



**Annual Report on Violations
Calendar Year 2022**

**Source and Drinking Water Program
Division of Water Resource Management
Florida Department of Environmental Protection
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The Drinking Water Program: An Overview

The U.S. Environmental Protection Agency (EPA) established the Public Water System Supervision (PWSS) Program under the authority of the 1974 Safe Drinking Water Act (SDWA) (42 U.S.C. §300j-2) to ensure that the public receives safe drinking water. EPA granted Florida the authority to administer its own PWSS Program under Section 1413 of the SDWA, 42 U.S.C. §300j-2. The Florida Department of Environmental Protection (DEP) administers this program and has adopted both EPA regulations and additional, more protective state requirements to implement the program.¹

Florida's Drinking Water Program

The Florida Drinking Water Program is a subsection of DEP and involves six district offices located throughout the state, six delegated Florida Department of Health (DOH) county programs, and both the DEP and DOH headquarters located in Tallahassee. The number one priority for DEP and its delegated programs is to ensure Florida's drinking water systems are providing safe, adequate drinking water to communities and being properly monitored.

At the end of Calendar Year (CY) 2022, Florida had 5,050 active public water systems (1,604 community systems; 769 non-transient, non-community systems; and 2,677 transient non-community systems). This report provides the numbers of violations during CY 2022 in the following categories.

- Maximum contaminant level (MCL) violations.
- Maximum residual disinfectant level (MRDL) violations.
- Treatment techniques (TT) violations.
- Variances and exemptions.
- Significant monitoring requirement violations.
- Significant consumer confidence report (CCR) notification requirement violations.
- Significant reporting requirement (R) violations.
- Recordkeeping violations.
- Significant public notification requirement violations.

The information provided in this report is based on Florida's drinking water database as well as the data stored in EPA's Safe Drinking Water Information System (SDWIS/FED), details on which can be found at <https://www.epa.gov/ground-water-and-drinking-water/safe-drinking-water-information-system-sdwis-federal-reporting>.

¹ Sections 403.850-403.864, et. seq. F.S., and Chapters 62-550, 62-555 and 62-560, F.A.C.

Pursuant to Rule 62-550.500, Florida Administrative Code (F.A.C.), this report presents data on violations that occurred during CY 2022, which is the third year in the 2020-2022 compliance period. Information on corrective actions taken in connection with the violations that are the subject of this report may be found on EPA's Enforcement and Compliance History Online (ECHO) website at <https://echo.epa.gov/>.

Definitions

The following terms are used in this report and are defined as noted below.

- **Action level** is the concentration of lead or copper in water specified in 40 Code of Federal Regulations (C.F.R.) § 141.80(c) which determines, in some cases, the treatment requirements contained in subpart I of this part that a water system is required to complete. *Defined in 40 C.F.R. § 141.2.*
- **Community water system (CWS)** means a public water system that serves at least 15 service connections used by year-round residents, or regularly serves at least 25 year-round residents *Defined in 40 C.F.R. § 141.2.*
- **Consumer confidence report** is an annual report that each CWS must deliver to customers that must contain information on the quality of the drinking water delivered by the system and characterize the risk (if any) from exposure to any contaminants detected in the drinking water in an accurate and understandable manner. *Specific report requirements found in 40 C.F.R. §141.151 and Rule 62-550.824, F.A.C.*
- **Disinfectant** means any oxidant, including but not limited to chlorine, chlorine dioxide, chloramines and ozone added to water in any part of the treatment or distribution process that is intended to kill or inactivate pathogenic microorganisms. *Defined in 40 C.F.R. § 141.2.*
- **Major monitoring violation** means a failure to collect all monitoring samples or a failure to report any monitoring result during a compliance period within the CY. *Monitoring outlined in 40 C.F.R. 141 and Rules 62-550.500-.828, F.A.C.*
- **Maximum contaminant level (MCL)** means the maximum permissible level of a contaminant in water which is delivered to any user of a public water system (PWS). *Defined in 40 C.F.R. § 141.2.*
- **Maximum residual disinfectant level (MRDL)** means the level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects. For chlorine and chloramines, a PWS is in compliance with the MRDL when the running annual average of monthly averages of samples taken in the distribution system, computed quarterly, is less than or equal to the MRDL. For chlorine dioxide, a PWS is in compliance with the MRDL when daily samples are taken at the entrance to the

distribution system and no two consecutive daily samples exceed the MRDL. MRDLs are enforceable in the same manner as MCLs under the Florida Safe Drinking Water Act; however, there is convincing evidence that addition of a disinfectant is necessary for control of waterborne microbial contaminants. Therefore, notwithstanding the MRDLs listed in subsection 62-550.310(2), F.A.C., operators may increase residual disinfectant levels of chlorine or chloramines (but not chlorine dioxide) in the distribution system to a level, and for a time, necessary to protect public health to address specific microbiological contamination problems caused by circumstances such as distribution line breaks, storm runoff events, source water contamination or cross connections. *Defined in 40 C.F.R. § 141.2.*

- **Monitoring/reporting violation** means the failure of a water system to monitor or report as required. Depending upon the contaminant and previously reported results, a compliance period is typically monthly, quarterly, annually or triennially. *Monitoring outlined in 40 C.F.R. 141 and Rules 62-550.500-.828, F.A.C.*
- **Non-community water system** means a public water system that is not a CWS. A non-community water system is either a “transient non-community water system” (TWS) or a “non-transient, non-community water system” (NTNCWS). *Defined in 40 C.F.R. § 141.2.*
- **Non-transient, non-community water system (NTNCWS)** means a public water system that is not a community water system and that regularly serves at least 25 of the same persons over six months per year. *Defined in 40 C.F.R. § 141.2.*
- **Public water system (PWS)** means a system for the provision to the public of water for human consumption through pipes or, after August 5, 1998, other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. The term includes any collection, treatment, storage and distribution facilities under control of the operator of such system and used primarily in connection with such system, and any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. The term does not include any “special irrigation district.” A PWS is either a CWS or a non-community water system (TWS or NTNCWS). *Defined in 40 C.F.R. § 141.2.*
- **Transient, non-community water system (TWS)** means a non-community water system that does not regularly serve at least 25 of the same persons over six months per year. *Defined in 40 C.F.R. § 141.2.*
- **Treatment technique** means the technology installed in a PWS which leads to the reduction of certain contaminant levels. *Defined in subsection 62-550.200(115), F.A.C.*

Variations 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 (40 C.F.R. §§141.4 and 142.20). Florida did not issue any variances or exemptions in FY 2021-2022 that would be subject to compliance monitoring.

Violations

Total Coliform Rule

Total coliforms are a group of related bacteria that are (with few exceptions) not harmful to humans. EPA considers total coliforms a useful indicator of other pathogens for drinking water. Total coliforms are used to determine the adequacy of water treatment and the integrity of the distribution system. Of the 5,050 active PWSs in Florida, approximately one-third (CWSs) are required to monitor monthly, and the other two-thirds (TWSs) are required to monitor quarterly. Non-community ground water systems that serve fewer than 1,000 persons are required to monitor quarterly instead of monthly; this can be reduced to annually or increased back to quarterly if water quality conditions are merited.

The Revised Total Coliform Rule (RTCR) went into effect on April 1, 2016. Under the RTCR, non-acute MCL violations are not issued; rather, systems that have treatment technique triggers are required to do a special assessment of their water systems to identify and correct the problem(s). Water systems that fail to conduct the special assessment for the treatment technique triggers are issued a treatment technique violation. Water systems that fail to conduct the special treatment assessment for the treatment technique triggers or fail to perform corrective actions following the special treatment assessment are issued a treatment technique violation.

Table 1 summarizes violations of the RTCR during CY 2022 in three categories: (1) acute MCL violations (presence of fecal coliform or *E. coli*); major monitoring violations (failure to take any samples on time and failure to take any necessary repeat samples); and (3) treatment technique violations.

In CY 2022, less than 0.18% of PWSs in Florida had acute MCL violations, 9.1% had major monitoring violations, and 0.6% had treatment technique violations.

Table 1.

Total Coliform Rule Violation Type	MCL	Number of MCL Violations	Number of Systems with MCL Violations	Number of Major Monitoring Violations	Number of Systems with Major Monitoring Violations	Number of Treatment Technique Violations (RTCR)	Number of Systems with Treatment Technique Violations (RTCR)
Acute MCL Violations	Presence	9	9				
Major Monitoring Violations				646	460		
Assessments not Completed in 30 Days						35	32
Corrections not Completed in 30 Days						2	2

Ground Water Rule

Florida’s Ground Water Rule, Rule 62-550.828, F.A.C., and 40 C.F.R. 141.400 through 405, Subpart S, establishes a risk-targeted approach to identify ground water systems that are susceptible to fecal contamination. The occurrence of fecal indicators in a drinking water supply is an indication of the potential presence of microbial pathogens that may pose a threat to public health. The Ground Water Rule applies to all PWSs that use ground water (including consecutive systems), except for systems that combine all ground water with surface water or with ground water under the direct influence of surface water prior to treatment.

Table 2 summarizes violations of the Ground Water Rule during CY 2022 in two categories: (1) failure to collect routine water samples (assessment monitoring violations); and (2) failure to collect necessary repeat source water samples in response to a Total Coliform positive distribution sample or a Fecal Indicator positive source sample (triggered/additional monitoring violation). In CY 2022, approximately 91.6% of systems were in compliance with Rule 62-550.828, F.A.C., and 40 C.F.R. 141.400 – 405, Subpart S; 90.8% of the violations were the failure to collect routine water samples and 9.2% were triggered/additional monitoring violations.

Table 2.

Ground Water Rule	MCL	Number of Assessment Monitoring Violations	Number of Systems with Assessment Monitoring Violations	Number of Triggered/Additional Monitoring Violations	Number of Systems with Triggered/Additional Monitoring Violations
Total Ground Water Rule Violations	N/A	584	423	59	29

Surface Water Treatment

Florida has 92 PWSs that draw water from surface water or ground water that is under the direct influence of surface water. Table 3 below summarizes violations during CY 2022 in two categories: (1) treatment techniques; and (2) monitoring/reporting violations. No PWSs in Florida had violations in these categories.

Table 3.

Surface Water and Ground Water Under Direct Influence of Surface Water	Number of Treatment Technique Violations	Number of Systems with Treatment Technique Violations	Number of Monitoring/Reporting Violations	Number of Systems with Monitoring/Reporting Violations
Surface Water Treatment Rule	0	0	0	0

Inorganic Contaminants

Inorganic contaminants are naturally occurring in some ground water and surface water, but can also be introduced to water through farming, chemical manufacturing and other human activities. Inorganic contaminants are routinely monitored in PWSs that utilize ground water every three years, except nitrite/nitrate, which is monitored annually (subsection 62-550.512(1), F.A.C.). CWS and NTNCWS are required to increase their nitrate/nitrite monitoring frequency to quarterly if they exceed one-half the MCL during routine monitoring (paragraph 62-550.512(1)(a), F.A.C.). Non-community water systems must monitor quarterly if a sample is greater than one-half the MCL for nitrite or exceeds the MCL for nitrate (subsection 62-550.512(2), F.A.C.). For the remaining inorganics, quarterly monitoring is not required unless the MCL is exceeded (subsections 62-550.513(1) and (2), F.A.C.). Surface water systems must monitor annually instead of every three years, and quarterly for nitrate/nitrite (subsections 62-550.512(1) and 62-550.513(1), F.A.C.).

Table 4 below summarizes violations in CY 2022 for the 16 inorganic contaminants that are required to be monitored in PWSs.

Table 4.

Inorganic Contaminant Identification Number	Contaminant Name	MCL (mg/L)	Number of MCL Violations	Number of Systems with MCL Violations	Number of Monitoring/Reporting Violations	Number of Systems with Monitoring/Reporting Violations
1005	Arsenic	0.01	4	2	49	49
1010	Barium	2	0	0	44	44
1015	Cadmium	0.005	0	0	42	42
1020	Chromium	0.1	0	0	45	45
1024	Cyanide	0.2	0	0	49	49
1025	Fluoride	4	0	0	43	43

Inorganic Contaminant Identification Number	Contaminant Name	MCL (mg/L)	Number of MCL Violations	Number of Systems with MCL Violations	Number of Monitoring/Reporting Violations	Number of Systems with Monitoring/Reporting Violations
1030	Lead	0.015	1	1	46	44
1035	Mercury	0.002	0	0	46	46
1036	Nickel	0.1	0	0	45	45
1040	Nitrate	10	12	6	291	277
1041	Nitrite	1	0	0	299	282
1045	Selenium	0.05	0	0	47	47
1074	Antimony	0.006	0	0	45	45
1075	Beryllium	0.004	0	0	48	47
1085	Thallium	0.002	2	1	46	46
1094	Asbestos	7 MFL	0	0	104	53

Organic Contaminants

PWSs are required to monitor for two categories of organic contaminants: synthetic organic contaminants (SOCs) and volatile organic contaminants (VOCs). In most cases, these contaminants are monitored every three years, except when required to monitor more frequently due to detections or MCL exceedances (subsections 62-550.515(3) and 62-550.516(4), F.A.C.).

Tables 5 and 6 below, respectively, summarize the violations in CY 2022 for the SOC and VOCs that are required to be monitored in PWSs.

Table 5.

SOC ID No.	Contaminant Name	MCL (mg/L)	Number of MCL Violations	Number of Systems with MCL Violations	Number of Monitoring/Reporting Violations	Number of Systems with Monitoring/Reporting Violations
2005	Endrin	0.002	0	0	69	59
2010	Lindane	0.0002	0	0	70	60
2015	Methoxychlor	0.04	0	0	76	66
2020	Toxaphene	0.003	0	0	68	58
2031	Dalapon	0.2	0	0	96	81
2032	Diquat	0.02	0	0	74	64
2033	Endothall	0.1	0	0	83	71
2034	Glyphosate	0.7	0	0	75	65
2035	Di(2-ethylhexyl)adipate	0.4	0	0	78	68
2036	Oxyamyl	0.2	0	0	72	62
2037	Simazine	0.004	0	0	76	65

SOC ID No.	Contaminant Name	MCL (mg/L)	Number of MCL Violations	Number of Systems with MCL Violations	Number of Monitoring/Reporting Violations	Number of Systems with Monitoring/Reporting Violations
2039	Di(2-ethylhexyl)phthalate	0.006	0	0	86	72
2040	Picloram	0.5	0	0	75	64
2041	Dinoseb	0.007	0	0	75	64
2042	Hexachlorocyclopentadiene	0.05	0	0	76	66
2046	Carbofuran	0.04	0	0	70	60
2050	Atrazine	0.003	0	0	76	65
2051	Alachlor/Lasso	0.002	0	0	78	68
2065	Heptachlor	0.0004	0	0	70	60
2067	Heptachlor epoxide	0.0002	0	0	69	59
2105	2,4-D	0.07	0	0	82	69
2110	2,4,5-TP	0.05	0	0	75	65
2274	Hexachlorobenzene	0.001	0	0	71	61
2306	Benzo(a)pyrene	0.0002	1	1	73	62
2326	Pentachlorophenol	0.001	0	0	77	66
2383	Polychlorinated biphenyls (PCBs)	0.0005	0	0	69	59
2931	1,2-DiBromo-3-Chloropropane	0.0002	0	0	74	63
2946	Ethylene Dibromide	0.00005	0	0	74	63
2959	Chlordane	0.002	0	0	68	58

Table 6.

VOC ID No.	Contaminant Name	MCL (mg/L)	Number of MCL Violations	Number of Systems with MCL Violations	Number of Monitoring/Reporting Violations	Number of Systems with Monitoring/Reporting Violations
2378	1,2,4-Trichlorobenzene	0.07	0	0	68	60
2380	Cis-1,2-Dichloroethylene	0.07	0	0	65	59
2955	Xylenes (total)	10	0	0	97	84
2964	Dichloromethane	0.005	0	0	72	66
2968	o-Dichlorobenzene	0.6	0	0	66	60
2969	p-Dichlorobenzene	0.075	0	0	66	60
2976	Vinyl Chloride	0.002	0	0	65	59
2977	1,1-Dichloroethylene	0.007	0	0	66	60
2979	Trans-1,2-Dichloroethylene	0.1	0	0	65	59
2980	1,2-Dichloroethane	0.005	2	1	65	59
2981	1,1,1-Trichloroethane	0.2	0	0	64	58

VOC ID No.	Contaminant Name	MCL (mg/L)	Number of MCL Violations	Number of Systems with MCL Violations	Number of Monitoring/Reporting Violations	Number of Systems with Monitoring/Reporting Violations
2982	Carbon Tetrachloride	0.005	6	3	71	62
2983	1,2-Dichloropropane	0.005	0	0	65	59
2984	Trichloroethylene	0.005	0	0	65	59
2985	1,1,2-Trichloroethane	0.005	0	0	65	59
2987	Tetrachloroethylene	0.005	0	0	65	59
2989	Chlorobenzene	0.1	0	0	66	60
2990	Benzene	0.005	0	0	65	59
2991	Toluene	1	0	0	74	65
2992	Ethylbenzene	0.7	0	0	74	66
2996	Styrene	0.1	0	0	67	61

Radionuclide Contaminants

Radioactive particles can naturally occur in ground water and surface water but can also be introduced to water through human activities. PWSs in Florida are required to monitor for radionuclides every three or six years (Rule 62-550.519, F.A.C.).

Effective Jan. 1, 2016, Florida law requires that NTNCWSs monitor for radiological contaminants as well, unless previous sample results have permitted the system to waive radiological monitoring.

In CY 2022, Florida had a radiological contaminant compliance rate of approximately 99%; less than 0.1% of PWSs had violations of the gross alpha MCL, violations of the uranium MCL or violations of the combined radium MCL.

Table 7 below summarizes violations during CY 2022 for the radionuclides that must be monitored in public water systems.

Table 7.

Radionuclides ID	Contaminant Name	MCL (pCi/L)	Number of MCL Violations	Number of Systems with MCL Violations	Number of Monitoring/Reporting Violations	Number of Systems with Monitoring/Reporting Violations
4000	Gross Alpha, Excl. Radon & Uranium	15	8	3	46	35
4006	Uranium	30	0	0	38	28
4010	Combined Radium (226 & 228)	5	9	4	0	0

Disinfection By-products

PWSs are required to kill or inactivate pathogenic organisms in water by use of chemical oxidants or equivalent agents. By-products of disinfection, disinfection by-products (DBPs), occur in water as a result of organic matter reacting with the disinfection chemicals (e.g., chlorine) present in drinking water. PWSs monitor DBPs either annually or quarterly, depending upon source, size of population and/or previous results (Rules 62-550.821 and 62-550.822, F.A.C.). PWSs are also required to report a monthly disinfection residual, and systems using ozone for disinfection must also monitor for bromate (paragraph 62-550.821(9)(b), F.A.C.).

In CY 2022, Florida had a 98.6% compliance rate for DBPs. Only 0.5% of PWSs in Florida had violations for the haloacetic acids MCL and 0.9% had violations for the total trihalomethanes MCL. Five percent of PWSs had monitoring/reporting violations for one or both parameters.

Table 8 below summarizes violations during CY 2022 for the DBPs required to be monitored by PWSs.

Table 8.

DBP ID	Contaminant Name	MCL (mg/L)	Number of MCL Violations	Number of Systems with MCL Violations	Number of Monitoring/Reporting Violations	Number of Systems with Monitoring/Reporting Violations
2456	Haloacetic Acids (Five) HAA5	0.06	64	25	418	239
2950	Total Trihalomethanes TTHM	0.08	146	45	332	186

Lead and Copper

Lead and copper can be a source contaminant and can enter drinking water through interactions with distribution system and plumbing materials. Lead and copper monitoring requirements are set forth in Rule 62-550.800, F.A.C. Table 9 summarizes the following categories of violations in CY 2022.

- Failure of a new PWS to conduct initial monitoring for lead and copper.
- Failure of an existing system to conduct routine monitoring.
- Failure to take corrective measures if there was an action level exceedance.
- Failure to provide information to the public on steps that can be taken to protect health.

In CY 2022, Florida had a 96% compliance rate for Lead and Copper Rule (LCR) violations. Seven PWSs in Florida had violations for initial LCR monitoring, 3.7% had violations for follow-up or routine LCR monitoring, and seven water systems in Florida had violations for failure to take corrective action or to provide public education.

Table 9.

LCR	Number of Violations	Number of Systems with Violations
Initial LCR Monitoring	4	3
Follow Up or Routine LCR Monitoring	161	151
Failure to Take Corrective Action	0	0
Failure to Provide Public Education	0	0

Consumer Confidence Reports

Every CWS is required to deliver a Consumer Confidence Report to its customers (Rule 62-550.824, F.A.C.). For CY 2022, of the 1,604 CWS in Florida, 22 active PWSs failed to submit a Consumer Confidence Report and 37 were in violation for late or insufficient reporting.

Public Notice

PWSs are required to notify consumers of all violations (Rule 62-560.410, F.A.C.). In CY 2022, there was a total of three public notice violations in Florida and three PWSs had public notice violations.

Summary

Florida is committed to ensuring all residents and visitors receive safe drinking water and facilities are in compliance with state and federal laws. The vast majority of the compliance issues reported in CY 2022 were administrative (timely submittal of monitoring and reporting paperwork) and were not health-based or related to water quality. In the event an exceedance of a drinking water standard is identified, the facility is required to increase monitoring frequencies to verify the results, and to follow up with corrective actions as needed. DEP always closely monitors the subsequent results and actions to ensure the system returns to compliance.

Tables 10 and 11 summarize the CY 2022 violation information presented in this report.

Table 10.

CY 2022 Systems / Violation Summary	Number
Total Active PWSs	5,050
Total PWSs with at Least One Violation	1,141
Total Violations	7,555

Table 11.

Violation Category	Number of MCL Violations	Number of Systems with MCL Violations	Number of Treatment Technique Violations	Number of Systems with Treatment Technique Violations	Number of Monitoring/Reporting Violations	Number of Systems with Monitoring/Reporting Violations
Revised Total Coliform Rule	9	9	35	32	646	460
Ground Water Rule					643	452
Surface Water and Ground Water Under Direct Influence of Surface Water			0	0	0	0
Inorganic Contaminants, Synthetic Organic Contaminants, Volatile Organic Contaminants and Radionuclide Contaminants	45	19			4,984	482
DBPs	210	54			750	244
Lead and Copper Rule					171	160
Consumer Confidence Reports					59	59
Public Notice					3	3