



**State of Delaware
Public Drinking Water
Annual Compliance
Report and Summary
for 2014**



DELAWARE HEALTH AND SOCIAL SERVICES

Division of Public Health

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The Office of Drinking Water Program: An Overview

In 1974 the U.S. Congress adopted the Safe Drinking Water Act (SDWA). The United States Environmental Protection Agency (EPA) established the Public Water System Supervision (PWSS) program under the authority of the SDWA to regulate the drinking water provided by public water systems. Under the SDWA and the 1986 and 1996 amendments, EPA set national limits on drinking water contaminant levels to ensure safe water for human consumption. These limits are known as maximum contaminant levels (MCLs). The State of Delaware adopted these limits for use in state regulations governing drinking water.

The SDWA allows a state to seek Primacy, an EPA approval to administer its own PWSS program. The State of Delaware was granted primacy in April 1978. For Delaware to continue to receive primacy, it must meet certain SDWA requirements, including adopting drinking water regulations that are at least as stringent as the federal regulations. The State must also demonstrate that it can enforce the program requirements.

The SDWA, EPA regulations, and state regulations require that all public water systems (PWS) monitor the drinking water for contaminants. Generally, the larger the population served by the water system, the more frequently the monitoring must occur. If a PWS violates a MCL, or fails to conduct monitoring, the system must notify the public of the violation.

Due to Delaware's small size, the Division of Public Health's Office of Drinking Water (ODW) traditionally conducts most monitoring for public water systems. A few of the larger water systems conduct their own monitoring and report the results to ODW. Due to the increase in monitoring requirements in recent years, ODW requires community water systems serving more than 1,000 people to collect their own total coliform, nitrate, and monthly fluoride compliance samples. Such community water systems must submit those samples to the Delaware Public Health Laboratory or a properly certified private laboratory for analysis, and submit the results to ODW. All community water systems (cities, towns, mobile home parks, etc.) and the non-transient, non-community water systems (schools, daycares, factories, etc.) are required to collect samples for compliance with national lead and copper rule standards. The samples are analyzed by a certified laboratory and the results submitted to ODW. Transient, non-community water systems (restaurants, parks, rest stops, etc.) are not required to conduct lead and copper monitoring.

The 1996 amendments to the SDWA included a requirement for states to prepare an annual compliance report in accordance with Section 1414(c)(3)(A)(i) and distribute the report as specified in Section 1414(c)(3)(A)(ii). This report provides an annual representation of the number of violations in these categories: MCLs, treatment techniques, and significant monitoring violations. Delaware does not permit variances and exemptions; therefore, it does not report these categories.

The 2014 Annual Compliance Report and Summary (ACR) covers the period of Jan. 1 – Dec. 31, 2014. ODW staff generated the data in this report. Violation information comes from the Safe Drinking Water Information System/State version and the federal operational data system, and includes information reported quarterly to the EPA.

Public Drinking Water Summary, Delaware 2014

This document is a brief overview of the state's public drinking water in 2014. Its contents range from general information to violations by contaminant and by water system. For additional information or clarification, contact the Delaware Division of Public Health (DPH), Office of Drinking Water at 302-741-8630.

General Information

Total land area of Delaware	1,252,459 acres ¹	Population of Delaware	935,614 ²
Forest	179,144 acres (14%)	Percent served by individual wells	22.4
Agriculture	490,000 acres (39%)	Percent served by public water supplies	77.6
Developed	276,844 acres (22%)	Primacy granted to state by EPA	1978
Wetland/Barren	320,076 acres (25%)		

Delaware's Drinking Water	Public Water Systems
Major Sources of Surface Water	Residents served by public water systems³ 726,107
Brandywine River Basin	
Christina River Basin	Residents served by surface water systems 241,736
Red Clay/White Clay Creeks	Residents served by ground water systems 484,371
Major Sources of Ground Water	Number of public water systems 485
Columbia Aquifer	Community systems 214
Cheswold Aquifer	Non-transient systems 84
Piney Point Aquifer	Transient systems 187
Number of gallons of public water used in Delaware each day: 101 mgd ⁴	Number using surface water 3
	Number using ground water 482

1 Source: Delaware Office of State Planning Coordination.
 2 Source: United States Census Bureau estimate.
 3 Source: Safe Drinking Water Information System/State Version (SDWIS/State).
 4 Source: Delaware Department of Natural Resources and Environmental Control.

The ODW provides many services to consumers and public water supply systems. Funding comes from both state and federal monies allotted to Delaware's public drinking water program. The ODW and the Delaware Public Health Laboratory (DPHL) use these funds to provide services for the drinking water program.

To ensure that Delaware's drinking water meets or exceeds SDWA requirements, ODW reviews and approves plans for new or existing water treatment systems and/or new or upgraded distribution systems. ODW staff also inspects water systems, provides technical assistance,

responds to and handles emergencies, reviews monitoring results to ensure SDWA compliance, and takes enforcement actions when necessary. ODW provides training to water system operators and owners regarding system operation and compliance with rules and regulations. Additionally, ODW contracts with the Environmental Training Center at Delaware Technical Community College (DTCC) and the Delaware Rural Water Association to provide training and technical assistance to water system operators.

Beginning in January of 2006, DPH began requiring anyone collecting compliance samples or conducting daily monitoring of a public water system be certified as an approved sampler/tester. This requirement has ensured the integrity of the sampling.

The DPHL performs water analyses for water quality parameters as outlined in the SDWA. ODW also contracts with private laboratories for analysis of some regulated parameters.

Operations	
Inspections	105
Plan Reviews	216

Source: Delaware Division of Public Health, Office of Drinking Water, 2014

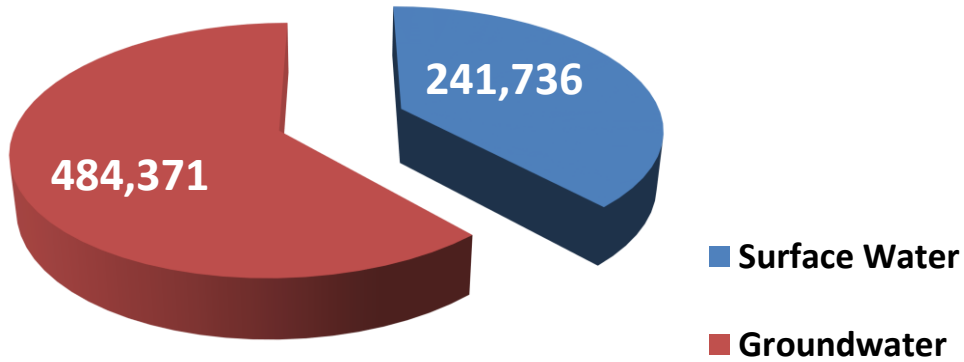
Budget Information (PWSS Grant)	
Total Budget	\$1,100,100
Federal Budget	\$568,760
State Budget	\$531,340
Number of Staff Authorized	16.4

Source: Delaware Division of Public Health, Office of Drinking Water, 2014.

Operator Certification	
	Number
Certified Operators	781
Approved Sampler/Testers	537

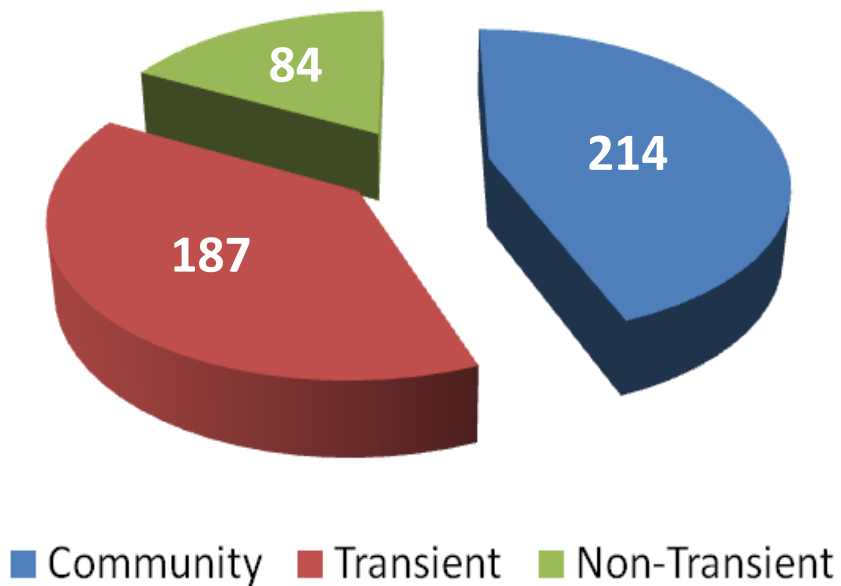
Source: Delaware Division of Public Health, Office of Drinking Water, 2014.

Population Served by Surface Water and Groundwater Systems



Source: Delaware Division of Public Health, Office of Drinking Water, 2014.

Types of Public Water Systems



Source: Delaware Division of Public Health, Office of Drinking Water, 2014.

Summary of 2014 Violations

	MCL (mg/L) ¹	MCLs		Treatment Techniques		Significant Monitoring/ Reporting	
		Violations	Systems with Violations	Violations	Systems with Violations	Violations	Systems with Violations
Organic Contaminants	n/a	n/a	n/a	n/a	n/a	n/a	n/a
1,1,1-Trichloroethane	0.2	0	0	n/a	n/a	0	0
1,1,2-Trichloroethane	.005	0	0	n/a	n/a	0	0
1,1-Dichloroethylene	0.007	0	0	n/a	n/a	0	0
1,2,4-Trichlorobenzene	.07	0	0	n/a	n/a	0	0
1,2-Dibromo-3-chloropropane (DBCP)	0.0002	0	0	n/a	n/a	0	0
1,2-Dichloroethane	0.005	0	0	n/a	n/a	0	0
1,2-Dichloropropane	0.005	0	0	n/a	n/a	0	0
2,3,7,8-TCDD (Dioxin)	3x10 ⁻⁸	0	0	n/a	n/a	0	0
2,4,5-TP	0.05	0	0	n/a	n/a	0	0
2,4-D	0.07	0	0	n/a	n/a	0	0
Acrylamide	n/a	n/a	n/a	0	0	n/a	n/a
Alachlor	0.002	0	0	n/a	n/a	0	0
Atrazine	0.003	0	0	n/a	n/a	0	0
Benzene	0.005	0	0	n/a	n/a	0	0
Benzo[a]pyrene	0.0002	0	0	n/a	n/a	0	0
Carbofuran	0.04	0	0	n/a	n/a	0	0
Carbon tetrachloride	0.005	0	0	n/a	n/a	0	0
Chlordane	0.002	0	0	n/a	n/a	0	0
cis-1,2-Dichloroethylene	0.07	0	0	n/a	n/a	0	0
Dalapon	0.2	0	0	n/a	n/a	0	0
Di(2-ethylhexyl) adipate	0.4	0	0	n/a	n/a	0	0
Di(2-ethylhexyl)phthalate	0.006	0	0	n/a	n/a	0	0

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

¹Values are in milligrams per liter (mg/l), unless otherwise specified.

Summary of 2014 Violations *(continued)*

	MCL (mg/L) ¹	MCLs		Treatment Techniques		Significant Monitoring/ Reporting	
		Violations	Systems with Violations	Violations	Systems with Violations	Violations	Systems with Violations
Dichloromethane	0.005	0	0	n/a	n/a	0	0
Dinoseb	0.007	0	0	n/a	n/a	0	0
Diquat	0.02	0	0	n/a	n/a	0	0
Endothall	0.1	0	0	n/a	n/a	0	0
Endrin	0.002	0	0	n/a	n/a	0	0
Epichlorohydrin	n/a	n/a	n/a	0	0	n/a	n/a
Ethylbenzene	0.7	0	0	n/a	n/a	0	0
Ethylene dibromide	0.00005	0	0	n/a	n/a	0	0
Glyphosate	0.7	0	0	n/a	n/a	0	0
Heptachlor	0.0004	0	0	n/a	n/a	0	0
Heptachlor epoxide	0.0002	0	0	n/a	n/a	0	0
Hexachlorobenzene	0.001	0	0	n/a	n/a	0	0
Hexachlorocyclo ntadiene	0.05	0	0	n/a	n/a	0	0
Lindane	0.0002	0	0	n/a	n/a	0	0
Methoxychlor	0.04	0	0	n/a	n/a	0	0
Methyl <i>tert</i> Butyl Ether (MTBE)	0.01	0	0	n/a	n/a	0	0
Monochlorobenzene	0.1	0	0	n/a	n/a	0	0
o-Dichlorobenzene	0.6	0	0	n/a	n/a	0	0
Oxamyl (Vydate)	0.2	0	0	n/a	n/a	0	0
para- Dichlorobenzene	0.075	0	0	n/a	n/a	0	0
Pentachlorophenol	0.001	0	0	n/a	n/a	0	0
Picloram	0.5	0	0	n/a	n/a	0	0
Simazine	0.004	0	0	n/a	n/a	0	0
Styrene	0.1	0	0	n/a	n/a	0	0
Tetrachloroethylene	0.005	0	0	n/a	n/a	0	0
Toluene	1	0	0	n/a	n/a	0	0
Total polychlorinated biphenyls (PCBs)	0.0005	0	0	n/a	n/a	0	0

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

¹Values are in milligrams per liter (mg/l), unless otherwise specified.

Summary of 2014 Violations *(continued)*

	MCL (mg/L) ¹	MCLs		Treatment Techniques		Significant Monitoring/ Reporting	
		Violations	Systems with Violations	Violations	Systems with Violations	Violations	Systems with Violations
Toxaphene	0.003	0	0	n/a	n/a	0	0
trans-1,2-Dichloroethylene	0.1	0	0	n/a	n/a	0	0
Trichloroethylene	0.005	0	0	n/a	n/a	0	0
Vinyl chloride	0.002	0	0	n/a	n/a	0	0
Xylenes (total)	10	0	0	n/a	n/a	0	0
Subtotal		0	0	n/a	n/a	0	0
Disinfection Byproducts	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total trihalomethanes	0.08	1	1	n/a	n/a	0	0
Haloacetic Acid 5	0.06	0	0	n/a	n/a	0	0
Maximum Residual Disinfection Level	4.0	0	0	n/a	n/a	0	0
Subtotal		1	1	n/a	n/a	0	0
Inorganic Contaminants	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Antimony	0.006	0	0	n/a	n/a	0	0
Arsenic	0.05	0	0	n/a	n/a	0	0
Asbestos	7 million fibers/L, with fiber length >10 microns	0	0	n/a	n/a	0	0
Barium	2	0	0	n/a	n/a	0	0
Beryllium	0.004	0	0	n/a	n/a	0	0
Cadmium	0.005	0	0	n/a	n/a	0	0
Chromium	0.1	0	0	n/a	n/a	0	0
Cyanide (as free cyanide)	0.2	0	0	n/a	n/a	0	0

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

¹Values are in milligrams per liter (mg/l), unless otherwise specified.

Summary of 2014 Violations *(continued)*

	MCL (mg/L) ¹	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
		Violations	Systems with Violations	Violations	Systems with Violations	Violations	Systems with Violations
Fluoride	2.0	0	0	n/a	n/a	0	0
Mercury	0.002	0	0	n/a	n/a	0	0
Nitrate	10 (as Nitrogen)	11	8	n/a	n/a	0	0
Nitrite	1 (as Nitrogen)	0	0	n/a	n/a	0	0
Selenium	0.05	0	0	n/a	n/a	0	0
Thallium	0.002	0	0	n/a	n/a	0	0
Total nitrate and nitrite	10 (as Nitrogen)	0	0	n/a	n/a	0	0
Subtotal		11	8	0	0	0	0
Radionuclide MCLs	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Gross alpha	15 pCi/l	0	0	n/a	n/a	0	0
Radium-226 and radium- 228	5 pCi/l	0	0	n/a	n/a	1	1
Gross beta	4 mrem/yr	0	0	n/a	n/a	0	0
Subtotal		0	0	n/a	n/a	1	1
Total Coliform Rule							
Acute MCL violation	Presence with <i>E. coli</i>	5	5	n/a	n/a	0	0
Non-acute MCL violation	Presence	41	30	n/a	n/a	0	0
Major routine and follow up monitoring	n/a	0	0	n/a	n/a	0	0
Sanitary survey ⁵	n/a	n/a	n/a	n/a	n/a	0	0
Subtotal		46	35	n/a	n/a	0	0

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

¹Values are in milligrams per liter (mg/l), unless otherwise specified.

Summary of 2014 Violations *(continued)*

	MCL (mg/L) ¹	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
		Violations	Systems with Violations	Violations	Systems with Violations	Violations	Systems with Violations
Surface Water Treatment Rule	n/a	n/a	n/a	0	0	n/a	n/a
Filtered systems	n/a	n/a	n/a	0	0	n/a	n/a
Monitoring, routine/repeat	n/a	n/a	n/a	n/a	n/a	0	0
Treatment techniques	n/a	n/a	n/a	0	0	n/a	n/a
Turbidity	n/a	n/a	n/a	n/a	n/a	0	0
Monitoring, routine/repeat	n/a	n/a	n/a	n/a	n/a	0	0
Failure to filter	n/a	n/a	n/a	0	0	n/a	n/a
Subtotal	n/a	n/a	n/a	0	0	0	0
Lead and Copper Rule	Action Level (mg/L)	Exceedence	Systems with Exceedence	Violations	Systems with violations	Violations	Systems with Violations
Initial lead and copper tap M/R	n/a	1	1	n/a	n/a	4	4
Follow-up or routine lead and copper tap M/R	n/a	0	0	n/a	n/a	11	11
Treatment installation	n/a	0	0	0	0	n/a	n/a
Public education	n/a	n/a	n/a	0	0	n/a	n/a
Subtotal	n/a	1	1	0	0	15	15
Public Notification		Violations		n/a		Systems with Violations	
Consumer Confidence Reports Violations		27		n/a		27	
Public Notification		0		n/a		0	
Ground Water Rule		0		n/a		0	
Subtotal		27		n/a		27	

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

¹Values are in milligrams per liter (mg/l), unless otherwise specified.

Definitions for Summary of 2014 Violations Table

Filtered Systems: Surface water systems that have installed filtration treatment [40 CFR 141, Subpart H].

Inorganic Contaminants (IOC): Non-carbon-based compounds such as metals, nitrates, and asbestos. These contaminants are naturally occurring in some water, but can get into water through farming, chemical manufacturing, and other human activities. EPA has established MCLs for 15 inorganic contaminants [40 CFR 141.62].

Lead and Copper Rule: This rule established national limits on lead and copper in drinking water [40 CFR 141.80-91]. Lead and copper corrosion pose various health risks when ingested at any level, and can enter drinking water from household pipes and plumbing fixtures. States report violations of the lead and copper rule in the following five categories:

1. *Initial lead and copper tap monitoring/reporting:* A violation in which a system did not meet initial lead and copper testing requirements, or failed to report the results of those tests to the state.
2. *Follow-up or routine lead and copper tap monitoring/reporting:* A violation in which a system did not meet follow-up or routine lead and copper tap testing requirements, or failed to report the results.
3. *Treatment installation:* Violations for a failure to install an optimal corrosion control treatment system or source water treatment system that would reduce lead and copper levels in water at the tap.
4. *Lead service line replacement:* A violation for a system's failure to replace lead service lines on the schedule required by the regulation.
5. *Public education:* A violation in which a system did not provide required public education about reducing or avoiding lead intake from water.

Maximum Contaminant Level (MCL): The highest amount of a contaminant that EPA allows in drinking water. MCLs ensure that drinking water does not pose either a short-term or long-term health risk. MCLs are defined in milligrams per liter (mg/L; 1 mg/L = 1 part per million) unless otherwise specified.

Monitoring: EPA specifies which water testing methods the water systems must use, and sets schedules for the frequency of testing. A water system that does not follow EPA's schedule or methodology is in violation [40 CFR 141].

States must report monitoring violations that are significant as determined by the EPA administrator in consultation with the states. For purposes of this report, significant monitoring violations are major violations and they occur when no samples are taken or when no results are reported during a compliance period. A major monitoring violation for the surface water treatment rule occurs when at least 90 percent of the required samples are not taken or results are not reported during the compliance period.

Definitions for Summary of 2014 Violations Table *(cont.)*

Organic Contaminants: Carbon-based compounds, such as industrial solvents and pesticides. These contaminants generally get into water through runoff from crop land or discharge from factories. EPA has set legal limits on 54 organic contaminants that are to be reported [40 CFR 141.61].

Public Notification: Failure to issue a public notice and/or certify to the Delaware Division of Public Health (DPH) that the notice was delivered.

Radionuclides: Radioactive particles which can occur naturally in water or result from human activity. EPA has set legal limits on five types of radionuclides: radium-226, radium-228, gross alpha, beta particle/photon radioactivity, and uranium [40 CFR 141]. Violations for these contaminants are to be reported using the following four categories:

1. *Gross alpha:* A violation for alpha radiation above MCL of 15 picocuries/liter. Gross alpha includes radium-226 but excludes radon and uranium.
2. *Combined radium-226 and radium-228:* A violation for combined radiation from these two isotopes above MCL of 5 pCi/L.
3. *Gross beta:* A violation for beta particle and photon radioactivity from man-made radionuclides above 4 millirem/year.
4. *Uranium:* A violation for uranium is above 30 micrograms/liter (ug/L; 1 ug/L = 1 part per billion)

Reporting Interval: The reporting interval for violations to be included in this PWS Annual Compliance Report is from January 1, 2007 through December 31, 2007.

Surface Water Treatment Rule: Establishes criteria under which water systems supplied by surface water sources, or ground water sources under the direct influence of surface water, must filter and disinfect their water [40 CFR 141, Subpart H]. Violations of the Surface Water Treatment Rule are to be reported for the following four categories:

1. *Monitoring, routine/repeat (for filtered systems):* A violation for a system's failure to carry out required tests, or to report the results of those tests.
2. *Treatment techniques (for filtered systems):* A violation for a system's failure to properly treat its water.
3. *Monitoring, routine/repeat (for unfiltered systems):* A violation for a system's failure to carry out required water tests, or to report the results of those tests.
4. *Failure to filter (for unfiltered systems):* A violation for a system's failure to properly treat its water. EPA will supply data for this violation code to the states.

Definitions for Summary of 2014 Violations Table *(cont.)*

Total Coliform Rule (TCR): Establishes regulations for microbiological contaminants in drinking water. These contaminants can cause short-term health problems. If no samples are collected during the one-month compliance period, a significant monitoring violation occurs. States are to report four categories of violations:

1. *Acute MCL violation:* A violation where the system found fecal coliform or *E. coli*, potentially harmful bacteria, in its water, thereby violating the rule.
2. *Non-acute MCL violation:* A violation where the system found total coliform in samples of its water at a frequency or at a level that violates the rule. For systems collecting fewer than 40 samples per month, more than one positive sample for total coliform is a violation. For systems collecting 40 or more samples per month, more than 5 percent of the samples positive for total coliform is a violation.
3. *Major routine and follow-up monitoring:* A violation where a system did not perform any monitoring.
4. *Sanitary Survey:* A major monitoring violation if a system fails to collect five routine monthly samples if sanitary survey is not performed.

Treatment Techniques: A water disinfection process that EPA requires instead of an MCL for contaminants that laboratories cannot adequately measure. Failure to meet other operational and system requirements under the surface water treatment and the lead and copper rules have also been included in this category of violation for purposes of this report.

Unfiltered Systems: Water systems that do not need to filter their water before disinfecting it because the source is very clean [40 CFR, Subpart H]. There are no unfiltered systems in Delaware.

Violation: A failure to meet any state or federal drinking water regulation.

2014 Enforcement Actions

Enforcement actions are taken when a public water system violates a maximum contaminant level (MCL) or treatment technique (TT), as specified in Delaware's regulations governing public drinking water systems; or if a system fails to conduct proper monitoring and/or reporting (M/R) for a particular contaminant.

A notice of violation (NOV) is the first action taken. This notifies the owner/operator of a public water system that there was a violation. The next action is the issuance of a public notice (PN) that the owner/operator is required to mail, hand-deliver, or post in a conspicuous place. This notifies the consumers of the water that there was a violation, what the violation was, possible related health effects, and preventative measures the consumer can take until the violation is corrected. A boil water notice is issued when a water system violates the bacteria standard and the presence of *E. coli* or fecal coliform is detected. This requires immediate notice (within 24 hours of being notified of the violation) to all consumers informing them about what actions to take to make their water safe for consumption; or if they should use an alternate source such as bottled water.

Additional enforcement actions, used when a water system repeatedly violates an MCL or when a history of violations is present, are the issuance of an administrative order (AO) and a bilateral compliance agreement (BCA). The administrative order can mandate the installation of treatment or the abandonment of a well with persistent violations. A bilateral compliance agreement is a written contract between the system and ODW in which the violations, corrective steps, and the timeframe for completing the work are outlined. Examples of a bilateral compliance agreement include the installation of new wells or re-piping a water system to correct a violation.

Lastly, if a public water system fails to correct the violation or continues to ignore DPH requirements, a Notice of Administrative Penalty may be issued. The administrative penalty can range from \$100/day to \$10,000/day, per violation.

Enforcement Actions, 2014	
Notices of Violation	85
Public Notices	85
Administrative Orders	5
Boil Water Orders	6
Notices of Administrative Penalty	1

Source: Delaware Division of Public Health, Office of Drinking Water.

Data Management

ODW uses an Oracle® based system to inventory water supplies, record sampling results, and track compliance with monitoring and MCL requirements. The database includes information about water supply facilities, water sources, treatment used, and sampling results.

Compliance Highlights, Delaware water systems, 2014

	Samples Collected	Systems In Compliance	% of State Served by Compliant Systems ¹	Systems not in Compliance
Bacteriological	13,599	455	98.5% (93.8%)	30
Bacteriological Acute (<i>E. coli</i>)	13,599	480	99.9% (98.9%)	5
Surface Water Treatment Rule ²	n/a	3	100% (100%)	0
Nitrates	1,722	477	99.3% (98.4%)	8
Fluoride	2,165	485	100% (100%)	0
Inorganic (IOC) Excluding Nitrate and Fluoride	2,060	485	100% (100%)	0
Volatile Organic Chemicals (VOC)	762	485	100% (100%)	0
Synthetic Organic Chemicals (SOC)	998	485	100% (100%)	0
Lead and Copper/ AL Exceedences ²	1,361	484	99.2% (99.8%)	1
Lead and Copper/ M&R Violations	n/a	470	98.8% (96.9 %)	15
Consumer Confidence Rule – Failure to Report	n/a	467	99.3% (96.3%)	18
Consumer Confidence Rule – Inadequate Report	n/a	476	99.0% (98.1%)	9
Disinfection Byproducts (DBPs)	1,144	484	100% (99.8%)	1
Maximum Residual Disinfection Level (MRDL)	1,221	485	100% (100%)	0
Radiological	171	485	100% (100%)	0
Ground Water Rule	n/a	484	100% (99.8%)	1

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

¹First percentage based on population served, second percentage based on total number of public water systems.

² Systems performed own sampling.

2014 Systems in Violation

Bacterial Violations		
System Name	Population Served	Return to Compliance Date
Ashland Nature Center System #1	200	8/20/2014
Cherry Creek Valley	78	6/30/2014
Child Craft Company	60	7/25/2014
Clayton Water Department	2,250	12/31/2014
Country Acres Mobile Home Park	28	n/a
Country View	84	6/5/2014
Delicioso's	25	7/9/2014
Delaware State Fire School	200	n/a
First State Equipment	164	n/a
Granada Mobile Home Court	138	4/29/2014
Grayling ILC Seaford	120	6/17/2014
Hilltop Trailer Park	135	11/10/20104
Holly Oak Mobile Home Park	210	8/29/2014
Kimothy's Place	50	n/a
Lake Forest Estates	225*	7/25/2014
Long Neck Village	345	11/20/2014
Maranatha Court	54	12/4/2014
NRG Energy, Inc.	178*	10/31/2014
Rhonda's House of Treats	70	8/29/2014
Shining Time Day Care Center	30*	6/5/2014
Smyrna Rest and Information Center	6,000	7/9/2014
Stage Village MHC	93	6/5/2014
Stargate Diner	50	8/29/2014
Sussex Pines Country Club	150*	3/18/2014
Teal Point	96	8/18/2014
Trap Pond State Park System 5	25	8/18/2014
West Fenwick Station	120*	9/22/2014
Williamsville Country Village	50	n/a
Willis Auto Mall	65	10/16/2014
Woods Edge Mobile Home Park	45	6/30/2014

Total Number of Violations: 41
 Number of Systems Affected: 30
 Number of Repeat Violators: 11
 Total Population at Risk: 11,138

*Total Number of Acute Violations: 5
 Number of Systems Affected: 5
 Number of Repeat Violators: 1
 Total Population at Risk: 703

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

2014 Systems in Violation *(continued)*

Nitrate Violations		
System Name	Population Served	Return to Compliance Date
Country Club Village	72	6/17/2014
De-Lux Dairy Market – Seaford	916	8/26/2014
Fish Hook Mobile Home Park	72	4/2/2014
Forest Park	46	n/a
Gull's Way Campground	1,617	n/a
Holly Lake Campsites System 1	801	n/a
Sports at the Beach system 4	25	10/13/2014
Tall Pines Resort Community System 1	1,538	9/23/2014

Total Number of Violations: 15

Number of Systems Affected: 8

Number of Repeat Violators: 5

Total Population At Risk: 5,087

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

Radiological Compounds Violations				
System Name	Population Served	Contaminant	MCL¹ in pCi/L²	Level Found in pCi/L
None	n/a	n/a	n/a	n/a

Total Number of Violations: 0

Number of Systems Affected: 0

Number of Repeat Violators: 0

Total Population At Risk: 0

¹MCL means Maximum Contaminant Level

²pCi/L means picocuries per liter

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

Inorganic/Volatile/Synthetic Organic Compound (IOC/VOC/SOC) Violations				
System Name	Population Served	Contaminant	MCL¹ in mg/l²	Level Found in mg/l
None	n/a	n/a	n/a	n/a

Total Number of Violations: 0

Number of Systems Affected: 0

Number of Repeat Violators (Systems): 0

Total Population At Risk: 0

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

¹MCL means Maximum Contaminant Level

²mg/l means milligrams per liter

2014 Systems in Violation *(continued)*

Disinfection Byproducts (DPB) Violations				
System Name	Population Served	Contaminant	MCL¹ in mg/l²	Level Found in mg/l
Pepper Ridge Park	209	Total Trihalomethanes	0.080	0.082

Total Number of Violations: 1

Number of Systems Affected: 1

Number of Repeat Violators: 0

Total Population At Risk: 209

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

¹MCL means Maximum Contaminant Level

²mg/l means milligrams per liter

Maximum Residual Disinfection Level (MRDL) Violations				
System Name	Population Served	Contaminant	MRDL¹ in mg/l²	Level Found in mg/l
None	n/a	n/a	n/a	n/a

Total Number of Violations: 0

Number of Systems Affected: 0

Number of Repeat Violators: 0

Total Population At Risk: 0

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

¹MRDL means Maximum Residual Disinfectant Level

²mg/l means milligrams per liter

Lead/Copper Rule (LCR) Action Level Exceedences				
System Name	Population Served	Contaminant	AL¹ in mg/l²	90th percentile in mg/l
New Castle Water Department	6,000	Lead	0.015	0.024

Total Number of Exceedences: 1

Number of Systems Affected: 1

Number of Repeat Violators: 0

Total Population At Risk: 6,000

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

¹AL means Action Level

²mg/l means milligrams per liter

2014 Systems in Violation *(continued)*

Lead and Copper Monitoring Violations		
Systems that failed to collect the required number of samples during any monitoring period in 2014		
System Name	Population	Return to Compliance Date
Carpenters Row	60	n/a
Cherry Creek Valley	78	7/30/2014
Donovan/Smith Mobile Home Park	369	n/a
Hand-N-Hand Early Learning Center	41	n/a
Harrington Water Department	3,174	n/a
Holiday Pines	60	n/a
Law Mobile Home Park	50	12/29/2014
Milton Water Department	2,400	n/a
Northside Professional Center	30	n/a
Oak Grove Estates	150	n/a
Pinnacle Rehabilitation & Health Center	256	11/24/2014
Slaughter Neck Community Action Agency	150	7/29/2014
Smyrna Christian School & Church	67	n/a
Stage Village MHC	93	n/a
Sussex Technical School District	1,800	10/16/2014

Total Number of Violations: 15
 Number of Systems Affected: 15
 Number of Repeat Violators: 0
 Total Population At Risk: 8,778

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

Failure to have Licensed Operator Violations	
System Name	Population served
Summit Aviation	50
Villas of Grandview	108
Central Christian School	100
Little Scholars Center I	134
Crossroad Christian Church School	68

Total Number of Violations: 5
 Number of Systems Affected: 5
 Number of Repeat Violators: 0
 Total Population Affected: 460

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

2014 Systems in Violation *(continued)*

Ground Water Rule Treatment Techniques Violations		
System Name	Population	Return to Compliance Date
Maranatha Court	54	n/a

Total Number of Violations: 1
 Number of Systems Affected: 1
 Number of Repeat Violators: 0
 Total Population Affected: 54

Monitoring Violations¹		
Systems that failed to collect the required number of samples during any monitoring period in 2014		
System Name	Population	Rule
United Water Delaware	97,310	Total Coliform
Clayton Water Department	2,250	Total Coliform
Milton Water Department	2,400	Total Coliform
Newark Water Department	36,450	Disinfection Byproducts
Burtonwood	1,509	Radionuclides

Total Number of Violations: 5
 Number of Systems Affected: 5
 Number of Repeat Violators: 0
 Total Population Affected: 139,919

¹ Other than Lead and Copper

Surface Water Treatment Rule (Turbidity Violation)	
System Name	Population Served
None	n/a

Total Number of Violations: 0
 Number of System Affected: 0
 Number of Repeat Violators: 0
 Total Population Affected: 0

Source: Delaware Division of Public Health, Office of Drinking Water, Dec. 31, 2014.

2014 Systems in Violation *(continued)*

Consumer Confidence Report (CCR) Violations Failure to Report		
System Name	Population served	Return to Compliance Date
Bethany Crest	60	n/a
Carpenters Row	60	10/24/2014
Countryside Hamlet	66	n/a
County Seat Gardens	297	n/a
Enchanted Acres MHC, LLC	225	n/a
Forest Park	46	n/a
Fox Pointe Subdivision	300	n/a
Harrington Water Department	3174	8/15/2014
Hilltop Trailer Park	135	n/a
Holiday Estates	75	n/a
Holiday Pines	60	n/a
Law Mobile Home Park	50	9/9/2014
Maranatha Court	54	10/28/2014
Oak Grove Estates	150	8/11/2014
Sand Hill Mobile Home Park	90	9/5/2014
Stage Village MHC	93	7/25/2014
Villas of Grandview	108	8/11/2014
White Oak Mobile Home Park	78	8/18/2014

Total Number of Violations: 18

Number of Systems Affected: 18

Number of Repeat Violators: 0

Total Population Affected: 5,121

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

Consumer Confidence Report (CCR) Violations Inadequate Reporting		
System Name	Population served	Return to Compliance Date
Avalon Woods Owners Assoc. INC.	306	11/5/2014
Cherry Creek Valley	78	11/5/2014
Delmar Utility Commission	3,266	11/25/2014
Flying Dutchman Mobile Home Park 1	30	10/28/2014
Flying Dutchman Mobile Home Park 3	81	10/28/2014
Greenwood Water Department	973	10/29/2014
Long Neck Village	345	10/28/2014
Millsboro Water Department	2,300	11/17/2014
Woods Edge Mobile Home Park	45	12/8/2014

Total Number of Violations: 9

Number of Systems Affected: 9

Number of Repeat Violators: 0

Total Population Affected: 7,424

Source: Delaware Division of Public Health, Office of Drinking Water, Dec.31, 2014.

Conclusion

During calendar year 2014, 22,434 (3.1 percent) of Delaware's 726,107 residents receiving water from community water supplies were exposed to harmful (health-related) contaminants. Of 485 public water systems, 39 (8.0 percent) had a violation and 16 systems (3.3 percent) were repeat violators for health-based contaminants. Twenty water systems (4.1 percent) reported monitoring and reporting (M/R) violations: 15 systems violated the Lead and Copper Rule, three systems violated the Total Coliform Rule, and one system each violated the Disinfection Byproducts Rule and the Radionuclides Rule.

The one violation for disinfection byproducts was a small manufactured housing community that exceeded the standard for total trihalomethanes (TTHMs). This manufactured housing community purchases all of its water from a nearby town. The Office of Drinking Water worked with the communities and returned the park to compliance.

The ODW issued violations to five public water systems for failing to have a licensed water operator. One was a small community water system and the other four were non-transient non-community public water systems.

The Office of Drinking Water (ODW) recently adopted four new rules and is preparing to adopt the Revised Total Coliform Rule. The Revised Total Coliform Rule will significantly change how we address detections of total coliform bacteria in our water systems. This will require us to continue to work with our water systems and technical assistance providers to ensure the provision of safe drinking water for all Delawareans.

The ODW, the Environmental Protection Agency, other state agencies, and non-governmental organizations are working with Delaware's public drinking water systems to ensure that violations are corrected or are in the process of being corrected. This cooperative action ensures that all Delaware residents and visitors receive safe and potable sources of drinking water.

For detailed information about Delaware's public water systems, visit EPA's Envirofacts webpage at www.epa.gov/enviro/html/sdwis/sdwis_query.html. The ODW has a web page at www.dhss.delaware.gov/dhss/dph/hsp/odw.html. To reach Drinking Water Watch, visit this water quality website maintained by the Governor's Office: <http://www.delaware.gov/topics/waterquality/index.shtml>.

Questions or comments concerning this report and summary can be directed to the Delaware Division of Public Health's Office of Drinking Water at 302-741-8630.

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