PUBLIC DRINKING WATER IN MAINE

A Report from the Maine CDC Drinking Water Program

Annual Report 2016

Maine Center for Disease Control and Prevention
An Office of the Department of Health and Human Services

Paul R. LePage, Governor Ricker Hamilton, Acting Commissioner

Introduction

Dear Reader,

I am pleased to introduce the annual report of Public Drinking Water in Maine. This report provides an overview of public water system compliance, quality of public drinking water, and the efforts of the State of Maine Drinking Water Program in ensuring safe drinking water.

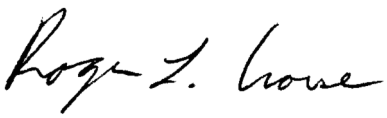
Safe and reliable supplies of drinking water are essential for public health protection, as well as the economic viability of communities. Maine is fortunate to have an abundance of clean water available for public water systems to collect, treat, store, and serve to their customers.

The Drinking Water Program, part of the Maine Center for Disease Control and Prevention within the Department of Health and Human Services, is responsible for ensuring that public water systems comply with federal and State regulations related to safe water. The Department of Health and Human Services has been protecting public health through drinking water regulations since the early 1900s when typhoid and cholera outbreaks were common due to the consumption of contaminated drinking water. In 1976, the Drinking Water Program began administering the federal Safe Drinking Water Act.

Since then, public water systems have been required to meet an increasing number of rules and regulations related to safe drinking water. When water systems are in compliance with these regulations, the water they serve is determined to be “safe”.

I express my appreciation to the women and men across Maine who diligently work to ensure that high quality, affordable drinking water is supplied to consumers in Maine. I hope you find this report informative and helpful.

Yours for safe drinking water,



Roger L. Crouse, P.E.
Director
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Contents

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About the Drinking Water Program

Primacy

The Maine CDC Drinking Water Program administers the federal Safe Drinking Water Act, which is administered through the National Primary Drinking Water Regulations. Maine was granted primacy by the United States Environmental Protection Agency.

Maine Legislative Authorization

The Maine Legislature enacted Maine's Water for Human Consumption Act to authorize Maine to administer both State rules and and federal safe drinking water regulations. This law grants the Drinking Water Program oversight of all operational aspects of public water systems in Maine that impact drinking water service and public health.

Mission Statement

The Drinking Water Program works to ensure safe drinking water and protect public health in Maine by administering and enforcing drinking water and subsurface wastewater regulations and providing educational, technical, and financial assistance.

Organization

Drinking Water Program is organized into three teams: Engineering and Water Resources, Data Management and Program Support, and Public Water System Inspection. Each team plays a crucial role in ensuring that Maine's public water systems provide safe, reliable drinking water to their customers.

The Role of Drinking Water in Public Health Protection

The United States has one of the safest public drinking water supplies in the world. Over 286 million Americans consume tap water from community public water systems. The U.S. Environmental Protection Agency (EPA) regulates drinking water quality in public water systems and sets maximum concentration levels for pollutants in water.

Drinking water sources are susceptible to pollution and sometimes require appropriate treatment to remove disease-causing contaminants. Contamination of drinking water supplies can occur in the source water and the distribution system. Sources of water contamination include naturally occurring chemicals and minerals (e.g., arsenic, radon, uranium), local land use practices (e.g., fertilizers and pesticides), manufacturing processes, and sewer overflows or wastewater releases.

The presence of contaminants in water can lead to adverse health effects, including gastrointestinal illness, reproductive problems, neurological disorders, cancer, and others. Infants, young children, pregnant women, older populations, and those with compromised immune systems may be especially susceptible to illness from some contaminants.

Public Water Systems in Maine

What is a Public Water System?

Public water systems provide water for human consumption through pipes and other constructed conveyances (distribution system) to at least 15 service connections, or serve a minimum average of 25 people for at least 60 days per year. Public water systems are divided into two categories — Community and Non-Community. Non-Community systems are identified as either Transient or Non-Transient.

PUBLIC WATER SYSTEMS

Non-Community

Transient

Examples:
- Gas Stations*
- Parks*
- Resorts*
- Campgrounds*
- Restaurants*
- Golf Courses*
- Hotels/Motels*

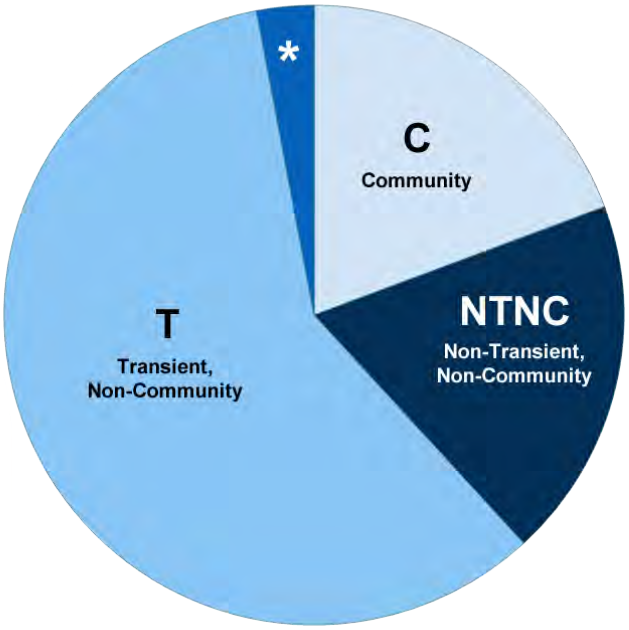
Non-Transient

Examples:
- Schools*
- Factories*
- Office Buildings*
- Hospitals*

Community

Examples:
- Municipal Water Districts
- Apartment Buildings*
- Nursing Homes*
- Mobile Home Communites*

*Served by their own wells or other sources, not connected to municipal or other public water systems.

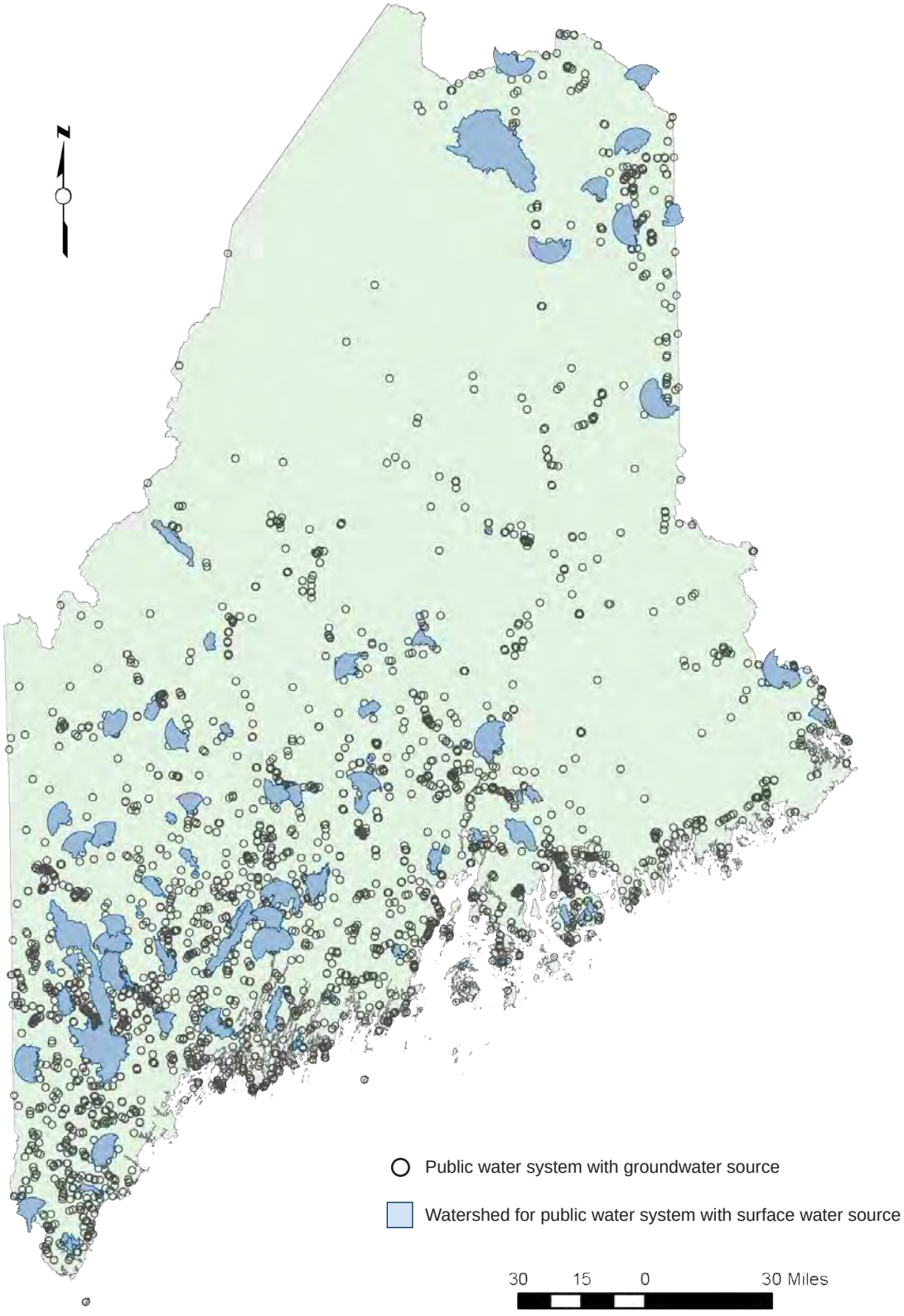


COMMUNITY
376 water systems serving nearly 670,000 people

NON-TRANSIENT, NON-COMMUNITY
367 water systems serving roughly 65,000 people

TRANSIENT, NON-COMMUNITY
1,145 water systems serving over 180,000 people

*** BOTTLED WATER/VENDING MACHINES**
58 water systems (population served is not available for this type of system)


N
Public water system with groundwater source
Watershed for public water system with surface water source
30 15 0 30 Miles

Public Water System Responsibilities

While the Drinking Water Program serves as the regulatory body for public drinking water systems in Maine, the systems themselves are responsible for ensuring their ability to provide safe drinking water. These responsibilities include routine operations and maintenance, regular sampling of post-treatment drinking water, and reporting data to both the Drinking Water Program and the consumers they serve.

Operations and Maintenance

Regardless of size and complexity, no public water system can be fully automated. All systems require human oversight and every piece of equipment requires some level of maintenance. Some water systems must employ licensed water operators with qualifications that match the complexity of the water system equipment. To ensure all public water systems serve safe drinking water to the public, sanitary surveys are performed every three to five years. Sanitary surveys are routine inspections conducted by the Drinking Water Program's public water system inspectors.

Routine Sampling

Depending on the type of public water system and water source, water quality testing is required for a variety of contaminants on a routine basis. Specific sampling requirements for public water systems may differ based on site specific characteristics and water quality results. Table 1 details a general sampling summary by system type. (See Appendix for a complete list of regulated contaminants.)

Table 1. Routine sampling schedules for public water systems.

<table>
<tr><th colspan="2"></th><th>Total Coliform Bacteria</th><th>Nitrates</th><th>Inorganics</th><th>Volatile Organics*</th><th>Synthetic Organics*</th><th>Lead & Copper</th><th>Radio-nuclides</th><th>Disinfection Byproducts</th></tr>
<tr><td colspan="2">T</td><td rowspan="4">Quarterly or Monthly</td><td rowspan="4">Annually</td><td colspan="7">Determined by Sampling History</td></tr>
<tr><td rowspan="2">NTNC</td><td>Surface Water</td><td>Annually</td><td rowspan="3">Based on Risk and Results History (Annually - Every 6 years)</td><td rowspan="3">Based on Risk and Results History (Quarterly - Every 3 Years)</td><td rowspan="3">Based on Population and Results History (6 months - 3 years)</td><td rowspan="2">Not Applicable</td><td>Quarterly</td></tr>
<tr><td>Groundwater</td><td>Every 3 Years</td><td>Based on Population: > 500 - Annually; < 500 - Every 3 Years</td></tr>
<tr><td rowspan="2">C</td><td>Surface Water</td><td>Annually</td><td rowspan="2">Determined by History (Quarterly - 9 years)</td><td>Quarterly</td></tr>
<tr><td>Groundwater</td><td>Every 3 Years</td><td>Based on Population: > 500 - Annually; < 500 - Every 3 Years</td></tr>
</table>

T = Transient, Non-Community NTNC = Non-Transient, Non-Community C = Community

* Waivers available to allow decreased sampling frequency

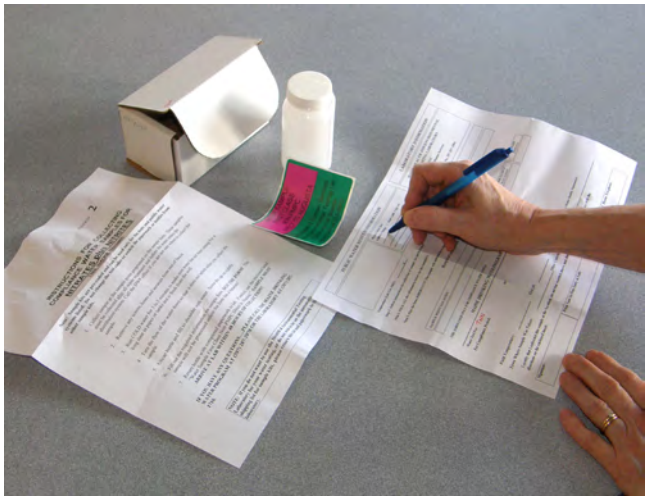
Reporting to the Maine Drinking Water Program

Sample Results

Public water systems send water samples to certified laboratories for analysis, and these laboratories report the sample results to the Drinking Water Program within the time-frame set by the system's specific requirement. Though the certified laboratory reports sample results to the Drinking Water Program, the public water system is ultimately responsible for ensuring that water quality results are on time and correctly reported.

Monthly Operating Reports

All public water systems that add chemical(s) to their water systems for treatment are required to send monthly operating reports to the Drinking Water Program by the tenth day of the month following the month in which samples were collected.



Reporting to Consumers

Consumer Confidence Reports

Every year, community water systems are required to develop and distribute a Consumer Confidence Report. These reports detail the previous year's water quality information and must be shared with consumers and the Drinking Water Program by July 1 every year. Public water systems are also required to provide evidence to the Drinking Water Program that Consumer Confidence Reports were delivered to consumers.

Public Notification

The Public Notification Rule requires public water systems to notify consumers when a violation occurs. Scope and delivery method of public notices vary, depending on the type of violation.

Measures

Comparing rates of public water system compliance from year to year is one method of measuring the success of public water systems in supplying safe drinking water. Violations are issued to public water systems when the water system does not meet all the regulations mandated by the Safe Drinking Water Act.

This report illustrates a number of measures to describe the state of public drinking water in Maine over the past ten years. As is evident in the data presented here, public water systems in Maine have been steadily improving and we hope to continue this trend into the future.

Total Number of Violations Incurred by Year: 2006-2016

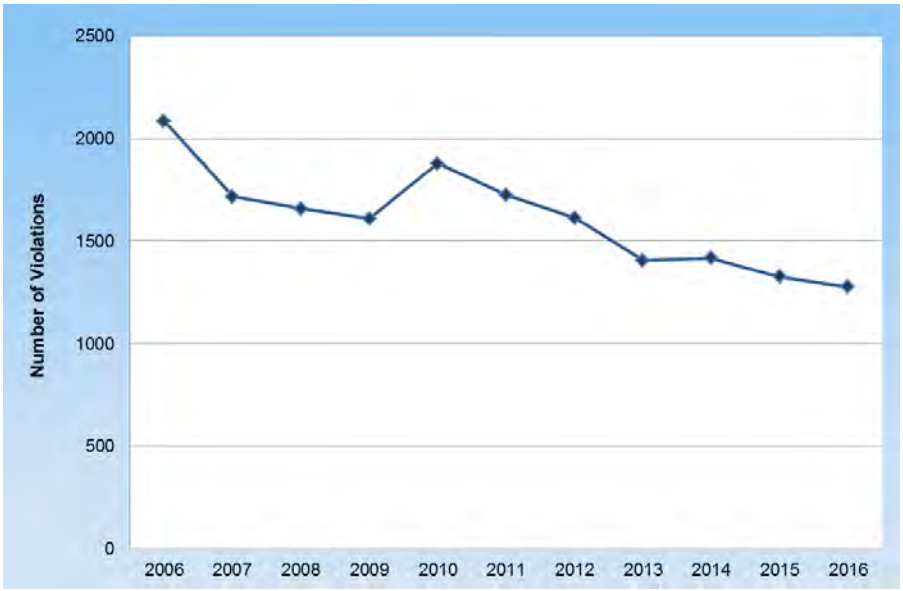


Figure 1. Total number of violations issued to public water systems over the past decade. A decreasing trend occurred over the past decade, with a high of 2,087 violations in 2006 and a low of 1,278 violations issued in 2016.

Public Water Systems Without a Violation: 2006-2016

Figure 2. Percentage of water systems receiving no violations over the past decade. Overall, the percentage of systems without any violations has steadily increased over the past ten years, an important gain for public health and safety.

Health-Based and Non-Health-Based Violations

Health-based violations are issued when water sample results show the presence of contaminant(s) at numbers above a maximum contaminant level or when a treatment technique requirement is not met. The maximum contaminant level is set by the Environmental Protection Agency and is based on human health and safety standards. The treatment techniques are specified processes intended to reduce the level of a contaminant.

Non-health-based violations are violations that are not directly related to human health and safety. These types of violations typically arise when public water systems neglect to report test results to the Drinking Water Program, fail to test drinking water for a regulated contaminant, and/or fail to notify their customers of violations of the federal Safe Drinking Water Act.

Health-Based Violations Issued in 2016 for Regulated Contaminants

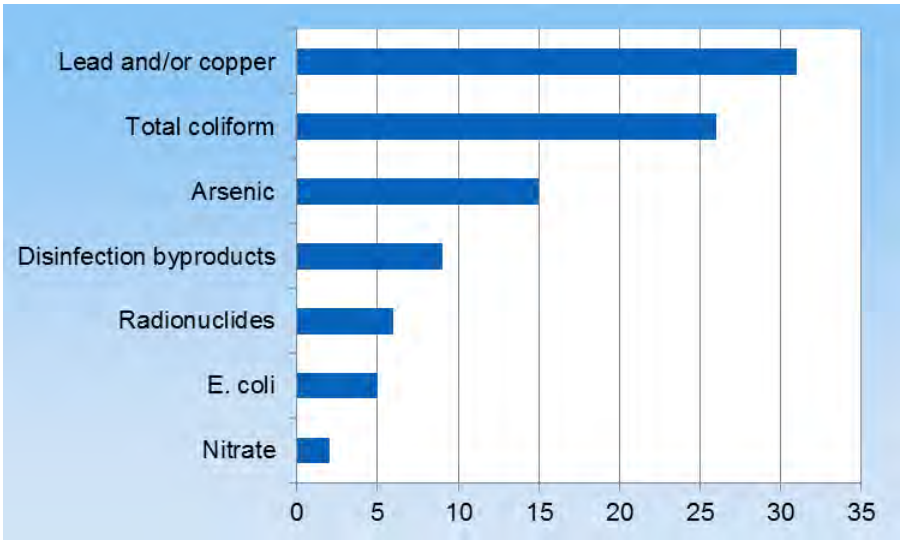


Figure 3. Health-based violations issued in 2016 by type of contaminant.

Violations are issued when a sample result from a public water system exceeds a drinking water standard for a regulated contaminant. In 2016, lead and copper was the most common health-based violation, representing 33% of the total violations (n=94) for the year.

DEFINITIONS

Maximum Contaminant Level (MCL)

A maximum contaminant level is the highest level of a contaminant that is allowed in drinking water. These levels are set as close as feasible to the *maximum contaminant level goal* or MCLG. The MCLG is the level of a contaminant in drinking water below which there is no known or expected health risk. When the MCL level is set for a contaminant, public health, available technology, and cost are all taken into consideration.

Treatment Technique (TT)

Treatment techniques are water treatment processes that reduce the level of contamination in drinking water. For certain contaminants, the EPA establishes treatment techniques instead of an MCL. Some treatment techniques are water treatment processes, such as those established for viruses, bacteria, and turbidity under the Surface Water Treatment Rule. Other treatment techniques involve public education requirements, as in the case of the Lead and Copper Rule.

Measures

Total Violations Issued to Public Water Systems: 2006-2016

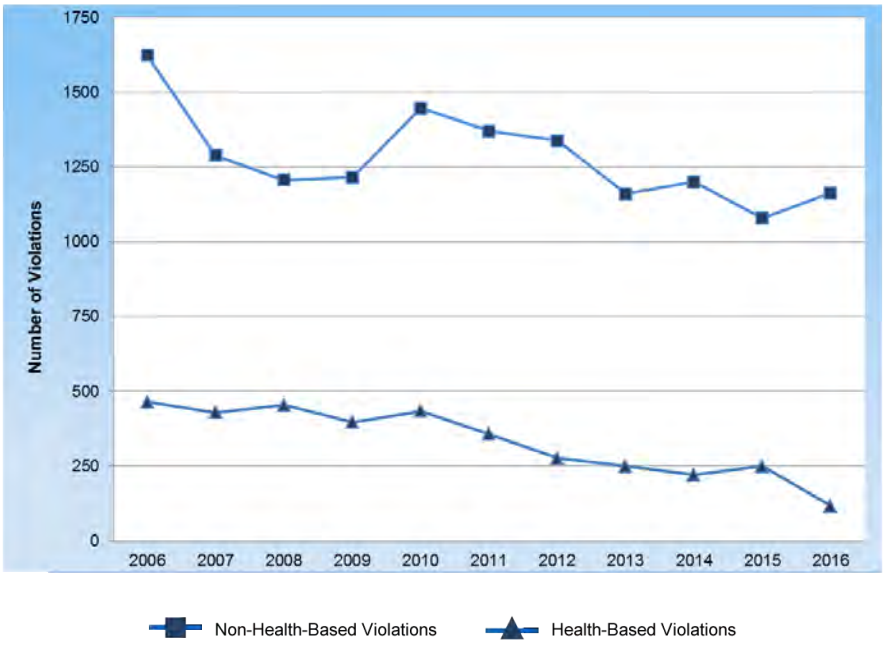


Figure 4. Total violations over the past decade. Health-based violations reached an all-time low of 116 in 2016.

Total Number of Public Water Systems Receiving Violations: 2006-2016

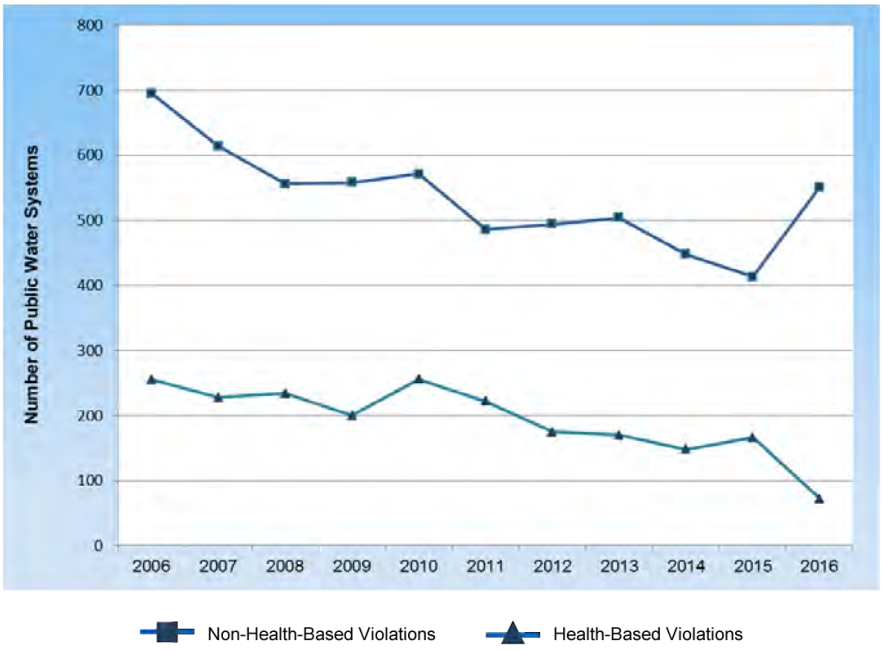


Figure 5. Total number of public water systems receiving violations over the past decade.

Health-Based Violations Issued to Public Water Systems: 2006-2016

Figure 6. Ten years of total health-based violations by public water system type.

Non-Health-Based Violations Issued to Public Water Systems: 2006-2016

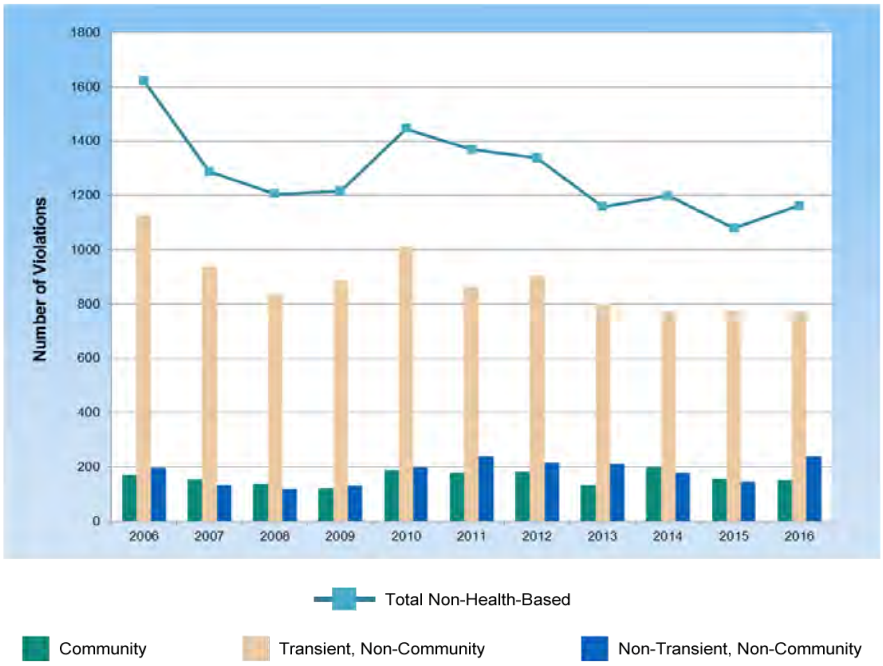


Figure 7. Ten years of total non-health-based violations by public water system type. While non-transient, non-community and community water systems routinely keep violation numbers near or fewer than 200 per year, transient-non-community water systems tend to receive more non-heath-based violations.

Measures

Compliance Measures Related to Health-Based Violations of the Total Coliform Rule: 2006-2016

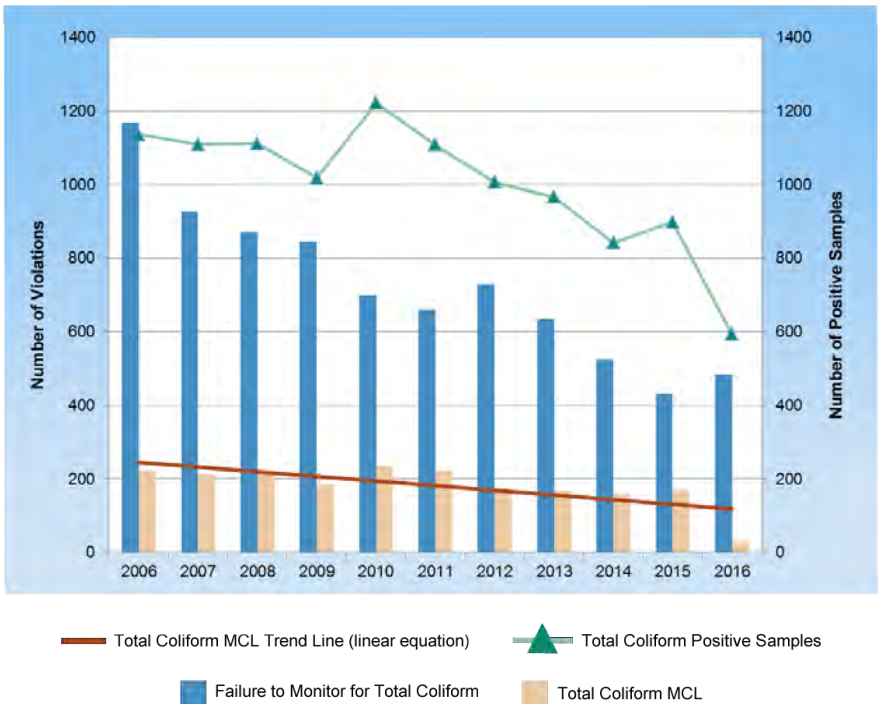


Figure 8. Compliance measures related to the health-based violation of the Total Coliform Rule. This figure shows data for failure to monitor violations and total maximum contaminant level (MCL) violations of the Total Coliform Rule as well as the total number of positive coliform bacteria samples (green line).

While there has been a steady decrease in violations for failure to monitor for total coliform bacteria, the trend is less obvious for MCL violations. The orange line represents the linear trend of the MCL violations over the past decade. The significant decrease in the number of total coliform MCLs in 2016 is a result of the elimination of the non-acute total coliform MCL under the Revised Total Coliform Rule. (Turn to page 21 to learn more about the RTCR.)

Total Number of Treatment Technique Violations: 2006-2016

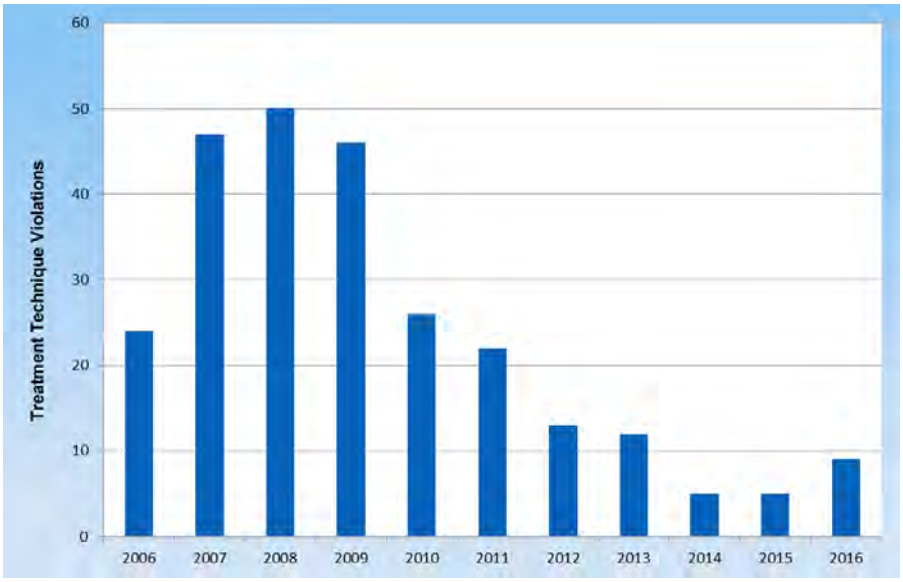


Figure 9. Total treatment technique violations over the past decade.

A treatment technique is a type of regulation established by the EPA. The EPA has mandated treatment techniques (TT) for certain contaminants instead of a maximum contaminant level (MCL). Examples of contaminants that have a treatment technique requirement include viruses, *Giardia*, and turbidity under the Surface Water Treatment Rule. Other treatment technique violations could arise in situations when public water systems are required to conduct public education and outreach after an exceedence has occurs, as it the case with the Lead and Copper Rule or in failure to conduct a system assessment as with the Revised Total Coliform Rule.

Enforcement: Serious Violators

Enforcement of public water systems occurs when a public water system violates federal or State drinking water regulations and does not address the non-compliance issue in a timely manner. The U.S. Environmental Protection Agency's Enforcement Targeting Tool is a method for determining which public water systems require enforcement actions. The tool extracts data from each primacy agency in the country, including the Maine CDC Drinking Water Program, in order to identify public water systems with violations that do not appear to have been resolved or addressed. It uses a set formula based on violation type, length of violation, type of public water system, and population served.

Using this formula, public water systems are prioritized for enforcement action in an effort to facilitate a return to compliance. Any public water system scoring 11 points or higher is considered 'priority' status. The Drinking Water Program must address or resolve priority status systems within 60 days of the Environmental Protection Agency's quarterly Enforcement Targeting Tool report. Each quarter, the Drinking Water Program researches the accuracy of all of Maine's priority-status public water systems on the Enforcement Targeting Tool list and reports progress or status of each system to the Environmental Protection Agency.

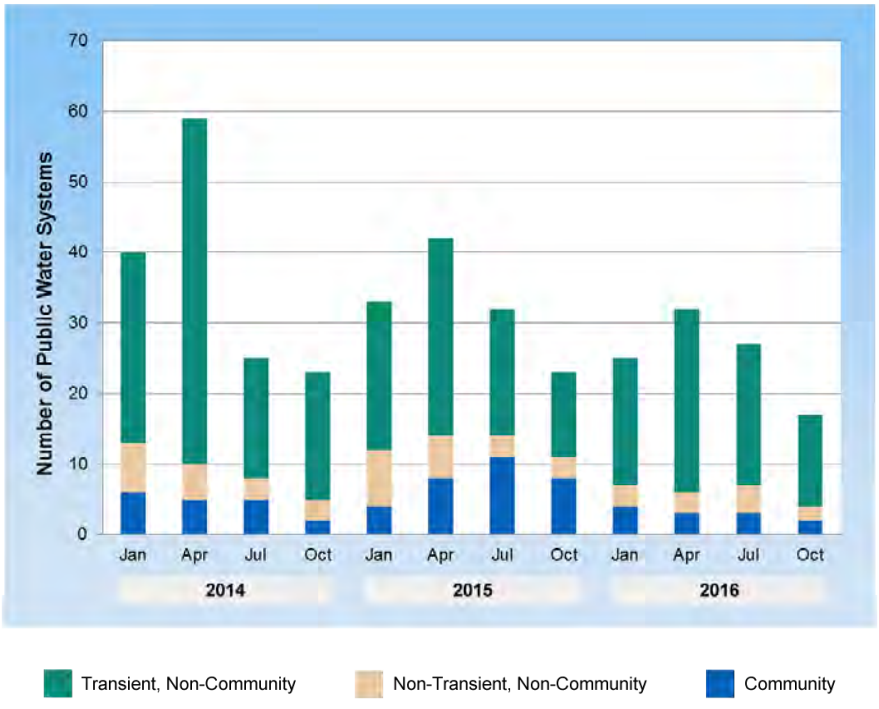


Figure 10. Number of public water systems in Maine by system type listed on the EPA's Enforcement Targeting Tool. These systems have a "priority" status due to repeated compliance issues and generally must be addressed with an enforcement action.

Measures

2016 Community Water Systems Performance Data

Under the Government Performance and Results Act for Drinking Water, the EPA collects data related to reported health-based violations of drinking water standards. As illustrated in Table 2, Maine has met standards based on the 2016 EPA National Target for safe drinking water.

Table 2. EPA's 2016 Community Water Systems Performance Data

	Community Systems[1]	Community Population[2]	Community "Person Months"[3]
2016 US EPA National Target	**90%**	**92%**	**95%**
2016 Actual US EPA Region 1[4] Results	**93.1%**	**97.6%**	**99.2%**
2016 Maine Results	**93.9%**	**98%**	**99%**

[1] Community Systems: Community water systems meeting all health-based standards.
[2] Community Populations: Population served by community water systems that meet all health-based standards.
[3] Community "Person Months": *Person months* refers to the time during which a community water system provides drinking water that meets all applicable health-based standards, calculated by multiplying the community's population by 12 months.
[4] EPA Region 1 encompasses the six New England states (Maine, New Hampshire, Vermont, Massachusetts, Connecticut, and Rhode Island) and ten Tribal nations residing within that geographic area.

Site Visits to Public Water Systems

The Drinking Water Program's public water system inspectors provide on-site advice and assistance to public water systems regarding operation, maintenance, treatment, quality control, testing waivers, and testing requirements. The Drinking Water Program also partners with Maine Rural Water Association to provide water systems with free, on-site technical assistance. Technical assistance is available to help systems with reviewing the operation of a treatment process, collecting samples, filling out reports, regulatory compliance, leak detection and line location, and development of emergency response plans and vulnerability assessments.

	2010	2011	2012	2013	2014	2015	2016
Number of Site Visits Completed	562	640	718	794	640	631	587

Sanitary Surveys: 2006-2016

Public water system inspectors conduct routine sanitary surveys for each public water system. A sanitary survey is a review of a water system to identify any deficiencies and make recommendations for improvements. The sanitary survey also offers a chance for public water system operators to ask questions and learn about their requirements and responsibilities.

Community water systems and bottled water facilities are inspected every three years, while non-transient, non-community water systems and transient water systems are inspected every five years.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Number of Sanitary Surveys Completed	284	381	434	395	467	409	493	481	463	443	286

Keeping Maine's Drinking Water Safe

The Drinking Water Program's Core Message

The Drinking Water Program promotes a core message of four principles designed to ensure that public water systems provide safe drinking water to their customers. The core message encourages water systems to continually work to identify, reduce, and eliminate risks and vulnerabilities to their water systems. The Drinking Water Program works to convey this message to all of Maine's public water systems on a daily basis though every interaction – whether a phone call, site visit, training session, or article in our quarterly newsletter, the *Service Connection*.

The four principles of the Drinking Water Program's core message direct public water systems toward the overarching goal of ensuring safe drinking water for all their consumers.

Source Protection

According to the US EPA, *treating* contaminated groundwater supplies is on average 30-40 times costlier than *preventing* contamination.[1]

The importance of drinking water source protection

The ideal drinking water source is in a remote, forested natural area with no nearby sources of pollution. However, most water sources are located near more densely populated areas, increasing the vulnerability of the source to contamination. Contamination, whether from harmful chemicals or biological organisms, often comes from activities on the land close to a drinking water source. The Safe Drinking Water Act requires all public water systems to produce safe water through a *multiple-barrier* approach. Source protection is the first and most important component of these barriers. If pollutants never reach a drinking water source, the risk for human consumption is greatly diminished – even if other barriers fail. Additionally, treating a contaminated drinking water is typically much more costly than protecting a drinking water source area.

Keeping contamination away

Approval of a new public water system well requires contamination sources, particularly leach fields and underground fuel storage tanks, to be set back a minimum distance from the well. The Maine Rules Related to Drinking Water require all public water system wells to be 300 feet from potential sources of contamination and 1,000 feet from underground fuel storage tanks. When these setback distances cannot be met for unavoidable reasons, such as limited property size or wetlands, the Drinking Water Program administers setback waiver policies that help to mitigate the increased risk created by reduced setbacks. Mitigation may include increased sampling, well construction requirements, or, in some cases, a pre-treated septic process or the installation of drinking water treatment to remove any contaminants from the water supply. The Drinking Water Program's public water system inspectors administer these setback waiver policies whenever a well with reduced setback is proposed for approval.

Source Protection Measures

Surface Water Treatment Rule Filtration Avoidance

The Surface Water Treatment Rule requires all public water systems with sources from surface water or groundwater under the influence of surface water to disinfect and filter the drinking water they provide to consumers.

Only those systems demonstrating compliance with the stringent water quality criteria set forth in the Rule may qualify for filtration avoidance. Maine has nine community water systems that qualify for, and currently maintain, filtration avoidance:

- Auburn Water District – Lake Auburn
- Bangor Water District – Floods Pond
- Brewer Water Department – Hatcase Pond
- Great Salt Bay Sanitary District – Little Pond
- Lewiston Water and Sewer Division – Lake Auburn
- Mount Desert Water District
  - Lower Hadlock Pond
  - Jordan Pond
- Portland Water District – Sebago Lake
- Presque Isle Utility District – Presque Isle Stream
- Town of Bar Harbor Water Division – Eagle Lake

Synthetic Organic Compound Waivers

The Drinking Water Program may waive testing for synthetic organic compounds if regulated chemicals were not used in the source protection area. Synthetic organic compounds include substances such as herbicides, pesticides, and other semi-volatile compounds. Any public water system seeking a waiver from synthetic organic compound sampling must provide an approved wellhead or watershed protection plan and be able to demonstrate that land within 2,500 feet of each source is not under threat from synthetic organic compounds. Systems with waivers can save up to $1,000 per source. All community and non-transient, non-community water systems are provided synthetic organic compound waiver applications on a three-year rotation.

In 2016, **225** water systems were issued waivers for semi-volatile herbicides and pesticides, including **40** community and **185** non-transient, non-community water systems, saving over **$130,000**.

[1] US EPA Office of Groundwater and Drinking Water (1995), Benefits and cost prevention: Case Studies of Community Wellhead Protection

Keeping Maine's Drinking Water Safe

Sampling

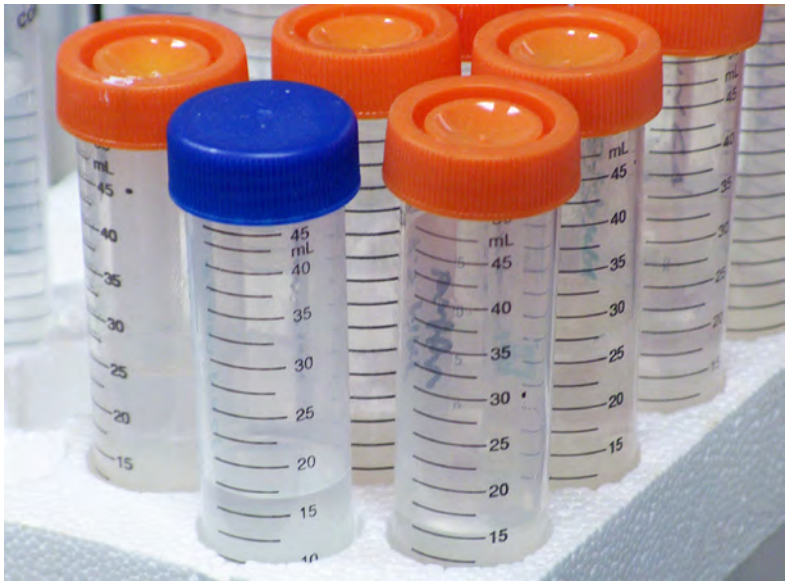
In 2016, 96.6% of the population served by community public water systems received water meeting all health-based drinking water standards.[2]

The importance of sampling

Public water systems are required to regularly test for drinking water contaminants and report the results to the Drinking Water Program. The Safe Drinking Water Act lists 86 contaminants for which water systems must test. See the Appendix for a complete list of regulated contaminants. Any test results exceeding the standard (maximum contaminant level) may require treatment, replacement of source, or blending with other sources to reduce the contamination level. Testing schedules are based on a frequency that is reasonable to protect public health.

Ensuring safe drinking water

All public water systems must sample their drinking water to ensure that the water is safe to drink. Sampling on a regular schedule will also indicate whether a water system is performing the way it is designed and can help signal if there is a problem with the source, treatment, or distribution system.



[2] US EPA's Government Performance and Results Act for drinking water

Treatment

Approximately 57% of Maine's nearly 1,900 public water systems have at least one type of water treatment.

The importance of drinking water treatment

Although public water systems come in all shapes and sizes, and no two are exactly the same, all systems share the same goal of providing safe, reliable drinking water to the communities they serve. To meet this goal, many water systems must treat their water to remove potentially harmful contaminants. The types of treatment provided by a specific public water system vary depending on the size of the system, the source (groundwater or surface water), and the quality of the source water. Treatment systems are an important part of delivering safe drinking water but are only successful when the proper chemicals are applied in the correct amounts and all equipment and materials are regularly maintained and monitored. Effective oversight of treatment systems helps to ensure that high-quality drinking water is delivered to the public.

Monitoring treatment systems through monthly operating reports

All public water systems that add chemicals to their water must submit a monthly operating report to the Drinking Water Program. These reports help track the amount of chemical used, daily production of the water system, and the amount of chemical residual present in the distribution system. The Drinking Water Program reviews monthly operating reports to ensure that each public water system's treatment is operating efficiently and effectively to provide proper protection of drinking water.

Keeping Maine's Drinking Water Safe

Maintaining Pipes and Storage Tanks

The 2016 Drinking Water State Revolving Fund provided funds to Maine public water systems to invest over $19 million to maintain their drinking water storage and piping infrastructure

The importance of maintaining pipes and storage tanks

A water system's distribution system, a network of piping and storage tanks, is an integral part of its ability to provide safe, clean water to consumers. It is important for water systems to regularly inspect their distribution systems as contaminants can enter drinking water through damaged pipes or tanks. Routine inspection and maintenance may also help water systems save money if they are able to find and repair leaks in a timely manner to abate water loss.

Regulatory Highlights

Lead and Copper Rule

Most of the drinking water regulations published by the U.S. Environmental Protection Agency (EPA) include the establishment of a maximum contaminant level (MCL) for the contaminant of concern. Generally, if the concentration of the contaminant in drinking water exceeds the MCL, the water provider must take action to modify the water system (add treatment or find a different source of water) to ensure that all customers receive water below the MCL.

The Lead and Copper Rule, published in 1991 by the EPA, does not have an MCL. Instead, it includes a lead action level (AL) of 15 parts per billion. Exceeding the AL usually requires the water system to install treatment (or modify existing treatment) to reduce the corrosiveness of the water.

This type of regulation is a treatment technique (TT) rather than an MCL. A treatment technique violation of a drinking water rule requires the monitoring of the treatment process to ensure it is working properly. It is understood that if the treatment system is working properly, the desired outcomes (in this case, reduced leaching of lead) will occur. The Lead and Copper Rule directs water systems to monitor for lead in a representative number of homes (for community systems) or water fixtures (for systems such as schools) to determine if the treatment system is working properly. If 90 percent of the lead samples are below the lead AL, then the treatment system is determined to be meeting the TT standards.

Water systems that exceed an AL for lead must:

1. Provide all customers with educational information on how to reduce their exposure to elevated lead levels.
2. Develop a corrosion control treatment plan within 18 months of the AL exceedance.
3. Install corrosion control treatment (unless two consecutive rounds of lead water sample results are below the AL before the treatment system is installed).
4. Increase the required frequency of monitoring for lead and copper to once every six months.
5. Test the water for certain water quality parameters (pH, temperature, alkalinity, etc.).

If any of the first three steps are not completed, the water system will be issued a TT violation.

Sources of lead in drinking water are generally limited to internal plumbing and lead service lines (the water line that connects the water utilities water main to the customer). Maine water utilities did not use lead service lines extensively and, as a result, all Maine water utilities are reporting no known lead service lines. Therefore, when an elevated lead level is found, it is almost always a result of lead leaching from the internal plumbing within homes, schools, businesses, and other buildings.

You can learn more about the Lead and Copper Rule on the EPA's website: www.epa.gov/dwreginfo.

Regulatory Highlights

Revised Total Coliform Rule

The Revised Total Coliform Rule (RTCR) improves the long-standing 1989 Total Coliform Rule by requiring systems to "find" the probable source of a detected contamination and "fix" the likely issues.

When a system experiences a detection of coliform bacteria, it is an indication that a pathway of contamination may exist. The response required by the water system is to investigate the drinking water source, treatment, and distribution system for potential issues. The results of this investigation must be addressed through maintenance activities, infrastructure improvements and/or operational improvements.

The RTCR maintains the maximum contaminant level (MCL) for *E. coli* but eliminates the "non-acute" MCL for confirmed total coliform bacteria. The presence of *E. coli* represents a serious break in the protective barriers that are in place in public water systems to protect public health. When a water sample tests positive for *E. coli*, immediate action must take place and a detailed assessment process is initiated. If a water system fails to conduct an assessment within the mandated time period, fails to take corrective actions to address potential sources of contamination, or, for seasonal systems, fails to complete a State-approved start-up procedure before serving water to the public, a treatment technique violation will be issued.

This "find and fix" approach introduced by the RTCR aims to improve the practices and infrastructure of public water systems with the goal of lowering the risk of pathogenic organisms entering the water system.

You can learn more about the Revised Total Coliform Rule on the EPA's website: www.epa.gov/dwreginfo.

Appendix

Contaminants in Drinking Water Regulated by the Maine Drinking Water Program

1. Microorganisms

Total Coliform
E. coli
Turbidity
Viruses
Giardia lamblia
Cryptosporidium
Legionella
Heterotrophic Plate Count (HPC)

2. Radionuclides

Gross Alpha
Uranium
Radium 226, 228 (combined)
Radon

3. Disinfectants and Disinfectant Byproducts

Bromate
Chloramines
Chlorine
Chlorine Dioxide
Ozone
Chlorite
Haloacetic Acids (HAA5)
Total Trihalomethanes (TTHM)

4. Inorganic Chemicals

Antimony
Asbestos
Arsenic
Barium
Beryllium

Inorganic Chemicals (continued)

Cadmium
Chromium (Total)
Copper
Fluoride
Lead
Mercury
Nickel
Nitrates (Measured as Nitrogen)
Nitrites (Measured as Nitrogen)
Selenium
Thallium

5. Organic Chemicals

Acrylamide
Alachlor
Atrazine
Benzene
Benzo(a)pyrene (PAHs)
Carbofuran
Carbon Tetrachloride
Chlordane
Chlorobenzene
2, 4-D
Dalapon
o-Dichlorobenzene
p-Dichlorobenzene
1,2-Dichloroethane
1,1-Dichloroethylene
Cis-1,2-Dichloroethylene
Trans-1,2-Dichloroethylene
Dichloromethane
1,2-Dichloropropane

Organic Chemicals (continued)

Di (2-ethylhexyl) adipate
Di (2-ethylhexyl) phthalate
Dinoseb
Dioxin (2,3,7,8-TCDD)
Diquat
Endothall
Endrin
Epichlorohydrin
Ethylbenzene
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorocyclopentadiene
Hexazanone (Velpar)
Lindane
Methoxychlor
Methyl Tertiary Butyl Ether (MTBE)
Oxamyl (Vydate)
Polychlorinated biphenyls (PCBs)
Pentachlorophenol
Picloram
Simazine
Styrene
Toluene
Toxaphene
2,4,5 – TP (Silvex)
1,2,4- Trichlorobenzene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Vinyl chloride
Xylenes (total)