State of Texas
Public Drinking Water Program
2023 Annual Compliance Report

Galveston, TX

Texas Commission on Environmental Quality (TCEQ)
Office of Water
Water Supply Division

July 1, 2024

Table of Contents

Introduction

The Texas Commission on Environmental Quality (TCEQ) administers the Public Drinking Water Program in Texas under primacy authority from the United States Environmental Protection Agency (EPA). Section 1414(c)(3) of the Safe Drinking Water Act (SDWA) requires that each state that has been granted primacy prepare an annual report on violations of national primary drinking water regulations within the state, make the report readily available to the public, and submit it to the EPA. The TCEQ 2023 Annual Compliance Report fulfills this responsibility for Texas, and includes health-based, reporting, and consumer notification violations.

Each quarter, primacy States submit data to the Federal Safe Drinking Water Information System (SDWIS/FED), an automated database maintained by EPA. This report is based on data retrieved from the Texas installation of SDWIS/STATE. This report contains data from the following time periods:

1. The beginning date of a given violation compliance period on or before December 31, 2023.
2. The ending date of a given violation compliance period on or after January 1, 2023.

By using these criteria, some violations which began prior to calendar year 2023 are included in this report.

Definitions and Terms

The following are definitions and terms used in this report.

Public Water System - A Public Water System (PWS), as defined by the State of Texas, is a system that provides water via piping or other constructed conveyances for human consumption to at least 15 service connections or serves at least 25 people for at least 60 days each year. There are three types of PWSs:

- Community PWSs such as towns or other communities where people live.
- Non-Transient Non-Community PWSs such as schools or factories where people work but do not live
- Transient Non-Community PWSs -- such as rest stops, parks, and restaurants where people frequently come and go.

For this report, the acronym PWS means systems of all types unless specified in greater detail.

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).

Maximum Residual Disinfectant Level - The EPA sets national limits on residual disinfection levels in drinking water to reduce the risk of exposure to disinfectant byproducts formed when PWSs add chemical disinfection for either primary or residual treatment. These limits are known as Maximum Residual Disinfectant Levels (MRDLs).

Treatment Techniques - A treatment technique (TT) is an enforceable procedure or level of technological performance which PWSs must follow to ensure control of a contaminant.

Variances and Exemptions - A variance is the use of less costly technology and an exemption provides additional time to comply with new regulation. The State of Texas does not grant variances or exemptions.

Monitoring - A PWS is required to monitor and verify that the levels of contaminants present in the water do not exceed the MCL. If a PWS fails to have its water tested as required or fails to report test results correctly to the primacy agent, a monitoring/reporting violation (M/R) occurs.

Sampling - The TCEQ collects chemical compliance samples for PWSs using a third-party contractor. The samples collected include inorganic and organic chemicals, disinfection by-products and radionuclides. These samples are collected either at the entry point or in the distribution system. Using a third-party to collect samples ensures greater quality assurance, unbiased sample results and a very high collection rate. In 2023, 99.9% of samples scheduled were collected, or the sample sites were accounted for as inactive or unavailable for sampling. The PWSs comply with the chemical compliance sampling requirement by paying the lab analysis expense.

PWSs are required to collect additional compliance samples. All public water systems are responsible for the routine collection of bacteriological samples and disinfection residual data

from their distribution system. Most water systems have to perform sampling for compliance for the Lead and Copper Rule. Systems that use a groundwater source must monitor their raw well water when applicable. Systems that use surface water or groundwater under the influence of surface water must monitor routinely for turbidity and are also required to perform source water monitoring for *Cryptosporidium.* Also, systems that use specific treatments (such as chlorine dioxide or ozone) in their drinking water production are required to perform specialized monitoring.

Significant Monitoring Violations - For this report, significant monitoring violations are defined as any significant monitoring violation that occurred during the calendar year of the report. A significant monitoring violation occurs when no health-based sample result is reported during a compliance period, or more rarely, when no sample is collected.

Consumer Notification - Every Community water system is required to deliver to its customers a brief annual water quality report, referred to as the Consumer Confidence Report (CCR). This report shall include educational material, information on the source of the water, the levels of any detected contaminants, and compliance with drinking water regulations.

Significant Consumer Notification Violations - For this report, a significant public notification violation occurred if a community water system completely failed to provide its customers the required annual water quality report. This type of violation is designated as "CCR Failure to Report" in SDWIS/STATE.

Public Notification - Public Notification is intended to ensure that consumers will always know if there is a problem with their drinking water. These notices immediately alert consumers if there is a serious problem with their drinking water that may pose a risk to public health. They also notify customers if their water does not meet drinking water standards, the water system fails to test its water, or if the system has been granted a variance (use of less costly technology) or an exemption (more time to comply with a new regulation).

Return to Compliance - A violation is Returned to Compliance (RTC) when the PWS has met all requirements to remedy the violation as determined by Federal and State Drinking Water regulations.

Public Water Systems in Texas

As of July 1, 2024, the State of Texas regulates approximately 7,195 PWSs, providing drinking water to 31,335,867 customers.

- Approximately 30,542,861 people receive drinking water from 4,681 Community water systems.
- Approximately 482,743 people receive drinking water from 898 Non-Transient Non-Community water systems.
- Approximately 310,263 people receive drinking water from 1,616 Transient Non-Community water systems.

State regulations require all PWSs in Texas to disinfect their drinking water. All systems must properly disinfect water before it is distributed to any customer and must maintain acceptable disinfectant residuals within their distribution system. Systems are required to maintain a disinfectant residual concentration of at least 0.2 milligrams per liter (mg/L) of free chlorine or 0.5 mg/L of chloramine (chlorine + ammonia) in the water entering their distribution system as well as throughout the distribution system.

All PWSs that use surface water or groundwater under the influence of surface water as a drinking water source, must use filtration as a treatment in their potable water production. Filtration is used along with other treatments as applicable.

Drinking Water Sources

Sources for drinking water within Texas include both groundwater and surface water originating from numerous aquifers, rivers, and reservoirs throughout the state. An illustration of public drinking water systems in Texas by PWS type is shown below in Figure 1.

Figure 1. Public Water Systems in Texas by Type

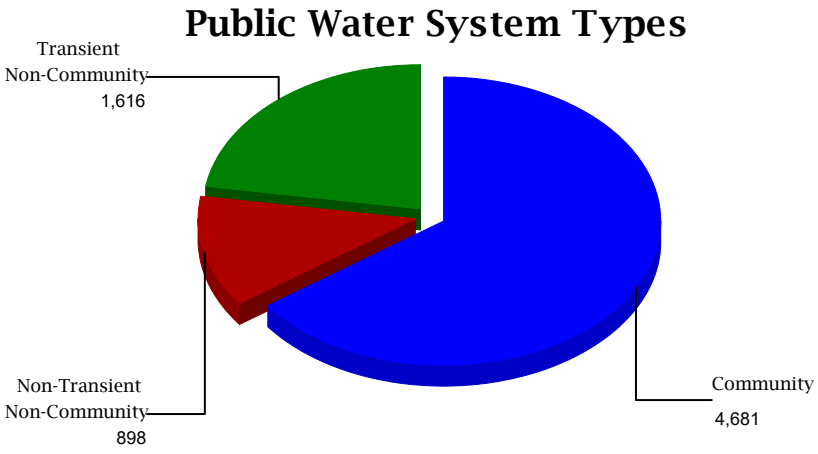


Figure 2. Distribution of Public Water System Sources Across Texas

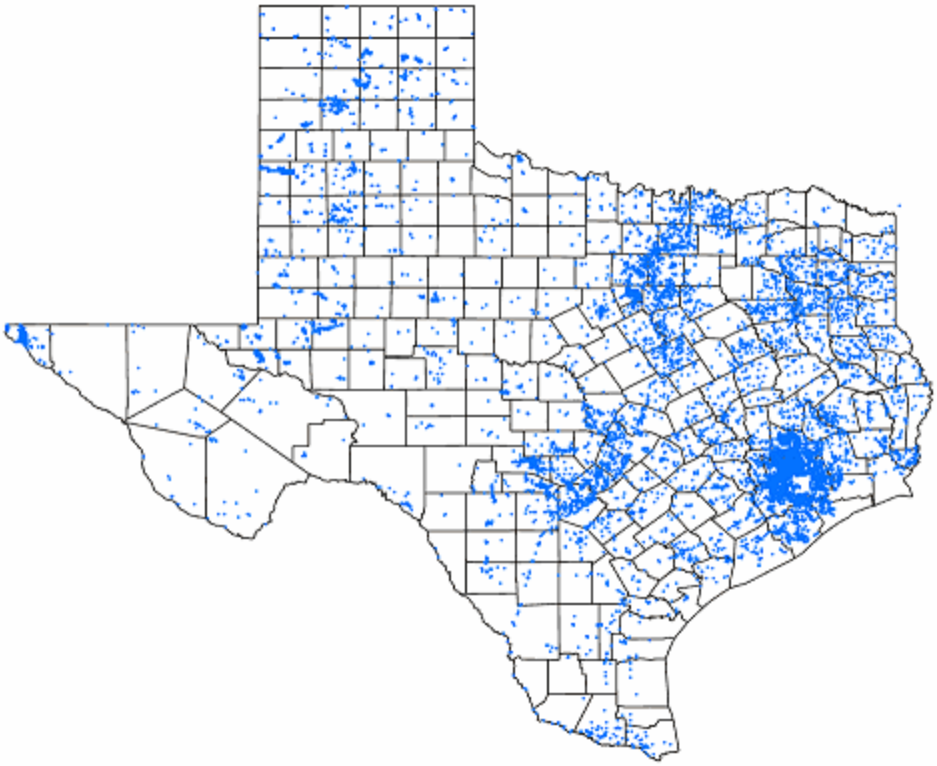


Table 1. Public Water System Sources in Texas by Type

Source Type	Sources
Groundwater*	13,821
Surface Water	469

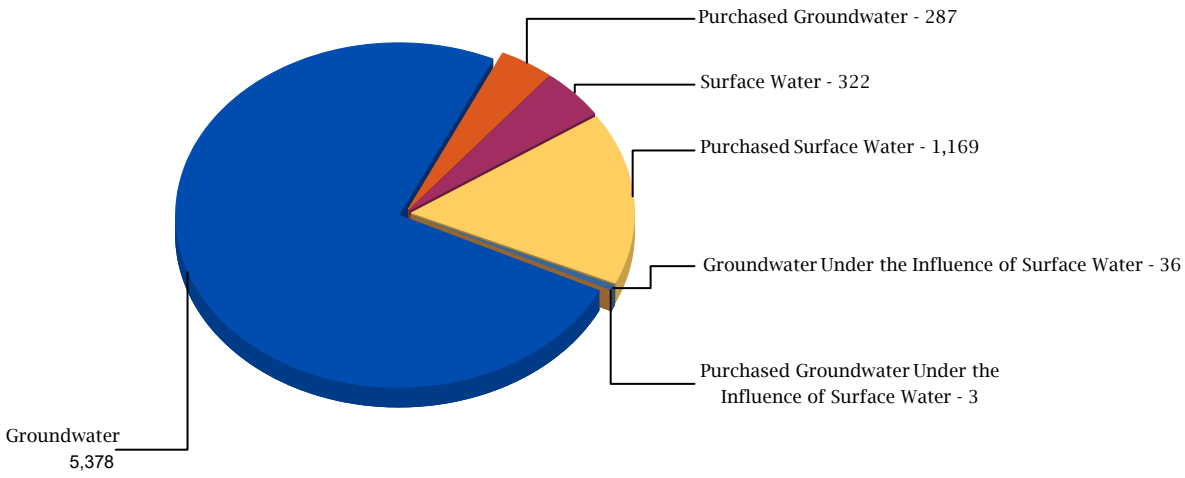
**Groundwater Under the Influence of Surface Water (GUI) sources are included as groundwater sources.*

Primary source types for PWSs in Texas include the following

- **Groundwater** - wells that withdraw water from aquifers
- **Purchased Groundwater** - water purchased from another PWS where the source is one or more wells
- **Surface water** - intakes that withdraw water from creeks, rivers, streams, lakes, and reservoirs
- **Purchased surface water** - water is purchased from another PWS where the source is one or more intakes
- **Groundwater Under the Influence of Surface Water** - wells that withdraw water from one or more aquifers where surface water may be present
- **Purchased Groundwater Under the Influence of Surface Water** - water is purchased from another PWS where the source is one or more aquifers where surface water may be present

The number of Public Water Systems by primary source type are included in Figure 3.

Figure 3. Number of Public Water Systems in Texas by Source Type



Public Water System Size

The EPA defines water system size based on the following population classifications:

- Very small systems - serve 25 to 500 people
- Small systems - serve 501 to 3,300 people
- Medium systems - serve 3,301 to 10,000 people
- Large systems - serve 10,001 to 100,000 people
- Very Large systems - serve more than 100,000 people

Table 2. Texas Public Water System Population by EPA Classification

Population	EPA Classification	Number of PWSs	Total Population Served
25 - 500	Very Small	4,256	679,901
501 - 3,300	Small	1,792	2,626,201
3,301 - 10,000	Medium	748	4,251,822
10,001 - 100,000	Large	357	9,216,182
Over 100,000	Very Large	42	14,561,761
	Total	7,195	31,335,867

Alternative Water Sources

With Texas' population expected to reach almost 46 million by the year 2060 as well as the lasting effects of the droughts, Texans have had to plan far in advance to sustain their communities, businesses, industries, and environment. Because of these challenges, PWSs have had to begin to utilize less conventional sources of water.

Desalination: In the search to find an alternate water source desalination continues to gain attention as some communities seek to treat saline groundwater, or brackish water, to make it potable. Brackish water sources often need treatment to be used as drinking water, and desalination is the most typical treatment utilized by water systems. For this reason, the agency initiated rulemaking to streamline construction approval for PWSs asking to conduct brackish-groundwater desalination.

In July 2015, after extensive input from the regulated community and interested stakeholders, the rules for desalination using either reverse osmosis (RO) or nanofiltration (NF) membranes became effective. In the past, the use of RO membranes or other desalination techniques required either a site-specific pilot test, a pilot test at a site with similar water quality, or full-scale performance data at a site with similar water quality. The streamlined approach in the rules allow the use of desalination technologies without an exception request, which is required when approving the use of innovative and alternative treatment technologies. To further assist communities with decreased water supplies, the TCEQ offers concurrent reviews of designs and computer models.

Reuse/reclaimed water: As water systems search for new sources of water, some PWSs began to explore strategies not previously considered. One alternative involves not just reclaiming effluent from municipal wastewater treatment plants for non-potable uses such as irrigation and industry, but also additional treatment to remove chemical and microbiological contaminants found in effluent for potable use. The TCEQ has engineers and scientists with the expertise to guide PWSs through the process of selecting innovative treatment technologies and receiving approval for these technologies while ensuring the treated water is safe for human consumption. Texas is the first state to have Direct Potable Reuse (DPR). TCEQ prepared and released a guidance manual regarding the review and approal process for DPR projects in November of 2022.

2023 Compliance Results

Annual compliance information was determined using the State of Texas Safe Drinking Water Information System (SDWIS) State, version 3.6.

Health-Based Standards

In 1974 Congress passed the Safe Drinking Water Act. This law requires EPA to determine the level of contaminants in drinking water at which no adverse health effects are likely to occur. These non-enforceable health goals, based solely on possible health risks and exposure over a lifetime, with an adequate margin of safety, are called maximum contaminant level goals (MCLG). Contaminants are any physical, chemical, biological or radiological substances or matter in water. EPA sets MCLGs based on the best available science to prevent potential health problems.

For most contaminants, EPA sets an enforceable regulation called a maximum contaminant level (MCL) based on the MCLG. MCLs are set as close to the MCLGs as possible, considering cost, benefits and the ability of PWSs to detect and remove contaminants using suitable treatment technologies. When there is no reliable method that is economically and technically feasible to measure a contaminant at particularly low concentrations, a treatment technique is set rather than an MCL. A treatment technique is an enforceable procedure or level of technological performance which PWSs must follow to ensure control of a contaminant. States may set a more stringent MCL or treatment technique level for pathogens and indicators in drinking water than EPA.

Health-based contaminants are those that may pose an acute or long-term risk to human health if they are found in drinking water. These contaminants include: fecal coliform bacteria, *E. coli*, turbidity, nitrate, nitrite, chlorine dioxide, inorganic chemicals, organic chemicals, disinfection byproducts, radionuclides and disinfectants.

Total coliforms and turbidity are indicators that inadequately treated water may contain disease-causing organisms. Pathogens include various types of bacteria, viruses, protozoan parasites and other organisms. Indicators are physical, chemical, or other parameters whose presence at a level outside of specified limits may reflect a problem in the treatment process or in the integrity of the distribution system. These pathogens can cause diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.

Nitrate and nitrite contamination can occur from several sources: the natural decay of organic materials such as leaves and crop residue, use of commercial fertilizers, contamination by human sewage and wastes from farm animals, and the nitrification of ammonia in the treatment and distribution system. Excessive levels of nitrate and nitrite in drinking water can cause serious illness and sometimes death in infants less than six months of age and may also cause adverse health effects in pregnant women through the risk of miscarriage and in people with specific metabolic diseases.

Chlorine dioxide is a chemical added to drinking water for the purposes of microbial disinfection and oxidation of dissolved organic carbon to reduce formation of disinfection

byproducts. Some infants, young children and pregnant women who drink water containing chlorine dioxide in excess of the Maximum Residual Disinfectant Level (MRDL) could experience nervous system effects or anemia.

Inorganic contaminants can leach into drinking water after dissolving from naturally-occurring minerals in the ground, or from runoff from industrial sources or landfills. Lead and copper enter drinking water primarily through plumbing materials. Exposure to lead and copper may cause health problems ranging from stomach problems to brain damage. Lead and copper levels are controlled by treatment techniques and regulated by action level.

Organic contaminants come from petroleum solvents, paint removers, degreasers, cleaning fluids, pesticides, gasoline, electrical transformers, manufacturing processes, chemical production, byproducts from disinfection, the production of plastics, agricultural runoff, improper waste disposal, and improper handling and storage techniques. These contaminants may damage organs such as the heart, liver, and kidneys, damage the central nervous and immune systems, and cause cancer.

Disinfection byproducts are organic chemicals that form as a result of adding disinfectant to water containing organic matter. Trihalomethanes, haloacetic acids, chlorite and bromate are byproducts of disinfection. These contaminants may damage organs such as the kidneys and liver, damage the cardiovascular system and central nervous system, and may cause an increased risk of cancer.

Radionuclides include radium and uranium, which occur naturally in some groundwater due to geological formations, particularly in deeper aquifers. Radionuclide contaminants may cause cancer.

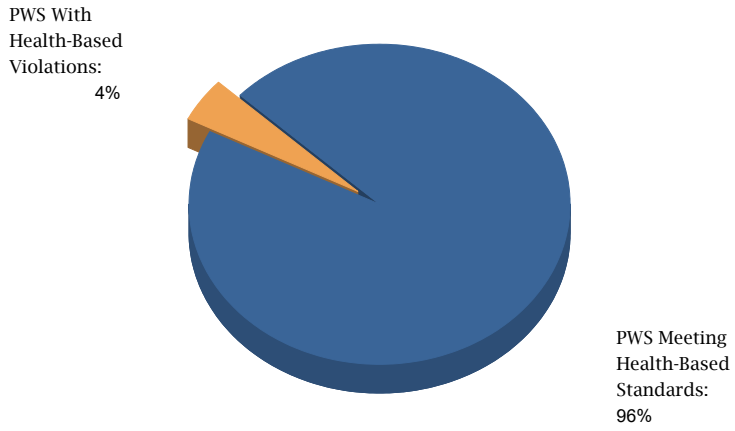
Disinfectants are chemicals added to drinking water during treatment to provide disinfection at the treatment plant and in the distribution system. If disinfectants are not dosed and managed appropriately, they may cause health effects from chlorine and chloramines which can include irritating effects to the eyes and nose, stomach discomfort, and (chloramine only) anemia. Chlorine dioxide can cause nervous system effects and anemia.

To find more information regarding drinking water contaminants regulated by the EPA, and their potential health effects, go to the following website:
https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

Health-Based Standards Results

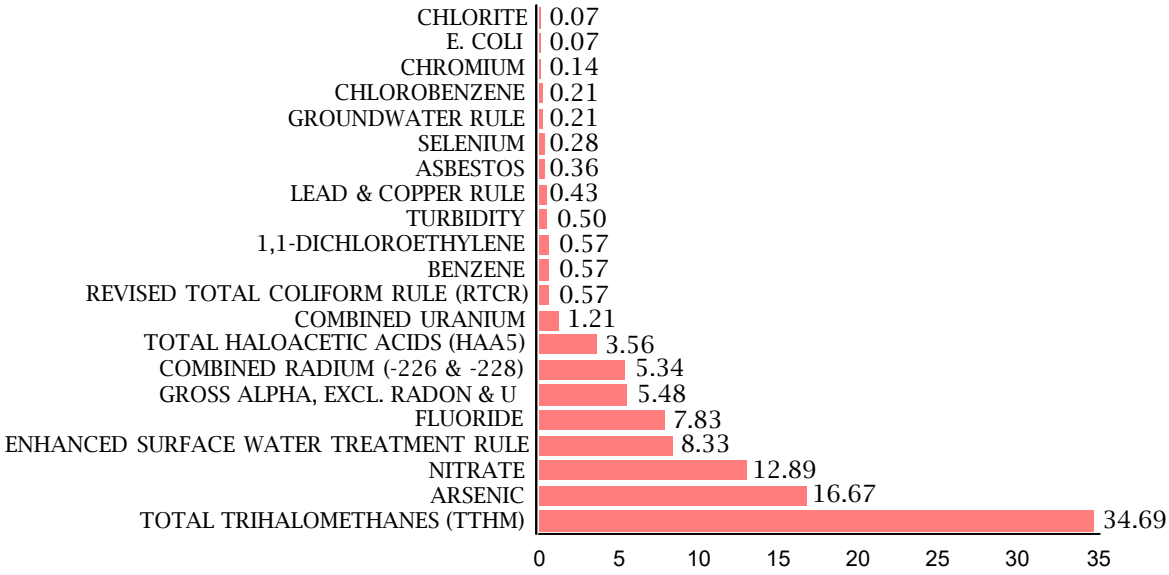
For 2023, health-based standards were met by 96% of the 7,195 PWS in the State of Texas. The percentage of total population served by PWS meeting health-based standards was 98%. Figure 3 below shows the percentage of PWSs in compliance with health-based standards.

Figure 4. Percent of PWS in Compliance with Health-Based Standards



Maximum Contaminant Level and Treatment Technique Rule violations, as a percentage total health-based violations, are shown in Figure 4 below.

Figure 5. Percent of Health-Based Standards Violations, by Contaminant/Rule

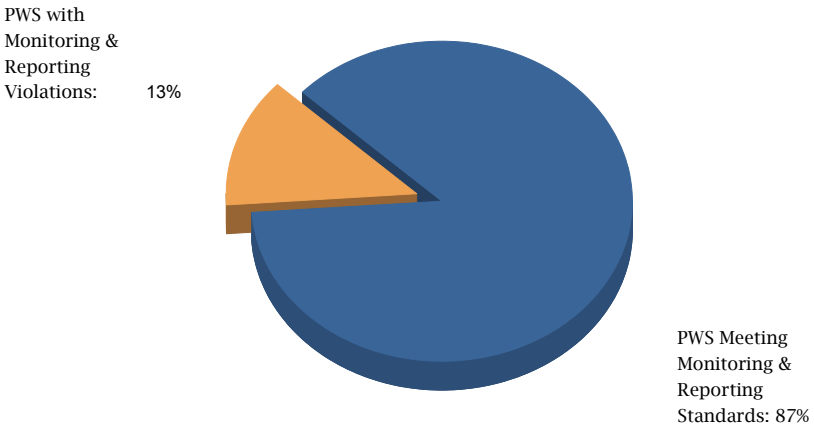


Significant Monitoring and Reporting Regulations

Monitoring and Reporting regulations provide a mechanism to ensure that Public Water Systems (PWS) evaluate contaminants in order to meet health-based standards. When a system does not monitor for contaminants in accordance with associated compliance periods, consumers and primacy agencies do not know whether the water being served is meeting health-based standards.

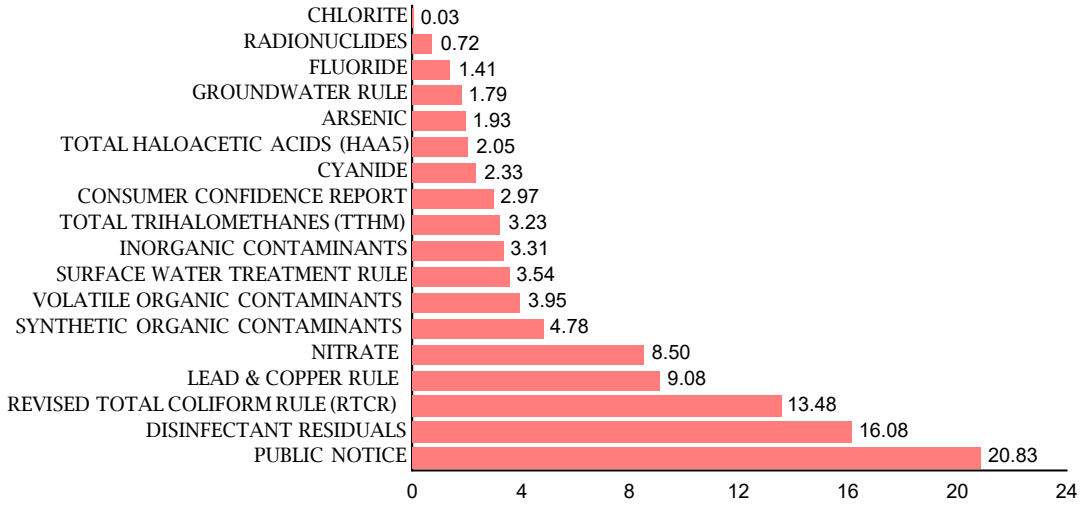
For 2023, 87% of the 7,195 PWSs in Texas were in compliance with major monitoring and reporting regulations. The total population served by PWSs meeting monitoring and reporting regulations is 94%.

Figure 6. Percent of PWS in Compliance with Monitoring and Reporting Regulations



Of the 13% of PWSs with monitoring and reporting violations, the percent by contaminant and rule are shown in Figure 6 below.

Figure 7. Percent of Monitoring & Reporting Violations by Contaminant or Rule



Violations by Rule and Type

A summary of the number of violations by rule and type is shown below in Table 2. Violations included here are only those that did not return to compliance in 2023. See Appendix A for the total number of violations and those violations that returned to compliance.

Table 3. PWS Violations by Rule and Type

Rule	Violation Type Code	Violation Name	Violations Not Returned to Compliance	Number of PWS in Violation
CONSUMER CONFIDENCE RULE	71	CCR REPORT	103	49
DISINFECTION BY-PRODUCTS	35	FAILURE SUBMIT OEL REPORT FOR HAA5	2	2
DISINFECTION BY-PRODUCTS	35	FAILURE SUBMIT OEL REPORT FOR TTHM	43	26
DISINFECTION BY-PRODUCTS	02	MCL, AVERAGE (CHLORITE)	1	1
DISINFECTION BY-PRODUCTS	02	MCL, LRAA	159	56
DISINFECTION BY-PRODUCTS	27	MONITORING, (DBP) (CHL. DIOXIDE)	1	1
DISINFECTION BY-PRODUCTS	27	MONITORING, ROUTINE (DBP), MAJOR	697	306
GROUNDWATER RULE	45	FAILURE ADDRESS DEFICIENCY (GWR)	3	3

Rule	Violation Type Code	Violation Name	Violations Not Returned to Compliance	Number of PWS in Violation
GROUNDWATER RULE	34	MONITOR GWR TRIGGERED/ADDITIONAL, MAJOR	56	48
GROUNDWATER RULE	34	MONITOR GWR TRIGGERED/ADDITIONAL, MINOR	6	6
INORGANIC COMPOUNDS GROUP M/R	03	MONITORING, ROUTINE MAJOR	72	43
INORGANIC COMPOUNDS INDIVIDUAL M/R	03	MONITORING, ROUTINE MAJOR	457	260
INORGANIC COMPOUNDS MCL	02	MCL, AVERAGE	355	84
INORGANIC COMPOUNDS MCL	01	MCL, SINGLE SAMPLE	181	58
LEAD AND COPPER RULE	52	FOLLOW-UP OR ROUTINE TAP M/R (LCR)	317	271
LEAD AND COPPER RULE	51	INITIAL TAP SAMPLING (LCR)	18	18
LEAD AND COPPER RULE	56	INITIAL/FOLLOW-UP/ROUTINE SOWT M/R (LCR)	7	5
LEAD AND COPPER RULE	66	LEAD CONSUMER NOTICE (LCR)	112	97

Rule	Violation Type Code	Violation Name	Violations Not Returned to Compliance	Number of PWS in Violation
LEAD AND COPPER RULE	58	OCCT/SOWT INSTALL DEMONSTRATION (LCR)	2	2
LEAD AND COPPER RULE	57	OCCT/SOWT RECOMMENDATION/STUDY (LCR)	4	4
LEAD AND COPPER RULE	53	WATER QUALITY PARAMETER M/R (LCR)	102	78
PUBLIC NOTICE	75	PUBLIC NOTICE RULE LINKED TO VIOLATION	723	217
RADIONUCLIDES	02	MCL, AVERAGE	169	32
RADIONUCLIDES	03	MONITORING, ROUTINE MAJOR	28	8
REVISED TOTAL COLIFORM RULE	2C	CORRECTIVE/EXPEDITED ACTIONS (RTCR)	1	1
REVISED TOTAL COLIFORM RULE	2A	LEVEL 1 ASSESS, MULTIPLE TC POS (RTCR)	2	2
REVISED TOTAL COLIFORM RULE	2A	LEVEL 1 ASSESS, TC POS RT NO RPT (RTCR)	5	5
REVISED TOTAL COLIFORM RULE	1A	MCL, E. COLI, POS E COLI (RTCR)	1	1

Rule	Violation Type Code	Violation Name	Violations Not Returned to Compliance	Number of PWS in Violation
REVISED TOTAL COLIFORM RULE	3A	MONITORING, ROUTINE, MAJOR (RTCR)	461	155
SURFACE WATER TREATMENT RULES	29	CPE FAILURE (EI/LT1 SWTR)	1	1
SURFACE WATER TREATMENT RULES	41	FAILURE MAINTAIN MICROBIAL TREAT. (LT2)	114	9
SURFACE WATER TREATMENT RULES	38	MONITORING, ROUTINE (IESWTR/LT1), MAJOR	115	10
SURFACE WATER TREATMENT RULES	44	MONTHLY COMB FLTR EFFLUENT (IESWTR/LT1)	5	4
SURFACE WATER TREATMENT RULES	43	SINGLE COMB FLTR EFFLUENT (IESWTR/LT1)	2	1
SYNTHETIC ORGANIC COMPOUNDS M/R	03	MONITORING, ROUTINE MAJOR	204	99
VOLATILE ORGANIC COMPOUNDS M/R	03	MONITORING, ROUTINE MAJOR	137	119
VOLATILE ORGANIC COMPOUNDS MCL	02	MCL, AVERAGE	19	5

Rule Abbreviations:

CCR	Consumer Confidence Report
CHEM	Chemical (Inorganics and Organics)
DBP	Disinfection Byproducts
GWR	Groundwater Rule
HAA5	Haloacetic Acids
IESWTR	Interim Enhanced Surface Water Treatment Rule
LCR	Lead and Copper Rule
LT1	Long Term 1 Enhanced Surface Water Treatment Rule
LT2	Long Term 2 Enhanced Surface Water Treatment Rule
PN	Public Notice Rule
RAD	Radionuclides
SWTR	Surface Water Treatment Rule
RTCR	Revised Total Coliform Rule
TTHM	Total Trihalomethanes

MCL/MRDL, Treatment Technique, and Monitoring/Reporting Violations

The following pages include summary tables for MCL/MRDL, Treatment Techniques, and Monitoring/Reporting. Violations included in these tables are only those that did not return to compliance in 2023.

Units of Measure used on the following pages:

MG/L	Milligrams per Liter
MFL	Million Fibers per Liter
pCi/L	Picocuries per Liter

Synthetic Organic Compounds

Contaminant	MCL/MRDL	MCL/ MRDL Violations	MCL/ MRDL PWS in Violation	M/R Violations	M/R PWS in Violation
1,2-DIBROMO-3-CHLOROPROPANE	0.0002 MG/L	0	0	34	27
ETHYLENE DIBROMIDE	0.00005 MG/L	0	0	34	27
2,4,5-TP	0.05 MG/L	0	0	38	31
2,4-D	0.07 MG/L	0	0	38	31
DALAPON	0.2 MG/L	0	0	38	31
DINOSEB	0.007 MG/L	0	0	38	31
PICLORAM	0.5 MG/L	0	0	38	31
ALDICARB	0.003 MG/L	0	0	38	31
ALDICARB SULFONE	0.002 MG/L	0	0	38	31
ALDICARB SULFOXIDE	0.004 MG/L	0	0	38	31
CARBOFURAN	0.04 MG/L	0	0	38	31
OXAMYL	0.2 MG/L	0	0	38	31
ALACHLOR	0.002 MG/L	0	0	94	85
ATRAZINE	0.003 MG/L	0	0	94	85
BENZO(A)PYRENE	0.0002 MG/L	0	0	94	85
BHC-GAMMA	0.0002 MG/L	0	0	94	85
CHLORDANE	0.002 MG/L	0	0	94	85
DI(2-ETHYLHEXYL) ADIPATE	0.4 MG/L	0	0	94	85
DI(2-ETHYLHEXYL) PHTHALATE	0.006 MG/L	0	0	94	85
ENDRIN	0.002 MG/L	0	0	94	85
HEPTACHLOR	0.0004 MG/L	0	0	94	85
HEPTACHLOR EPOXIDE	0.0002 MG/L	0	0	94	85
HEXACHLOROBENZENE	0.001 MG/L	0	0	94	85
HEXACHLOROCYCLOPENTADIENE	0.05 MG/L	0	0	94	85
METHOXYCHLOR	0.04 MG/L	0	0	94	85
PENTACHLOROPHENOL	0.001 MG/L	0	0	94	85
SIMAZINE	0.004 MG/L	0	0	94	85
TOXAPHENE	0.003 MG/L	0	0	94	85
Subtotal		**0**	**0**	**204**	**99**

Volatile Organic Compounds

Contaminant	MCL/MRDI	MCL/ MRDL Violations	MCL/ MRDL PWS in Violation	M/R Violations	M/R PWS in Violation
1,1,1-TRICHLOROETHANE	0.2 MG/L	0	0	137	119
1,1,2-TRICHLOROETHANE	0.005 MG/L	0	0	137	119
1,1-DICHLOROETHYLENE	0.007 MG/L	8	2	137	119
1,2,4-TRICHLOROBENZENE	0.07 MG/L	0	0	137	119
1,2-DICHLOROETHANE	0.005 MG/L	0	0	137	119
1,2-DICHLOROPROPANE	0.005 MG/L	0	0	137	119
BENZENE	0.005 MG/L	8	2	137	119
CARBON TETRACHLORIDE	0.005 MG/L	0	0	137	119
CIS-1,2-DICHLOROETHYLENE	0.07 MG/L	0	0	137	119
DICHLOROMETHANE	0.005 MG/L	0	0	137	119
ETHYLBENZENE	0.7 MG/L	0	0	137	119
O-DICHLOROBENZENE	0.6 MG/L	0	0	137	119
STYRENE	0.1 MG/L	0	0	137	119
TETRACHLOROETHYLENE	0.005 MG/L	0	0	137	119
TOLUENE	1 MG/L	0	0	137	119
TRANS-1,2-DICHLOROETHYLENE	0.1 MG/L	0	0	137	119
TRICHLOROETHYLENE	0.005 MG/L	0	0	137	119
VINYL CHLORIDE	0.002 MG/L	0	0	137	119
XYLENES, TOTAL	10 MG/L	0	0	137	119
Subtotal		**16**	**4**	**137**	**119**

Inorganic Compounds -- Individual Violations

Contaminant	MCL/MRDI	MCL/ MRDL Violations	MCL/ MRDL PWS in Violation	M/R Violations	M/R PWS in Violation
ALUMINUM	0.2 MG/L	0	0	0	0
ANTIMONY, TOTAL	0.006 MG/L	0	0	0	0
ARSENIC	0.01 MG/L	234	63	28	10
ASBESTOS	7 MFL	0	0	0	0
BARIUM	2 MG/L	0	0	0	0
BERYLLIUM, TOTAL	0.004 MG/L	0	0	0	0
CADMIUM	0.005 MG/L	0	0	0	0
CHROMIUM	0.1 MG/L	0	0	0	0
CYANIDE	0.2 MG/L	0	0	81	75
FLUORIDE	4 MG/L	110	29	16	5
MERCURY	0.002 MG/L	0	0	0	0
NITRATE	10 MG/L	181	58	295	253
NITRITE	1 MG/L	0	0	33	23
SELENIUM	0.05MG/L	4	1	4	1
SILVER	0.1 MG/L	0	0	0	0
THALLIUM, TOTAL	0.002 MG/L	0	0	0	0
ZINC	5 MG/L	0	0	0	0
Subtotal		**529**	**132**	**457**	**260**

Inorganic Compounds -- Group Violations

Contaminant	M/R Violations	M/R PWS in Violation
Metals		
ALUMINUM	39	37
ANTIMONY, TOTAL	39	37
ARSENIC	39	37
BARIUM	39	37
BERYLLIUM, TOTAL	39	37
CADMIUM	39	37
CHROMIUM	39	37
IRON	39	37
MANGANESE	39	37
MERCURY	39	37
SELENIUM	39	37
SILVER	39	37
THALLIUM, TOTAL	39	37
ZINC	39	37
Minerals		
CHLORIDE	33	31
FLUORIDE	33	31
SULFATE	33	31
TDS	33	31
Subtotal	**72**	**43**

Radionuclides

Contaminant	MCL/MRDI	MCL/ MRDL Violations	MCL/ MRDL PWS in Violation	M/R Violations	M/R PWS in Violation
38-STRONTIUM-90	4 millirems per year			3	2
53-IODINE-131	4 millirems per year			3	2
TRITIUM	4 millirems per year			3	2
COMBINED RADIUM (-226 & -228)	15 pCi/L	75	23	25	7
COMBINED URANIUM	30 ug/L	17	6	25	7
GROSS ALPHA, EXCL. RADON & U	5 pCi/L	77	24	25	7
Subtotal		**169**	**32**	**28**	**8**

Revised Total Coliform Rule

Violation Type	MCL/MRDL	MCL/ MRDL Violations	MCL/ MRDL PWS in Violation	Treatment Technique Violations	Treatment Technique PWS in Violation	M/R Violations	M/R PWS in Violation
MCL, E. COLI, POS E COLI (RTCR)	PRESENCE	1	1				
MONITORING, ROUTINE, MAJOR (RTCR)	N/A					461	155
LEVEL 1 ASSESS, MULTIPLE TC POS (RTCR)	N/A			2	2		
LEVEL 1 ASSESS, TC POS RT NO RPT (RTCR)	N/A			5	5		
CORRECTIVE/EXPEDITED ACTIONS (RTCR)	N/A			1	1		
Subtotal		**1**	**1**	**8**	**8**	**461**	**155**

Surface Water Treatment Rules

Violation Type	Treatment Technique Violations	Treatment Technique PWS in Violation	M/R Violations	M/R PWS in Violation
MONITORING, ROUTINE (IESWTR/LT1), MAJOR	0	0	115	10
MONTHLY COMB FLTR EFFLUENT (IESWTR/LT1)	5	4	0	0
FAILURE MAINTAIN MICROBIAL TREAT.(LT2)	114	9	0	0
SINGLE COMB FLTR EFFLUENT (IESWTR/LT1)	2	1	0	0
CPE FAILURE (EI/LT1 SWTR)	0	0	1	1
Subtotal	**121**	**13**	**116**	**11**

Disinfectants and Disinfection By-Products Rule (DBP1 & DBP2)

Contaminant	MCL/MRDI	MCL/ MRDL Violations	MCL/ MRDL PWS in Violation	Treatment Technique Violations	Treatment Technique PWS in Violation	M/R Violations	M/R PWS in Violation
BROMATE	0.010 MG/L	0	0	0	0	0	0
CARBON, TOTAL	REMOVAL RATIO	0	0	0	0	50	8
DISINFECTANT RESIDUAL	CHLORINE (FREE) 0.2 MG/L, CHLORAMINE 0.5 MG/L	0	0	0	0	508	256
CHLORINE DIOXIDE	0.8 MG/L	0	0	0	0	1	1
CHLORITE	1.0 MG/L	1	1	0	0	1	1
TOTAL HALOACETIC ACIDS (HAA5)	0.060 MG/L	12	5	0	0	71	58
TRIHALOMETHANES (TTHM)	0.080 MG/L	147	56	0	0	112	80
Subtotal		**160**	**57**	**0**	**0**	**743**	**327**

Lead and Copper Rule

Violation Type	Treatment Technique Violations	Treatment Technique PWS in Violation	M/R Violations	M/R PWS in Violation
FOLLOW-UP OR ROUTINE TAP M/R (LCR)	0	0	317	271
INITIAL TAP SAMPLING (LCR)	0	0	18	18
INITIAL/FOLLOW-UP/ROUTINE SOWT M/R (LCR)	0	0	7	5
LEAD CONSUMER NOTICE (LCR)	0	0	112	97
LEAD SERVICE LINE REPLACEMENT (LCR)	0	0	0	0
MPL LEVEL NON-COMPLIANCE (LCR)	0	0	0	0
OCCT/SOWT INSTALL DEMONSTRATION (LCR)	2	2	0	0
OCCT/SOWT RECOMMENDATION/STUDY (LCR)	4	4	0	0
PUBLIC EDUCATION (LCR)	0	0	0	0
WATER QUALITY PARAMETER M/R (LCR)	0	0	102	78
WQP LEVEL NON-COMPLIANCE (LCR)	0	0	0	0
Subtotal	**6**	**6**	**556**	**432**

Groundwater Rule

Violation Type	Treatment Technique Violations	Treatment Technique PWS in Violation	M/R Violations	M/R PWS in Violation
FAILURE ADDRESS DEFICIENCY (GWR)	3	3		
MONITOR GWR TRIGGERED/ADDITIONAL, MAJOR			56	48
MONITOR GWR TRIGGERED/ADDITIONAL, MINOR			6	6
Subtotal	**3**	**3**	**62**	**51**

Consumer Confidence Reports

Violation Type	M/R Violations	M/R PWS in Violation
CONSUMER CONFIDENCE RULE	103	49
Subtotal	**103**	**49**

Public Notification Rule

Violation Type	M/R Violations	M/R PWS in Violation
PUBLIC NOTICE RULE	723	217
Subtotal	**723**	**217**

Appendix A. Return to Compliance by Rule

Data included in Table 3 represent all violations starting prior to the end of 2023 and ending after the beginning of 2023. Violations that returned to compliance in Table 3 are those violations starting prior to the end of 2023 and ending after the beginning of 2023 and returning to compliance in 2023.

Rule	Violation Type Code	Violation Name	Open Violations	Resolved Violations
CONSUMER CONFIDENCE RULE	71	CCR REPORT	103	302
DISINFECTION BY-PRODUCTS	35	FAILURE SUBMIT OEL REPORT FOR HAA5	2	10
DISINFECTION BY-PRODUCTS	35	FAILURE SUBMIT OEL REPORT FOR TTHM	43	52
DISINFECTION BY-PRODUCTS	02	MCL, AVERAGE (CHLORITE)	1	3
DISINFECTION BY-PRODUCTS	02	MCL, LRAA	159	25
DISINFECTION BY-PRODUCTS	27	MONITORING, (DBP) (CHL. DIOXIDE)	1	0
DISINFECTION BY-PRODUCTS	27	MONITORING, ROUTINE (DBP), MAJOR	697	289
GROUNDWATER RULE	45	FAILURE ADDRESS DEFICIENCY (GWR)	3	7
GROUNDWATER RULE	48	FAILURE TO ADDRESS CONTAMINATION (GWR)	0	1
GROUNDWATER RULE	34	MONITOR GWR TRIGGERED/ADDITIONAL,	56	130
GROUNDWATER RULE	34	MONITOR GWR TRIGGERED/ADDITIONAL,	6	23
INORGANIC COMPOUNDS GROUP M/R	03	MONITORING, ROUTINE MAJOR	72	0
INORGANIC COMPOUNDS INDIVIDUAL M/R	03	MONITORING, ROUTINE MAJOR	457	64
INORGANIC COMPOUNDS MCL	02	MCL, AVERAGE	355	14
INORGANIC COMPOUNDS MCL	01	MCL, SINGLE SAMPLE	181	14

Rule	Violation Type Code	Violation Name	Open Violations	Resolved Violations
LEAD AND COPPER RULE	52	FOLLOW-UP OR ROUTINE TAP M/R (LCR)	317	93
LEAD AND COPPER RULE	51	INITIAL TAP SAMPLING (LCR)	18	0
LEAD AND COPPER RULE	56	INITIAL/FOLLOW-UP/ROUTINE SOWT M/R (LCR)	7	3
LEAD AND COPPER RULE	66	LEAD CONSUMER NOTICE (LCR)	112	226
LEAD AND COPPER RULE	58	OCCT/SOWT INSTALL DEMONSTRATION (LCR)	2	5
LEAD AND COPPER RULE	57	OCCT/SOWT RECOMMENDATION/STUDY	4	28
LEAD AND COPPER RULE	53	WATER QUALITY PARAMETER M/R (LCR)	102	11
PUBLIC NOTICE	75	PUBLIC NOTICE RULE LINKED TO VIOLATION	723	2,623
RADIONUCLIDES	02	MCL, AVERAGE	169	5
RADIONUCLIDES	03	MONITORING, ROUTINE MAJOR	28	2
REVISED TOTAL COLIFORM RULE	2C	CORRECTIVE/EXPEDITED ACTIONS (RTCR)	1	9
REVISED TOTAL COLIFORM RULE	2A	LEVEL 1 ASSESS, MULTIPLE TC POS (RTCR)	2	7
REVISED TOTAL COLIFORM RULE	2A	LEVEL 1 ASSESS, TC POS RT NO RPT (RTCR)	5	8
REVISED TOTAL COLIFORM RULE	2B	LEVEL 2 ASSESSMENT, 2ND LEVEL 1(RTCR)	0	3
REVISED TOTAL COLIFORM RULE	1A	MCL, E. COLI, POS E COLI (RTCR)	1	6
REVISED TOTAL COLIFORM RULE	3A	MONITORING, ROUTINE, MAJOR (RTCR)	461	709
SURFACE WATER TREATMENT RULES	29	CPE FAILURE (EI/LT1 SWTR)	1	0
SURFACE WATER TREATMENT RULES	41	FAILURE MAINTAIN MICROBIAL TREAT.(LT2)	114	3

Rule	Violation Type Code	Violation Name	Open Violations	Resolved Violations
SURFACE WATER TREATMENT RULES	CT	LOW CT GREATER THAN 4 HOURS	0	5
SURFACE WATER TREATMENT RULES	38	MONITORING, ROUTINE (IESWTR/LT1), MAJOR	115	22
SURFACE WATER TREATMENT RULES	44	MONTHLY COMB FLTR EFFLUENT (IESWTR/LT1)	5	26
SURFACE WATER TREATMENT RULES	43	SINGLE COMB FLTR EFFLUENT (IESWTR/LT1)	2	18
SYNTHETIC ORGANIC COMPOUNDS M/R	03	MONITORING, ROUTINE MAJOR	204	6
VOLATILE ORGANIC COMPOUNDS M/R	03	MONITORING, ROUTINE MAJOR	137	5
VOLATILE ORGANIC COMPOUNDS MCL	02	MCL, AVERAGE	19	0

Obtaining a Copy of the 2023 Public Drinking Water Annual Compliance Report

As required by the Safe Drinking Water Act, the State of Texas has made the 2023 *Public Drinking Water Annual Compliance Report* available to the public. Interested parties can obtain a copy of the 2023 *Annual Public Water Systems Compliance Report* for Texas by accessing the TCEQ website at http://www.tceq.texas.gov

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