/wrappers, microwave popcorn bags, pizza boxes
- Nonstick cookware
- Stain-resistant coatings used on carpets, upholstery, and other fabrics
- Water-resistant clothing
- Personal care products (shampoo, dental floss) and cosmetics (nail polish, eye makeup)
- Cleaning products
- Paints, varnishes, and sealants

Even though recent efforts to remove PFAS have reduced the likelihood of exposure, some products may still contain them. If you have questions or concerns about products you use in your home, contact the Consumer Product Safety Commission at (800) 638-2772. For a more detailed discussion on PFAS, please visit <http://bit.ly/3Z5AMm8>.

Should I Take Special Precautions?

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 or online at: <http://water.epa.gov/your-drinking-water>.

Customers with Special Needs

The North Wales Water Authority maintains a list of customers who have an essential need for an uninterrupted supply of water (such as for dialysis treatments). If you have health conditions that require a continual supply of water in your home, please contact our Water Quality Department at (215) 699-4836.



Our 2022 Water Monitoring Results

During 2022 NWWA conducted thousands of tests for possible drinking water contaminants. We detected no contaminant levels higher than the state and federal drinking water standards allow. Similar testing was also completed by FPW. This arrangement results in some duplication of testing but also provides more quality control.

Cryptosporidium and Giardia

Cryptosporidium and Giardia are microbial pathogens found in surface water throughout the U.S. Monitoring of our source water (before treatment) at FPW during April, June, September, and December 2022 indicated the presence of *Cryptosporidium* in two out of four samples collected. Giardia was detected in one out of four samples collected. FPW's treatment processes are designed to remove or inactivate *Cryptosporidium* and Giardia cysts with a high level of certainty. Current available test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. NWWA encourages immunocompromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* and Giardia must be ingested to cause disease, and it may be spread through means other than drinking water.

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.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	SOURCES OF CONTAMINATION
Arsenic (ppb)	2021	10	0	0.375	0-1.0	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2022	2	2	0.018	NA	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Bromate (ppb)	2022	10	0	2.0	1.1–2.8	No	By-product of drinking water disinfection
Chlorine [distribution] (ppm)	2022	4.0	4.0	1.03	0.22–2.20	No	Water additive used to control microbes
Chromium (ppb)	2021	2	2	0.311	0.126-0.545	No	Discharge from steel and pulp mills; Erosion of natural deposits
Cyanide (ppb)	2022	200	200	3.5	0-7	No	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Fluoride (ppm)	2022	2 ¹	2	0.102	N/A	No	Erosion of natural deposits; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	2022	10	10	1.28	0.308–3.91	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Disinfection By-Products: Haloacetic Acids [HAAs]–Stage 1 (ppb)	2022	60	NA	17.86	9.63–34.8	No	By-product of drinking water disinfection
Disinfection By-Products: TTHMs [total trihalomethanes]–Stage 1 (ppb)	2022	80	NA	34.42	13.7–53.9	No	By-product of drinking water disinfection
Turbidity ³ (NTU)	2022	TT	NA	0.05	0.03–0.05	No	Soil runoff
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MINIMUM DISINFECTANT RESIDUAL	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	SOURCES OF CONTAMINATION	
Chlorine [entry point] (ppm)	2022	0.4	0.42 ²	0.42–2.67	No	Water additive used to control microbes	

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 %ILE)	SITES ABOVE AL OUT OF TOTAL SITES	VIOLATION	SOURCES OF CONTAMINATION
Copper (ppm)	2022	1.3	1.3	0.242	0 out of 35	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	2022	15	0	3.0	0 out of 35	No	Lead service lines; corrosion of household plumbing systems, including fittings and fixtures; erosion of natural deposits

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	SOURCES OF CONTAMINATION
Perfluorooctanesulfonate Acid (PFOS) ¹ (ppt)	2022	ND	ND–2.1	Human-made chemical used in firefighting foams, cleaners, cosmetics, greases and lubricants, paints, polishes, adhesives, and photographic films
Perfluorooctanoic Acid (PFOA) ⁴ (ppt)	2022	2.5	2.1–3.2	Human-made chemical used in firefighting foams, cleaners, cosmetics, greases and lubricants, paints, polishes, adhesives, and photographic films

¹EPA's MCL for fluoride is 4 ppm. However, Pennsylvania has set a lower MCL to better protect human health.

²Lowest level detected.

³Turbidity is the measure of the clarity of water. 100% of turbidity samples were below 0.1 NTU. As a member of the Partnership for Safe Drinking Water, our goal is to maintain turbidity levels below 0.1 NTU. This was achieved throughout 2022.

⁴The U.S. EPA Health Advisory Limit is 70 ppt for individual or combined PFOA and PFOS. Results are from monthly monitoring of finished drinking water at FPW.

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.

GW: Groundwater source.

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.

MinRDL (Minimum Residual Disinfectant Level): The minimum level of residual disinfectant required at the entry point to the distribution system.

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.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

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).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

SW: Surface water source.

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

Community Participation

If you'd like to learn more about NWWA, please attend any of our regularly scheduled board of directors meetings. The board meets on the third Wednesday of each month at 5:00 p.m. at the NWWA office, 200 West Walnut Street, North Wales.

Lead and Copper Program

NWWA's Lead and Copper Program is an ongoing monitoring project. We are continuously evaluating our system, which includes an ongoing effort to locate and test lead service lines. We have refocused our efforts on customer outreach, reorganizing ways we communicate with our customers to encourage them to agree to sample for lead and copper in their homes during the required monitoring period. We have made use of our main replacement data, our geographic information system network, and our customer information system to construct a solid foundation to further build our lead and copper monitoring sample site plan.

Updated Data Tables for 2022 CCR – PWSID#: 1460048

Chemical Contaminants

Contaminant	MCL in CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Arsenic	10	0	1.57	1.0-3.0	ppb	2018-2021	N	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium	2	2	0.24	0.01-0.55	ppm	2018-2022	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium	100	100	1.0	1.0-1.0	ppb	2018-2022	N	Discharge from steel and pulp mills; Erosion of natural deposits
Cyanide	200	200	7.0	—	ppb	2018-2022	N	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Fluoride	2	2	0.102	0.101-0.102	ppm	2022	N	Erosion of natural deposits; Discharge from fertilizer and aluminum factories
Nickel	—	—	0.003	0.002-0.003	ppm	2022	N	Erosion of natural deposits; discharge from metal factories
Combined Uranium	30	0	5.32	1.09-12.96	ppb	2020	N	Erosion of natural deposits
Radium-228	5	0	1.39	—	pCi/L*	2020	N	Erosion of natural deposits

*pCi/L = picocuries per liter (particle activity)

Secondary Contaminant Table**

Contaminant	SMCL in CCR Units	SMCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Manganese	0.05	—	0.09	0.08-0.09	ppm	2020	N	Leaching from natural deposits

**Secondary contaminants are established as 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 risk to human health at the SMCL.

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Haloacetic Acids (HAA5)							
Contaminant	MCL in CCR Units	MCLG	Range of Detections	Amount Detected	Units	Violation Y/N	Sources of Contamination
Haloacetic Acids (HAA5)	60	0	9.63-34.8	17.86	ppb	N	By-products of drinking water disinfection.

Constituents of Disinfection Byproducts: Haloacetic Acids (HAAs)							
Contaminant	HA*	Range of Detections	Amount Detected	Units	Violation Y/N	Sources of Contamination	
Dibromoacetic acid	—	1.04-1.16	1.51	ppb	N	By-product of drinking water chlorination	
Dichloroacetic acid	70.0	6.76-17.30	10.88				
Trichloroacetic acid	20.0	2.87-17.50	9.43				

We had no detection of Monobromoacetic Acid or Monochloroacetic Acid.

*EPA's lifetime health advisories (HA) identify levels to protect all people, including sensitive populations and life stages, from adverse health effects resulting from exposure throughout their lives to various contaminants.

Total Trihalomethanes (TTHMs)							
Contaminant	MCL in CCR Units	MCLG	Range of Detections	Amount Detected	Units	Violation Y/N	Sources of Contamination
Total Trihalomethanes (TTHM)	80	0	13.7-53.9	34.42	ppb	N	By-products of drinking water disinfection.

Constituents of Disinfection Byproducts: Total Trihalomethanes (TTHMs)							
Contaminant	HA*	Range of Detections	Amount Detected	Units	Violation Y/N	Sources of Contamination	
Bromodichloromethane	—	1.08-11.30	7.29	ppb	N	By-product of drinking water chlorination	
Bromoform	—	0.53-0.99	0.72				
Chlorodibromomethane	60.0	0.55-6.22	2.50				
Chloroform	70.0	2.79-43.70	30.25				

*EPA's lifetime health advisories (HA) identify levels to protect all people, including sensitive populations and life stages, from adverse health effects resulting from exposure throughout their lives to various contaminants.