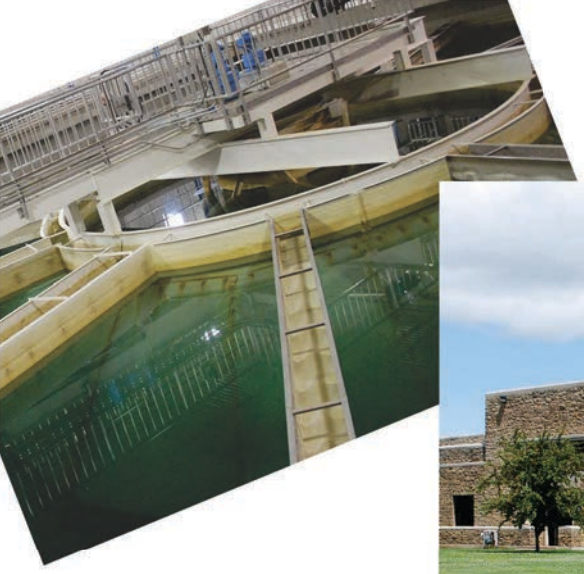

Wisconsin Public Water Systems
2017 Annual Drinking Water Report

Wisconsin Department of Natural Resources
Bureau of Drinking Water and Groundwater
dnr.wi.gov

PUB-DG-045 2018
JULY 2018

Wisconsin Public Water Systems
2017 Annual Drinking Water Report

Obtaining Copies of Wisconsin's *2017 Annual Drinking Water Report*

As required by the federal Safe Drinking Water Act, DNR makes the *2017 Annual Drinking Water Report* available to the public. To obtain copies of this report, contact the Bureau of Drinking Water and Groundwater DG/5, Wisconsin Department of Natural Resources, PO Box 7921, Madison WI 53707, 608-266-1054. The report is also available on DNR's web site, dnr.wi.gov, search "drinking water."

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July 2018

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EXECUTIVE SUMMARY

The Wisconsin Department of Natural Resources (DNR) works to protect the quality and quantity of Wisconsin's water resources to ensure that safe drinking water is available to everyone who lives, works and plays in the state. DNR is responsible for implementing and enforcing the Safe Drinking Water Act to safeguard the quality of Wisconsin's drinking water.

Strong state and federal regulations combined with the collaborative efforts of many people—including DNR, the US Environmental Protection Agency (EPA), individual owners and operators of public water systems, county health officials, professional associations, other water quality organizations and water consumers—have allowed Wisconsin to successfully manage its drinking water resources.

The scope of Wisconsin's public water supply program is large: there are more than 11,400 public water systems here, the most of any state in the nation.

Wisconsin's *2017 Annual Drinking Water Report* summarizes compliance with the drinking water requirements during 2017 and highlights initiatives that help to provide a safe and adequate supply of drinking water in the state. DNR works in many ways to help provide safe drinking water:

- Monitoring for contaminants is a critical part of the strategy to ensure safe drinking water. All public water systems test their water for contaminants, and during 2017, more than 99 percent of them provided water that met EPA's health-based Maximum Contaminant Level standards.
- The contaminants detected most often in drinking water in Wisconsin are nitrate, bacteria, radionuclides and arsenic. When contaminants exceed permissible levels, DNR works with water systems to correct problems and return to compliance as soon as possible.
- DNR and its partners conducted more than 2,600 sanitary survey inspections of public water systems to ensure compliance with construction, operation and maintenance requirements. More than 7,100 annual site visit inspections were performed to help water systems meet requirements for reduced monitoring schedules, and 400 on-site assessments were conducted in response to detections of coliform bacteria in drinking water.
- DNR's partners provided technical assistance for small public water systems and training for operators throughout 2017. Water system operators received assistance through more than 550 on-site visits conducted during the year, and more than 5,700 monitoring reminders were delivered to help systems meet sampling and reporting deadlines.
- DNR awarded more than $73 million in financial assistance through the Safe Drinking Water Loan Program during 2017. The funding is helping 61 communities in Wisconsin to make needed infrastructure improvements and replace lead service lines at their drinking water systems.

Although future needs are challenging, Wisconsin's public water systems do well at providing safe drinking water in the state. Vigilant monitoring combined with effective approaches to the challenges we face are essential to ensuring safe drinking water in Wisconsin. DNR is committed to protecting the state's drinking water to ensure that it is safe today and for the future.

INTRODUCTION

The Wisconsin Department of Natural Resources (DNR) works to protect the quality and quantity of the state's water resources to ensure that safe drinking water is available to everyone who lives, works and plays in the state.

With strong state and federal regulations and collaborative efforts between DNR, the US Environmental Protection Agency (EPA), public water systems, county health officials, professional associations, individual operators, other water quality organizations and water consumers, Wisconsin has been able to successfully manage its drinking water resources.

The federal Safe Drinking Water Act (SDWA) requires states to publish an annual report summarizing violations of the drinking water standards. This *2017 Annual Drinking Water Report* summarizes how Wisconsin's public water supply systems complied with the drinking water requirements between January 1 and December 31, 2017. This annual report also highlights state and local initiatives that help to provide a safe and adequate supply of drinking water to the citizens and visitors of Wisconsin.

WISCONSIN'S DRINKING WATER PROGRAM: THE BASICS

Requirements for public water systems come from the federal SDWA, which was originally passed in 1972 and has been amended several times since. In the SDWA, EPA sets national limits for contaminants in drinking water to ensure that the water is safe for human consumption. These limits, known as Maximum Contaminant Levels (MCLs), are health-based standards that are specific to each contaminant.

The SDWA also details how often public water systems must test their water for contaminants and report the results to the state, EPA and the public. Testing or "monitoring" requirements vary depending on a water system's size, the type of population served, and the vulnerability of the water source to contamination. In general, water systems serving residential populations and larger populations have more stringent monitoring and reporting requirements.

Finally, the SDWA requires public water systems to notify their consumers when they have not met these requirements. Consumer notification must include a clear and understandable explanation of the

violation that occurred, its potential adverse health effects, steps that the water system is taking to correct the problem and the availability of alternative water supplies during the violation.

States can obtain approval from EPA to administer their own public water supply programs. This authority, called "primacy," means that EPA has determined that the state has adopted drinking water regulations that meet SDWA requirements and that it can enforce those requirements. In Wisconsin, the DNR is the primacy agency for the state's drinking water program.

WISCONSIN'S PUBLIC WATER SYSTEMS

Wisconsin has 11,451 public water systems, the largest number of any state. Public water systems are defined as those that provide water for human consumption to at least 15 service connections or regularly serve at least 25 people for 60 days or longer per year. Wisconsin has four types of public water systems:

- Community water systems serve water to people where they live. Wisconsin has 1,052 community water systems that serve almost 75 percent of the state's population (the remainder get their water from private residential wells).
    - **Municipal community (MC) water systems** are owned by cities, villages, towns or sanitary districts. This group also includes care and correctional facilities that are owned by counties or municipalities. Milwaukee Waterworks is the state's largest municipal water system, serving almost 650,000 people. Wisconsin's smallest municipal systems, by contrast, serve fewer than 100 people each.
    - **Other than municipal community (OC) water systems** serve residents living in areas supplied by privately-owned wells. The state's OC water systems include mobile home parks, apartment buildings, condominium complexes and long term care facilities.

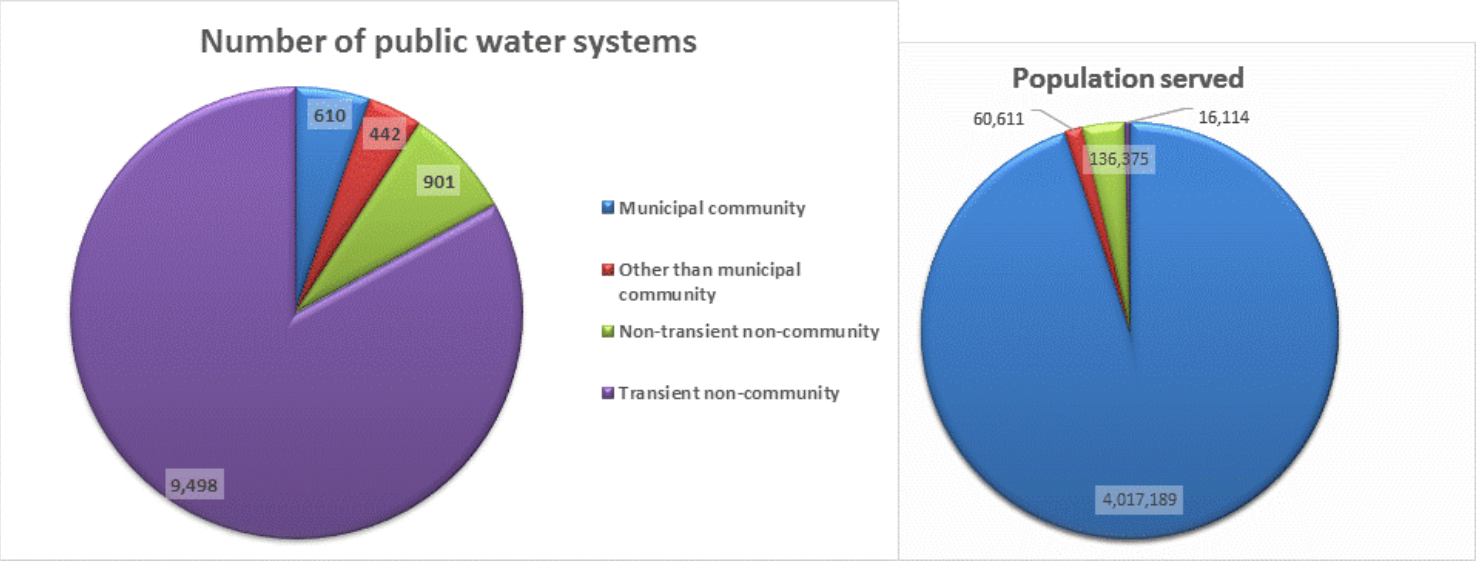


Figure 1. Wisconsin has more than 11,400 public water systems. Most are very small transient non-community systems, but the state's municipal water systems serve the largest population.

- Non-community water systems serve water to people where they work, attend school or gather for food or entertainment. The wells supplying these systems are privately owned. Wisconsin has 10,399 non-community systems.
    - **Non-transient non-community (NN) water systems** regularly serve at least 25 of the same people for six months or more per year. They include schools, day care centers, office buildings, industrial facilities, dairies and many other businesses.
    - **Transient non-community (TN) water systems** serve at least 25 people (though not necessarily the same people) for 60 days or longer per year. They include motels, campgrounds, parks, restaurants, taverns and churches.

The state's smallest water systems make up the majority of the total number—Wisconsin has 9,498 transient non-community systems. In contrast, the state's 610 municipal systems serve about 70 percent of Wisconsin's population (Figure 1).

The vast majority of Wisconsin's public water systems rely on groundwater pumped from wells. However, 56 systems use surface water from Wisconsin lakes to provide drinking water to their customers. These surface water systems serve some of the state's largest communities, including Milwaukee and Green Bay. So, while more than 99 percent of the state's public water systems use groundwater sources, surface water systems serve almost one third of the state's population.

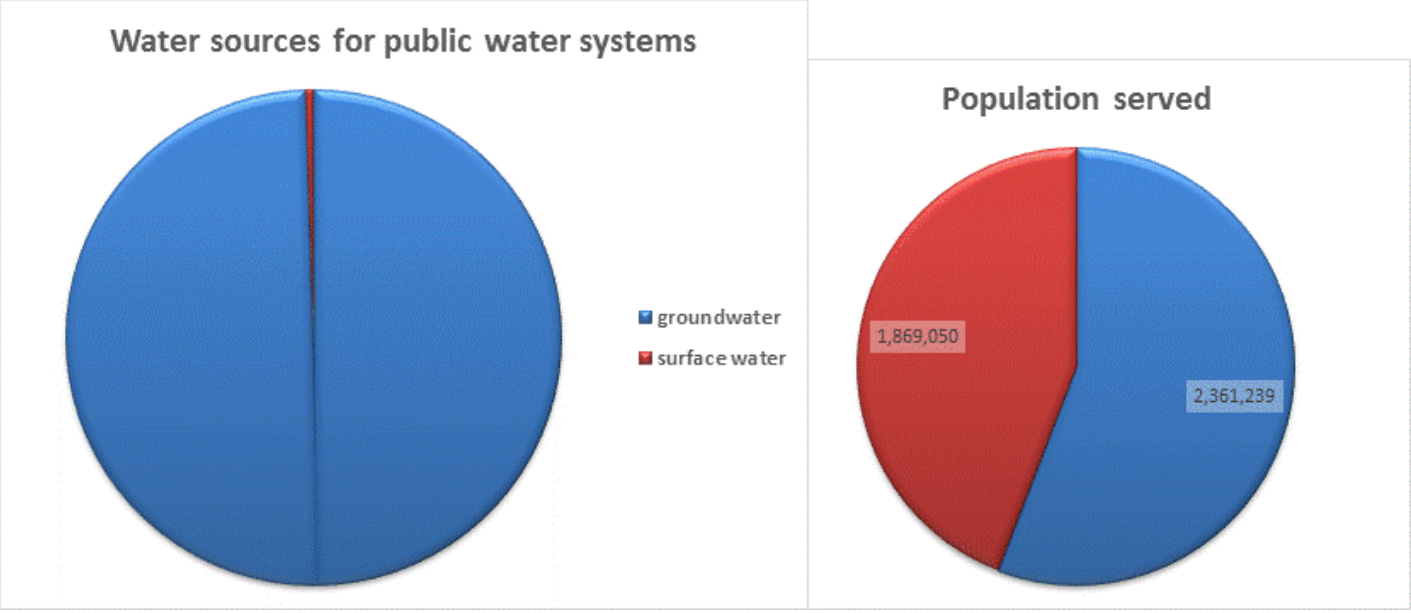


Figure 2. Most of Wisconsin's public water systems use groundwater pumped from wells. The 56 systems that use surface water from lakes include the state's largest public water systems.

MONITORING AND TESTING FOR CONTAMINANTS IN DRINKING WATER

Monitoring is critically important, both for ensuring safe drinking water and for identifying changes in water quality. All public water systems are required to monitor and test their water for contaminants. Monitoring involves collecting water samples, analyzing them for potential contaminants and reporting the results to DNR and consumers.

The frequency of monitoring and the number of contaminants measured depend on the type of water system and population served. The largest systems collect hundreds of water samples each month, while the smallest systems may collect only two samples per year.

Contaminants can have either acute or chronic health effects. Acute contaminants pose an immediate risk to human health—people can become ill within hours or days of exposure. Maximum permissible levels in drinking water are risk-based, set to prevent occurrences of acute or fatal illness. Chronic contaminants cause long-term health risks. Their maximum permissible levels are typically set so that only one in 1,000,000 people would face an increased risk of developing cancer by drinking two liters of water a day for 70 years.

All public water systems monitor for acute contaminants. Chronic contaminants are monitored less frequently, and the state's smallest systems, TNs, are not required to test for these contaminants.

Types of regulated contaminants

Regulated contaminants fall into several groups based on their microbial or chemical characteristics:

- Acute contaminants
    - *Escherichia coli* (or *E. coli*) bacteria
    - Nitrate

- Chronic contaminants
    - Inorganic chemicals (IOCs)—this group includes arsenic, chromium, copper, lead and other chemicals
    - Synthetic organic chemicals (SOCs)—this group includes herbicides and pesticides
    - Volatile organic chemicals (VOCs)—this group includes benzene, toluene, xylene and other chemicals
    - Radionuclides—this group includes radioactive chemicals like radium and uranium
    - Disinfectants and disinfection byproducts—this group includes chlorine and byproducts like haloacetic acid and trihalomethanes

Most of these chemical groups contain multiple contaminants. For example, the synthetic organic contaminants group contains 30 regulated chemicals (although there are many more synthetic organic substances used in commerce). Municipal water systems, which have the most comprehensive monitoring requirements, test drinking water for more than 90 regulated contaminants to protect public health. (For a list of all the regulated contaminants and their health-based standards, or MCLs, see Appendix A.)

Aesthetic or secondary standards

The SDWA also sets aesthetic or "secondary" standards for additional contaminants. These substances may cause an unpleasant smell, taste, or appearance, or stain sinks or discolor clothes when they exceed certain levels. This group of chemicals includes iron, manganese and sulfate, among others. Public water systems may be required to take corrective actions if they exceed secondary standards for these contaminants. (Appendix A contains a list of the secondary standards.)

Action levels for certain contaminants

The SDWA establishes "action levels" rather than MCL standards for two contaminants: lead and copper. Exceeding an action level does not result in a violation, but it does require a water system to collect additional samples and follow certain procedures to control the levels of the contaminant in the drinking water.

Treatment for contaminants

Public water systems may treat their water to make it safe for drinking. Most treatments reduce or inactivate contaminants that may be present in the water. One common type of treatment is disinfection, which inactivates microbial contaminants so they cannot make us sick. Disinfection of drinking water has revolutionized our lives. Diseases that used to cause many deaths, like typhoid fever, have been almost eliminated thanks to disinfection. Other treatments, like filtration, oxidation and ion exchange, remove or reduce contaminants present in the water. Corrosion control treatment involves adding compounds to adjust the chemistry of water and prevent certain contaminants from leaching (being dissolved or extracted) into the water, like lead from lead pipes.

COMPLIANCE WITH DRINKING WATER REQUIREMENTS

Compliance with drinking water requirements is measured in a variety of ways. DNR and EPA track whether water samples are collected in a timely manner and tested for the correct contaminants, and whether contaminant concentrations exceed the permissible limits. They also track whether public water systems issue public notices or notifications in a timely manner, post or distribute them as required, and whether they correct deficiencies by appropriate deadlines. Violations can occur when deadlines are not met, water samples are not collected, or public notices are not issued. They also occur when samples exceed permissible limits for contaminants.

Most of Wisconsin's public water systems met all their regulatory requirements during 2017. This section of our report summarizes compliance rates and the violations that did occur.

Maximum Contaminant Level violations

The most serious violations at public water systems can occur when contaminants are detected in drinking water. A MCL violation occurs when a contaminant is detected at a higher concentration than is permissible to protect public health (i.e., the MCL threshold). Although a MCL violation does not necessarily mean that any consumers experienced adverse health effects from drinking the water, it does require that the water system take action to notify consumers and correct the problem.

During 2017, more than 99 percent of Wisconsin's public water systems provided water that met all the MCL standards for regulated contaminants. Among the 99 systems that experienced contaminant MCL exceedances or assessment triggers, the problems encountered most often were bacteria, nitrate, arsenic and radionuclides. Table B-1 in Appendix B summarizes the MCL violations that occurred during 2017.

- ***Microbial contaminants***

  Microbes, especially coliform bacteria, are common contaminants of drinking water supplies in Wisconsin (and other places). Coliform bacteria are widely distributed in soil, plants and water; their presence in drinking water indicates that a pathway for contamination may exist. *Escherichia coli* (or *E. coli*) is a species of bacteria that, when present in drinking water, indicates contamination with human or animal wastes. *E. coli* is considered an acute contaminant because people can become ill after a single exposure to the viruses that may be present when *E. coli* is detected. Exposure can cause short-term health effects like diarrhea, nausea, cramps and headaches but may have more serious effects on vulnerable populations, including infants, young children and people with immune system problems.

  All public water systems in Wisconsin are required to monitor for the presence of coliform bacteria. When these bacteria are detected in a sample of drinking water (called a total coliform-positive result), additional actions are required that focus on "finding" sources of microbial contamination and "fixing" the issues that allow contaminants to enter the water system.

  First, follow-up samples are collected to confirm the presence of coliform bacteria and specifically identify whether *E. coli* are detected. When bacterial contamination is confirmed, on-site assessments are performed by trained inspectors from DNR and counties throughout the state. These inspections follow a "find and fix" approach to ensure that bacteria do not persist in the drinking water at these facilities. Almost 400 assessments were completed during 2017. These free inspections provide a valuable service to public water system owners and their customers.

Often, inspectors discover simple corrections that will eliminate pathways for contamination and help water systems get back on track. Problems like cracked electrical conduits at a wellhead, or unnoticed cross connections to non-potable water sources, often can be corrected quickly and inexpensively. Shock-chlorinating wells with biofilms growing in them is another common corrective strategy.

The MCL for microbial contaminants is exceeded when the presence of *E. coli* is confirmed (see Table A-1 in Appendix A for a description of the MCL). During 2017, there were 37 public water systems in Wisconsin (only 0.32 percent) that had MCL violations for *E. coli* detections.

- ***Nitrate***

Nitrate is the most widespread inorganic chemical that occurs as a contaminant of drinking water here in Wisconsin. Because it is water-soluble and leaches readily through soil, nitrate can move easily into the groundwater. Sources of nitrate include agriculture and animal wastes, according to the Wisconsin Groundwater Coordinating Council. Nitrate is an acute contaminant because it can cause serious illness in infants younger than six months old. The condition, called methemoglobinemia or "blue baby syndrome," causes infants' blood to be deprived of oxygen, and it can be fatal in extreme cases. Consuming water with high nitrate levels has also been linked to chronic diseases, and there is some evidence of an association between exposure during the first weeks of pregnancy and certain birth defects. In adults, the health concerns include increased cancer risk.

All of Wisconsin's 11,451 public water systems are required to monitor for nitrate in drinking water. During 2017, 49 public water systems had violations for exceeding the nitrate MCL. This is more than triple the number of systems that were affected in the previous year.

Federal and state regulations offer some leeway for very small water systems that exceed the nitrate MCL. This provision allows transient non-community systems to continue operating with water that has nitrate levels above the MCL of 10 milligrams per liter (mg/L) but below 20 mg/L, providing they meet certain conditions. They must notify the public about the nitrate contamination, ensure that the water will not be consumed by infants or women of childbearing age, and provide an alternate source of water.

Table 1. Summary of non-community water systems operating with nitrate levels exceeding the MCL during 2017

water system status	number of systems
water systems on continuing operation before 2017	269
systems starting on continuing operation during 2017	43
systems going off continuing operation during 2017	23
total number of systems on continuing operation	289

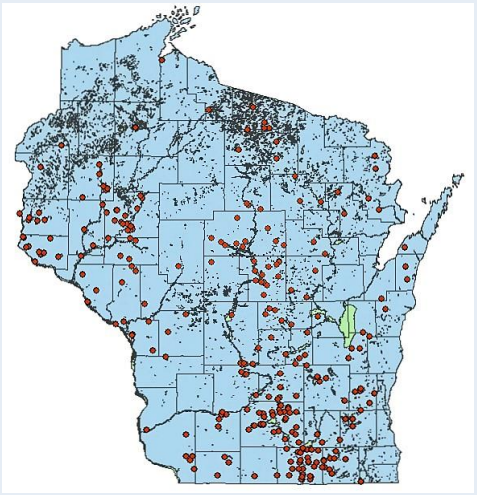
Wisconsin currently has almost 300 transient non-community water systems on "continuing operation" (Table 1). Some have remained in that status for more than 20 years. During 2017, 43 more TN systems with nitrate MCL exceedances were allowed to use the continuing operation option (also an increase from the previous year). During the same period, 23 systems went off continuing operation, but the overall number still increased, indicating that nitrate contamination of drinking water continues to be a significant challenge in Wisconsin.

Drinking Water News on Tap:
Nitrate Contamination Challenges Wisconsin's Public Water Systems

Wisconsin relies heavily on groundwater for its drinking water supply. More than two-thirds of the state's residents get their drinking water from groundwater, either from a public water system or a private domestic well. And nitrate is the most common contaminant of groundwater in our state.

Nitrate in drinking water is a serious concern because the contaminant can have both acute and chronic effects on health. Infants consuming water with high nitrate levels can become ill right away. Birth defects may result when water with high nitrate levels is consumed by pregnant women. Long term consumption may have negative health effects for adults also.

In Wisconsin, the effects of nitrate contamination are felt statewide. The red dots on this map show locations of transient non-community public water systems on "continuing operation" with nitrate levels between 10 and 20 mg/L. Some areas have larger numbers of affected wells—in the south-central, central and western parts of the state, for instance—but nitrate contamination has been detected in wells throughout Wisconsin.



Nitrate in drinking water does not have a color, or smell, or taste. The only reliable way to know about its presence is by testing the water. All public water systems are required to monitor for nitrate and report the results, and some also treat their water to remove it. The DNR and Wisconsin Department of Health Services recommend that owners of private household wells test their water regularly also.

- ***Arsenic***

  Arsenic is a naturally occurring element that is found in some rock formations in Wisconsin, which is why it is a common inorganic chemical detected as a contaminant of drinking water supplies here. It is classified as a chronic contaminant, meaning that health risks come from long-term exposure. Health effects include skin damage, circulatory system problems and possible increased cancer risk. All community and non-transient non-community water systems are required to monitor for the presence of arsenic. Of the 1,953 water systems in Wisconsin that monitored for arsenic during 2017, 11 (much less than 1 percent) had violations for exceeding the MCL (0.01 mg/L).

- ***Radionuclides***

  Radium and uranium are naturally occurring elements that occur in rock formations in Wisconsin, and they are detected as contaminants of some drinking water supplies here. Health risks come from long-term exposure. For example, exposure over a lifetime could result in an elevated risk for cancer and kidney toxicity. Community water systems are required to monitor for radionuclides. Of the 1,052 community water systems in Wisconsin, 13 got violations for exceeding the MCL standards for radium and/or alpha particle emitters during 2017. Most are located in the southern and northeastern parts of the state.

- ***Lead and copper***

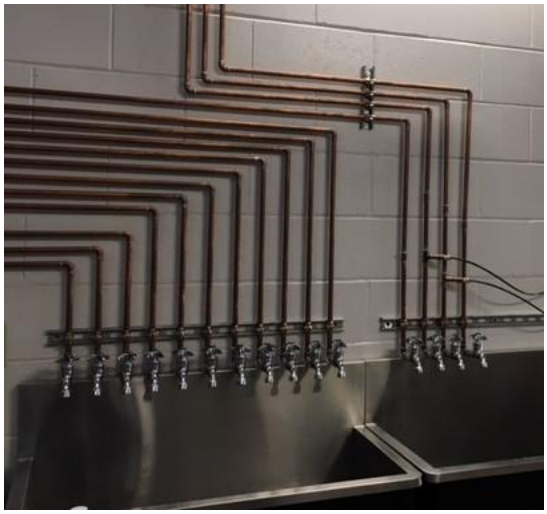
  Lead and copper typically do not occur naturally in source water. Instead, they can leach into the water as it flows through piping and fixtures that contain these compounds, through the process of corrosion. Water system dynamics such as water use, water temperature and physical and hydraulic disturbances can also contribute to lead and copper in drinking water. Lead pipe, brass, chrome plated brass, copper plumbing and lead-based solder are all potential sources. Lead can have serious health effects because it interferes with the red blood cells that carry oxygen in our bodies. It primarily affects brain development in infants and children but can have health effects for adults also. Copper is an essential nutrient, but long term exposure to high levels can cause kidney and liver damage.

  All community and non-transient non-community water systems are required to monitor for lead and copper. When an action level is exceeded, systems are required to conduct additional water sampling, to determine how overall water quality may be contributing to the lead and copper in drinking water. In addition, these systems must provide special information to their consumers about health effects and the steps people can take to reduce exposure. Finally, systems with action level exceedances may also need to treat their water to reduce lead and copper exposure. During 2017, there were 34 public water systems that exceeded the lead action level and 19 that exceeded the action level for copper.

Table 2. Water systems with action level exceedances during 2017

contaminant	number of water systems			
	MC	OC	NN	total
copper	6	2	11	19
lead	18	4	12	34

DNR works with public water systems that have violations for contaminant MCL exceedances to help them correct problems and return to compliance as soon as possible. Corrective actions can include steps like disinfection, reconstructing an existing well, drilling a new well to obtain an alternate water source or installing a treatment system. Microbial contaminants, nitrate, arsenic and radionuclides are all continuing priorities for DNR because of the common occurrence of these contaminants in Wisconsin.



Monitoring and reporting violations

Public water systems are required to monitor to verify that contaminants in the water do not exceed the MCL thresholds. If water samples are not collected by appropriate deadlines, or are not analyzed using approved methods, monitoring and reporting (M/R) violations can occur. M/R violations also occur if water systems fail to notify consumers of lead and copper monitoring results from samples collected at their homes.

Monitoring and reporting violations occur much more frequently than MCL violations. During 2017, there were 1,080 M/R violations among the state's 11,451 public water systems. Most often, these violations resulted from failure to collect required samples, collecting samples

late, and failure to notify consumers of the results of lead and copper samples collected from their homes. Table B-2 in Appendix B summarizes the M/R violations that occurred during 2017.

The overall number of monitoring and reporting violations increased last year. The largest increases occurred in two areas: violations for failing to monitor for nitrate and microbial contaminants. The requirements for sampling for microbial contaminants changed in 2016, and now some systems are required to monitor more frequently, which may explain the larger number of violations in that category.

Treatment technique violations

Some parts of the SDWA establish "treatment technique" requirements instead of MCL standards as the means of controlling unacceptable levels of certain contaminants in water. Treatment techniques are procedures or actions which public water systems must follow to reduce levels of, or ensure control of, some contaminants. Treatment technique requirements have been established for controlling viruses, some bacteria, lead and copper.

Treatment technique (TT) violations can occur if water systems fail to employ the required processes or treatments to reduce exposure to contaminants, fail to follow approved start-up procedures for seasonal operation or fail to correct significant deficiencies and defects in water system construction or operation. TT violations signal the potential for health risks, since consumers cannot be certain whether their drinking water was adequately treated or protected to reduce exposure to contaminants.

Among Wisconsin's 11,451 public water systems, 62 systems (0.54 percent) had treatment technique violations during 2017. Most of those violations resulted from failing to correct the defects or problems identified during inspections or assessments by established deadlines. Table B-3 in Appendix B summarizes the treatment technique violations that occurred during 2017.

Notification and reporting violations

Informing consumers about their drinking water is a key component of water system operation, and the SDWA contains numerous requirements for systems to notify consumers about water quality, violations that occur, operational problems and emergency situations. Violations can occur if systems fail to notify their consumers as required. Table B-4 in Appendix B summarizes all the notification violations that occurred during 2017.

- ***Public notice violations***

  To protect public health, water systems are required to notify consumers whenever violations of the primary drinking water regulations occur, or if a situation poses a risk to human health. Exceeding a contaminant MCL, failing to monitor drinking water supplies and failing to properly treat the water are all violations that require public notification.

  When public notices are issued, they must inform consumers about the nature of any violations, potential health effects, corrective actions that the water system is undertaking and any preventive measures that consumers should take. If a water system fails to notify consumers as required, public notice (PN) violations can occur.

  Among all the violations summarized in this report, public notice violations were the most common type. These violations occurred at 1,096 of Wisconsin's public water systems (just under 10 percent of the total number) during 2017, which represents an improvement over the year before. More than 80 percent of the public notice violations occurring last year were related to monitoring for microbial contaminants and nitrate.

- ***Consumer Confidence Report violations***

  All community water systems (those serving residential customers) are required to prepare and deliver a water quality report each year. The Consumer Confidence Report (CCR, often called a water quality report) provides information about the source of a system's water, levels of any contaminants detected in the water, and a summary of violations incurred by the water system during the previous year. CCR violations occur whenever water systems fail to distribute this annual report to their customers. Of Wisconsin's 1,052 community water systems, only 51 (0.45 percent) got violations for failing to distribute a CCR in 2017 or for issuing the report late.

- ***Notification violations***

  Identifying "significant deficiencies" and "sanitary defects" at public water systems is an important method that DNR uses to protect public health. These are identified during inspections and assessments conducted at public water systems. Significant deficiencies are defects in design, treatment, operation or maintenance of a public water system that cause contaminants to enter the system or cause health risks for consumers of the water. Sanitary defects are defects that could provide a pathway for microbial contaminants to enter a water system or that indicate a failure or imminent failure of a barrier that is already in place. Water systems are required to correct significant deficiencies and sanitary defects by established deadlines and then notify DNR when the corrective actions have been completed. These requirements apply to all of Wisconsin's public water systems, and failure to properly notify DNR can cause a violation to occur. During 2017, there were 8 water systems that incurred violations for failing to provide these notifications.

DNR WORKS TO ENSURE SAFE DRINKING WATER FOR WISCONSIN

To meet its responsibilities for implementing the SDWA, DNR works in multiple ways to ensure that Wisconsin's public water systems provide safe drinking water.

Program funding & staffing

Wisconsin's public water supply program receives funding from several sources, including the federal and state governments (Figure 3). Of a total $9.7 million in funding during 2017, the majority was used to pay for DNR staff and contracts for help from outside organizations, county health departments and colleges. During 2017, Wisconsin's drinking water program had 73 full-time staff working with the state's public water systems, which is a slight increase over the previous year.

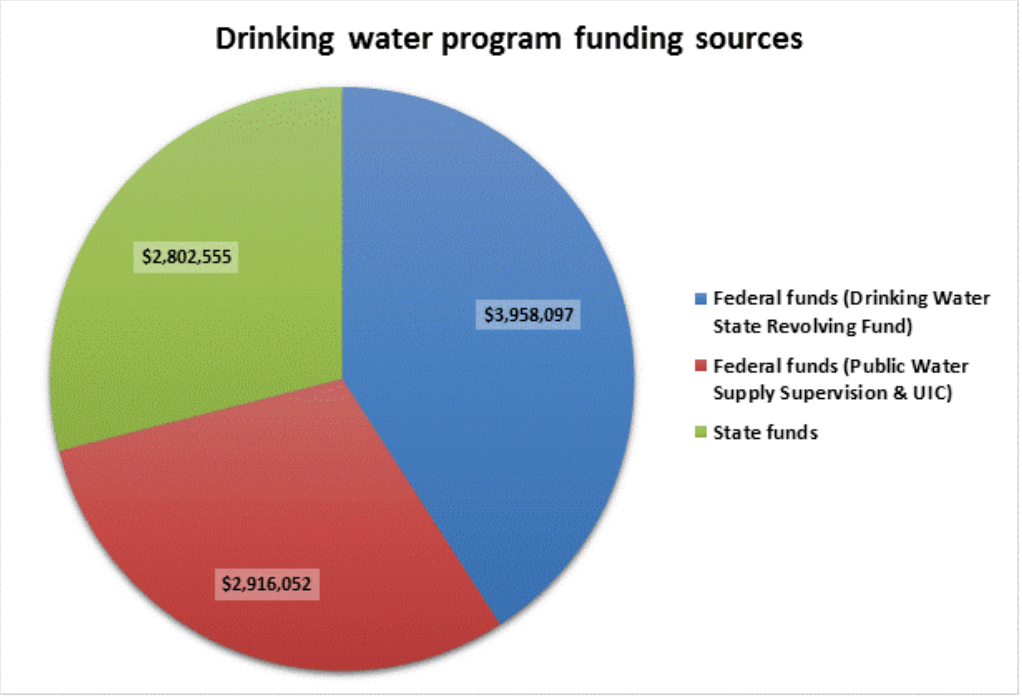


Figure 3. Funding from DNR's public water supply program comes from both federal and state sources. During 2017, the program had 73 full-time staff.

Inspections & assessments

Conducting inspections of public water systems is one of DNR's central responsibilities. Inspecting water systems regularly is a critically important tool. It allows DNR to measure compliance with requirements and track changes over time and helps to prevent future problems because defects can be identified before health-based violations occur. Last year, the DNR and its contracted partners conducted 2,674 "sanitary surveys" (compliance inspections) of the water sources, pumps and piping, treatment facilities and operation and maintenance practices at public water systems throughout Wisconsin.

The DNR conducts additional inspections, called "assessments," at some water systems. An on-site assessment is required whenever the presence of coliform bacteria is confirmed at a public water system.

The goal of these assessments is to identify potential pathways for microbial contamination and the corrective actions needed to remedy any sanitary defects. During 2017, the DNR and its contracted partners performed almost 400 of these assessments.

In Wisconsin, some transient non-community systems can qualify for less frequent monitoring of microbial contaminants if they receive an annual site visit each year. During the annual site visit, the inspector checks the basic elements of the water system (for example, wells, pumps, water storage) and looks for any changes at the system. In addition, defects and any corrective actions needed are identified. DNR and its contracted partners performed more than 7,100 annual site visits during 2017 to help water systems qualify for reduced monitoring schedules.

Enforcement activity

Whenever water systems are not meeting the drinking water requirements, DNR works to resolve issues quickly to protect public health. The DNR follows a stepped enforcement process to ensure compliance with regulatory requirements. "Stepped enforcement" means a series of actions designed to resolve violations at the lowest level—of formality and severity—that is appropriate.

Most violations are resolved quickly at the initial step in the process. First, the DNR sends a written Notice of Noncompliance (NON) to public water systems when problems are identified. Often, corrective action can be taken immediately to return the system to compliance.

If a system does not take action after initially receiving a NON, the enforcement process proceeds through additional steps. These include a Notice of Violation and in-person enforcement conference, which can result in written compliance agreements, administrative orders, and penalty orders. The process emphasizes voluntarily reaching agreement about the actions needed and appropriate timeline for returning to compliance. If the DNR is unable to resolve violations by working with a water system, a case may be referred to the Wisconsin Department of Justice for further enforcement.

When contaminants are detected in drinking water and MCL standards are exceeded, the enforcement process is expedited to work toward correcting any contamination problems as quickly as possible. Water systems with MCL violations receive Notices of Violation to begin the process of evaluating corrective actions, with a goal of returning to compliance as soon as possible.

Table 3 summarizes DNR's enforcement activity during 2017. DNR sent 1,641 NON letters but only 58 Notices of Violation last year, illustrating that most violations get resolved quickly after water systems are notified about problems. Enforcement activity in 2017 was similar to the year before but has decreased since previous years, indicating that fewer violations requiring follow-up from DNR occurred.

Table 3. Drinking water program enforcement activity during 2017		
Enforcement action	**purpose**	**number**
Notice of Noncompliance (NON) sent	NON informs public water system owner about failure to collect samples, report results, or distribute required information or notices.	1,641
Notice of Violation (NOV) sent	NOV notifies water system owner about a violation and schedules a meeting with DNR staff to discuss corrective actions and timetable for returning to compliance.	58
Enforcement conference held	Enforcement conferences are held to discuss the enforcement process, possible corrective actions, and timeline for returning to compliance.	46
Compliance agreement signed	Compliance agreement is a voluntary agreement between the water system owner and DNR describing corrective actions and the timeline for correcting violations when corrective actions can be completed within a short time frame.	9
Consent order or administrative order signed	Consent (or administrative) order establishes corrective actions and timelines/deadlines for returning to compliance when corrective actions will take longer than six months.	19
Enforcement case referred to Department of Justice	Case referred to Wisconsin Department of Justice for further enforcement.	1
Consent decree or judgement	Judgment issued by a court or Wisconsin Department of Justice.	1

Monitoring assistance

Collecting and analyzing water samples is the primary method for tracking drinking water quality. For this reason, it is critically important that water systems fulfill their monitoring responsibilities. The DNR prepares and distributes both preliminary and final monitoring schedules for community and non-transient non-community public water system owners and operators. These schedules help systems prepare to do timely monitoring and reporting of drinking water quality throughout the year. The DNR delivers information about monitoring requirements twice annually, in August of the preceding compliance year (preliminary schedules) and then in January of the compliance year (final schedules). Having advance notification allows system owners to budget for monitoring costs in the upcoming year.

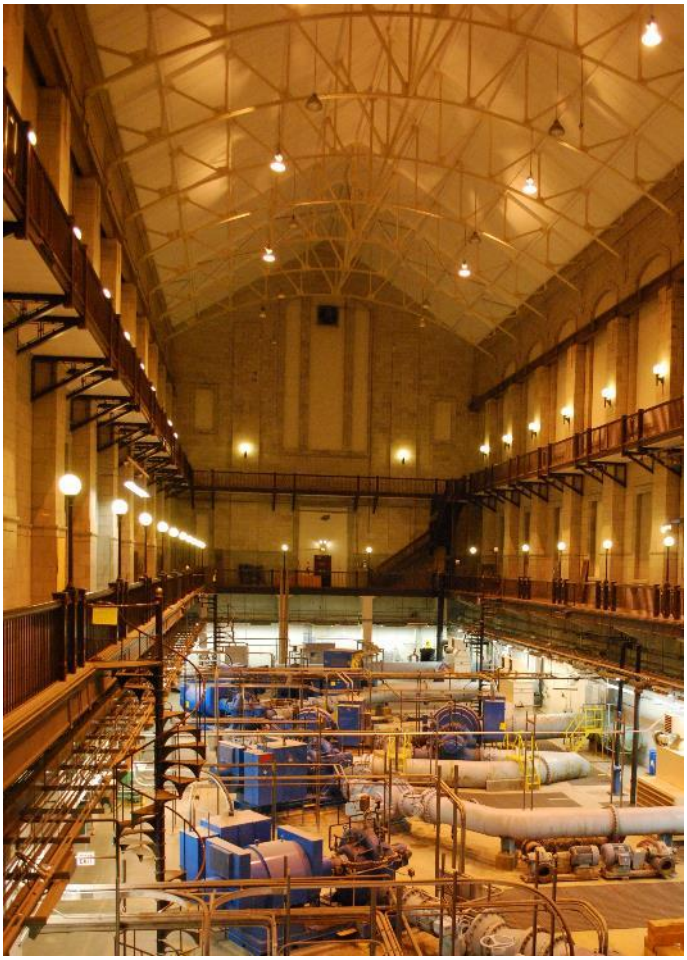
Regularly, DNR also evaluates the vulnerability of groundwater sources (wells) to possible contamination at all the state's community and non-transient non-community public water systems. Vulnerability information is used to determine the proper monitoring frequency for contaminants regulated under the SDWA. DNR conducts these evaluations, called monitoring assessments, every three years. During the assessments, DNR evaluates numerous criteria, including groundwater source proximity to potential contaminant sources, local geology, well construction criteria and previous source water test results. The assessments help to ensure continued safe drinking water sources for Wisconsin consumers and may reduce monitoring costs in excess of $3 million annually for Wisconsin's public water systems.

Protection of water sources

Wellhead protection is a preventive program designed to protect public water supply sources and reduce infrastructure costs, treatment costs and public health risk. The program represents a "first line of defense" approach to ensuring safe drinking water. It helps to prevent contaminants from entering

public water supplies by managing the land use that contributes water to wells. Wisconsin's wellhead protection program incorporates both regulatory and voluntary components, and DNR encourages development and implementation of wellhead protection plans for all public water systems as a proactive step to protect wells from potential contamination. During 2017, eight new wellhead protection plans were reviewed and approved by DNR.

Financial assistance



Wisconsin receives federal funding to implement the SDWA within the state, and the DNR uses most of that funding to make low-interest loans and principal forgiveness awards for infrastructure improvements at eligible municipal water systems. During 2017, DNR's community financial assistance program, working with the public water program, awarded more than $73 million in funding from the Safe Drinking Water Loan Program. The program funds projects in Wisconsin communities that will help to provide safe drinking water for consumers at affordable prices. Funding activity during 2017 increased significantly over the year before. Since the Safe Drinking Water Loan Program began in 1998, 360 projects in Wisconsin have received more than $652 million in loans and principal forgiveness.

Last year's funding was comprised of $56.1 million in low interest loans and $17.2 million in principal forgiveness. Depending on market interest rates, communities can save 20 to 30 percent from a lower interest rate loan compared with a market rate loan.

The majority of the principal forgiveness funding last year ($13.6 million) was awarded for 35 projects through the Private Lead Service Line Replacement Program. This program is Wisconsin's innovative approach to funding replacement of both the public *and* private portions of lead service lines.

These are a few examples of how Wisconsin communities are using Loan Program funds from 2017 to provide safe drinking water:

- The city of Phillips received $1,478,891 for constructing a new well to replace an existing well that is at risk for microbiological contamination.
- The city of Watertown received $10,757,910 for construction of a new pump station, an iron/manganese treatment plant and a service building to replace existing facilities.
- The city of Shullsburg received $871,155 to replace water mains on Iowa and Oates streets.

- The village of Random Lake received $809,299 for upgrades at Well 2 that include replacing the iron filtration system, a well pump and motor, upgrading the SCADA (computerized control and operational monitoring) system and installing a backup generator.
- The city of New Lisbon received $1,504,100 for constructing a new well to address reduced water production capacity at other wells that have high iron levels.

Appendix C lists all the communities that were awarded funding during 2017.

Drinking Water News on Tap:
DNR and Many Partners Work to Address Nitrate Challenge

Groundwater does not naturally contain lots of nitrate, and high levels usually indicate contamination. Sources can include nitrogen fertilizers, manure, septic systems and sewage treatment systems. The contaminant flows or leaches into groundwater from the surrounding landscape. Levels of nitrate contamination in well water can be affected by the local geology (porous soils or fractured bedrock, for instance), a well's location (proximity to contaminant sources) and well construction (like depth of the well or the casing in the well).

The DNR is working with many partners to help water systems minimize and control the risk for nitrate contamination. A variety of efforts is underway to address the issue from multiple angles. These are a few examples:

- Better information – While public water systems are required to monitor for nitrate, many homeowners have less information about nitrate in household wells. Beginning in 2014, a rule took effect that requires licensed well drillers to collect water samples from new wells and reconstructed or rehabilitated wells, have the samples analyzed for nitrate, and provide the results to the well owner. This new source of data has yielded results from 55,000 samples to date and is providing a more complete picture of nitrate in groundwater statewide.
- Source water protection – Every year, more communities prepare wellhead protection plans to protect wells from potential contamination by managing land use in areas around the wells. During 2017, several communities enacted wellhead protection ordinances to further this effort.
- Pilot projects – DNR has funded demonstration projects at three locations in the state, aimed at testing technology (like the weather recording equipment shown here) and farming practices that can maintain farm profitability while reducing nitrate movement into groundwater.
- Working together – A workgroup is currently looking for ways to address nitrate contamination at both the level of individual wells and an entire watershed. The group brings together broad-ranging expertise from the Wisconsin Land and Water Conservation Association, Wisconsin Geological and Natural History Survey, the University of Wisconsin, the US Geological Survey, Wisconsin Rural Water Association, the Wisconsin Department of Agriculture, Trade and Consumer Protection and DNR.

Nitrate contamination is a large-scale challenge, and not only for Wisconsin. Approaching the problem in multiple ways will provide better ways to reduce its effect on drinking water.

Partnerships

In Wisconsin, providing safe drinking water is a cooperative effort between public water systems, professional associations, individual operators, DNR, local agencies, EPA, water consumers and many others. As part of this effort, the DNR contracts with numerous organizations to help provide technical assistance, training and compliance support to the state's water system owners and operators. These contract programs include:

- County health departments perform inspections, assessments and water sampling at thousands of restaurants, parks, churches, and other transient non-community systems around the state. It is a huge effort, and during 2017, these locally-based sanitarians performed more than 7,300 on-site inspections at transient non-community water systems throughout the state.
- Wisconsin Rural Water Association (WRWA) helps small public water systems by giving them regular reminders about monitoring requirements and upcoming deadlines along with specialized, on-site technical assistance. This assistance helps with training of new operators and troubleshooting of problems that occur. During 2017, WRWA delivered more than 5,700 monitoring reminder calls and performed more than 550 site visits at other than municipal community and non-transient non-community water systems around the state.
- Moraine Park Technical College and Wisconsin Rural Water Association provide training that helps new water system operators prepare for exams and existing operators obtain required continuing education.

CHALLENGES AHEAD

Wisconsin's water supply infrastructure, like the rest of the nation's, is aging, and citizens and communities face steep costs to maintain and upgrade the wells, pumps, pipes, and treatment facilities needed to bring safe water to our homes and businesses every day.

Every four years, EPA conducts its Drinking Water Infrastructure Needs Survey and Assessment to quantify the nationwide need. The most recent information comes from EPA's 2015 survey. Nationally, an estimated $472.6 billion are needed to

meet the nation's drinking water infrastructure needs between 2015 and 2034.

The price tag for Wisconsin was estimated to be over $8.5 billion. Here's how that bill breaks down:

- More than 60 percent of Wisconsin's price tag ($5.3 billion) is for distribution and transmission needs. These include replacing water mains, eliminating dead end mains and stagnant water areas, installing and rehabilitating pumping stations to maintain adequate water pressure, installing and replacing water meters, and installing backflow prevention to protect against contamination.
- Meeting treatment needs will require an estimated $1.6 billion. This category covers construction and rehabilitation of treatment processes that can include disinfection, contaminant removal, filtration, and removal of objectionable secondary contaminants, along with the 'advanced' processes employed by systems using surface water sources.
- For Wisconsin's largest community water systems, those serving populations greater than 100,000, infrastructure needs are estimated at more than $2.39 billion.
- The needs of smaller community water systems, serving 3,300 to 100,000 people, are estimated at nearly $3.9 billion.
- Infrastructure costs for the smallest community water systems, those serving fewer than 3,300 people, are estimated at almost $1.7 billion.
- Not-for-profit, non-community water system needs are estimated to be almost $612 million.

Although future needs are challenging, Wisconsin's public water systems do well at providing safe drinking water in the state. The effort involves many partners—including water system owners and operators, water industry professionals, training and technical assistance providers, and other agencies—who all play critical roles and work hard every day. DNR is committed to protecting the state's drinking water and ensuring that it is safe today and for the future.

APPENDIX A. Maximum permissible levels of contaminants in drinking water

The tables in this appendix show the Maximum Contaminant Levels (MCLs) for the various groups of regulated drinking water contaminants.

Table A-1. MCLs for microbial contaminants

contaminant	MCL
Escherichia coli bacteria	MCL exceedance can occur in several ways: • *E. coli*-positive repeat sample following a total coliform-positive routine sample. • Total coliform-positive repeat sample following an *E. coli*-positive routine sample. • Failure to collect all required repeat samples following an *E. coli*-positive routine sample. • Failure to test for *E. coli* after a total coliform-positive repeat sample.

Table A-2. MCLs for inorganic contaminants

contaminant	MCL (mg/L)	contaminant	MCL (mg/L)	contaminant	MCL (mg/L)
Antimony	0.006	Chromium	0.1	Nickel	0.1
Arsenic	0.01	Copper	1.3 is Action Level*	Nitrate	10
Asbestos (fiber length >10 microns)	7 million fibers/L	Cyanide	0.2	Nitrite	1
Barium	2	Fluoride	4	Total Nitrate & Nitrite	10
Beryllium	0.004	Lead	0.015 is Action Level*	Selenium	0.05
Cadmium	0.005	Mercury	0.002	Thallium	0.002

* Exceeding an action level is not a violation; it requires water systems to take additional steps and employ techniques to control corrosiveness of water.

Table A-3. MCLs for radionuclides

contaminant	MCL (picocuries per liter)	contaminant	MCL (micrograms per liter)
Gross alpha particle activity	15	Uranium	30
Radium-226 and Radium-228	5		

Table A-4. MCLs for disinfectants and disinfection byproducts			
DISINFECTION BYPRODUCTS		**RESIDUAL DISINFECTANTS**	
contaminant	**MCL (mg/L)**	**disinfectant**	**MRDL * (mg/L)**
Bromate	0.01	Chloramines (as Cl_2)	4
Chlorite	1	Chlorine (as Cl_2)	4
Haloacetic Acids	0.06	Chlorine dioxide (as ClO_2)	0.8
Total Trihalomethanes	0.08	* MRDL = maximum residual disinfectant level	

Table A-5. MCLs for organic contaminants

SYNTHETIC ORGANIC CONTAMINANTS

contaminant	MCL (mg/L)	contaminant	MCL (mg/L)	contaminant	MCL (mg/L)
2,4-D	0.07	Dibromochloropropane	0.0002	Hexachlorobenzene	0.001
2,4,5-TP	0.05	Dinoseb	0.007	Hexachlorocyclopentadiene	0.05
Alachlor	0.002	Dioxin	3×10^{-8}	Lindane	0.0002
Atrazine	0.003	Diquat	0.02	Methoxychlor	0.04
Benzo(a)pyrene	0.0002	Endothall	0.1	Oxamy	0.2
Carbofuran	0.04	Endrin	0.002	PCBs	0.0005
Chlordane	0.002	Ethylene Dibromide	0.00005	Pentachlorophenol	0.001
Dalapon	0.2	Glyphosate	0.7	Picloram	0.001
Di(2-ethylhexyl)adipate	0.4	Heptachlor	0.0004	Simazine	0.004
Di(2-ethylhexyl)phthalate	0.006	Heptachlor epoxide	0.0002	Toxaphene	0.003

VOLATILE ORGANIC CONTAMINANTS

contaminant	MCL (mg/L)	contaminant	MCL (mg/L)	contaminant	MCL (mg/L)
Benzene	0.005	1,2-Dichloroethylene,trans	0.1	Toluene	1
Carbon Tetrachloride	0.005	Dichloromethane	0.005	1,2,4 Trichlorobenzene	0.07
o-Dichlorobenzene	0.6	1,2-Dichloropropane	0.005	1,1,1-Trichloroethane	0.2
p-Dichlorobenzene	0.075	Ethylbenzene	0.7	1,1,2 Trichloroethane	0.005
1,2-Dichloroethane	0.005	Chlorobenzene	0.1	Trichloroethylene	0.005
1,1-Dichloroethlyene	0.007	Styrene	0.1	Vinyl Chloride	0.0002
1,2-Dichloroethylene,cis	0.07	Tetrachloroethylene	0.005	Xylenes (Total)	10

Table A-6. Secondary drinking water standards
Water containing inorganic chemicals in quantities above these limits is not hazardous to health but may be objectionable.

parameter	standard (mg/L)	parameter	standard (mg/L)
Aluminum	0.05 to 0.2	Iron	0.3
Chloride	250	Manganese	0.05
Color	15 units	Odor	3 (threshold number)
Copper	1	Silver	0.1
Corrosivity	Noncorrosive	Sulfate	250
Fluoride	2	Total Dissolved Solids (TDS)	500
Foaming agents	0.5	Zinc	5
Hydrogen Sulfide	Not detectable		

APPENDIX B. Summary of violations of drinking water requirements during 2017

The following tables summarize violations during 2017 at Wisconsin's public water systems. The tables contain reports of violations of MCL standards, monitoring and reporting requirements, treatment technique requirements, and notification requirements.

Table B-1. Maximum Contaminant Level violations during 2017

contaminant	number of water systems with violations					number of violations
	total systems*	MC	OC	NN	TN	
MICROBIAL CONTAMINANTS	**37**	**0**	**2**	**1**	**34**	**43**
Total coliform bacteria					11	11
E. coli bacteria			2	1	24	32
INORGANIC CONTAMINANTS	**60**	**3**	**5**	**25**	**27**	**100**
arsenic			1	10	n/a	46
nitrate		3	4	15	27†	54
RADIONUCLIDES	**13**	**12**	**1**	**n/a**	**n/a**	**122**
combined radium 226+228		10	1			141
gross alpha particle activity		5	1			122
DISINFECTION BYPRODUCTS	**2**	**2**	**0**	**0**	**n/a**	**3**
total trihalomethanes		3				3
SYNTHETIC ORGANIC CONTAMINANTS	**1**	**0**	**0**	**1**	**n/a**	**1**
di(2-ethylhexyl)phthalate				1		1
VOLATILE ORGANIC CONTAMINANTS	**1**	**0**	**0**	**1**	**n/a**	**1**
dichloromethane				1		1
Overall totals	**99**	**17**	**8**	**13**	**61**	**270**

* Some water systems may have multiple violations within a contaminant group.

† An additional 289 TN systems are on continuing operation with nitrate levels above the MCL of 10 mg/L.

Table B-2. Monitoring and reporting violations during 2017						
contaminant	**number of water systems with violations**					**number of violations**
	total systems*	**MC**	**OC**	**NN**	**TN**	
MICROBIAL CONTAMINANTS	**392**	**8**	**31**	**46**	**307**	**512**
Groundwater Rule		3	7	7	57	80
Total Coliform Rule					7	7
Revised Total Coliform Rule		5	26	40	257	425
INORGANIC CONTAMINANTS	**303**	**66**	**25**	**81**	**131**	**446**
arsenic		2	1	4	n/a	7
inorganics panel		3	1	3	n/a	7 (77 individual contaminants)
lead and copper		61	22	75	n/a	252
nitrate		5	6	10	131	180
RADIONUCLIDES	**6**	**3**	**3**	n/a	n/a	**7** (22 individual contaminants)
DISINFECTANTS & DISINFECTION BYPRODUCTS	**39**	**32**	**5**	**2**	n/a	**86**
residual disinfectants		3	1			4
disinfection byproducts		30	4	2		82
SYNTHETIC ORGANIC CONTAMINANTS	**9**	**7**	**0**	**2**	n/a	**11** (223 individual contaminants)
VOLATILE ORGANIC CONTAMINANTS	**16**	**5**	**4**	**7**	n/a	**18** (438 individual contaminants)
Overall totals	**765**	**121**	**68**	**138**	**438**	**1080**
*Some water systems may have multiple violations within a contaminant group.						

Table B-3. Treatment technique violations during 2017

contaminant	number of water systems with violations					number of violations
	total systems*	MC	OC	NN	TN	
MICROBIAL CONTAMINANTS	**50**	**11**	**5**	**1**	**33**	**71**
Groundwater Rule		10	5	1	10	42
Revised Total Coliform Rule		2			24	29
INORGANIC CONTAMINANTS	**6**	**2**	**2**	**2**	n/a	**7**
Lead and Copper Rule		2	2	2		7
DISINFECTANTS & DISINFECTION BYPRODUCTS	**6**	**3**		**3**	n/a	**6**
Overall totals	**62**	**16**	**7**	**6**	**33**	**84**

*Some water systems may have multiple violations within a contaminant group.

Table B-5. Notification violations during 2017

requirement	number of water systems with violations					number of violations
	total systems*	MC	OC	NN	TN	
Consumer Confidence Report	51	10	41	n/a	n/a	51
Groundwater Rule	8	2	1	1	4	9
Public Notification	1,096	81	64	115	836	2,264
Overall totals	**1,155**	**91**	**97**	**116**	**840**	**2,324**

*Some water systems may have multiple violations within this group.

APPENDIX C. Communities receiving Safe Drinking Water Loan Program funding for drinking water projects during 2017

community	principal forgiveness funding	loan funding	total funding	project description
Bayfield (city)	$206,180		$206,180	Replace water main on Swede Hill
Bowler (village)	$235,274	$156,849	$392,123	SCADA and instrumentation upgrades to address nitrates
Browntown (village)		$432,523	$432,523	Well 1 improvements and water main replacements
Burlington (city)	$158,202	$896,473	$1,054,675	Radium treatment at Well 11
Cameron (village)		$288,958	$288,958	Replace water main in 6th Street area
Cashton (village)		$506,780	$506,780	Replace water main on Kissel Street, Johnson Street and Highway 33
Curtiss (village)	$278,118	$884,975	$1,163,093	Construct wells 12 and 13, treatment and raw water transmission main
Elkhorn (city)		$849,261	$849,261	Construct service building addition
Glenwood City (city)	$383,895	$469,203	$853,098	Construct new well (Well 2)
Hudson (city)		$1,866,120	$1,866,120	Install iron and manganese treatment at Well 10
Ladysmith (city)		$507,691	$507,691	Replace water mains on multiple streets
Little Chute (village)		$1,306,472	$1,306,472	Replace existing ion exchange system and SCADA upgrade
Markesan (city)		$1,276,868	$1,276,868	Replace water mains on multiple streets
Milwaukee (city)		$18,167,178	$18,167,178	Replace water mains on multiple streets
Milwaukee (city)		$6,936,616	$6,936,616	Repair Linnwood Treatment Plant reservoir and replace water mains on multiple streets
New Berlin (city)		$1,710,472	$1,710,472	Replace water mains on multiple streets
New Lisbon (city)	$451,230	$1,052,870	$1,504,100	Construct new well (Well 7)
Park Falls (city)	$500,000	$711,251	$1,211,251	Replace water mains in downtown area
Phillips (city)	$500,000	$979,891	$1,479,891	Construct new well (Well 7) to replace Well 4
Radisson (village)	$358,625	$239,083	$597,708	Construct new well (Well 3) to replace Well 1 with SCADA upgrade
Random Lake (village)		$809,299	$809,299	Replace filter system and upgrades at Well 2
Rothschild (village)		$395,434	$395,434	Replace water mains on Katherine and Becker streets
Saint Croix Falls (city)		$1,176,708	$1,176,708	Replace water mains on multiple streets
Shullsburg (city)		$871,155	$871,155	Replace water mains on Iowa and Oates streets
South Wayne (village)	$500,000	$513,192	$1,013,192	Replace water main on Grove Street
Stratford (village)		$880,711	$880,711	Replace water mains on North Main Street and North 2nd and 3rd streets

community	principal forgiveness funding	loan funding	total funding	project description
Two Rivers (city)		$918,669	$918,669	Replace water mains on State Highway 42, Lincoln Avenue and Pilon Court
Watertown (city)		$10,757,910	$10,757,910	Construct new pump station, iron/manganese treatment plant and new service building
Westby (city)		$469,197	$469,197	Replace water main on East State Street
Whiting (village)	$44,631	$104,139	$148,770	Construct two additional nitrate treatment tanks
Total 2017 funding	**$3,616,155**	**$56,135,948**	**$59,752,103**	

APPENDIX D. Water systems and communities awarded funds through the Private Lead Service Line Replacement Funding Program during 2017

community	principal forgiveness funding	total funding
Antigo (city)	$300,000	$300,000
Ashland (city)	$300,000	$300,000
Clintonville (city)	$310,000	$310,000
Columbus (city)	$300,000	$300,000
Cudahy (city)	$300,000	$300,000
Eagle River (city)	$300,000	$300,000
Eau Claire (city)	$500,000	$500,000
Elkhart Lake (village)	$190,000	$190,000
Florence (town)	$325,000	$325,000
Fond du Lac (city)	$300,000	$300,000
Green Bay (city)	$300,000	$300,000
Janesville (city)	$500,000	$500,000
Jefferson (city)	$300,000	$300,000
Lake Mills (city)	$300,000	$300,000
Manitowoc (city)	$350,000	$350,000
Marshfield (city)	$300,000	$300,000
Menasha (city)	$300,000	$300,000
Milwaukee (city)	$2,600,000	$2,600,000
Monroe (city)	$300,000	$300,000
Mosinee (city)	$300,000	$300,000
Oshkosh (city)	$500,000	$500,000
Platteville (city)	$310,000	$310,000
Princeton (city)	$305,000	$305,000
Racine (city)	$500,000	$500,000
Randolph (village)	$300,000	$300,000
Sheboygan (city)	$335,000	$335,000
Saint Francis (city)	$300,000	$300,000
Stratford (village)	$140,750	$140,750
Sturgeon Bay (city)	$300,000	$300,000
Two Rivers (city)	$300,000	$300,000
Waterloo (city)	$300,000	$300,000
Wausau (city)	$375,600	$375,600
West Allis (city)	$500,000	$500,000
West Milwaukee (village)	$140,025	$140,025
Wisconsin Rapids (city)	$300,000	$300,000
Total 2017 funding	**$13,581,375**	**$13,581,375**