DELAWARE HEALTH
AND SOCIAL SERVICES
Division of Public Health

Public Drinking Water
Annual Compliance Report
And Summary

2010

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The Office of Drinking Water Program: An Overview

In 1974 the US 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 contaminant levels in drinking water to ensure safe water for human consumption. These limits are known as Maximum Contaminant Levels or MCLs. The state of Delaware has adopted these limits for use in state regulations governing drinking water.

The SDWA allows a state to seek EPA approval to administer its own PWSS program. The authority to run a PWSS program is called primacy. The state of Delaware was granted primacy in April 1978. In order for Delaware to continue to receive primacy, it has to meet certain requirements laid out in the SDWA, including the adoption of drinking water regulations that are at least as stringent as the federal regulations and a demonstration that it can enforce the program requirements.

The SDWA, EPA regulations and State regulations require that all public water systems (PWSs) monitor the drinking water for contaminants. Generally the larger the population served by the water system, the more frequent the monitoring must occur. In addition, if a PWS violates a MCL, or fails to conduct monitoring, the system must notify the public of the violation. This is known as public notification. Due to the small size of Delaware, the Division of Public Health, Office of Drinking Water (ODW) has traditionally conducted most of the monitoring for PWSs in Delaware. 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 the Office of Drinking Water has required community water systems that serve more than 1,000 people to collect their own total coliform, nitrate and monthly fluoride compliance samples and submit those samples to the Public Health Laboratory for analysis. All of the community water systems (cities, towns, mobile home parks, etc.) and the non-transient, non-community water systems (schools, day cares, factories, etc.) are required to collect samples for compliance with national lead and copper rule standards. These samples are to be 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 as stated in the SDWA, Section 1414(c)(3)(A)(i) and distribute the report as specified in Section 1414(c)(3)(A)(ii). The purpose of this report is to provide a total annual representation of the number of violations in each of the following categories: MCLs, treatment techniques, and significant monitoring violations. Delaware does not permit variances and exemptions and therefore does not report anything in these categories.

This annual report covers the time period of January 1 - December 31, 2010. It is broken down into five parts: the introduction, a general fact sheet on drinking water for the State of Delaware, a table listing the number of violations and enforcement actions taken by the Division of Public Health, Office of Drinking Water, and a listing of the PWSs that were in violation and a conclusion. The data in this report was generated by Office of Drinking Water staff. Violation information comes from the Safe Drinking Water Information System/State version and includes information that Delaware reports to the EPA quarterly.

Public Drinking Water Summary
Delaware 2010

The quality of drinking water in the state of Delaware is a concern for everyone. This document is a brief overview of the State's public drinking water. Included is everything from general information to a listing of the number of violations by contaminant and by water system that occurred during 2010. If further information is needed or questions arise concerning how these numbers were obtained, please contact the Division of Public Health, Office of Drinking Water at (302) 741-8630.

General Information

Total land area of Delaware	1,252,459[1] acres		Population of Delaware	897,934[2]
Forest	179,144 acres	(14%)	Percent served by individual wells	16.6
Agriculture	501,712 acres	(40%)	Percent served by public water supplies	83.4
Developed	276,844 acres	(22%)	Primacy Granted to State by EPA	1978
Wetland/Barren	294,759 acres	(24%)		

Delaware's Drinking Water

Major Sources of Surface Water

- Brandywine River Basin
- Christina River Basin
- Red Clay/White Clay Creeks

Major Sources of Ground Water

- Columbia Aquifer
- Cheswold Aquifer
- Piney Point Aquifer

Number of gallons of Public Water Used in Delaware each day: 101 mgd[4]

Public Water Systems

Residents served by public water systems[3]	748,778
Residents served by surface water systems	285,130
Residents served by ground water systems	463,648
Number of public water systems	496
Community systems	216
Non-transient systems	82
Transient systems	198
Number using surface water	3
Number using ground water	493

The Office of Drinking Water provides many services to consumers and the public water supply systems. Funding comes from both state and federal monies allotted to the public drinking water program for the state of Delaware. These funds are utilized to provide services for the drinking water program by the Division of Public Health Office of Drinking Water and the Division of Public Health Laboratory.

1 Source: State Planning Office
2 Source: Delaware Population Consortium
3 Source: Safe Drinking Water Information System/State Version (SDWIS/State)
4 Source: Department of Natural Resources and Environmental Control

The Office of Drinking Water (ODW) works to ensure that the drinking water in Delaware meets or exceeds the requirements of the Safe Drinking Water Act (SDWA). This is accomplished through the review and approval of 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 compliance with the SDWA 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 and Community College and the Delaware Rural Water Association to provide training and technical assistance to water system operators.

The Division of Public Health Laboratory 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	25
Plans & Specifications Reviewed	161
Projects requesting DWSRF funding	10
Infrastructure Investment Money Available	$19,121,913

Budget Information	
Total Budget	$917,727
Federal Budget	$553,800
State Budget	$363,927
Number of Staff Authorized	25.53

Training Provided	
	Number
Certified Operators	728
Approved Sampler/Testers	302
Training classes offered	256
Operators Trained	1,318
Systems Represented	377

Summary of Violations

	MCL (mg/L)[1]	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems with Violations	Number of Violations	Number of Systems with Violations	Number of Violations	Number of Systems with Violations
Organic Contaminants							
1,1,1-Trichloroethane	**0.2**	**0**	**0**			**0**	**0**
1,1,2-Trichloroethane	**.005**	**0**	**0**			**0**	**0**
1,1-Dichloroethylene	**0.007**	**0**	**0**			**0**	**0**
1,2,4-Trichlorobenzene	**.07**	**0**	**0**			**0**	**0**
1,2-Dibromo-3-chloropropane (DBCP)	**0.0002**	**0**	**0**			**0**	**0**
1,2-Dichloroethane	**0.005**	**0**	**0**			**0**	**0**
1,2-Dichloropropane	**0.005**	**0**	**0**			**0**	**0**
2,3,7,8-TCDD (Dioxin)	**$3x10^{-8}$**	**0**	**0**			**0**	**0**
2,4,5-TP	**0.05**	**0**	**0**			**0**	**0**
2,4-D	**0.07**	**0**	**0**			**0**	**0**
Acrylamide				**0**	**0**		
Alachlor	**0.002**	**0**	**0**			**0**	**0**
Atrazine	**0.003**	**0**	**0**			**0**	**0**
Benzene	**0.005**	**0**	**0**			**0**	**0**
Benzo[a]pyrene	**0.0002**	**0**	**0**			**0**	**0**
Carbofuran	**0.04**	**0**	**0**			**0**	**0**
Carbon tetrachloride	**0.005**	**0**	**0**			**0**	**0**

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

	MCL (mg/L)[1]	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of	Number of	Number of	Number of	Number of	Number of

		Violations	Systems with Violations	Violations	Systems with Violations	Violations	Systems with Violations
Chlordane	**0.002**	**0**	**0**			**0**	**0**
cis-1,2-Dichloroethylene	**0.07**	**0**	**0**			**0**	**0**
Dalapon	**0.2**	**0**	**0**			**0**	**0**
Di(2-ethylhexyl)adipate	**0.4**	**0**	**0**			**0**	**0**
Di(2-ethylhexyl)phthalate	**0.006**	**0**	**0**			**0**	**0**
Dichloromethane	**0.005**	**0**	**0**			**0**	**0**
Dinoseb	**0.007**	**0**	**0**			**0**	**0**
Diquat	**0.02**	**0**	**0**			**0**	**0**
Endothall	**0.1**	**0**	**0**			**0**	**0**
Endrin	**0.002**	**0**	**0**			**0**	**0**
Epichlorohydrin				**0**	**0**		
Ethylbenzene	**0.7**	**0**	**0**			**0**	**0**
Ethylene dibromide	**0.00005**	**0**	**0**			**0**	**0**
Glyphosate	**0.7**	**0**	**0**			**0**	**0**
Heptachlor	**0.0004**	**0**	**0**			**0**	**0**
Heptachlor epoxide	**0.0002**	**0**	**0**			**0**	**0**
Hexachlorobenzene	**0.001**	**0**	**0**			**0**	**0**
Hexachlorocyclopentadiene	**0.05**	**0**	**0**			**0**	**0**
Lindane	**0.0002**	**0**	**0**			**0**	**0**
Methoxychlor	**0.04**	**0**	**0**			**0**	**0**
Methyl *tert* Butyl Ether (MTBE)	**0.01**	**0**	**0**			**0**	**0**
Monochlorobenzene	**0.1**	**0**	**0**			**0**	**0**
o-Dichlorobenzene	**0.6**	**0**	**0**			**0**	**0**
Oxamyl (Vydate)	**0.2**	**0**	**0**			**0**	**0**
para-Dichlorobenzene	**0.075**	**0**	**0**			**0**	**0**
Pentachlorophenol	**0.001**	**0**	**0**			**0**	**0**
Picloram	**0.5**	**0**	**0**			**0**	**0**

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

	MCL (mg/L)[1]	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems with Violations	Number of Violations	Number of Systems with Violations	Number of Violations	Number of Systems with Violations
Simazine	**0.004**	**0**	**0**			**0**	**0**
Styrene	**0.1**	**0**	**0**			**0**	**0**
Tetrachloroethylene	**0.005**	**0**	**0**			**0**	**0**
Toluene	**1**	**0**	**0**			**0**	**0**
Total polychlorinated biphenyls (PCBs)	**0.0005**	**0**	**0**			**0**	**0**
Toxaphene	**0.003**	**0**	**0**			**0**	**0**
trans-1,2-Dichloroethylene	**0.1**	**0**	**0**			**0**	**0**
Trichloroethylene	**0.005**	**0**	**0**			**0**	**0**
Vinyl chloride	**0.002**	**0**	**0**			**0**	**0**
Xylenes (total)	**10**	**0**	**0**			**0**	**0**
Subtotal		**0**	**0**			**0**	**0**
Disinfection Byproducts							
Total trihalomethanes	**0.08**	**1**	**1**			**0**	**0**
Haloacetic Acid 5	**0.06**	**0**	**0**			**0**	**0**
Maximum Residual Disinfection Level	**4.0**	**2**	**2**			**0**	**0**
Subtotal		**3**	**3**			**0**	**0**
Inorganic Contaminants							
Antimony	**0.006**	**0**	**0**			**0**	**0**
Arsenic	**0.05**	**0**	**0**			**0**	**0**
Asbestos	**7 million fibers/l ≤ 10 µm long**	**0**	**0**			**0**	**0**
Barium	**2**	**0**	**0**			**0**	**0**
Beryllium	**0.004**	**0**	**0**			**0**	**0**
Cadmium	**0.005**	**0**	**0**			**0**	**0**
Chromium	**0.1**	**0**	**0**			**0**	**0**
Cyanide (as free cyanide)	**0.2**	**0**	**0**			**0**	**0**

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

	MCL (mg/L)[1]	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems with Violations	Number of Violations	Number of Systems with Violations	Number of Violations	Number of Systems with Violations
Fluoride	**4.0**	**0**	**0**			**0**	**0**
Mercury	**0.002**	**0**	**0**			**0**	**0**
Nitrate	**10 (as Nitrogen)**	**24**	**16**			**0**	**0**
Nitrite	**1 (as Nitrogen)**	**0**	**0**			**0**	**0**
Selenium	**0.05**	**0**	**0**			**0**	**0**
Thallium	**0.002**	**0**	**0**			**0**	**0**
Total nitrate and nitrite	**10 (as Nitrogen)**	**0**	**0**			**0**	**0**
Subtotal		**24**	**16**	**0**	**0**	**0**	**0**
Radionuclide MCLs							
Gross alpha	**15 pCi/l**	**0**	**0**			**0**	**0**
Radium-226 and radium-228	**5 pCi/l**	**1**	**1**			**0**	**0**
Gross beta	**4 mrem/yr**	**0**	**0**			**0**	**0**
Subtotal		**1**	**1**			**0**	**0**
Total Coliform Rule							
Acute MCL violation	**Presence**	**3**	**2**			**0**	**0**
Non-acute MCL violation	**Presence**	**36**	**48**			**0**	**0**
Major routine and follow up monitoring		**0**	**0**			**0**	**0**
Sanitary survey[2]						**0**	**0**
Subtotal		**39**	**49[3]**			**0**	**0**

1 Values are in milligrams per liter (mg/l), unless otherwise specified.
2 Number of major monitoring violations for sanitary survey under the Total Coliform Rule.
3 Total does not equal sum of Acute and Non-acute because the same system may have had both violations.

	MCL (mg/L)[1]	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems with Violations	Number of Violations	Number of Systems with Violations	Number of Violations	Number of Systems with Violations
Surface Water Treatment Rule				**0**	**0**		
Filtered systems				**0**	**0**		
Monitoring, routine/repeat						**0**	**0**
Treatment techniques				**0**	**0**		
Turbidity						**1**	**1**
Monitoring, routine/repeat						**0**	**0**
Failure to filter				**0**	**0**		
Subtotal				**0**	**0**	**1**	**1**
Lead and Copper Rule							
Initial lead and copper tap M/R		**0**	**0**			**13**	**13**
Follow-up or routine lead and copper tap M/R		**0**	**0**			**16**	**16**
Treatment installation		**0**	**0**	**0**	**0**		
Public education				**2**	**2**		
Subtotal		**0**	**0**	**2**	**2**	**29**	**29**

Public Notification	**Number of Violations**	**Number of Systems with Violations**
Consumer Confidence Reports Violations	**71**	**24**
Public Notification	**6**	**5**
Ground Water Rule	**1**	**1**
Subtotal	**77**	**29**

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

Definitions for Summary of Violations Table

The following definitions apply to the Summary of 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 six categories:

Initial lead and copper tap monitoring/reporting: A violation where a system did not meet initial lead and copper testing requirements, or failed to report the results of those tests to the State.

Follow-up or routine lead and copper tap monitoring/reporting: A violation where a system did not meet follow-up or routine lead and copper tap testing requirements, or failed to report the results.

Treatment installation: Violations for a failure to install optimal corrosion control treatment system or source water treatment system that would reduce lead and copper levels in water at the tap.

Lead service line replacement: A violation for a system's failure to replace lead service lines on the schedule required by the regulation.

Public education: A violation where 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 no results are reported during a compliance period. A major monitoring violation for the surface water treatment rule occurs when at least 90% of the required samples are not taken or results are not reported during the compliance period.

Organic Contaminants: Carbon-based compounds, such as industrial solvents and pesticides. These contaminants generally get into water through runoff from cropland 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 Division of Public Health 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 three categories:

Gross alpha: A violation for alpha radiation above MCL of 15 picocuries/liter. Gross alpha includes radium-226 but excludes radon and uranium.

Combined radium-226 and radium-228: A violation for combined radiation from these two isotopes above MCL of 5 pCi/L.

Gross beta: A violation for beta particle and photon radioactivity from man-made radionuclides above 4 millirem/year.

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: The 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:

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.

Treatment techniques (for filtered systems): A violation for a system's failure to properly treat its water.

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.

Failure to filter (for unfiltered systems): A violation for a system's failure to properly treat its water. Data for this violation code will be supplied to the States by EPA.

Total Coliform Rule (TCR): The Total Coliform Rule 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:

Acute MCL violation: A violation where the system found fecal coliform or E. coli, potentially harmful bacteria, in its water, thereby violating the rule.

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% of the samples positive for total coliform is a violation.

Major routine and follow-up monitoring: A violation where a system did not perform any monitoring.

Sanitary Survey: A major monitoring violation if a system fails to collect 5 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.

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 regulations governing public drinking water systems or 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 has been a violation. The next action taken 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 on 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 include, an Administrative Order (AO) and a Bi-Lateral Compliance Agreement (BCA) are used when a water system repeatedly violates an MCL or when a history of violations is present. The AO can mandate the installation of treatment or the abandonment of a well with persistent violations, for example. A BCA is a written contract between the system and ODW in which the violations are outlined and the steps the system is going to take to correct the violation and the timeframe for completing the work are outlined. Examples of a BCA include the installation of new wells or the re-piping of a water system in order to correct a violation.

Lastly, if a public water system fails to correct the violation or continues to ignore Division of Public Health 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	
Notices of Violation	99 MCL
Public Notices	99 MCL
Consumer Confidence Report Violations	26
Administrative Orders	15
Boil Water Orders	3
Bi-Lateral Compliance Agreements	0
Notices of Administrative Penalty	0

Data Management

The Office of Drinking Water 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	Number of Samples Collected in 2010	Systems Granted Reduced Monitoring in 2010	Systems In Compliance in 2010	% of State Served by Compliant Systems[1]	Number of Systems not in Compliance during 2010
Bacteriological	9,471	N/A	457	96.4% (92.1%)	39
Surface Water Treat. Rule[2]	N/A	N/A	495	85.4% (99.8%)	1
Nitrates	2,131	N/A	480	99.6% (96.8%)	16
Fluoride	1,934	N/A	496	100% (100%)	0
Inorganic (IOC)	260	0	496	100% (100%)	0
Volatile Organic Chemicals (VOC)	794	0	496	100% (100%)	0
Synthetic Organic Chemicals (SOC)	772	0	496	100% (100%)	0
Lead and Copper/ AL Exceedences[2]	1,094	N/A	496	100% (100%)	0
Lead and Copper/ M&R Violations	N/A	N/A	472	99.1% (95.1%)	24
Consumer Confidence Rule	N/A	N/A	475	99.6% (95.8%)	21
Disinfection Byproducts (DBPs)	860	N/A	495	99.9% (99.8%)	1
Maximum Residual Disinfection Level (MRDL)	9,471	N/A	495	99.9% (99.8%)	1
Radiological	898	0	495	99.9% (99.8%)	1
Ground Water Rule	N/A	N/A	492	99.8% (99.2%)	4

[1] First percentage based on population served, second percentage based on total number of public water systems.
[2] Systems performed own sampling.

Tables of Systems in Violation

The following tables provide the name and population served for all the systems that were in violation during the calendar year 2010. These tables are broken down into types of violations with a summary at the end of each table.

Bacteria Violations

System Name	Population Served
Buckley's Tavern Complex	200
Centreville School	170
Harrington Moose Lodge #534	25
Holiday Pines	60
Colonial Estates Mobile home Park	165
Seaford Ice and Cold Storage	25
Treasure Beach Campground	3,000
Royal Farms – Ellendale # 141	858
Mobile Gardens II	26
Hartley Trailer Park	90
Middletown Water Department	16,000
Ed's Mobile Home Park	66
Woodside Inn	60
Delaware State Fire School	200
The Green Stinger	145
Burger King – Rehoboth	400
White Oak Subdivision	30
County Seat Gardens	297
Farmington Mini Mart	433
Little Scholars Center	134
Forest Grove Village	339
Care-A-Lot	92
Angola Crest II	159
Mountaire Millsboro	1,200
Shawnee Country Club (System 1)	150
Flying Dutchman Mobile Home Park 1	30
White Clay Creek State Park System 1	100
Greenwood Country Retirement	50
Flying Dutchman Mobile Home Park 2	30
Shawn's Hideaway System #3	222
Holly Lake Campsites System #3	1,000
Trap Pond State Park system 6	10
After School Club of Hearts	60
Shore Stop #227 Townsend	800
Shoppes of Mt Pleasant	200

Total Number of Violations: 50
Number of Systems Affected: 39
Number of Repeat Violators (Systems): 8
Total Population At Risk: 26,826

Nitrate Violations	
System Name	Population Served
Savannah Place Homeowners Association	81
Papen Farms	55
Tastee Freez	100
Forest Park	46
Country Living Mobile Court	250
Angola Crest II	159
Smith Landing System 1	150
Williamsville Country Village	500
The Store in Gumboro	25
Panda Early Education Center	82
First Step Preschool	50
Country Club village	72
Sussex Central High School	1,500
Signals/Rt. 13 Operations	100
Shore Stop #270 Milton	25
Sports at the Beach System 1	25

Total Number of Violations: 24
Number of Systems Affected: 16
Number of Repeat Violators (Systems): 5
Total Population At Risk: 3,220

Radiological Compounds Violations				
System Name	Population Served	Contaminant	MCL[1] In pCi/L[2]	Level Found In pCi/L
Briarwood Manor	296	Radium 226/228	5	5.7

Total Number of Violations: 1
Number of Systems Affected: 1
Number of Repeat Violators (Systems): 0
Total Population At Risk: 296

[1]MCL means Maximum Contaminant Level
[2]pCi/L means picocuries per liter

Inorganic/Volatile/Synthetic Organic Compound (IOC/VOC/SOC) Violations				
System Name	Population Served	Contaminant	MCL[1] In mg/l[2]	Level Found In mg/l

Total Number of Violations: 0
Number of Systems Affected: 0
Number of Repeat Violators (Systems): 0
Total Population At Risk: 0
[1]MCL means Maximum Contaminant Level
[2]mg/l means milligrams per liter

Disinfection Byproducts (DPB) Violations				
System Name	Population Served	Contaminant	MCL[1] In mg/l[2]	Level Found In mg/l
Frankford Water Department	900	Total Trihalomethanes	0.080	0.152

Total Number of Violations: 1
Number of Systems Affected: 1
Number of Repeat Violators (Systems): 0
Total Population At Risk: 900
[1]MCL means Maximum Contaminant Level
[2]mg/l means milligrams per liter

Lead/Copper Rule (LCR) Action Level Exceedences				
System Name	Population Served	Contaminant	AL[1] In mg/l[2]	90th percentile In mg/l

Total Number of Exceedences: 0
Number of Systems Affected: 0
Number of Repeat Violators (Systems): 0
Total Population At Risk: 0
[1]AL means Action Level
[2]mg/l means milligrams per liter

Maximum Residual Disinfection Level (MRDL) Violations				
System Name	Population Served	Contaminant	MRDL[1] In mg/l[2]	Level Found In mg/l
Cedar Shores Condo Association	300	Chlorine	4.0	5.0

Total Number of Violations: 1
Number of Systems Affected: 1
Number of Repeat Violators (Systems): 0
Total Population At Risk: 300
[1]MRDL means Maximum Residual Disinfectant Level
[2]mg/l means milligrams per liter

Lead and Copper Monitoring Violations Systems that failed to collect the required number of samples during any monitoring period in 2010	
System Name	Population
Mt. Pleasant Trailer Park	117
Little Hearts Learning Center II	50
Savannah Place	81
Upcountry Manufactured Housing Community	65
Croda Uniqema, Inc.	200
Kent Christian Academy	175
Children's Place	55
Holiday Pines	60
Pine ridge Mobile Home Park	222
Pleasant Acres, LLC	60
Forest Park	46
Laurel Water Department	3,668
Scottsdale Mobile Home Park	300
Donovan/Smith Mobile Home Park	369
County Seat Gardens	297
O. A. Newton and Sons, Inc.	75
Nanticoke Business Park	50
Odessa Woods	40
Great Scott Broadcasting	33
Hocker's Super Center	75
Shell's Learning Center III	83
Crossroad Christian Church Academy	50
Pumpkin Patch Day Care	47
Dagsboro Water Department	870

Total Number of Violations: 29
Number of Systems Affected: 24
Number of Repeat Violators Systems): 5
Total Population At Risk: 7,088

Consumer Confidence Report (CCR) Violations	
System Name	Population served
Mt. Pleasant Trailer Park	117
Governor Bacon Health Center	525
Savannah Place	81
Upcountry Manufactured Housing Community	65
Woodland Manor Estates	110
Holiday Estates	75
Holiday Pines	60
Pine Ridge Mobile Home Park	222
Stockley Center	295
Hartley Trailer Park	90
Oak Grove Estates	150
Hilltop Trailer Park	135
Law's Mobile Home Park	50
Villas of Grandview	108
Forest Park	46
Cherry Creek Valley	78
Granada Mobile Home Court	138
Glen Acres	40
County Seat Gardens	297
Autumn Woods Mobile Home Park	75
Greenwood Country Retirement	50

Total Number of Violations: 67
Number of Systems Affected: 21
Number of Repeat Violators (Systems): 18
Total Population Affected: 2,807

Public Notice (PN) Violations	
System Name	Population served
Savannah Place Homeowners Association	81
Woodland Manor Estates	110
Pine Ridge Mobile Home Park	222
Forest Park	46
Signals/Rt 13 Operations	100

Total Number of Violations: 6
Number of Systems Affected: 5
Number of Repeat Violators (Systems): 1
Total Population Affected: 559

Ground Water Rule	
System Name	Population Served
Shore Stop #227 - Townsend	800
Shoppes at Mt. Pleasant	200
Shore Stop 256 – Milford	150
White Oak Subdivision	80

Total Number of Violations: 4
Number of Systems Affected: 4
Number of Repeat Violators (System): 0
Total Population Affected: 1,230

Surface Water Treatment Rule (Turbidity Violation)	
System Name	**Population Served**
United Water Delaware	109,000

Total Number of Violations: 1
Number of System Affected: 1
Number of Repeat Violators (System): 0
Total Population Affected: 109,000

Conclusion

In the preceding pages several numbers and statistics were presented. During calendar year 2010, 32,772 persons (4.4%) out of a population of 748,778 in the state of Delaware receiving their water from community water supplies, were exposed to harmful (health related) contaminants. Out of 496 public water systems, 62or 12.5% had a violation and 13 systems (2.6%) were repeat violators for health-based contaminants. Twenty-seven water systems (5.4%) reported monitoring and reporting (M/R) violations and 23 systems (4.6%) were repeat violators for monitoring or reporting violations. There was one violation for disinfection byproducts. The town of Frankford exceeded the standard for Total Trihalomethanes (TTHMs). Frankford has completed work on a new treatment plant that will remove disinfection byproduct precursors that has helped to reduce the levels of TTHMs in the finished water. The water system is expected to be back in compliance by the end of 2011. Beginning in January of 2006 the Division of Public Health began requiring any one who collected compliance samples or who conducted daily monitoring of a public water system be certified as an approved sampler/tester. This requirement has ensured that individuals doing daily testing or sampling know what they are doing and why they are doing it.

The improvement over last year demonstrates that the water system operators have learned the requirements for the new rules that became effective in the last couple of years. There is still a need to maintain vigilance over the drinking water supplies for Delaware residents. We will be implementing several new rules in the next few years and must continue to work with our partners to ensure the provision of safe drinking water for all Delawareans.

The Office of Drinking Water, the Environmental Protection Agency, other state agencies and non-governmental organizations are working with Delaware's public drinking water systems to ensure that violations have been corrected or are in the process of being corrected. The end result of this cooperative action is ensuring that all residents of and visitors to the state of Delaware receive a safe and potable source of drinking water.

Information on Delaware's public water systems may be found on the internet in EPA's Envirofacts webpage at the following address: www.epa.gov/enviro/html/sdwis/sdwis_query.html. The Office of Drinking Water has a web page at the following address: http://www.dhss.delaware.gov/dhss/dph/hsp/odw.html and the Governor's Office have a water quality website at http://portal.delaware.gov/waterquality/ from which Drinking Water Watch may be reached.

Any questions or comments concerning this report and summary can be directed to the Division of Public Health, Office of Drinking Water at (302) 741-8630.

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