



*DELAWARE HEALTH  
AND SOCIAL SERVICES*

Division of Public Health

**Public Drinking Water  
Annual Compliance Report  
And Summary**

**2005**

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## **The Office of Drinking Water Program: An Overview**

In 1974 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 Amendments, EPA set national limits on contaminant levels in drinking water to ensure that the water is safe 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 receive primacy, it had 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 could 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 many investor-owned water systems and medium sized municipalities have also begun collecting their own compliance samples and submitting these 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 the Lead and Copper Rule. 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.

In 1996 the SDWA was amended once more with several changes. One of these changes was the 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, variances and exemptions, and significant monitoring violations.

This annual report covers the time period of January 1 - December 31, 2005. It is broken down into five parts: the introduction, a general fact sheet on drinking water for the State of Delaware, a table listing of 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 (including dates and types of contaminants), and a conclusion.

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](http://www.epa.gov/enviro/html/sdwis/sdwis_query.html).

# Public Drinking Water Summary Delaware 2005

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 that occurred during 2005. 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	1,244,730 <sup>1</sup> acres	Population of Delaware	840,692
Forest	218,423 <sup>2</sup> acres (18%)	Percent served by individual wells	16.6%
Agriculture	529,821 acres (43%)	Percent served by public water supplies	83.5%
Developed	242,391 <sup>3</sup> acres (19%)	Primacy Granted to State by EPA	1978
Wetland/Barren	254,095 acres (20%)		

\* \* \* \* \*

### Delaware's Drinking Water

### Public Water Systems

#### 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<sup>4</sup>

<b>Residents served by public water systems</b>	701,580
Residents served by surface water systems	281,400
Residents served by ground water systems	420,180
<b>Number of public water systems</b>	541
Community systems	243
Non-transient systems	111
Transient systems	187
Number using surface water	3
Number using ground water	538

<sup>1</sup> Source: State Planning Office,

Many services are provided to public consumers and the water supply systems. Funding comes from both State and Federal monies allotted to the public drinking water program for the State of Delaware. Two components of the Division of Public Health, the Office of Drinking Water and the Division of Public Health Laboratory provide the services for the public drinking water program with these funds.

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 improved water treatment systems and/or new or upgraded distribution systems. ODW staff also inspect water systems, provide technical assistance, respond to and handle emergencies, review monitoring results to ensure compliance with the SDWA and take enforcement actions when necessary. Additionally, ODW provides training to water system operators and owners regarding system operation and compliance with rules and regulations. The Office of Drinking Water also contracts with the Environmental Training Center at Delaware Technical and Community College and the Delaware Rural Water Association to provide training to water system operators.

The Division of Public Health Laboratory performs water analyses for water quality parameters as outlined in the SDWA. The Office of Drinking Water also contracts with private laboratories for analysis of some regulated parameters.

<i>Operations</i>		<i>Budget Information</i>	
Inspections	44	Total Budget	\$1,380,085
Plans & Specifications Reviewed	310	Federal Budget	\$541,100
Projects requesting DWSRF funding	7	State Budget	\$838,985
Infrastructure Investment Money Available	\$7,323,273	Number of Staff Authorized	23.80

<i>Training Provided</i>	
	Number
Certified Operators	489
Training classes offered	264
Operators Trained	1,979
Systems Represented	697

<b>State:</b>	<b>Delaware</b>
<b>Reporting Interval:</b>	<b>Jan-Dec 2005</b>

	MCL (mg/l) <sup>1</sup>	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
<b>Organic Contaminants</b>							
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 <sup>-8</sup>	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

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

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<b>Reporting Interval:</b>	<b>Jan-Dec 2005</b>

	MCL (mg/l) <sup>1</sup>	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
Carbon tetrachloride	0.005	0	0			0	0
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	4	1			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

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	MCL (mg/l) <sup>1</sup>	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
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 <i>tert</i> Butyl Ether (MTBE)	0.01	3	1			0	0
Monochlorobenzene	0.1	0	0			0	0
<i>o</i> -Dichlorobenzene	0.6	0	0			0	0
Oxamyl (Vydate)	0.2	0	0			0	0
<i>para</i> -Dichlorobenzene	0.075	0	0			0	0
Pentachlorophenol	0.001	0	0			0	0
Picloram	0.5	0	0			0	0
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	0.0005	0	0			0	0
Toxaphene	0.003	0	0			0	0
<i>trans</i> -1,2-Dichloroethylene	0.1	0	0			0	0



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<b>Reporting Interval:</b>	<b>Jan-Dec 2005</b>

	MCL (mg/l) <sup>1</sup>	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
Trichloroethylene	0.005	2	2			0	0
Vinyl chloride	0.002	0	0			0	0
Xylenes (total)	10	0	0			0	0
Total trihalomethanes	0.10	0	0			0	0
<b>Subtotal</b>		9	4			0	0

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	MCL (mg/l) <sup>1</sup>	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

<b>Inorganic Contaminants</b>							
<b>Antimony</b>	<b>0.006</b>	<b>0</b>	<b>0</b>			<b>0</b>	<b>0</b>
<b>Arsenic</b>	<b>0.05</b>	<b>0</b>	<b>0</b>			<b>0</b>	<b>0</b>
<b>Asbestos</b>	<b>7 million fibers/l ≤ 10 μm long</b>	<b>0</b>	<b>0</b>			<b>0</b>	<b>0</b>
<b>Barium</b>	<b>2</b>	<b>0</b>	<b>0</b>			<b>0</b>	<b>0</b>
<b>Beryllium</b>	<b>0.004</b>	<b>0</b>	<b>0</b>			<b>0</b>	<b>0</b>
<b>Cadmium</b>	<b>0.005</b>	<b>0</b>	<b>0</b>			<b>0</b>	<b>0</b>
<b>Chromium</b>	<b>0.1</b>	<b>0</b>	<b>0</b>			<b>0</b>	<b>0</b>
<b>Cyanide (as free cyanide)</b>	<b>0.2</b>	<b>0</b>	<b>0</b>			<b>0</b>	<b>0</b>
<b>Fluoride</b>	<b>4.0</b>	<b>1</b>	<b>1</b>			<b>0</b>	<b>0</b>
<b>Mercury</b>	<b>0.002</b>	<b>0</b>	<b>0</b>			<b>0</b>	<b>0</b>
<b>Nitrate</b>	<b>10 (as Nitrogen)</b>	<b>19</b>	<b>14</b>			<b>0</b>	<b>0</b>
<b>Nitrite</b>	<b>1 (as Nitrogen)</b>	<b>0</b>	<b>0</b>			<b>0</b>	<b>0</b>

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	MCL (mg/l) <sup>1</sup>	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
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
<b>Subtotal</b>		<b>20</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Radionuclide MCLs							
Gross alpha	15 pCi/l	0	0			0	0
Radium-226 and radium-228	5 pCi/l	0	0			0	0
Gross beta	4 mrem/yr	0	0			0	0
<b>Subtotal</b>		<b>0</b>	<b>0</b>			<b>0</b>	<b>0</b>

<b>State:</b>	<b>Delaware</b>
<b>Reporting Interval:</b>	<b>Jan-Dec 2005</b>

	MCL (mg/l) <sup>1</sup>	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

<b>Total Coliform Rule</b>							
<b>Acute MCL violation</b>	<b>Presence</b>	<b>4</b>	<b>4</b>				
<b>Non-acute MCL violation</b>	<b>Presence</b>	<b>51</b>	<b>45</b>				
<b>Major routine and follow up monitoring</b>							
<b>Sanitary survey<sup>2</sup></b>						<b>0</b>	<b>0</b>
<b>Subtotal</b>		<b>55</b>	<b>49</b>			<b>0</b>	<b>0</b>

<sup>2</sup> Number of major monitoring violations for sanitary survey under the Total Coliform Rule.

<b>State:</b>	<b>Delaware</b>
<b>Reporting Interval:</b>	<b>Jan-Dec 2005</b>

	MCL (mg/l) <sup>1</sup>	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							
Filtered systems							
Monitoring, routine/repeat						<b>0</b>	<b>0</b>
Treatment techniques				<b>0</b>	<b>0</b>		
Unfiltered systems							
Monitoring, routine/repeat						<b>0</b>	<b>0</b>
Failure to filter				<b>0</b>	<b>0</b>		
<b>Subtotal</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

<b>State:</b>	<b>Delaware</b>
<b>Reporting Interval:</b>	<b>Jan-Dec 2005</b>

	MCL (mg/l) <sup>1</sup>	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

<b>Lead and Copper Rule</b>							
<b>Initial lead and copper tap M/R</b>						<b>16</b>	<b>9</b>
<b>Follow-up or routine lead and copper tap M/R</b>						<b>2</b>	<b>2</b>
<b>Treatment installation</b>				<b>0</b>	<b>0</b>		
<b>Public education</b>				<b>0</b>	<b>0</b>		
<b>Subtotal</b>				<b>0</b>	<b>0</b>	<b>18</b>	<b>11</b>

	Number of violations	Number of Systems with a Violation
<b>Consumer Confidence Reports Violations</b>	<b>22</b>	<b>13</b>
<b>Subtotal</b>	<b>22</b>	<b>13</b>

## Definitions for Summary of Violations Table

The following definitions apply to the Summary of Violations table.

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

**Inorganic Contaminants:** 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 M/R:* 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 M/R:* 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. [One number is to be reported for the sum of violations in both categories].

*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 (parts 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 and 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].

**Radionuclides:** Radioactive particles which can occur naturally in water or result from human activity. EPA has set legal limits on four types of radionuclides: radium-226, radium-228, gross alpha, and beta particle/photon radioactivity [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.

**Reporting Interval:** The reporting interval for violations to be included in this PWS Annual Compliance Report, which is to be submitted to EPA by July 1, 2005, is from January 1, 2005 through December 31, 2005.

**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. [One number is to be reported for the sum of violations in these two categories.]

*Sanitary Survey:* A major monitoring violation if a system fails to collect 5 routine monthly samples if sanitary survey is not performed.



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**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].

**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) as specified in “The State of Delaware Regulations Governing Public Drinking Water Systems” or fails to conduct proper monitoring and/or reporting (MR) 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 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.

The two remaining enforcement actions, 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.

<i>Enforcement Actions</i>	
Notice of Violations	80 MCL/18 MR
Public Notices	80 MCL/18 MR
Consumer Confidence Report Violations	22
Administrative Orders	4
Boil Water Orders	4
Bi-Lateral Compliance Agreements	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 2005	Systems Given Waivers in 2005	Systems In Compliance in 2005	% of State Served by Compliant Systems <sup>1</sup>	Number of Systems not in Compliance during 2005
<b>Bacteriological</b>	11,658	N/A	497	82.8% (91.8%)	44
<b>Surface Water Treat. Rule<sup>2</sup></b>	0	N/A	541	100% (100%)	0
<b>Nitrates</b>	1,601	N/A	527	99.7% (97.4%)	14
<b>Fluoride</b>	1,078	N/A	540	100% (99.8%)	1
<b>Inorganic</b>	317	0	541	100% (100%)	0
<b>Volatile Organic Chemicals (VOC)</b>	603	0	539	99.4% (99.6%)	2
<b>Synthetic Organic Chemicals (SOC)</b>	231	0	540	100% (99.8%)	1
<b>Lead and Copper<sup>2</sup></b>	350	N/A	530	96.6% (98.6%)	11
<b>Consumer Confidence Rule</b>	N/A	N/A	528	99.4% (97.6%)	13
<b>Disinfection Byproducts (DBPs)</b>	603	N/A	540	98.7% (99.8%)	1

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

2 Systems performed own sampling.

## List of Systems in Violation

The following list is the name and population served for all the systems that were in violation during the calendar year 2005. This list is broken down into types of violations for your convenience.

<b>Bacteria Violations</b>	
System Name	Population Served
Governor Bacon Health Center	525
Little Hearts Learning Center	50
Twin Cedar Apartments	141
Savannah Place Homeowners Association	81
Broad Creek Landing Campground	25
Delaware State Police Troop 9	50
Willow Tree Trailer and Mobile Home Park	141
Fairways Inn	150
Child Craft Company	60
Broadkilm Beach Water Company	1,440
Bayshore Mobile Home Park	1,620
Peggy's Family Restaurant	70
University of DE Research and Education Center	50
Strimel's Trailer Park	40
Bridgeville Commercial Park	44
Mother Goose Children's Center	70
Greenwood Water Department	800
United Water Delaware	105,270
Frederica Water Department	870
Delaware State Fair	3,452
Granada Mobile Home Court	138
Ed's Mobile Home Park	66
DOW-Reichhold Chemicals, Inc.	200
Chesdel Restaurant	50
Imperial Shopping Center	50
Woodside Inn	60
Frederick's Country Center	30

<b>Bacteria Violations (continued)</b>	
System Name	Population Served
Bombay Hook Refuge	150
Hy-Point Dairy Farms	43
High Point Associates	1,377
White Clay Creek State Park	100
NVF Corporation	75
Tall Pines Resort Community, System 3	197
Holly Lake Campsites	1,000
Willis Auto Mall	65
Oberod	150
Lewes Center	200
Odessa A Plus Sunoco	350
Emergency Operations Center	124
Children's Secret Garden	60
Felton – Goose Creek Food Stores	500
Sand Castle Day Care	52
Village at Five Points	500
Royal Farms - Cheswold	100

Total # of Violations: 52  
 # of Systems Affected: 44  
 # of Repeat Violators (Systems): 8  
 Total Population At Risk: 120,965

<b>Lead and Copper Monitoring Violations</b>	
Systems that failed to collect the required number of samples during any monitoring period in 2005	
System Name	Population Served
Twin Cedar Apartments	141
Savannah Place Homeowners Association	81
Kent Christian Academy	175
Children's Place	55
Bayshore Mobile Home Park	1,620
Kent/Sussex Detox Center	40
Allens Family Foods, Inc.	750
Suburban Propane	25
Layton's Riviera	93
Central Christian School	100
Department of Highways and Transportation	27

Total # of Violations: 19  
 # of Systems Affected: 11  
 # of Repeat Violators (Systems): 5  
 Total Population At Risk: 3,107

<b>Nitrate Violations</b>	
System Name	Population Served
Savannah Place Homeowners Association	81
Papen Farms, Inc.	55
Plaza Tapatia	450
Tastee Freez	100
Briarwood Manor MHP	296
Forest park	46
Smith Landing	50
Flying Dutchman Mobile Home Park	30
Tuckahoe Acres, System #1	897
Shell's Childcare Center II	35
After School Club of Hearts	60
Hocker's Super Center	75
Delaware Guidance Services	25
Royal Farms 109 – Bridgeville	50

Total # of Violations: 19  
 # of Systems Affected: 14  
 # of Repeat Violators (Systems): 4  
 Total Population At Risk: 2,250

**Inorganic Compounds Violations**

System Name	Population Served	Contaminant	MCL <sup>1</sup> In mg/l <sup>2</sup>	Level Found In mg/l
Pepper Ridge Park	200	Fluoride	2.0	4.0

Total # of Violations: 1  
 # of Systems Affected: 1  
 # of Repeat Violators (Systems): 0  
 Total Population At Risk: 200

<sup>1</sup>MCL means Maximum Contaminant Level

<sup>2</sup>mg/l means milligrams per liter

**Volatile/Synthetic Organic Compound (VOC/SOC) Violations**

System Name	Population Served	Contaminant	MCL <sup>1</sup> In mg/l <sup>2</sup>	Level Found In mg/l
Bethany Beach Water Department	9,201	Total Trihalomethanes (TTHMs)	0.080	0.090
Millsboro Water Department	3,825	Trichloroethylene	0.005	0.083
Homestead Camping	300	Trichloroethylene	0.005	0.430
Slaughter Neck Community Action	150	Dinoseb	0.007	0.011

Total # of Violations: 4  
 # of Systems Affected: 4  
 # of Repeat Violators (Systems): 0  
 Total Population At Risk: 13,476

<sup>1</sup>MCL means Maximum Contaminant Level

<sup>2</sup>mg/l means milligrams per liter

<b>Consumer Confidence Report (CCR) Violations</b>	
<b>System Name</b>	<b>Population served</b>
Twin Cedar Apartments	141
Savannah Place Homeowners Association	81
Woodland Manor	110
Holiday Estates	75
Holiday Pines	210
Pine Ridge Mobile Home Park	222
Briarwood Manor MHP	296
Cape Windsor Community Association, Inc.	760
Oak Grove Estates	91
Hilltop Trailer Park	135
Felton Water Department	1,591
Forest Park	46
Granada Mobile Home Court	138

Total Number of Violations: 22

# of Systems Affected: 13

# of Repeat Violators (Systems): 6

Total Population Affected: 3,896



## Conclusion

In the preceding pages several numbers and statistics were presented, but what does it mean? Is my water safe to drink? During calendar year 2005, out of a population of over 840,692 persons who consumed public drinking water in the State of Delaware, 143,515 persons (17%) were exposed to harmful (health related) contaminants. The large increase this year was caused by a brief total coliform violation experienced by United Water Delaware. This system serves 105,270 customers. However, not all of the customers were exposed to the total coliform because the violation occurred due to contamination of a reservoir serving a remote portion of the distribution system. Out of 541 public water systems, 86, or 15.8%, had a violation and only 21 systems (3.9%) were repeat violators. Of the 21 systems with repeat violations only 10 systems (1.8%) had repeat violations for health-based contaminants. The other 11 systems (2.0%) were for monitoring or reporting violations. These numbers indicate a need to maintain vigilance over the drinking water supplies for Delaware residents. Another reason for the increase in number of violations over last year is the fact that several new regulations became effective for many small water systems during 2005. As we implement these new rules we expect to improve our compliance record.

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.

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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