

## The 2010 Annual Report on Violations of the U.S. Safe Drinking Water Act in the State of Florida

In accordance with the Safe Drinking Water Act (SDWA) Amendments of 1996, this summary has been compiled to reflect violations of national primary drinking water regulations by public water systems in the State of Florida.

### The Drinking Water Program: An Overview

The EPA established the Public Water System Supervision (PWSS) Program under the authority of the 1974 Safe Drinking Water Act (SDWA). Under the SDWA and the 1986 Amendments, EPA sets 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 (MCLs) and the Maximum Residual Disinfectant Levels (MRDLs). For some regulations, EPA establishes treatment techniques in lieu of an MCL to control unacceptable levels of contaminants in water. The Agency also regulates how often public water systems (PWSs) monitor their water for contaminants and report the monitoring results to the states or EPA. Generally, the larger the population served by a water system, the more frequent the monitoring and reporting (M/R) requirements. In addition, EPA requires PWSs to monitor for unregulated contaminants to provide data for future regulatory development. Finally, EPA requires PWSs to notify their consumers when they have violated these regulations. The 1996 Amendments to the SDWA require consumer notification to include a clear and understandable explanation of the nature of the violation, its potential adverse health effects, steps that the PWS is undertaking to correct the violation and the possibility of alternative water supplies during the violation.

The SDWA applies to the 50 states, the District of Columbia, Indian Lands, Puerto Rico, the Virgin Islands, American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands.

The SDWA allows states and territories to seek EPA approval to administer their own PWSS Programs. The authority to run a PWSS Program is called primacy. For a state to receive primacy, EPA must determine that the state meets certain requirements laid out in the SDWA and the regulations, including the adoption of drinking water regulations that are at least as stringent as the Federal regulations and a demonstration that they can enforce the program requirements. Of the 56 states and territories, all but Wyoming and the District of Columbia have primacy. The EPA Regional Offices administer the PWSS Programs within these two jurisdictions.

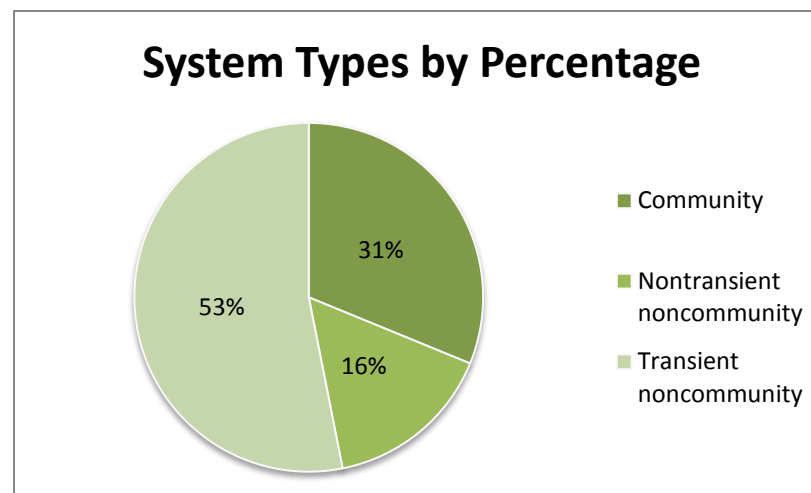
The SDWA allows states to seek EPA approval to administer their own public water supervision program. Most states, including Florida, have this approval. To gain this approval, Florida adopted drinking water regulations that are at least as stringent as the

federal regulations and has demonstrated that it can enforce the program requirements. These regulations can be found in the Florida Administrative Code, Chapters 62-550, 62-555, and 62-560. The state rules, forms, drinking water inventory, and reports can be found at [www.dep.state.fl.us/water/drinkingwater](http://www.dep.state.fl.us/water/drinkingwater).

### Florida’s Drinking Water Program

The Florida Drinking Water Program is a subsection of the Florida Department of Environmental Protection (DEP) and involves six statewide district offices, nine Department of Health (DOH) county programs, the DOH’s Laboratory Program, and both the DEP and DOH headquarter offices located in Tallahassee. The program’s mission is to provide safe drinking water to the residents and visitors of Florida through the implementation of the federal and state Safe Drinking Water Acts. In 2010, the State of Florida had 1,725 community, 869 nontransient noncommunity and 2,940 transient noncommunity systems that were active during the year.

The violations enumerated herein occurred in the calendar year 2010, which is the 3rd year in the 3-year 2008-2010 compliance period. The information provided in this report is based on Florida’s drinking water database as well as the data stored in the Safe Drinking Water Information System (SDWIS/FED). Although the two databases are mostly synchronized, there are a few discrepancies where unresolved violations from prior years, i.e. Lead and Copper Rule and Consumer Confidence Reporting Rule are not reflected in this report.



A summary of system violations for 2010 is included at the end of this report. The information includes the total number of violations and total number of systems in violation of a particular monitoring rule or contaminant.

## Definitions

### **Annual State PWS Report**

Each calendar quarter, primacy states submit data to the Safe Drinking Water Information System (SDWIS/FED), an automated database maintained by EPA. The data submitted include, but are not limited to, PWS inventory information; the incidence of Maximum Contaminant Level, Maximum Residual Disinfectant Level, monitoring, and treatment technique violations; and information on enforcement activity related to these violations.

### **Public Water System**

A Public Water System (PWS) is defined as a system that provides water via piping or other constructed conveyances for human consumption to at least 15 service connections or serves an average of at least 25 people for at least 60 days each year. There are three types of PWSs. PWSs can be community (such as towns), nontransient noncommunity (such as schools or factories), or transient noncommunity systems (such as rest stops or parks).

### **Maximum Contaminant Level**

Under the Safe Drinking Water Act (SDWA), the EPA sets 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 (MCLs).

### **Action Level**

The level of lead and copper which, if exceeded, triggers treatment or other requirements that a water system must follow.

### **Disinfectant**

A chemical (commonly chlorine, chloramines, or ozone) or physical process (e.g., ultraviolet light) that kills microorganisms such as viruses, bacteria, and protozoa.

### **Treatment Techniques**

For some regulations, the EPA establishes treatment techniques (TTs) in lieu of an MCL to control unacceptable levels of certain contaminants. For example, treatment techniques have been established for viruses, some bacteria, and turbidity.

## Monitoring

A PWS is required to monitor and verify that the levels of contaminants present in the water do not exceed the MCL, Action Level, or Treatment Technique. If a PWS fails to have its water tested as required or fails to report test results correctly to the primacy agent, a monitoring violation occurs.

### Significant Monitoring Violations

For this report, a significant monitoring violation, with rare exceptions, occurs when no samples were taken or no results were reported during a compliance period within the calendar year. Depending upon the contaminant and previously reported results, a compliance period is typically monthly, quarterly, annually, or triennially.

## Violation Tables

### Total Coliforms

The most numerous type of violation in Florida is the failure to monitor for bacteriological contamination (total coliform bacteria) on time. There are 5,534 active water systems in Florida. Approximately one-half are required to monitor monthly, the other half are required to sample quarterly. The number of samples required varies from a low of 2 each quarter to 400 each month, depending upon population, creating over 50,000 opportunities for violations in one year.

Below are the 3 types of violations: (1) acute (presence of fecal coliform or E. coli) MCL violations, (2) non-acute (presence of total coliform in more than 5% of the samples) MCL violations, and (3) major monitoring (failure to take any samples on time, or failure to take any repeat samples).

Coliforms					
	MCLs			Significant Monitoring/Reporting	
	MCL	# of Violations	# of Systems	# of Violations	# of Systems
Acute MCL Violation	Presence	5	5		
Non-Acute MCL Violation	Presence	127	116		
Major Routine and Follow Up Monitoring				358	280
	Subtotal	132	116*	358	280

\*Some systems may have received multiple violations and therefore are only counted once.

## Inorganic Contaminants

These compounds are naturally-occurring in some water, but can also get into water through farming, chemical manufacturing, and other human activities. Inorganics are routinely monitored every three years except that nitrate, which poses an acute risk to health, is monitored annually. Community and non-transient systems are required to increase their nitrate/nitrite monitoring frequency to quarterly if they exceed ½ the MCL during routine monitoring. Noncommunity water systems must monitor quarterly if a sample is greater than ½ the MCL for nitrite or exceeds the MCL for nitrate. For the rest of the inorganics, quarterly monitoring is not required unless the MCL is exceeded.

Surface water systems are the exception to the frequencies given above. They monitor annually instead of every three years, and quarterly for nitrates even if < ½ the MCL.

Inorganic Contaminants (IOC)						
Contaminant	Name	MCL (mg/L)	MCLs		Significant Monitoring/Reporting	
			# of Violations	# of Systems	# of Violations	# of Systems
1005	Arsenic	0.010	10	5	10	12
1010	Barium	2	0	0	10	12
1015	Cadmium	0.005	1	1	11	12
1020	Chromium	0.1	0	0	10	12
1024	Cyanide	0.2	0	0	17	18
1025	Fluoride	4.0	0	0	12	14
1030	Lead	0.015	2	2	0	12
1035	Mercury	0.002	0	0	10	12
1036	Nickel	0.1	0	0	10	12
1040	Nitrate	10	6	5	92	90
1041	Nitrite	1	0	0	**	**
1045	Selenium	0.05	0	0	11	13
1074	Antimony	0.006	0	0	10	12
1075	Beryllium	0.004	0	0	10	12
1085	Thallium	0.002	0	0	10	12
1094	Asbestos	7 MFL	0	0	10	10

*\*\*Nitrite monitoring and reporting violations are consolidated with nitrate monitoring and reporting violations.*

The State had 19 MCL violations for 13 water systems, and 233 monitoring violations for 115 systems.

## Organic Contaminants

This category of carbon-based compounds includes three groups which Florida refers to as the VOCs, the SOC, and the DBPs (disinfection by-products: total trihalomethanes and total haloacetic acids). Systems are required to disinfect in Florida and many have had to modify treatment to meet the DBP standards. Organics, with the exception of the DBP group, are routinely monitored every three years. Typically, systems monitor the DBP group either annually or quarterly depending upon size of population and/or previous results.

Synthetic Organic Contaminants (SOC)						
Contaminant	Name	MCL (mg/L)	MCLs		Significant Monitoring/Reporting	
			# of Violations	# of Systems	# of Violations	# of Systems
2005	Endrin	0.002	0	0	13	13
2010	Lidane/BHC-GAMMA	0.0002	0	0	13	13
2015	Methoxychlor	0.04	0	0	13	13
2020	Toxaphene	0.003	0	0	13	13
2031	Dalapon	0.2	0	0	13	13
2032	Diquat	0.02	0	0	13	13
2033	Endothall	0.1	0	0	14	14
2034	Glyphosate	0.7	0	0	13	13
2035	Di(2-ethylhexyl adipate)	0.4	0	0	13	13
2036	OXYAMYL	0.2	0	0	13	13
2037	Simazine	0.004	0	0	13	13
2039	Di(2-ethylhexyl) phthalate	0.006	0	0	13	13
2040	Picloram	0.5	0	0	13	13
2041	Dinoseb	0.007	0	0	13	13
2042	Hexachlorocyclopentadiene	0.05	0	0	14	14
2046	Carbofuran	0.04	0	0	13	13
2050	Atrazine	0.003	0	0	13	13
2051	Alachlor/LASSO	0.002	0	0	13	13
2065	Heptachlor	0.0004	0	0	13	13
2067	Heptachlor epoxide	0.0002	0	0	13	13
2105	2,4-D	0.07	0	0	13	13
2110	2,4,5-TP	0.05	0	0	13	13
2274	HEXACHLORO BENZENE	0.001	0	0	13	13

2306	Benzo(a)pyrene	0.0002	0	0	13	13
2326	Pentachlorophenol	0.001	0	0	13	13
2383	Polychlorinated biphenyls (PCBs)	0.0005	0	0	14	14
2931	1,2-DIBROMO-3-CHLOROPROPANE	0.0002	0	0	13	13
2946	ETHYLENE DIBROMIDE	0.00005	4	1	13	13
2959	Chlordane	0.002	0	0	13	13

Florida had 4 SOC MCL violations for 1 water system, and 379 monitoring violations for 15 systems.

Volatile Organic Contaminants (VOC)						
Contaminant	Name	MCL (mg/L)	MCLs		Significant Monitoring/Reporting	
			# of Violations	# of Systems	# of Violations	# of Systems
2378	1,2,4-Trichlorobenzene	0.07	0	0	4	4
2380	Cis-1,2-Dichloroethylene	0.07	0	0	4	4
2955	Xylenes (total)	10.0	0	0	4	4
2964	Dichloromethane	0.005	0	0	4	4
2968	o-Dichlorobenzene	0.60	0	0	4	4
2969	p-Dichlorobenzene	0.075	0	0	4	4
2976	Vinyl Chloride	0.002	0	0	4	4
2977	1,1-Dichloroethylene	0.007	0	0	4	4
2979	Trans-1,2-Dichloroethylene	0.10	0	0	4	4
2980	1,2-Dichloroethane	0.005	0	0	4	4
2981	1,1,1-Trichloroethane	0.20	0	0	4	4
2982	Carbon Tetrachloride	0.005	0	0	4	4
2983	1,2-Dichloropropane	0.005	0	0	4	4
2984	Trichloroethylene	0.005	0	0	4	4
2985	1,1,2-Trichloroethane	0.005	0	0	4	4
2987	Tetrachloroethylene	0.005	0	0	4	4
2989	Chlorobenzene	0.10	0	0	4	4
2990	Benzene	0.005	3	1	4	4
2991	Toluene	1.00	0	0	4	4
2992	Ethylbenzene	0.70	0	0	4	4
2996	Styrene	0.10	0	0	4	4

The State had 3 MCL violations for 1 water system, and 84 monitoring violations for 4 systems.

### Disinfection By-Products

Disinfection By-Products, DBPs, occur as a result of organic matter reacting with the disinfection chemicals (chlorine), present in drinking water. Most systems are required to sample for DBPs annually. Systems are also required to report a monthly disinfection residual and those systems using ozone also monitor for bromate.

Disinfection By-Products (DBP)						
Contaminant	Name	MCL (mg/L)	MCLs		Significant Monitoring/Reporting	
			# of Violations	# of Systems	# of Violations	# of Systems
2456	Haloacetic Acids (Five) HAA5	0.060	105	39	89	85
2950	Total Trihalomethanes TTHM	0.080	130	52	84	81

The State had 235 DBP MCL violations for 64 water systems, and 173 monitoring violations for 85 systems.

### Radionuclide Contaminants

Radioactive particles can occur naturally or as a result of human activity. As with the organics, the monitoring requirement is typically a 3-year schedule in Florida.

Radionuclides Contaminants (RAD)						
Contaminant	Name	MCL (pCi/L)	MCLs		Significant Monitoring/Reporting	
			# of Violations	# of Systems	# of Violations	# of Systems
4000	Gross Alpha, Excl. Radon & U	15	1	1	0	0
4010	Combined Radium (-226 & -228)	5	1	1	0	0
4030	Uranium (U)	30	0	0	0	0
	Subtotal		2	1*	0	0

\*Some systems may have received multiple violations and therefore are only counted once.

### Lead & Copper

These violations occurred if a water system did not conduct their initial monitoring (new systems) or if existing systems did not conduct their routine monitoring. The number of samples required is based on the system's population. Systems that exceed the action levels are required to do corrective action which may include additional sampling and possibly provide treatment. The

numbers below are for 2010 and do not include violations from previous years. This ensures consistency with past reporting of violations.

<b>Lead and Copper (LCR)</b>				
	MCLs		Significant Monitoring/Reporting	
	# of Violations	# of Systems	# of Violations	# of Systems
Initial Lead and Copper Tap M/R			11	10
Follow-up or Routine Lead and Copper Tap M/R			36	32
Treatment Installation			0	0
Public Education			3	3
Subtotal			50	43*

\*Some systems may have received multiple violations and therefore are only counted once.

### Surface Water Treatment

Florida has 21 surface water systems (this also includes systems under the direct influence of surface water). Violations for surface water systems fall under two categories: Treatment Techniques and Monitoring/Reporting violations.

<b>Surface Water and UDI</b>				
	Treatment Techniques		Significant Monitoring/Reporting	
	# of Violations	# of Systems	# of Violations	# of Systems
Surface Water Treatment Rule	0	0	0	0
Subtotal	0	0	0	0

### Variances and Exemptions

A primacy state can grant a PWS a variance from a primary drinking water regulation if the characteristics of the raw water sources reasonably available to the PWS do not allow the system to meet the MCL. To obtain a variance, the system must agree to install the best available technology, treatment techniques, or other means of limiting drinking water contamination that the Administrator finds are available (taking costs into account), and the state must find that the variance will not result in an unreasonable risk to public health. The variance shall be reviewed not less than every five years to determine if the system remains eligible for the variance.

A primacy state can grant an exemption temporarily relieving a PWS of its obligation to comply with an MCL, treatment technique, or both if the system's noncompliance results from compelling factors (which may include economic factors) and the system was in operation on the effective date of the MCL or treatment technique requirement. The state will require the PWS to comply with the MCL or treatment technique as expeditiously as practicable, but not later than 3 years after the otherwise applicable compliance date.

Florida did not issue any variances or exemptions that would be subject to compliance monitoring.

### **Consumer Confidence Reports**

Every Community Water System is required to deliver to its customers a brief annual water quality report. This report is to include some educational material, and will provide information on the source water, the levels of any detected contaminants, and compliance with drinking water regulations.

There were 6 water systems who received violations for not submitting their consumer confidence reports either at all, on time, or who had major problems with the content of the report in 2010.

### **Public Notice**

For all violations, systems are required to notify the consumers they serve. The method and timeliness of notification varies by the violation and system size. Systems must also report back to the State how the notification was delivered. For some acute violations, such as fecal coliform bacteria or *E. coli*, systems are required to notify customers within 24 hours to alert them to the situation and to boil their water before consumption.

The State had 32 public notice violations for 27 public water systems.

### **Ground Water Rule**

The Ground Water Rule applies to all public water systems that use ground water, including consecutive systems, except that it does not apply to systems that combine all of their ground water with surface water or with ground water under the direct influence of surface water prior to treatment. At this time, the State of Florida does not have primacy of this rule and EPA is currently the leading authority on enforcement actions for violations that occur.

Florida had 18 ground water rule monitoring violations for 16 systems.

## Summary for 2010

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	27	15			696	126
Total Coliform Rule	132	116			358	280
Surface Water Treatment Rule			0	0	0	0
Lead and Copper Rule			3	3	47	43
Consumer Confidence Report					6	6
Disinfection Byproducts Rule	235	64	0	0	173	85
Public Notice Rule					32	27
Ground Water Rule			0	0	18	16

### 2010

Total Number of Active Systems	5,534
Total Number of Systems in Violation	630
Total Number of Violations	1,727

As required by the Safe Drinking Water Act the State of Florida has made the 2010 Public Water Systems report available to the public. Interested individuals can obtain a copy of the 2010 Annual Public Water Systems Report for Florida by accessing our website at the following address: [www.dep.state.fl.us/water/drinkingwater](http://www.dep.state.fl.us/water/drinkingwater).

Alternatively write to us at:

2600 Blair Stone Road, MS 3520  
Tallahassee, Florida 32399-2400

