

STATE OF CALIFORNIA

ANNUAL COMPLIANCE REPORT

2019



COVER PHOTO:

Design Plans for a Surface Water Treatment Plant (1955) City of El Centro, Imperial County, California – Prior to the completion of this conventional surface water treatment plant in 1956, the surface water treatment used by the City since 1918 consisted of settling basins and slow sand filters operating at “exceptionally high rates” according to a March 3, 1930 sanitary survey of the public water system. A chlorination system was initially added in 1916, and upgraded/replaced in 1922, 1929, and every few years thereafter to improve operations and reliability, correct deficiencies, increase capacity, take advantage of new technologies, and meet new industry standards of regulatory requirements. Earthquakes in 1940 and 1979 damaged the treatment plant and resulted in major upgrades to the treatment facilities in 1947 (the slow sand filters were replaced with rapid sand filters among other improvements), and 1981-1986 (increased treated water storage capacity, replaced chlorination facility for safety and reliability, added a second contact clarifier, among other improvements). At the same time, the City completed its Water Master Plan updates in 1982, 1994, and 2001, which resulted in three major upgrades to the water system during this period, including a \$30 million expansion project that added and improved major components of the treatment plant in 2010, including lining of the raw water storage ponds, two new contact clarifiers, sludge basins, two new gravity dual media filters, and various basins and supporting infrastructure. The ability of the City of El Centro to plan for and carry out these important projects to protect public health and reliability of safe drinking water illustrates the superior technical, managerial and financial capacity that the public water system has been able to maintain over the decades.

Message from the Drinking Water Program Manager

The Division of Drinking Water (DDW) is pleased to present the 2019 Annual Compliance Report, which summarizes the state of compliance of California's public water systems with the federal Safe Drinking Water Act (SDWA) as well as California's SDWA, for calendar year 2019.

How to get information on the compliance status of California public water systems:

2019 Annual Compliance Report: A copy of this report and the associated data tables will be available to the public by contacting Betsy Lichti at (916) 449-5577, or through the State Water Board website at:

http://www.waterboards.ca.gov/drinking_water/programs/index.shtml

Human Right to Water Portal: DDW maintains a public webpage on the compliance status of public water systems, as part of its implementation of the State Water Board's resolution on the human right to water.

http://waterboards.ca.gov/water_issues/programs/hr2w/index.shtml

Drinking Water Watch: DDW maintains a public webpage on the inventory of public water systems, including violations and enforcement actions, at:

<https://sdwis.waterboards.ca.gov/PDWW/>



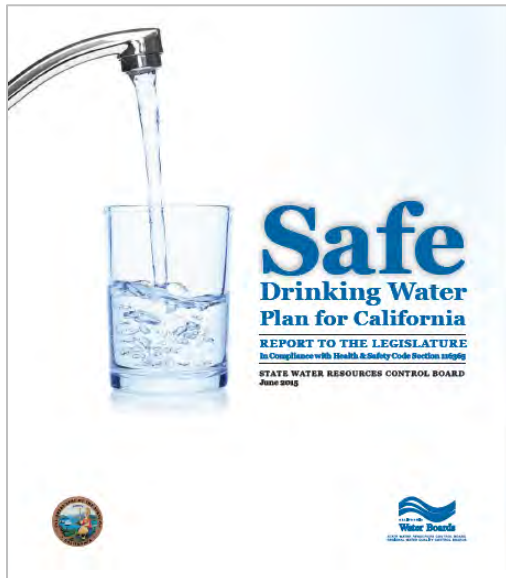
Darrin Polhemus

*Deputy Director, Division of Drinking Water
State Water Resources Control Board*

The violations data for 2019 shows that 95% of public water systems, serving more than 98% of Californians, complied with maximum contaminant levels (MCLs) and treatment techniques (TT) contained in federal rules established under the SDWA.

Our records show that 369 public water systems (PWS), out of a total of 7,403 active public water systems, had one or more violations of an MCL or TT in 2019. Of these, over 91% are the smaller public water systems - including noncommunity water systems and community water systems having less than 500 service connections. DDW takes appropriate progressive enforcement to ensure that these public

water systems are on a path to compliance with the SDWA.



The State Water Board, through programs such as the Drinking Water State Revolving Fund, the Safe and Affordable Drinking Water Fund, and funding from state bonds, helps to provide financing through loans or grants for planning or construction projects to address water quality problems to provide an adequate and affordable supply of safe drinking water.

In 2016, DDW gained authority to mandate water system consolidation as a strategy to reduce the number of PWS that are consistently unable to provide safe drinking water. Eighteen PWS are currently in the process of mandatory consolidation, with five of these electing to do so voluntarily. For more information about the status of

consolidation projects, please visit our website

https://www.waterboards.ca.gov/drinking_water/programs/compliance/index.html

DDW provides assistance and resources to PWS to help ensure that they maintain long-term sustainability and capacity to maintain compliance with drinking water laws and regulations. Information about DDW's technical, managerial, and financial capacity development program, including the FY 2020-2022 Capacity Development Strategy, is available at our website

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/TMF.html.

DDW is working on updating the Safe Drinking Water Plan for California, which provides the State Water Board's strategy for ensuring that all Californians have access to safe affordable drinking water. For more information about the Safe Drinking Water Plan as well as a copy of the 2015 Plan, please visit our website

https://www.waterboards.ca.gov/drinking_water/safedrinkingwaterplan/.

DDW continues to work with all public water systems to ensure that they achieve compliance with the SDWA and provide water that is pure, wholesome and potable to their customers.

Executive Summary

The State Water Resources Control Board (State Water Board) Division of Drinking Water (DDW) is the primacy agency responsible for the administration and enforcement of the federal Safe Drinking Water Act (SDWA) requirements in California. The State Water Board has adopted statutes and regulations to implement the requirements of the SDWA. The State Water Boards' regulatory responsibility over public water systems includes (1) issuance of operating permits, (2) conducting inspections and sanitary surveys, (3) monitoring for compliance with regulations, and (4) taking enforcement action to compel compliance when violations are identified.

Throughout the year and as part of DDW's regulatory oversight responsibilities, Drinking Water Program staff from DDW's 24 District offices and 30 County health departments (delegated by the State Water Board to undertake regulatory oversight on behalf of DDW) document and record violations incurred by public water systems. Enforcement actions are issued by the Drinking Water Program to address these violations. The data is compiled and submitted to the United States Environmental Protection Agency (USEPA) on a quarterly basis.

This report presents an accounting of the violations record for the calendar year 2019. USEPA requires states to issue this Annual Compliance Report by July 1st of each year and make the report available to the public. USEPA requires that the Annual Compliance Report summarize the compliance status for the following rules from the National Primary Drinking Water Regulations:

- Chemical (Phase II/V) Rule:
 - Inorganic contaminants (IOC)
 - Synthetic organics (SOC)
 - Volatile organics (VOC)
- Radionuclide Rule (RAD)
- Total Coliform Rules (RTCR)
 - Total Coliform Rule (TCR)
 - Revised TCR (rTCR)
- Disinfectants and Disinfection By-Products Rule (DBPR)
 - Stage 1 DBPR
 - Stage 2 DBPR
- Surface Water Treatment Rules (SWTR)
 - Surface Water Treatment Rule
 - Filter Backwash Rule (FBR)
 - Interim Enhanced SWTR (IESWTR)
 - Long Term 1 Enhanced SWTR (LT1)
 - Long Term 2 Enhanced SWTR (LT2)
- Groundwater Rule (GWR)
- Lead and Copper Rule (LCR)
- Public Notification Rule (PN)
- Consumer Confidence Report Rule (CCR)
- Variances and exemptions (V/E)

The following types of violations are included in this report:

- ✓ Maximum contaminant level (MCL) violations
- ✓ Maximum residual disinfectant level (MRDL) violations
- ✓ Treatment technique requirement (TT) violations
- ✓ Significant monitoring and/or reporting requirements (M/R) violations
- ✓ Variances and exemption violations
- ✓ Recordkeeping violations
- ✓ Significant public notification requirement violations
- ✓ Significant consumer confidence report (CCR) notification violations

This report also presents an accounting of violations of state-regulated chemicals and other state SDWA requirements that are recorded by DDW; these are summarized separately in the report as required by USEPA guidelines. The discussion, figures and summaries provided herein refer to the National Primary Drinking Water Regulations unless stated otherwise.

In 2019, a total of 2,309 violations of the National Primary Drinking Water Regulations were incurred by public water systems. Of these violations, 1,126 were MCL/TT violations and 1,183 were M/R violations. Figure ES-1 summarizes the number of violations recorded in 2019 per rule.

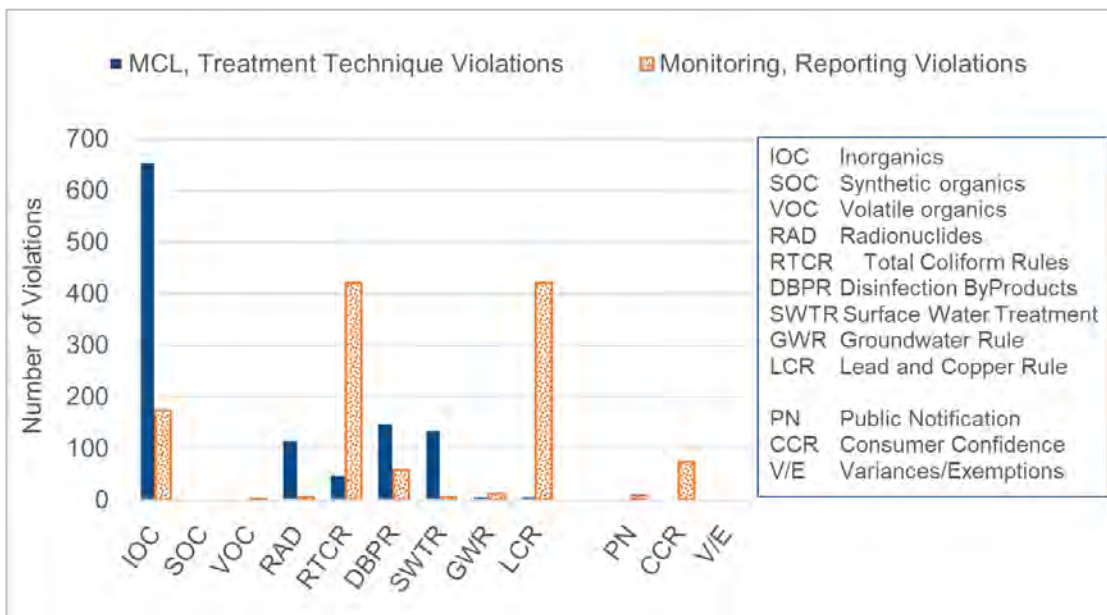


Figure ES-1 Violations Incurred by Public Water Systems in 2019

Inorganic contaminant MCL exceedances accounted for the largest number of violations. Nitrate and arsenic MCL violations were the major contributors to the high number of IOC MCL violations. Of the monitoring and reporting violations, more than 71% were due to noncompliance with the Lead and Copper Rule or the Revised Total Coliform Rule monitoring requirements.

PWS incurred the largest number of MCL/TT violations for inorganic contaminants, followed by violations of standards for DBPR, radionuclides, and SWTR. They incurred the largest number of monitoring/reporting violations for Lead and Copper Rule and the Total Coliform Rule.

Figure ES-2 below summarizes the number of PWS that incurred violations of each rule in 2019. Please note that a PWS may have incurred violations of more than one rule.

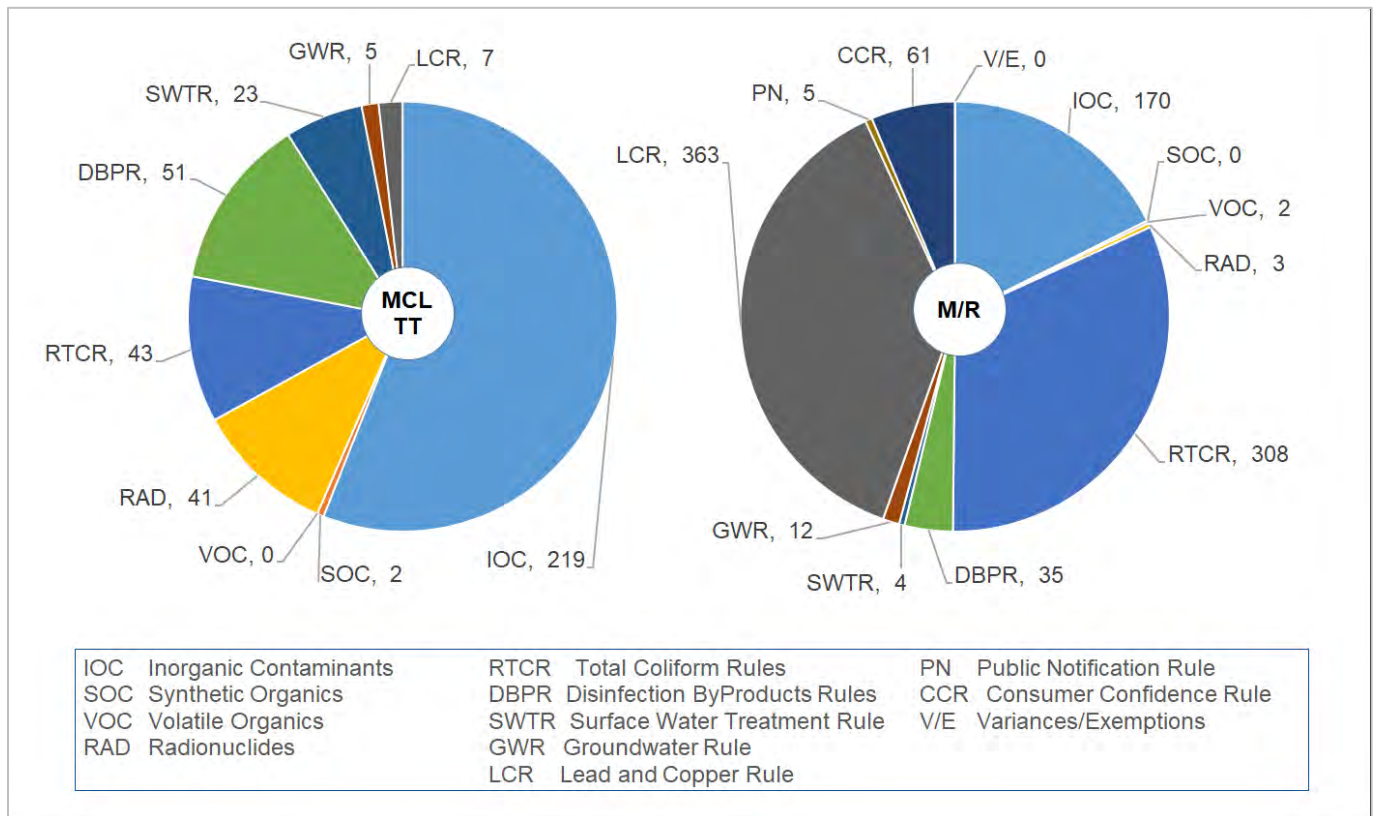


Figure ES-2 Number of public water systems with violations in 2019 of the MCL or treatment technique (left), and of the monitoring or reporting requirements (right)

Figure ES-3 shows the classification and sizes of PWS (as represented by the number of service connections) that incurred one or more MCL/TT violations in 2019. Community water systems (CWS) that incurred at least one MCL/TT violation in 2019 represented about 7% of the total number of active CWS in the state. About 94% of the MCL/TT violations were incurred by CWS that serve fewer than 500 service connections, nontransient noncommunity water systems (NTNC) such as schools, or transient noncommunity water systems (TNC) such as campgrounds.

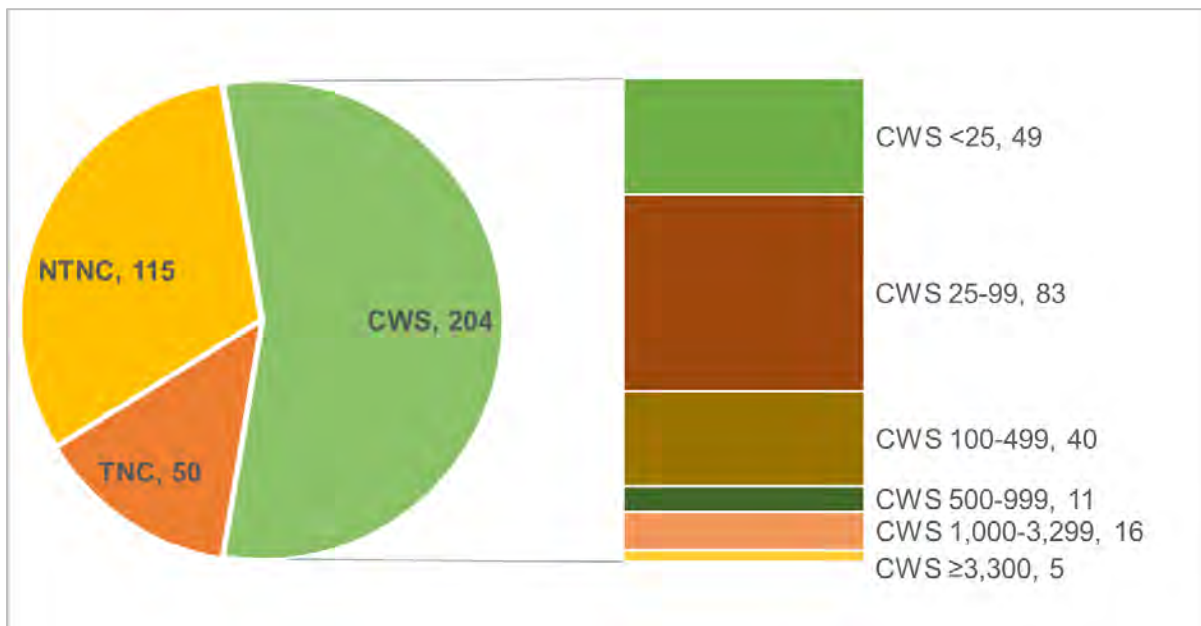


Figure ES-3 Number of PWS by classification and size of (as service connections) with MCL or TT violations in 2019. CWS = Community Water System; TNC = Transient Noncommunity Water System; NTNC = Nontransient Noncommunity Water System. See Section 1.3 for definitions of these different types of public water systems.

Table ES-1 summarizes the number of MCL and TT violations of the federal SDWA that have been documented and reported for calendar year 2019 and compares the 2019 numbers with the previous year's numbers. An estimate of the population served by PWS that failed an MCL or TT standard in 2019 is provided, based on the total estimated population-served reported by PWS. Please note that the population estimates of water systems is not intended to represent the number of people impacted by the violation since some violations may impact only a portion of a very large system.

Table ES-1 Violations of Maximum Contaminant Levels (MCLs) or Treatment Techniques (TT), Comparison between 2018 and 2019

Category	Year 2018 MCL/TT Violations	Year 2018 Estimated Population	Year 2019 MCL/TT Violations	Year 2019 Estimated Population	Change in Number of Violations
Inorganic Contaminants	742	147,446	656	99,770	-86
Synthetic Organic Contaminants	5	3,613	5	530	0
Volatile Organic Contaminants	0	0	0	0	0
Radionuclide Rule	134	16,517	117	14,621	-17
Revised Total Coliform Rule	30	126,206	48	24,927	18
Disinfection By-Products Rule	202	294,748	149	137,569	-53
Surface Water Treatment Rules	176	4,089,627(a)	136	9,049	-40
Groundwater Rule	3	257,561	7	259,791	4
Lead and Copper Rule	8	10,331	8	9,857	0
Totals (b)	1,300	4,936,750	1,126	547,361	-174

(a) The large population is due to a single violation at a PWS which serves more than 4 million people. Please see the 2018 Annual Compliance Report for details.

(b) The total estimated population is less than the sum of the populations for each violation category, since a PWS may have one or more violations in one or more violation category

Table ES-2 below summarizes the number of violations of the federal SDWA rules for other violation reporting categories for calendar year 2019, including violations of public notification and Consumer Confidence Report (CCR) requirements, the number of public water systems that incurred the violation, as well as a comparison to the previous year's numbers.

Table ES-2 Other Violation Reporting Categories

Violation Category	<u>Year 2018</u> Number of Violations	<u>Year 2018</u> Number of PWS	<u>Year 2019</u> Number of Violations	<u>Year 2019</u> Number of PWS	Change in Number of Violations
Public Notification Rule	30	13	9	5	-21
Consumer Confidence Report Notification	175	136	74	61	-101
Variances and Exemptions	2	2	0	0	-2

Table ES-3 below summarizes the number of MCL violations of California-specific regulated chemicals, and the estimated population served by the PWS incurring the violations. California initiated implementation of the MCL for 1,2,3-trichloropropane (123TCP) in 2018, and PWS began to conduct initial quarterly monitoring. The large increase in SOC MCL violations shown in Table ES-3 was due to implementation of the 123TCP state drinking water standard.

California's Total Coliform Rule (TCR) regulations have not yet been updated to reflect the federal Revised Total Coliform Rule (rTCR), so the Drinking Water Program staff are tracking violations for both the rTCR and TCR. The summary of violations of the rTCR is presented in Table ES-1, and the violations of California's TCR Total Coliform MCL (non-acute) is presented in Table ES-3 below. The number of TCR Total Coliform MCL violations for 2019 is similar to those incurred by PWS in previous years.

Table ES-3 Violations of California-specific Maximum Contaminant Levels (MCL) and Treatment Techniques (TT)

MCL Violation Category	Year 2018 MCL & TT Violations	Year 2018 Estimated Population	Year 2019 MCL & TT Violations	Year 2019 Estimated Population	Change in Number of Violations
Primary Inorganic Contaminants	10	231	8	231	-2
Synthetic Organic Contaminants (SOCs)	345 (b)	636,707	452 (b)	494,261	107
Volatile Organic Contaminants (VOCs)	0	0	0	0	0
Secondary Standards	20	3,433	22	1,081	2
CA Total Coliform Rule (TCR) – Total Coliform MCL	388	625,803	315	408,241	-73
Totals (a)	763	1,108,029	797	902,935	34

(a) The total estimated population is less than the sum of the populations of each violation category, since a PWS may have violations in more than one category.

(b) Due to violations of 1,2,3-trichloropropane (123TCP) MCL. See Section 3.13.

In 2019, the Drinking Water Program issued approximately 2,600 enforcement actions to public water systems for failing to comply with either federal or state drinking water regulations. An enforcement action addresses one or more violations, and prescribes public notification requirements as necessary, corrective actions, and deadlines that the public water system must meet in order to be considered “returned to compliance” (RTC).

Figure ES-4 shows the number of public water systems that have returned to compliance for a federal rule for each water system category/size, compared with the number of public water systems that had incurred one or more MCL/TT violations in 2019. The systems that had an RTC during 2019 may have had the initial violation in 2019 or in prior years. Public water systems are required to provide routine (typically quarterly) public notification of MCL/TT violations that are on-going and are not resolved.

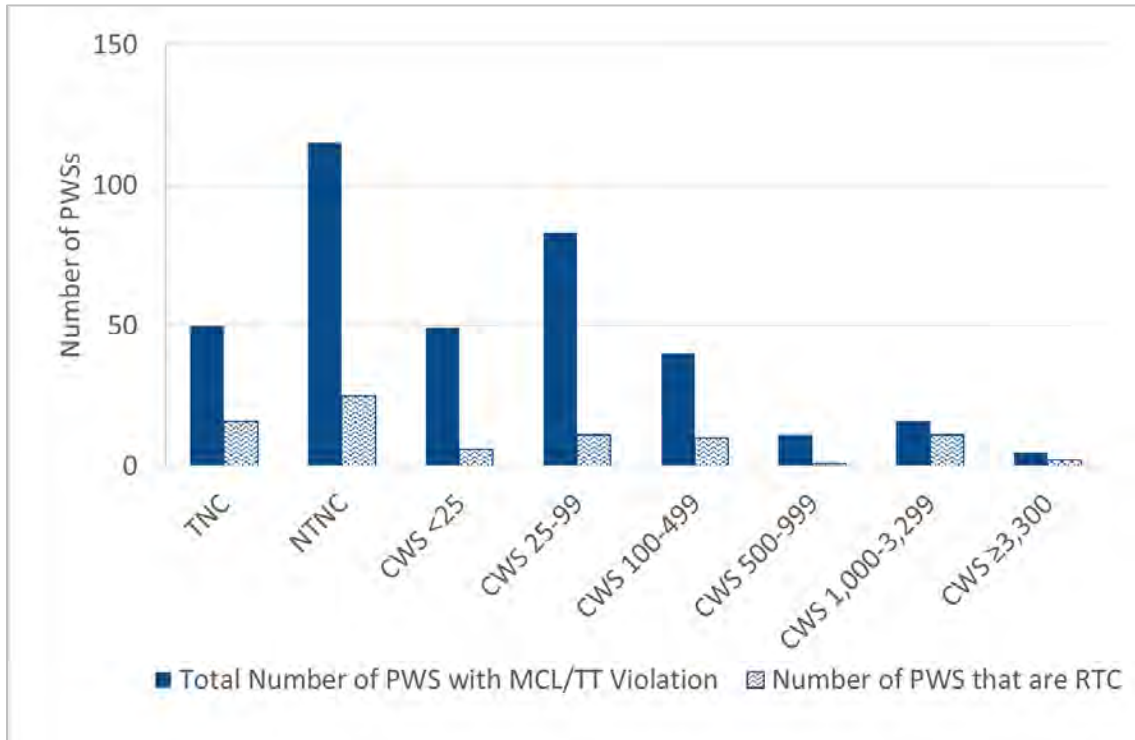


Figure ES-4 Number of public water systems that have returned to compliance for an MCL/TT violation incurred in 2019. PWS are categorized by type/CWS size (number of service connections)

Overall, 20% (up from 16% last year) of public water systems have returned to compliance for an MCL or TT violation incurred in 2019 or in prior years. DDW continues to monitor the compliance status of public water systems, working to identify and track public water systems that do not meet drinking water standards and provide technical assistance as well as take appropriate and effective enforcement measures and other addressing actions, to ensure that these public water systems are working towards a path of compliance with the SDWA.

This report also includes data on violations of the California SDWA for calendar year 2019, which includes the regulation of several chemicals such as perchlorate and 1,2,3-trichloropropane, as well as other state requirements such as certification of distribution system operators, which are not included in federal regulations. Violations of state drinking water standards are discussed and accounted for separately in Section 3.13.

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Chapter 1. Overview of the Drinking Water Program

1.1. Federal Program

The USEPA 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, USEPA 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 Maximum Residual Disinfectant Levels (MRDLs). For some regulations, USEPA establishes Treatment Techniques (TT) in lieu of an MCL to control unacceptable levels of contaminants in water. The USEPA also regulates how often public water systems (PWS) monitor their water for contaminants and report the monitoring results to the states or USEPA. Generally, the larger the population served by a water system, the more extensive and frequent are the monitoring and reporting (M/R) requirements. In addition, USEPA requires community water systems to monitor for unregulated contaminants to provide data for future regulatory development. Finally, USEPA requires PWS to notify their consumers when they have violated these regulations. The 1996 Amendments to the SDWA among other things 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 allows states, tribes and territories to seek USEPA approval to administer their own PWSS Programs. The authority to run a PWSS Program is called **primacy**. For a state to receive primacy, USEPA must determine that the state meets certain requirements laid out in the SDWA and the federal 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.

1.2. California Program

California's Drinking Water Program was created in 1915, when the California Bureau of Sanitary Engineering was established by the California State Board of Health. The bureau's primary duty at that time was to prevent and eliminate water-borne diseases.

Two years after the 1974 federal SDWA was passed, the state adopted the California Safe Drinking Water Act. The state's SDWA has two main goals: to continue the state's Drinking Water Program, and to be delegated primacy by USEPA with authority for enforcement of the federal SDWA. California was first granted primacy for implementation of the federal SDWA on June 2, 1978.

The Drinking Water Program was transferred in its entirety from the California Department of Public Health to the State Water Resources Control Board (State Water Board) on July 1, 2014. The State Water Board Division of Drinking Water (DDW) oversees implementation of the SDWA over public water systems within California. The State Water Board has further delegated regulatory authority through a delegation agreement with County Environmental Health Departments. Currently, 30 counties in California have retained primacy as a Local Primacy Agency (LPA) under delegation agreements issued and signed in 2014 and amended in 2017. These LPAs oversee SDWA compliance of small PWS that serve fewer than 200 service connections within their county jurisdictions.

As shown in Figure 1, DDW has 24 District Offices under the Field Operations Branch located throughout the state that oversee SDWA compliance of PWS. For more information, visit the DDW webpage here

https://www.waterboards.ca.gov/drinking_water/programs/documents/lpa_contact_info.pdf

State Water Resources Control Board
Division of Drinking Water

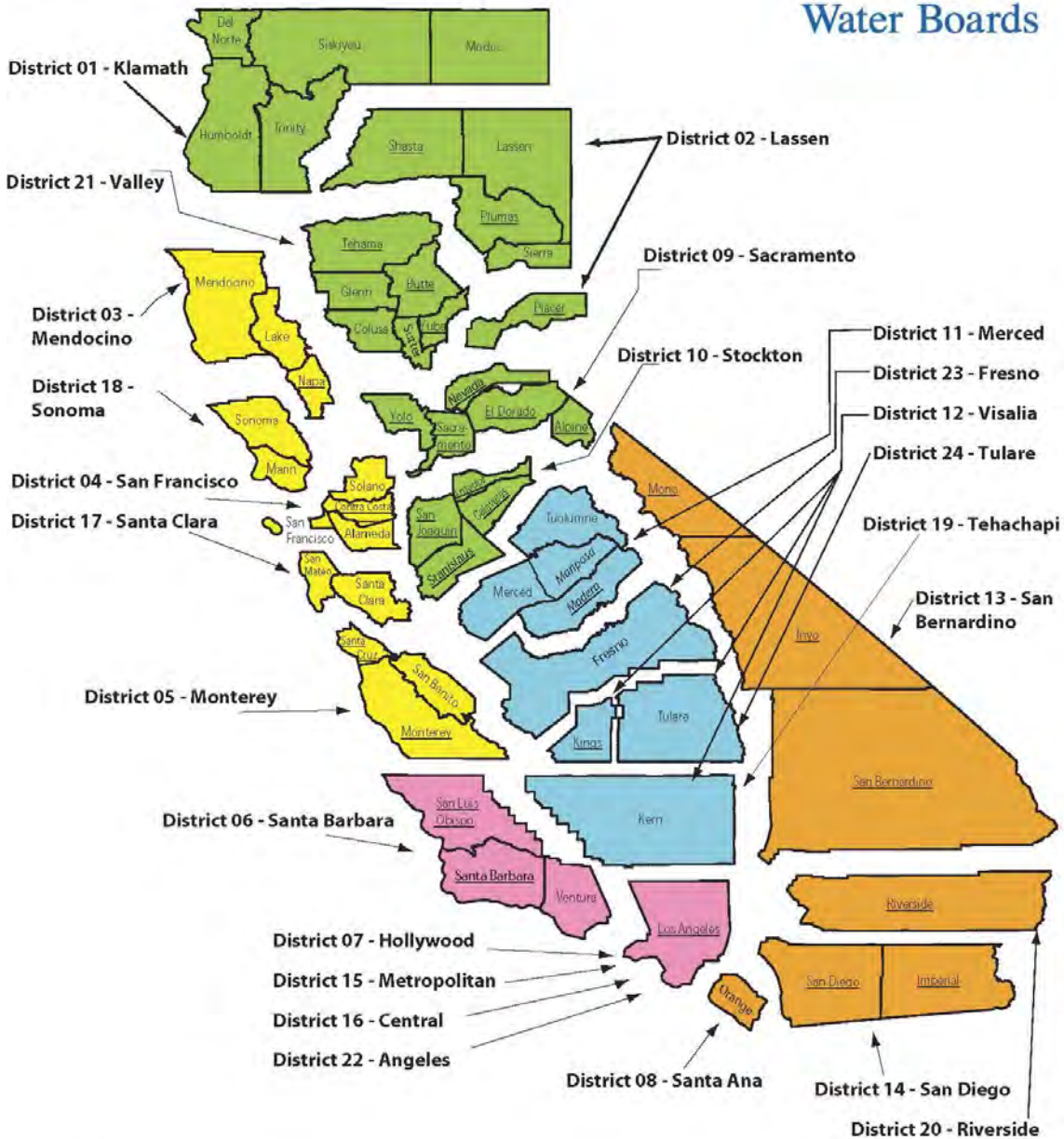


Figure 1 Division of Drinking Water (DDW) Field Operations Branch District Offices. Counties that are Local Primacy Agencies are underlined

1.3. Public Water Systems

A public water system (PWS) is defined as a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections, or regularly serves at least 25 individuals daily for at least 60 days out of the year.

PWS are divided into three principle classifications: community water systems (CWS), nontransient noncommunity water systems (NTNC), and transient noncommunity water systems (TNC). Wholesale water systems are also regulated as public water systems although they may not serve water directly to individual customers or service connections.

Community water systems serve cities, towns and other areas with at least 15 service connections or 25 yearlong residents. Examples include water districts, cities, mutual water companies, mobile home parks and farm labor housing.

Nontransient noncommunity systems are systems that provide water to the same non-residential users daily for at least 180 days out of the year but not to at least 25 year-long residents. Examples include day cares, schools, and places of employment.

Transient noncommunity water systems are systems that provide water for a population that is transient in nature, serving 25 or more people per day for at least 60 days per year. Examples include campgrounds, parks, ski resorts, roadside rest areas, churches, gas stations and motels.

A **wholesale water system** means an entity that supplies water to one or more public water systems for resale. These wholesale water systems are regulated as community water systems.

DDW and LPAs together regulate a total of 7,403 PWS in California. LPAs are responsible for regulatory oversight of approximately 3,440 small PWS in 30 counties. This regulatory responsibility includes tasks such as issuance of operating permits, conducting sanitary surveys, monitoring for compliance with regulations, and taking enforcement actions to compel compliance when violations are identified, and reporting on those actions taken.

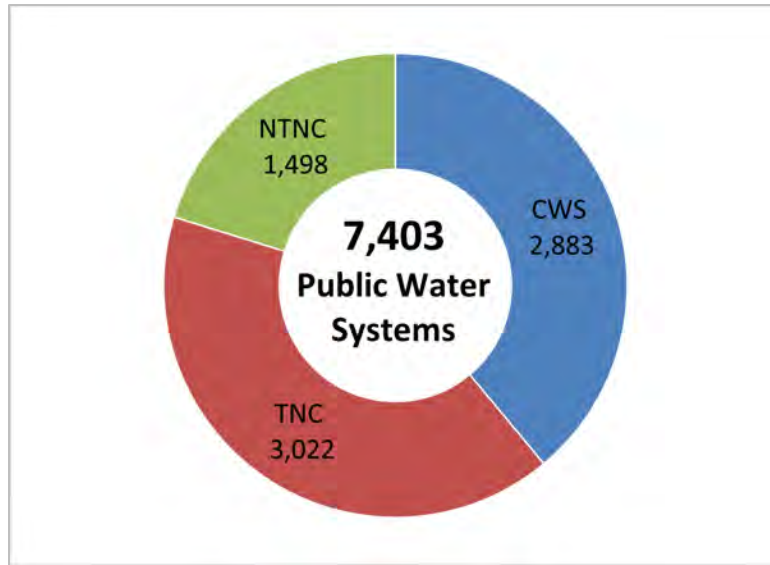


Figure 2 Number of public water systems by system classification (as of May 2020)

Figure 2 shows the number of public water systems in each of the classifications described. Community water systems are further classified by size. Regulations sometimes specify different requirements, such as monitoring requirements, for different sizes and types of water systems.

Table 1 Number of Community Water Systems Statewide (as of May 2020)

Number of Service Connections	Typical Population Served	Number of Water Systems	Total of Population Served
3,300 or more	10,000 or more	405	36,444,580
1,000 to 3,299	3,000 to 10,000	267	1,755,940
500 to 999	1,500 to 3,000	144	418,444
100 to 499	300 to 1,500	587	477,556
25 to 99	75 to 300	943	178,581
Fewer than 25	25 to 75	487	47,915
Wholesale Water Systems	various	50	
Total number of systems		2,883	

Table 1 shows how many water systems are in each size range listed, categorized by the number of connections served by the water system, and the total population that is served by water systems of that size range. Population

figures are based on information submitted by public water systems. Public water systems use a variety of methods to estimate the population served that are typically not derived from census counts. Wholesale water systems are public water systems that delivers some or all of its finished drinking water to another public water system. Some wholesale water systems also directly serve finished drinking water to customers through a small number of service connections. The population directly served by these wholesale water systems is reflected in Table 1 under each service connection category.

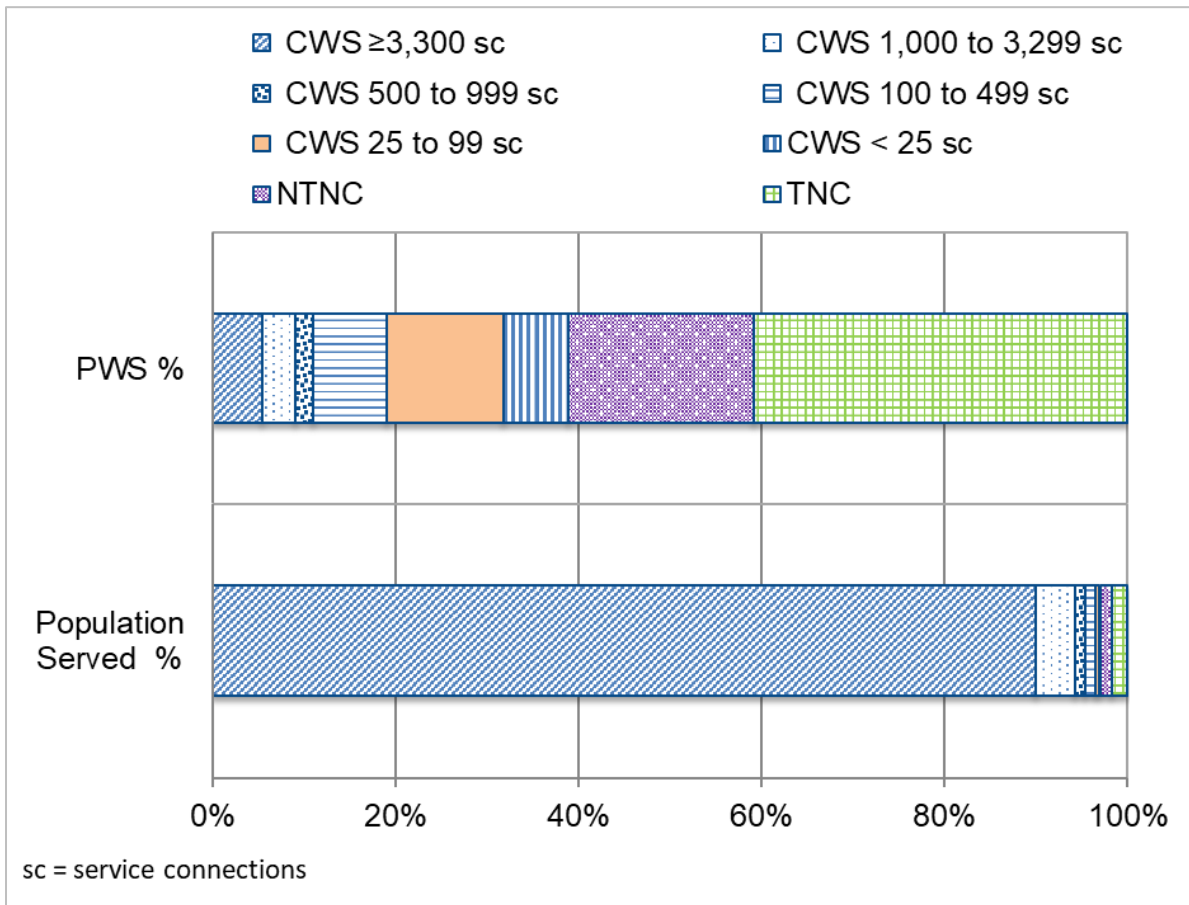


Figure 3 Categories of public water systems by size (number of service connections) and population served

Figure 3 shows that while community water systems serving 3,300 or more service connections make up about 5% of the total number of PWS, they provide water to 90% of the population served by PWS.

1.4. Sources of Drinking Water

Figure 4 shows the primary types of water sources that public water systems use to supply drinking water to their customers. Some regulations are applied differently for surface water and groundwater sources, and there are specific regulations in place that pertain to the treatment of surface water.

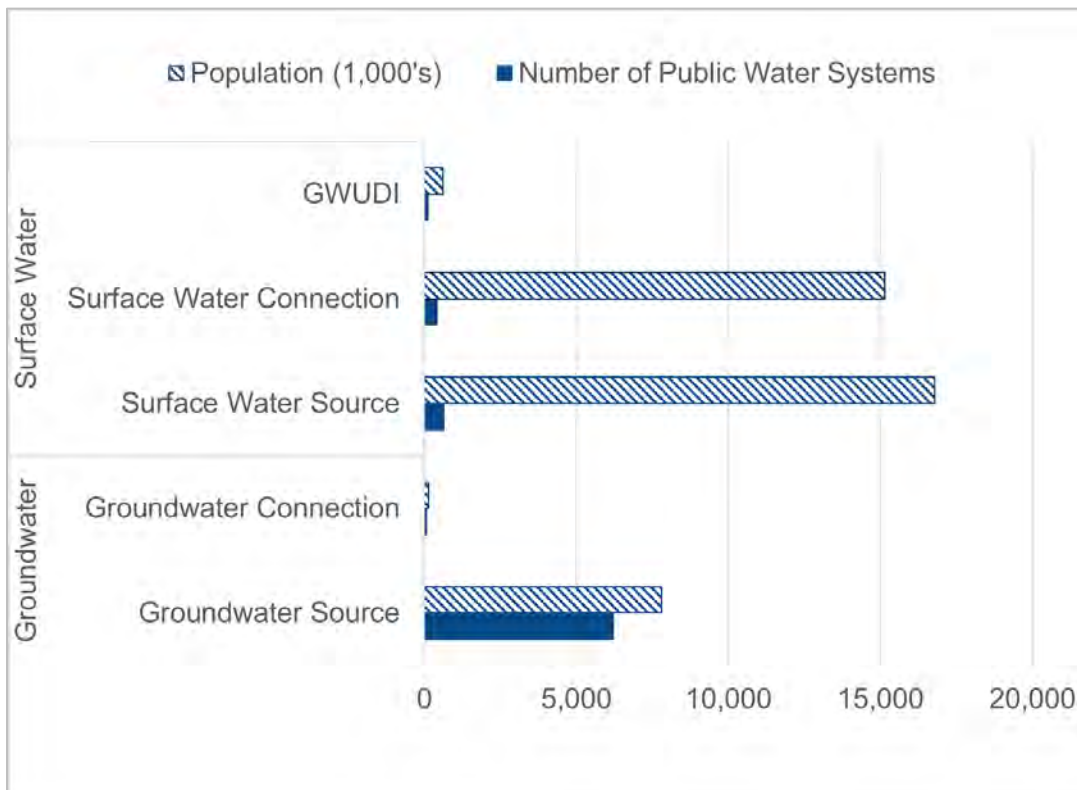


Figure 4 Primary sources of drinking water used by public water systems

Most public water systems in California use groundwater as their primary source of supply, but those that use surface water serve most of the population. Public water systems that use both groundwater sources and surface water sources are categorized as surface water systems by convention. GWUDI sources are groundwater under the direct influence of surface water and are categorized as surface water per regulations. Many public water systems do not operate their own sources and rely on interconnections with neighboring public water systems to supply potable drinking water to their customers and are classified as consecutive systems with a source type matching the wholesale provider.

Although about 85% of public water systems use only groundwater as their primary source of water, these water systems serve less than 20% of the population. Fifteen percent of public water systems use surface water sources or a combination of surface water and groundwater, and these public water systems supply 80% of the population.

1.5. Safe Drinking Water Act

Under the 1974 federal SDWA and subsequent reauthorizations in 1986 and 1996, USEPA sets national limits on contaminant levels in drinking water for human consumption to protect the health of consumers. These limits are known as maximum contaminant levels (MCL) and maximum residual disinfectant levels (MRDL). For some regulations, treatment techniques (TT) or action levels (AL) have been established in lieu of an MCL as a means to control levels of specific contaminants in drinking water. Water systems are also regulated as to the frequency of monitoring and the reporting (M/R) of water quality or rule compliance. Systems can incur a violation for failure to collect required samples during a monitoring period (monitoring violations) or failure to report sample results or rule compliance in the required manner (reporting violations).

The SDWA requires PWS to notify their consumers when a drinking water standard has been violated, including MCL, TT, AL and M/R requirements. This notification is required to include:

- A clear and understandable explanation of the nature of the violation
- The potential adverse health effects from the violation
- The steps that the water system is undertaking to correct the violation
- The possible use of alternative water supplies available during the violation

There are three basic types of violations that a water system can incur:

- Violation of a Maximum Contaminant Level (MCL): Primary drinking water standards have been adopted by the State Water Board for contaminants that may be found in drinking water supplies in California. These limits are known as MCLs and are necessary to protect the public from acute and chronic health risks associated with consuming water containing these contaminants.

- Violation of a Treatment Technique (TT): Treatment techniques and performance standards have been adopted as a means to provide safe drinking water in instances where adoption of a specific MCL may be impractical or impossible. Treatment techniques are a proven means to reduce the risk from various contaminants by closely controlling the treatment processes.
- Violation of a Monitoring and/or Reporting Requirement (M/R): A water system is required to monitor and verify that the levels of contaminants present in the drinking water supplies do not exceed an MCL. A monitoring violation occurs when a water system fails to have its water tested as required within the required time frame. A reporting violation occurs when a water system fails to report test results in a timely manner to the regulatory agency or fails to provide certification that mandated information was provided to the public, such as through the issuance of a public notice or the annual Consumer Confidence Report. A water system that fails to perform required monitoring for a group of chemicals (such as synthetic organic chemicals or volatile organic chemicals) would incur a monitoring violation for each of the individual chemicals within the group.

1.6. Annual Compliance Report

Section 1414(c)(3) of the federal Safe Drinking Water Act requires states to provide USEPA and the public with an annual report of violations of the federally adopted primary drinking water standards. This report provides the numbers of violations in each of six categories: MCLs, MRDLs, treatment techniques, variances and exemptions, significant monitoring and/or reporting violations, and significant public or consumer notification violations. Significant monitoring and/or reporting violations occur when no samples are taken, or no results are reported during a compliance period. A significant public notification or CCR notification violation occurs when a public water system completely fails to provide the required notification to its customers or to the public.

California adopted more stringent MCLs than the federally adopted primary drinking water standards for several contaminants, summarized in Table 2. Reported MCL violations for contaminants listed in this table are violations of the more stringent California standards.

Table 2 Regulated Contaminants Where California MCLs Are More Stringent Than Federal MCLs

	<i>CA MCL</i>	<i>Federal MCL</i>	<i>Units</i>
<i>Inorganic Contaminants:</i>			
• Barium	1	2	mg/L
• Chromium	50	100	ug/L
• Cyanide	150	200	ug/L
• Fluoride	2	4	mg/L
<i>Synthetic Organic Contaminants</i>			
• Atrazine	1	3	ug/L
• Carbofuran	18	40	ug/L
• Chlordane	0.1	2	ug/L
• Di (2-ethylhexyl) phthalate	4	6	ug/L
• Heptachlor	0.01	0.4	ug/L
• Heptachlor Epoxide	0.01	0.2	ug/L
• Methoxychlor	30	40	ug/L
• Oxamyl	50	200	ug/L
<i>Volatile Organic Contaminants</i>			
• Benzene	1	5	ug/L
• Carbon Tetrachloride	0.5	5	ug/L
• 1,4-Dichlorobenzene	5	75	ug/L
• 1,2-Dichloroethane	0.5	5	ug/L
• 1,1-Dichloroethylene	6	7	ug/L
• cis-1,2-Dichloroethylene	6	70	ug/L
• trans-1,2-Dichloroethylene	10	100	ug/L
• Ethylbenzene	300	700	ug/L
• Monochlorobenzene	70	100	ug/L
• Toluene	150	1000	ug/L
• 1,2,4 Trichlorobenzene	5	70	ug/L
• Vinyl Chloride	0.5	2	ug/L
• Xylenes	1,750	10,000	ug/L

This report does not address private domestic wells serving individual homes and facilities that are not public water systems, including state small water systems (water systems having between 5 and 14 service connections) that are regulated under the California SDWA.

1.7. Data Presented in This Report

The data presented in this Annual Compliance Report is from the state's Safe Drinking Water Information System (SDWIS-State), the database of record for the inventory and compliance data required to support California's Drinking Water Program and reporting to USEPA. In past years, DDW used data downloaded from USEPA (SDWIS/FED) that in turn was previously uploaded by DDW to USEPA. Because of the complex data handling process between DDW and USEPA, DDW has found inaccuracies in the information retrieved from SDWIS/FED. Additionally, recent increases in staffing of DDW's Data Management Unit allowed for improved technical support for reporting and data cleanup activities. While DDW continues efforts to improve the quality of the data reported to USEPA to ensure data extractions from USEPA provide accurate and useful information, DDW has determined that data retrieved from SDWIS-State is the most accurate data set to use as the basis of this and future Annual Compliance Reports.

DDW continues to upload data each quarter from SDWIS-State to USEPA. The data submitted include, but are not limited to, PWS inventory information; information on MCL, MRDL, monitoring and reporting, and treatment technique violations for regulated contaminants; violations concerning public and consumer notification; information on enforcement activities related to these violations; and data associated with the Lead and Copper Rule. The USEPA Regional offices also report federal enforcement actions taken against state-regulated public water systems.

The 2019 Annual Compliance Report lists violations by the following categories:

1. Inorganic Contaminants (IOC)
2. Synthetic Organic Contaminants (SOC)
3. Volatile Organic Contaminants (VOC)
4. Radionuclide Contaminants (RAD)
5. Revised Total Coliform Rule (rTCR)
6. Disinfectants and Disinfection By-Products Rule (DBPR), including Stage 1 DBPR and Stage 2 DBPR
7. Surface Water Treatment Rule (SWTR), including the Filter Backwash Rule, Interim Enhanced SWTR, Long Term 1 Enhanced SWTR, and Long Term 2 Enhanced SWTR
8. Groundwater Rule (GWR)

- 9. Lead and Copper Rule (LCR)
- 10. Public Notification Rule (PN)
- 11. Consumer Confidence Report Rule (CCR)
- 12. Variances and exemptions (V/E)

1.8. California-Specific Drinking Water Standards

This report provides a separate summary and accounting of violations of state-regulated contaminants that are not federally regulated. A list of these California-specific regulated contaminants is presented in Table 3. Discussion of California-specific violations is provided in Section 3.13.

Table 3 Contaminants Additionally Regulated Under the California SDWA

- *Inorganic Contaminants:*
 - Perchlorate
 - Aluminum
 - Nickel
- *Synthetic Organic Contaminants*
 - Bentazon
 - Molinate
 - Thiobencarb
 - 1,2,3-Trichloropropane
- *Volatile Organic Contaminants*
 - Methyl tert-butyl ether (MTBE)
 - 1,1-Dichloroethane
 - 1,3-Dichloropropene
 - 1,1,2,2-Tetrachloroethane
 - Trichlorofluoromethane
 - 1,1,2-Trichloro-1,2,2-trifluoroethane

Additionally, DDW maintains violation records of California-specific drinking water standards, including the following:

1. CA TCR - California's TCR regulations are slightly different than the federal TCR regulations, such as requirements for weekly coliform monitoring. Additionally, the state TCR regulations have not yet been updated to reflect the federal Revised Total Coliform Rule (rTCR), so the Drinking Water Program staff is tracking violations for both the rTCR and state TCR.

2. Secondary Standards - California regulates the contaminants or water quality constituents in the following table for aesthetic effects, including taste, odor, and appearance. All CWS must monitor for these contaminants on a regular basis to determine compliance with Secondary MCLs, which are also called “consumer acceptance contaminant levels” (or “consumer acceptance contaminant level ranges” for certain constituents).

Contaminants with Secondary MCLs:

- | | |
|----------------------------------|--------------------------|
| • Aluminum | • Silver |
| • Color | • Thiobencarb |
| • Copper | • Turbidity |
| • Foaming Agents (MBAS) | • Zinc |
| • Iron | • Total Dissolved Solids |
| • Manganese | • Specific Conductance |
| • Methyl-tert-butyl ether (MTBE) | • Chloride |
| • Odor | • Sulfate |

3. The Drinking Water Program collects violation information for the following state requirements:
 - Operator Certification – failure of a PWS to have an operator certified by the state at the appropriate certification level.
 - Waterworks Standards – failure to comply with the California Waterworks Standards
 - Permit – operating a water system without a permit, or violation of a permit provision
 - Annual Report – failure to submit an annual report to the Drinking Water Program
 - Cross-Connection Control – failure to comply with the Cross-Connection Control Regulations
 - Treatment Technique – failure to provide treatment as specified in the operating permit
 - Regulatory Reporting – failure to submit a compliance report to the Drinking Water Program, including those related to the school lead sampling program (California Health and Safety Code (CHSC) section 116277).
 - Lead Service Line Inventory – failure to comply with the requirements of CHSC section 116885

Chapter 2. Review of 2019 Violation Data

Public water systems must conduct monitoring on a routine basis for regulated contaminants and to satisfy treatment technique requirements to document that the water provided meets the drinking water standards. PWS must submit the data and compliance information to DDW and LPAs as the results are received and must summarize and report the compliance status on a regular basis as prescribed by the regulations. DDW and LPAs track the violations incurred by PWS in DDW's SDWIS-State database. A summary of the major violations described below are summarized in this section. Detailed tables of violations are included in the Appendix of the report.

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

2.1. Overview of Violations for Calendar Year 2019

In 2019, 2,309 violations were incurred by public water systems, with 1,159 violations for failing to meet an MCL/TT and 1,091 violations for failing to meet a monitoring and/or reporting (M/R) requirement. Table 4 shows the number of violations by category for MCL/TT and M/R requirements. The highest number of MCL/TT violations incurred in 2019 is for violation of an inorganic contaminant MCL, followed by violation of a DBPR requirement. The high number of MCL violations for inorganic contaminants were primarily due to nitrate and arsenic. The highest number of M/R violations were for the Revised Total Coliform Rule and the Lead and Copper Rule.

Table 4 Number of Violations by Rule Category for Maximum Contaminant Levels / Treatment Techniques (MCL/TT) and Monitoring / Reporting Requirements (M/R)

No	Category	<u>2017</u> MCL/TT	<u>2017</u> M/R	<u>2018</u> MCL/TT	<u>2018</u> M/R	<u>2019</u> MCL/TT	<u>2019</u> M/R
1	Inorganic Contaminants	837	110	742	116	656	174
2	Synthetic Organic Contaminants	0	60	5	3	5	0
3	Volatile Organic Contaminants	1	21	0	3	0	2 (a)
4	Radionuclide Contaminants	95	10	134	7	117	6
5	Revised Total Coliform Rule	72	432	30	434	48	421
6	Disinfection By-Products Rule	192	26	202	54	149	57
7	Surface Water Treatment Rules	230	8	176	11	136	6
8	Groundwater Rule	2	41	3	18	7	12
9	Lead and Copper Rule	12	432	8	599	8	422
10	Public Notification Rule	---	33	---	30	---	9
11	Consumer Confidence Report Rule	---	179	---	175	---	74
12	Variances and Exemptions	---	6	---	2	---	0

(a) Each M/R violation in this category can represent more than one chemical. There are 33 SOCs in the SOC category, and 27 VOCs in the VOC category

In 2019, about 1,091 violations of California-specific drinking water standards were incurred by public water systems, with 797 violations for failing to meet an MCL/TT, 140 violations for failing to meet a monitoring or reporting requirement, and 154 violations of other California SDWA requirements that are currently being tracked in SDWIS-State. Table 5 shows the number of violations by category for MCL/TT, M/R, and other requirements. The highest number of MCL/TT violations were for violations

of the MCL for 1,2,3 trichloropropane (123TCP), followed by the TCR. The violations of rTCR is presented in Table 4, and the violations of California's TCR is presented in Table 5. The number of TCR violations for 2019 is similar to those incurred by public water systems in previous years.

Table 5 Number of California-specific violations by category for MCLs/TTs, M/R and other requirements

No	Category	MCL/TT	M/R	Other
1	Primary Inorganic Contaminants & TT	8	0	---
2	Synthetic Organic Contaminants (SOCs)	452	45	---
3	Volatile Organic Contaminants (VOCs)	0	0	---
4	PFAS	0	4	---
5	Secondary Standards	22	22	---
6	CA Total Coliform Rule (TCR)	315	69	---
7	Operator Certification - Failure to have an operator at the appropriate certification level	---	---	26
8	Waterworks Standards - Failure to comply with a Waterworks Standard	---	---	17
9	Permits - Violation of a permit provision	---	---	28
10	Permits - Operating without a permit	---	---	11
11	Annual Report - Failure to submit an Annual Report to DDW	---	---	43
12	Cross-Connection Control	---	---	2
13	Treatment Technique	---	---	14
14	Regulatory Reporting	---	---	5
15	Lead Service Line Inventory	---	---	8

2.2. Overview of Public Water System Compliance for Calendar Year 2019

In 2019, 1,159 public water systems violated at least one drinking water standard described in Section 1.7, with 369 public water systems violating one or more MCL/TTs, 854 public water systems violating one or more M/R requirements, and 64 public water systems violating both MCL/TTs and M/R requirements.

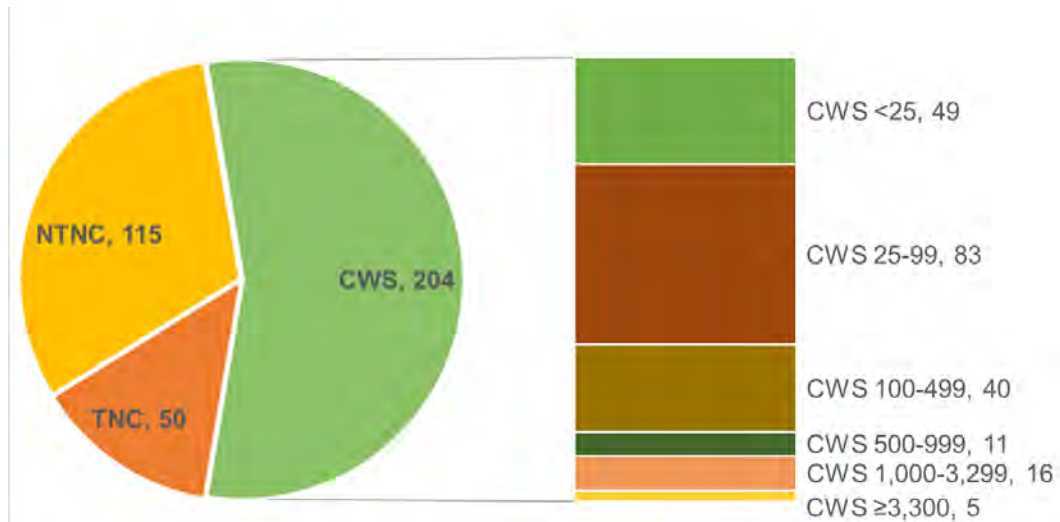


Figure 5 Number of PWS with one or more MCL/TT violations in 2019

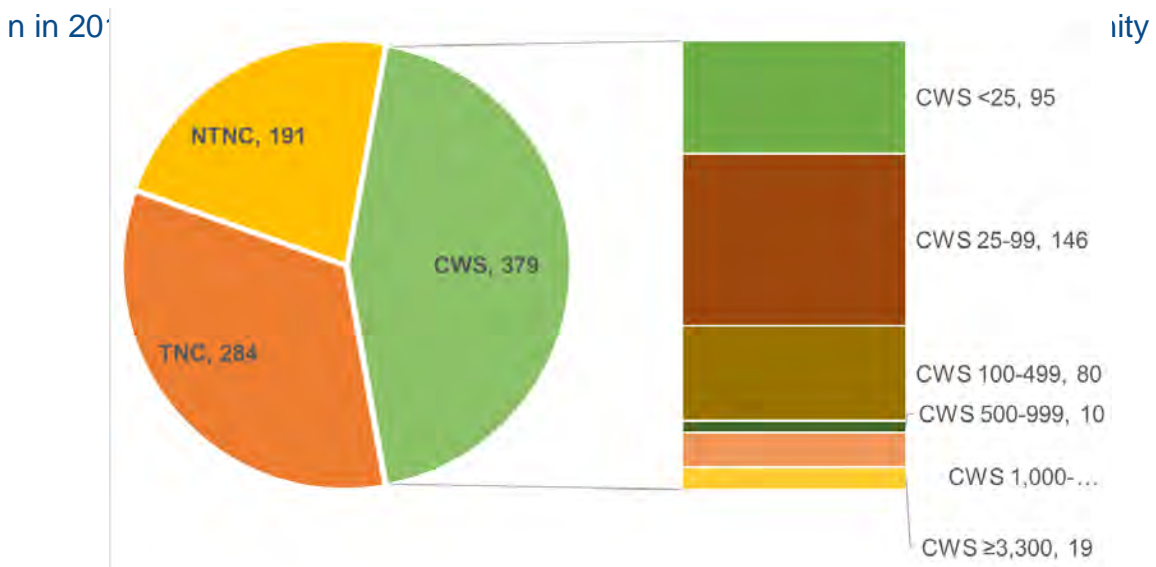


Figure 6 Number of PWS with one or more monitoring and reporting violations in 2019

Figure 5 shows that more than 90% of the MCL or TT violations were incurred by NTNC, TNC, and CWS serving less than 500 service connections. More than half of PWS that incurred an MCL or TT violation in 2019 were CWS. A breakdown by size of the CWS, categorized by the number of service connections served by the CWS (greater than 3,300 service connections, between 1000 and 3,300 service connections, etc.), is shown in the bar graph, along with the number of CWS in the size range with one or more violations. A similar trend is seen for the public water systems that incurred monitoring and reporting violations in 2019, as shown in Figure 6.

Table 6 Number and Population of Water Systems with Violations of Maximum Contaminant Level (MCL), Maximum Residual Disinfection Level (MRDL), and Treatment Technique (TT)

No	Category	<u>2017</u> # PWS	<u>2017</u> Population	<u>2018</u> # PWS	<u>2018</u> Population	<u>2019</u> # PWS	<u>2019</u> Population
1	Inorganic Contaminants	275	247,823	224	147,446	219	99,770
2	Synthetic Organic Contaminants	0	0	3	3,613	2	530
3	Volatile Organic Contaminants	1	500	0	0	0	0
4	Radionuclide Contaminants	31	13,953	38	16,517	41	14,621
5	Revised Total Coliform Rule	55	22,937	28	126,206	43	24,927
6	Disinfection By-Products Rule	59	333,336	54	294,748	51	137,569
7	Surface Water Treatment Rules (SWTR)	44	19,567	35	4,089,627 (a)	23	9,049
8	Groundwater Rule	2	10,455	2	257,561	5	259,791
9	Lead and Copper Rule	12	12,744	8	10,331	7	9,857

(a) A SWTR TT violation at Los Angeles Department of Water and Power in January 2018 – a 9-hour lapse in surface water disinfection where the 4-log virus inactivation requirement was not achieved.

Table 6 summarizes the number and population of water systems with violations of maximum contaminant levels, maximum residual disinfectant levels and treatment techniques for the past three years. For 2017, the large reduction in the number of PWS incurring MCL violations of the federal Total Coliform Rule (TCR) is due to the implementation of the federal Revised Total Coliform Rule (rTCR), which changed how violations are accounted for federal reporting. As noted previously, California is still tracking compliance with the TCR until it adopts state regulations for the rTCR. Under the TCR, an exceedance of the Total Coliform MCL is a violation. Under rTCR, a “corrective action” process must be followed if a Total Coliform MCL is exceeded; and failure to complete the corrective action is a violation, not simply exceeding the Total Coliform MCL.

Table 7 summarizes the number and population of water systems with violations of monitoring and reporting requirements for the last three years.

In addition to the rules and violations required to be reported in the Annual Compliance Report, 619 public water systems violated at least one California-specific drinking water standard described in Section 1.8, with 400 public water systems violating one or more MCL/TTs, 107 public water systems violating one or more M/R requirements, and 7 public water systems violating both MCL/TTs and M/R requirements for state-regulated contaminants. 137 PWS violated other requirements specific to California’s drinking water regulations, such as permit provision requirements. These are further discussed in Section 3.13.

The following additional data summary tables are included in the appendix to this report. These tables list public water system that have incurred violations of MCLs of three compounds of interest, sorted by county and water system number. The table also provides the population served by these water systems.

- Appendix A – exceedance of arsenic MCL.
- Appendix B – exceedance of the nitrate, nitrite, or combined nitrate-nitrite MCLs.
- Appendix C – exceedance of the 1,2,3-trichloropropane MCL.

Table 7 Number and Population of Water Systems with Violations of Monitoring and Reporting Requirements (M/R)

No	Category	<u>2017</u> # of PWS	<u>2017</u> Population	<u>2018</u> # of PWS	<u>2018</u> Population	<u>2019</u> # of PWS	<u>2019</u> Population
1	Inorganic Contaminants	58	17,287	108	118,525	170	92,037
2	Synthetic Organic Contaminants	2	3,000	3	89,489	0	0
3	Volatile Organic Contaminants	1	150	3	157,418	2	499,276
4	Radionuclide Contaminants	8	1,510	4	88,982	3	1,007,594
5	Revised Total Coliform Rule	290	178,131	315	81,945	308	146,159
6	Disinfectant and Disinfection By-Products Rule	16	156,013	34	404,433	35	206,937
7	Surface Water Treatment Rules	8	21,280	5	703	4	2,230
8	Groundwater Rule	39	1,138,110	16	80,006	12	32,282
9	Lead and Copper Rule	348	707,094	496	803,835	363	492,790
10	Public Notification Rule	14	34,809	13	54,148	5	14,884
11	Consumer Confidence Report Rule	135	26,093	136	31,003	61	19,309
12	Variances and exemptions	5	2,287	2	400	0	0

Chapter 3. Discussion of Violations

This section contains summary information on violations of MCLs and TTs. More specific information on the quality of water provided by a public water system can be obtained by requesting a copy of the Consumer Confidence Report (CCR) that all CWS and NTNC are required to issue to their customers annually. To obtain a copy of a CCR, customers may contact the public water system serving the area. Many public water systems also post their CCR online. The State Water Board provides access to the CCRs received from PWS on the CA Drinking Water Watch webpage at <https://sdwis.waterboards.ca.gov/PDWWW/>. The CA Drinking Water Watch webpage also provides access to public water system contact information, water quality data, and violation and enforcement information. When a public water system has violated a drinking water standard, the public water system is required to provide a public notice to their consumers and make copies of the notice available upon request to others.

Sections 3.1 to 3.12 of this report discuss violations of federal primary MCLs, and Section 3.13 reports violations of California-specific drinking water standards.

3.1. Inorganic Contaminants

All CWS and NTNC are required to meet primary drinking water standards for 18 inorganic contaminants. Additionally, TNC must monitor and comply with the MCLs for nitrate and nitrite. A total of 656 violations of inorganic contaminant MCLs were recorded for the year, as summarized below:

Contaminant/Rule	Violation Category	# of Violations	# of PWS
Arsenic	MCL	280	95
Cadmium	MCL	6	2
Fluoride	MCL	46	16
Mercury	MCL	4	1
Nitrate, Nitrate+Nitrite	MCL	320	116
Total		656	219 (a)

(a) The total number of PWS is less than the sum of the PWS of each contaminant/rule listed, since a PWS may have violations of more than one contaminant/rule group.

Figure 7 below shows that of the 219 PWS that incurred one or more inorganic contaminant MCL violations of in 2019, 95% were non-community water systems and CWS with less than 500 service connections.

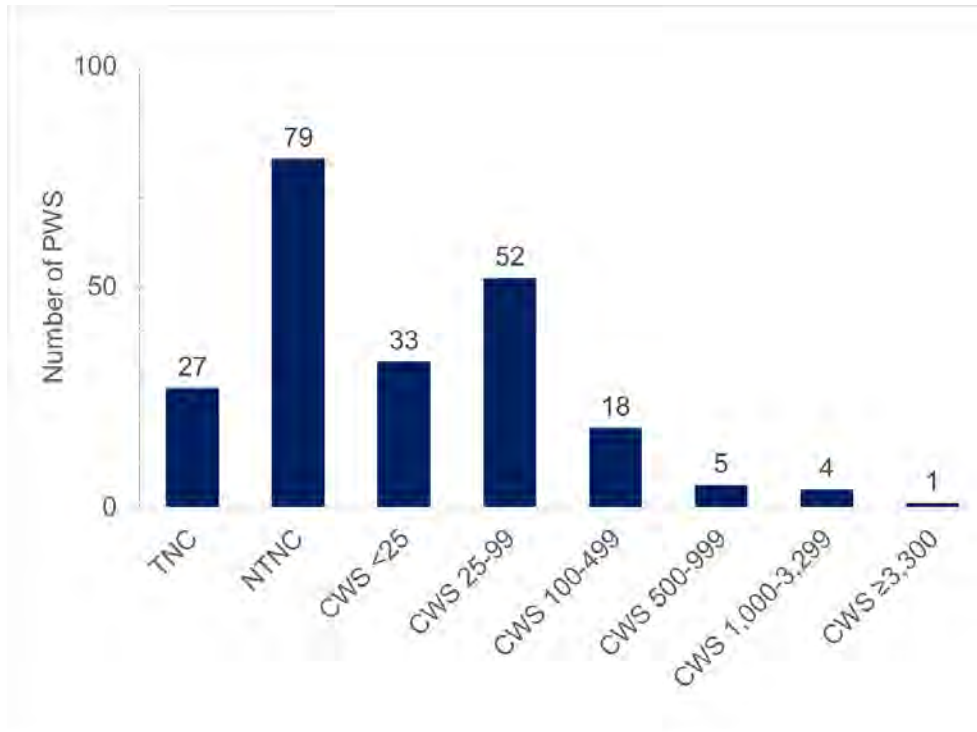


Figure 7 Number of PWS with Inorganic Contaminant MCL Violations, by water system type/CWS size (# of service connections)

Arsenic In 2019, 95 PWS incurred arsenic MCL violations. Arsenic violations accounted for about 43% of all inorganic chemical MCL violations in 2019. The arsenic MCL is 0.010 mg/L, and compliance with the arsenic MCL is determined based on a running annual average. More than half of PWS that incurred a violation exceeded the MCL at concentration levels less than twice the arsenic MCL. Two PWS exceeded the arsenic MCL by more than 10 times the MCL. When a PWS exceeds the arsenic MCL, it must provide public notice to its customers of the violation, potential health impacts of the contaminant, and when the PWS will be into compliance with the MCL, among other things. A PWS must continue to provide public notification on a quarterly basis until such time the PWS is able to comply with the MCL. Figure 8 below shows the areas in the state where PWS have incurred arsenic MCL violations in 2019.

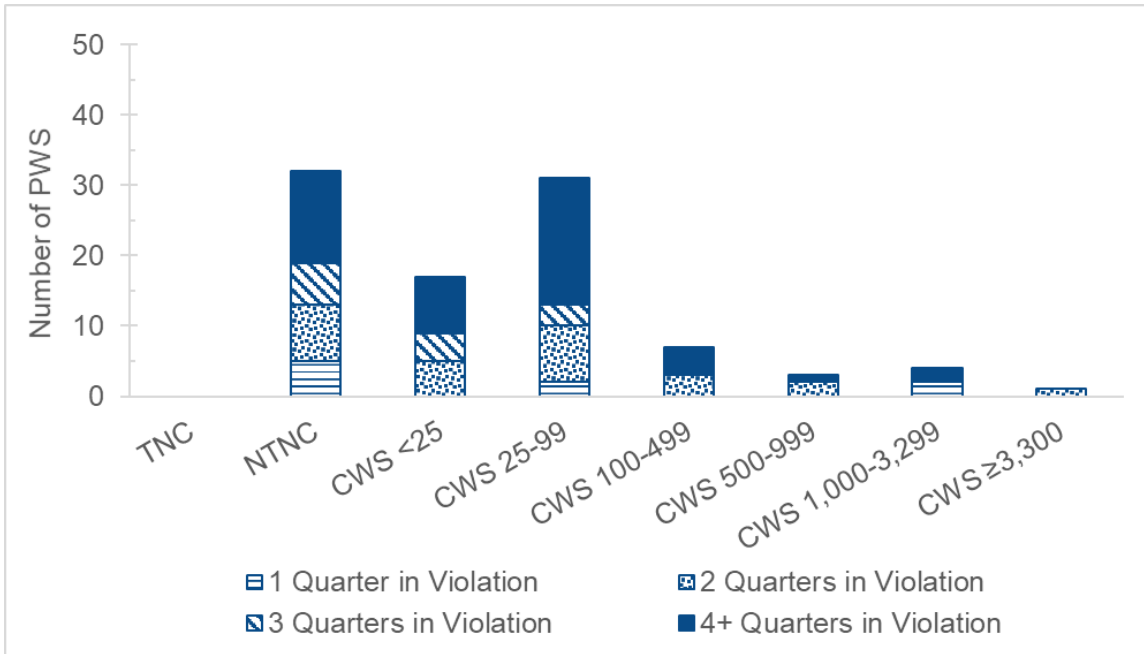


Figure 9 Number of PWS with arsenic MCL violations for each PWS type/CWS size

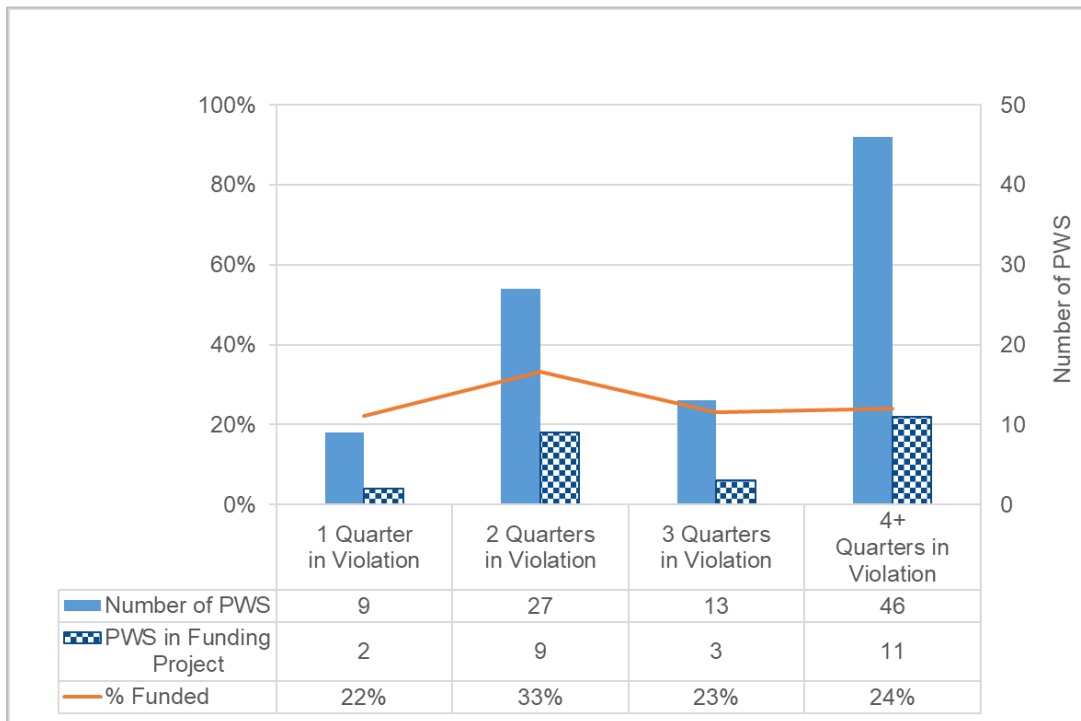


Figure 10 Number of PWS with arsenic MCL violations and the duration of the violation.

Figure 10 shows the duration of arsenic violations recorded in 2019. Forty-six (46) PWS incurred arsenic MCL violations in all four quarters of 2019, indicating persistent non-compliance with the arsenic MCL for these systems. A total of 25 PWS (~26% of the PWS with arsenic MCL violations) are currently receiving funding through the State Water Board to address the arsenic violations.

Cadmium MCL violations were incurred by 2 PWS in 2019. The PWS are both in Monterey County and both exceeded the MCL in 2018 as well. The reported cadmium levels were between 0.006 and 0.012 mg/L, which is 1-2 times the cadmium MCL of 0.005 mg/L. The major sources of cadmium in drinking water is internal corrosion of galvanized pipes; erosion of natural deposits; discharge from electroplating, industrial chemical factories, and metal refineries; runoff from waste batteries and paints. Some people who drink water containing cadmium in excess of the MCL over many years may experience kidney damage.

Fluoride – Forty-six (46) violations of the California fluoride MCL were incurred by 16 PWS in 2019. Three of these systems also violated the federal fluoride MCL. The MCL for fluoride in California is 2 mg/L, which is lower than the 4 mg/L federal MCL. The major source of naturally occurring fluoride in drinking water is erosion of natural deposits. Sources of fluoride associated with human activities include discharges from fertilizer and aluminum processing facilities. Some people who drink water containing fluoride in excess of the federal MCL of 4 mg/L over many years may get bone disease, including pain and tenderness of the bones. Children under nine years of age who drink water containing fluoride in excess of the California MCL may get mottled teeth (a brownish staining of the teeth called “dental fluorosis”).

Because fluoride also has a beneficial effect in preventing dental caries (tooth decay), some communities may add fluoride to their drinking water (fluoridation). Where fluoridation is practiced, fluoride concentrations are maintained at the optimal level for reduction of dental caries which is well below the state MCL.

Mercury One NTNC PWS violated the mercury MCL in 2019, exceeding the mercury MCL of 2 ug/L in all 4 quarters. In the United States, mercury compounds are manufactured in small amounts for specialty uses, such as chemical and pharmaceutical applications. Mercury may also be present from erosion of natural deposits or runoff from landfills and cropland. Mercury in groundwater may be due to leakage from some submersible pumps. Mercury exposure at levels above the MCL in drinking water over many years may result in mental disturbances, or impaired physical coordination, speech and hearing.

Nitrate (including nitrite and nitrate+nitrite combined) In 2019, 320 nitrate MCL violations were incurred by 116 PWS, accounting for about 49% of all inorganic chemical MCL violations in 2019. Nitrate and nitrite are commonly found in fertilizers used in farming and gardening. Nitrates are also found in sewage and waste from humans, animals, and some industrial processes, and may be a result of erosion of natural deposits. Contamination from nitrate and nitrite is usually the result of these activities. There are few mineral deposits containing naturally occurring nitrate or nitrite in California.

Excessive levels of nitrate and nitrite in drinking water can cause serious illness and, in rare cases, even death in infants less than six months of age. This is a result of interference with the oxygen carrying capacity of the infant's blood, called "blue baby syndrome" or "methemoglobinemia." This is an acute disease in that symptoms can develop rapidly. Symptoms of nitrate exposure in infants include shortness of breath and a marked blueness of the skin. As infants mature, changes in the digestive system naturally occur that stops the conversion of nitrates to nitrites, hence reducing the risk of health effects.

High nitrate levels may also affect the oxygen-carrying ability of the blood of pregnant women. Expert medical advice and an alternate source of drinking water are recommended if one suspects nitrate levels may be a cause for concern. Local and state health authorities are the best sources for information concerning alternate sources of drinking water. The State Water Board has set the drinking water standard at 10 mg/L nitrate (measured as nitrogen, or 'N'), 1 mg/L for nitrite (measured as N), and 10 mg/L nitrate+nitrite (sum as N) to protect against the risk of these adverse effects. Drinking water that meets the drinking water standard is associated with little to no risk for nitrate or nitrite toxicity and is considered safe with respect to those compounds.

Due to the acute health effects of nitrate and nitrite, an MCL violation is incurred if the average of a sample result and the confirmation sample result exceeds the MCL. The confirmation sample must be collected within 24 hours of notification by the laboratory that a sample exceeded the MCL. If a confirmation sample is not collected within 24 hours of notification, the PWS is immediately in violation of the MCL, and must therefore issue a public notice to its customers as soon as possible within 24 hours, informing the public of the violation, including key information such as the potential health impacts, what the PWS is doing to correct the problem, and what the public can do to protect their health in the interim.

Figure 11 shows the areas in the state where PWS have incurred nitrate or nitrite MCL violations in 2019.

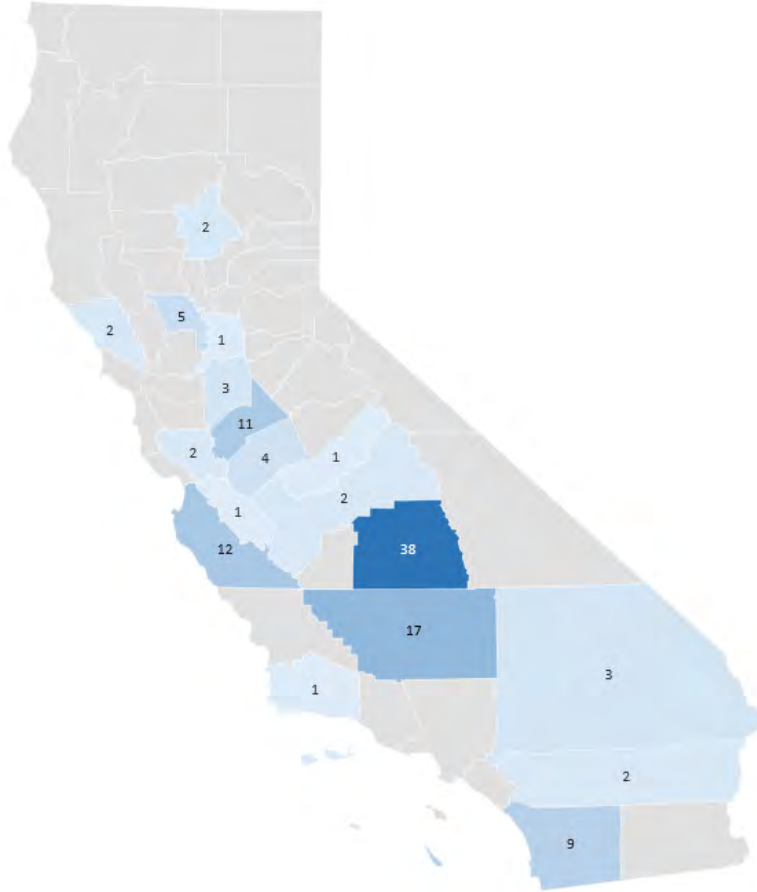


Figure 11 The number of PWS with nitrate or nitrite MCL violations in each county

More than half (60) of PWS that incurred a nitrate violation exceeded the MCL at concentration levels up to 1.5 times (or 15 mg/L as N) the MCL. Five PWS exceeded the nitrate MCL by more than 4 times the MCL. Of these five PWS, three are CWS serving less than 25 connections, one is a CWS serving less than 100 connections, and the last one is a NTNC. Two of the three CWS serving less than 25 connections have installed point of entry/point of use (POE/POU) treatment within the distribution system, and one is providing bottled water as an interim measure while evaluating consolidation. The larger CWS is providing bottled water as an interim measure, and is receiving funding via a planning grant from the State Water Board to evaluate potential solutions. The NTNC is providing bottled water as an interim measure to protect public health.

PWS that incur nitrate or nitrite MCL violations generally take measures to provide other sources of drinking water or install treatment if they have the capability to do so. PWS that do not have the capacity to return to compliance with the MCL must at least provide regular (at least quarterly) public notification to its customers so that the public can take action to protect their health. A list of PWS with nitrate or nitrite MCL violations in 2019 is included in Attachment B.

Figure 12 shows the categories of PWS that incurred nitrate or nitrite MCL violations in 2019. Noncommunity water systems and CWS serving less than 500 connections account for 98% of the total number of PWS that incurred a nitrate MCL violation in 2019. NTNC accounted for 37% of PWS with nitrate/nitrite violations, and CWS serving less than 500 connections accounted for 38% of the PWS with nitrate/nitrite violations.

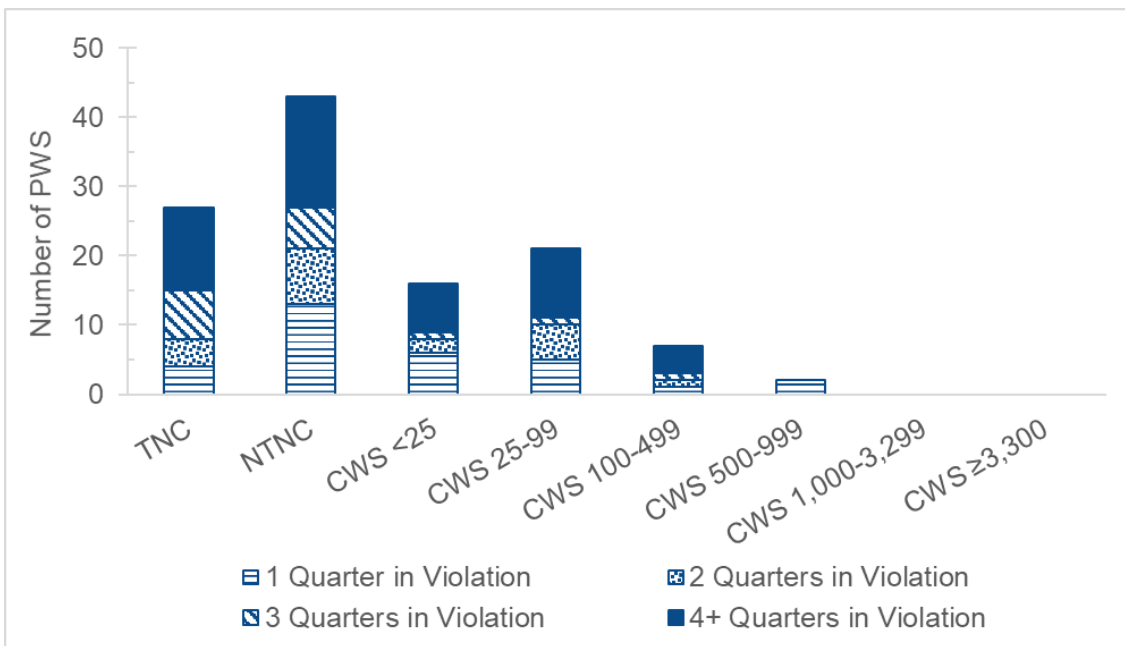


Figure 12 Number of PWS with nitrate or nitrite MCL violations for each PWS type/CWS size

Figure 13 below shows the duration of nitrate/nitrite violations recorded in 2019. A total of 31 PWS incurred a single nitrate or nitrite MCL violation in 2019, where the duration of the violation was 1 quarter (3 months or less). Forty-nine (49) PWS violated the nitrate or nitrite MCL in all four quarters of 2019. Records show that eight of these PWS are currently receiving funding through a State Water

Board funding program, such as the Drinking Water State Revolving Fund, to address the MCL violation.

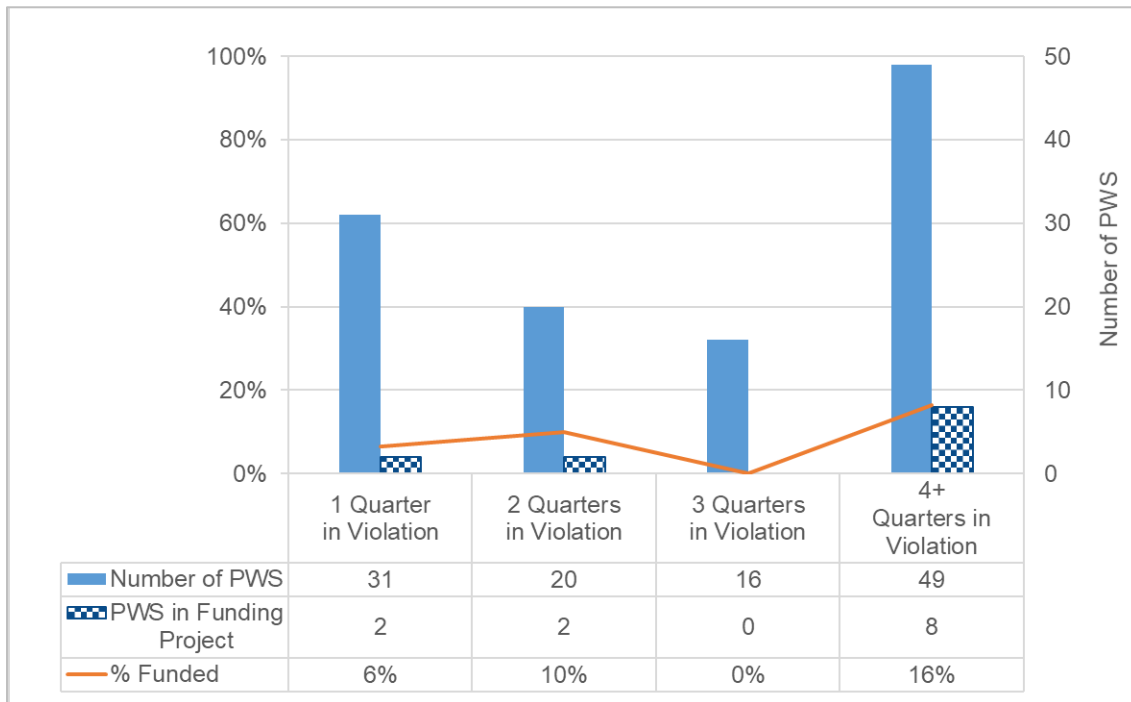


Figure 13 Number of PWS with nitrate or nitrite MCL violations and the duration of the violation.

3.2. Synthetic Organic Contaminants

CWS and NTNC are required to meet primary drinking water standards for up to 33 synthetic organic contaminants (SOCs). Waivers from monitoring can be granted. Of the 33 SOC, 3 are California-specific (not federally regulated); violations for the California-specific SOC are discussed in Section 3.13.

Contaminant/Rule	Violation Category	# of Violations	# of PWS
DBCP	MCL	5	2

During 2019, there were five violations of the dibromochloropropane (DBCP) MCL of 0.2 ug/L. The violations were incurred by two NTNC, one in Fresno County and one in Tulare County. DBCP is a banned nematicide that may still be present in soils due to runoff/leaching from former use on soybeans, cotton,

vineyards, tomatoes, and tree fruit. Some people who use water containing DBCP in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.

3.3. Volatile Organic Contaminants (VOCs)

CWS and NTNC are required to comply with primary drinking water standards for 27 volatile organic contaminants (VOCs). In 2019, no MCL violations were reported for VOCs.

3.4. Radionuclide Rule

CWS and NTNC are required to meet primary drinking water standards for six alpha-emitting radionuclide contaminants regulated under the Radionuclide Rule. Monitoring for beta particle and photon radioactivity is required only if the Drinking Water Program determines that a source of water supply is vulnerable based on proximity to a nuclear facility. During 2019, there were 117 violations of radionuclide MCLs by 41 public water systems. All radionuclide MCL violations were for alpha-emitters, including uranium and gross alpha.

Contaminant/Rule	Violation Category	# of Violations	# of PWS
Combined Uranium	MCL	108	39
Gross Alpha, excluding Uranium and Radon	MCL	9	6
Total		117	41 (a)

(a) The total number of PWS is less than the sum of the PWS of each contaminant/rule listed, since a PWS may have violations in more than one contaminant/rule group.

The major source of uranium in drinking water is from erosion of natural deposits. Some people who drink water containing uranium in excess of the MCL over many years may have kidney problems or an increased risk of getting cancer. The State Water Board has set the drinking water standard for uranium at 20 pCi/L to protect against the risk of these adverse health effects. USEPA has set a federal drinking water standard for uranium at 30 ug/L, which is equivalent to the state MCL.

3.5. Total Coliform Rule (TCR) and the Revised TCR (rTCR)

All public water systems are required to comply with the Total Coliform Rule (TCR), which specifies monitoring of the water in the distribution system for the presence of coliform bacteria. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful bacteria may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system.

CWS are required to collect samples ranging from one sample per month to 120 samples per week in the water distribution system, depending on the size of the PWS. NTNC and TNC systems are generally on a monthly or quarterly sampling frequency. Whenever samples are total coliform-positive, repeat samples must be collected at that location and in surrounding areas and analyzed for fecal coliform or *E. coli* bacteria. Fecal coliform and *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal waste. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.

A public water system is in violation of the TCR Total Coliform MCL when any of the following occurs:

- Monthly Total Coliform MCL (non-acute)
 - For a public water system which collects at least 40 samples per month, more than 5.0% of the samples collected during any month are total coliform-positive; or
 - For a public water system which collects fewer than 40 samples per month, more than one sample collected during any month is total coliform-positive; or
- Acute Total Coliform MCL
 - Any repeat sample is fecal coliform-positive or *E. coli*-positive; or
 - Any repeat sample following a fecal coliform-positive or *E. coli*-positive routine sample is total coliform-positive.

The federal Revised Total Coliform Rule (rTCR) became effective on April 1, 2016, which replaced the TCR Monthly Total Coliform MCL with new Coliform Treatment Technique requirements and added a new *E. coli* MCL. The rTCR establishes a “find and fix” approach for investigating and correcting causes of

coliform problems within water distribution systems. Since California has not yet revised the state’s TCR regulation to incorporate rTCR, DDW is regulating both the rTCR and the state TCR concurrently. Because violation of the monthly Total Coliform MCL is no longer reportable to USEPA, DDW tracks these as state violations. A summary of the TCR Monthly Total Coliform MCL violations is presented in Section 3.13.

A PWS is in violation of the rTCR *E. coli* MCL or Coliform Treatment Technique requirements when any of the following occurs:

- *E. coli* MCL (acute)
 - Same criteria as the existing Acute Total Coliform MCL conditions
- Coliform Treatment Technique
 - Failure to conduct and submit the Level 1 Assessment, or complete the corrective actions identified by the Level 1 Assessment. A Level 1 assessment is a study of the water system to identify potential problems and determine why total coliform bacteria have been found in the water distribution system;
 - Failure to complete the corrective actions identified by the Level 2 Assessment. A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in the water system.

The federally reported rTCR MCL/TT violations for 2019 are summarized in the table below.

Contaminant/Rule	Violation Category	# of Violations	# of PWS
Revised TCR	<i>E. coli</i> MCL Violation	23	21
Revised TCR	TT – Level 1 Assessment	23	21
Revised TCR	TT – Level 2 Assessment	1	1
Revised TCR	Failure to complete a seasonal start-up procedure	1	1
Total		48	43 (a)

(a) The total number of PWS is less than the sum of the PWS of each contaminant/rule listed, since a PWS may have violations in more than one violation category.

Figure 14 shows that of the 43 PWS that incurred one or more rTCR MCL/TT violations in 2019, 63% of them were non-community water systems.

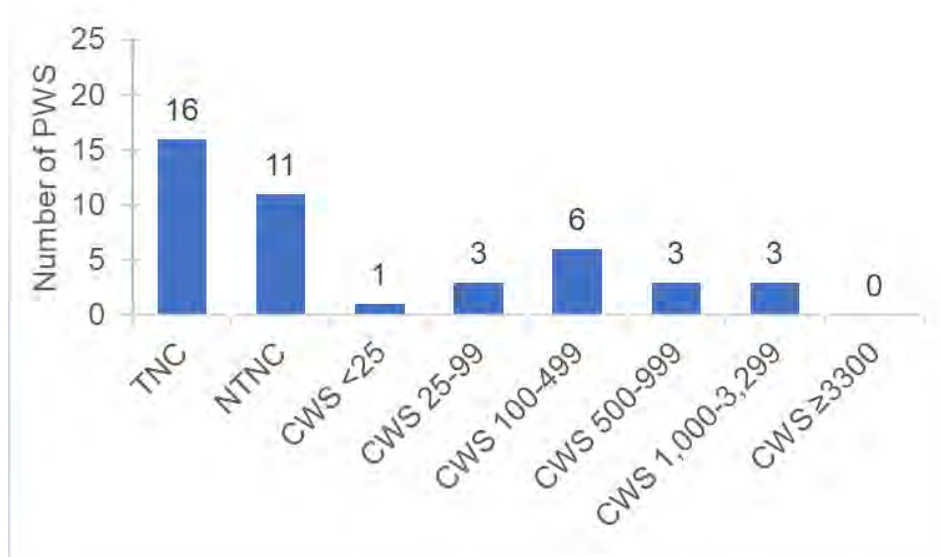


Figure 14 Number of PWS with rTCR MCL violations for each PWS type/CWS size

3.6. Disinfectants and Disinfection By-Products Rule (DBPR)

All CWS and NTNC that provide disinfected drinking water are required to comply with the Stage 1 and Stage 2 Disinfectants and Disinfection By-Products Rules (DBPR). Additionally, TNC that use chlorine dioxide are required to comply with the requirements for chlorine dioxide. The DBPR established MCLs for four by-products of drinking water disinfection - total trihalomethanes (TTHMs), haloacetic acids (HAA5), bromate, and chlorite; maximum disinfectant residual Levels (MRDLs) for three disinfectants – chlorine, chloramine, and chlorine dioxide; TT requirements for the control of total organic carbon (TOC), a disinfection byproduct precursor in surface water sources using conventional surface water treatment; and TT requirements for certified treatment operators.

TTHMs and HAA5s are found primarily in some treated surface water systems but have been found to develop in some disinfected groundwater systems as well. Some people who drink water containing TTHMs in excess of the MCL over many years may experience liver, kidney or nervous system problems and may

have an increased risk of getting cancer. HAA5 also present a cancer risk to some people who drink water containing concentrations in excess of the MCL over many years. Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.

The DBPR MCL and TT violations are summarized in the table below. In 2019, 51 PWS incurred MCL and TT violations, including 142 MCL/MRDL violations and 7 TT violations. Twelve PWS violated both TTHM and HAA5 MCLs in 2019.

Contaminant / Rule	Violation Category	# of Violations	# of PWS
DBPR	Haloacetic Acids (HAA5) MCL	65	28
DBPR	Total Trihalomethanes (TTHM) MCL	75	28
DBPR	Chlorite MCL	1	1
DBPR	MRDL - Chlorine dioxide, chloramine, or chlorine	1	1
DBPR	TT – Failure to achieve TOC removal	3	3
DBPR	TT - No certified operator	4	3
Total		149	51 (a)

(a) The total number of PWS is less than the sum of the PWS of each contaminant/rule listed, since a PWS may have violations of more than one violation category.

TTHM and HAA5 MCL violations occur when the locational running annual average exceeds the MCL. The determination of a chlorite MCL violation is complex and can occur under a combination of the following scenarios: whether an entry point sample exceeded the MCL, whether a routine or triggered distribution system sample exceeded the MCL, whether confirmation samples were collected or whether they confirmed the original sample result, and whether consecutive entry point samples exceeded the MCL.

As a requirement of the DBPR, California is required to maintain a water treatment operator certification program for PWS using a surface water source or a groundwater source under the direct influence of surface water. There were four violations of these operator certification requirements in 2019. California additionally requires certified water treatment operators for PWS that provide groundwater treatment and requires all PWS to be operated by certified distribution operators. California maintains a distribution operator certification program in addition to a treatment operator certification program.

Figure 15 shows that of NTNC and CWS serving less than 500 connections incurred 75% of the DBPR MCL/TT violations in 2019.

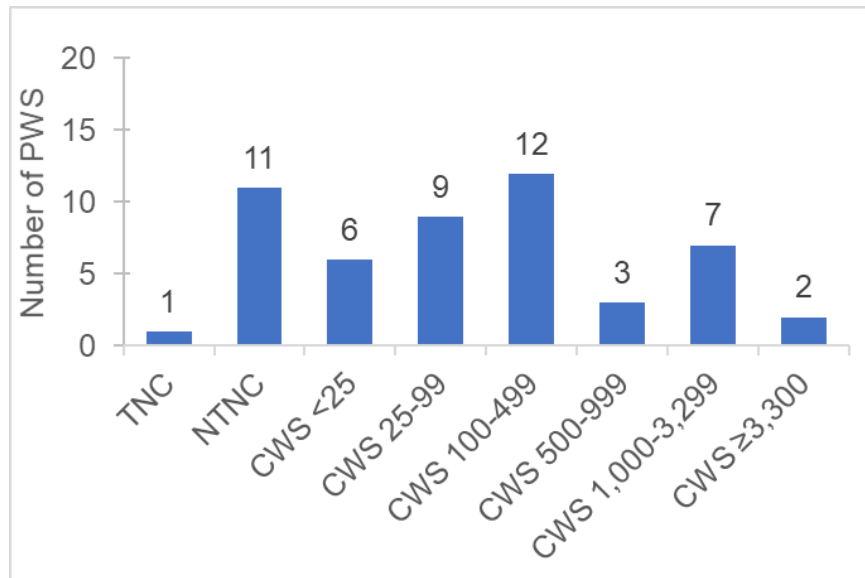


Figure 15 Number of PWS with DBPR MCL/MRDL/TT violations for each PWS type/CWS size

3.7. Surface Water Treatment Rules

The surface water treatment rules include the Surface Water Treatment Rule (SWTR), Interim Enhanced Surface Water Treatment Rule (IESWTR), Long-term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR), Long-term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR), and the Filter Backwash Rule. These rules establish monitoring and reporting requirements, treatment techniques, performance standards, and turbidity standards to be met by public water systems using surface water as a drinking water source. As used in this report, the term “surface water” also includes groundwater that has been determined to be under the direct influence of surface water (GWUDI).

Treatment techniques and performance standards are used to establish water quality objectives instead of MCLs for microbiological contaminants that may be found in surface waters, including *Giardia lamblia*, *Cryptosporidium parvum*, Legionella, heterotrophic plate count bacteria, and viruses. Public water systems that use surface water are required to provide multiple levels of treatment (termed ‘multi-barrier’ treatment) to protect against adverse health effects from microbiological contaminants. All multi-barrier treatment systems must include

the use of an approved filtration technology as a first barrier, and a reliable disinfection system as a second barrier. Some PWS can avoid filtration by meeting special requirements including rigorous standards on their source water quality and watershed controls. These PWS must still disinfect their water.

The following table summarizes the TT violations of the surface water treatment rules. In 2019, 23 PWS incurred 136 treatment technique violations of the surface water treatment rules, such as failure to meet the turbidity requirements for filtration or failure to provide the required level of disinfection treatment.

Contaminant/Rule	Violation Category	# of Violations	# of PWS
SWTR	TT - Failure to filter	115	15
LT2ESWTR	TT - Failure to filter	2	2
SWTR	TT – Failure of turbidity or disinfection requirements	17	6
IESWTR	TT – Failure of monthly turbidity standard	2	2
Total		136	23 (a)

(a) The total number of PWS is less than the sum of the PWS of each contaminant/rule listed, since a PWS may have violations of more than one violation category.

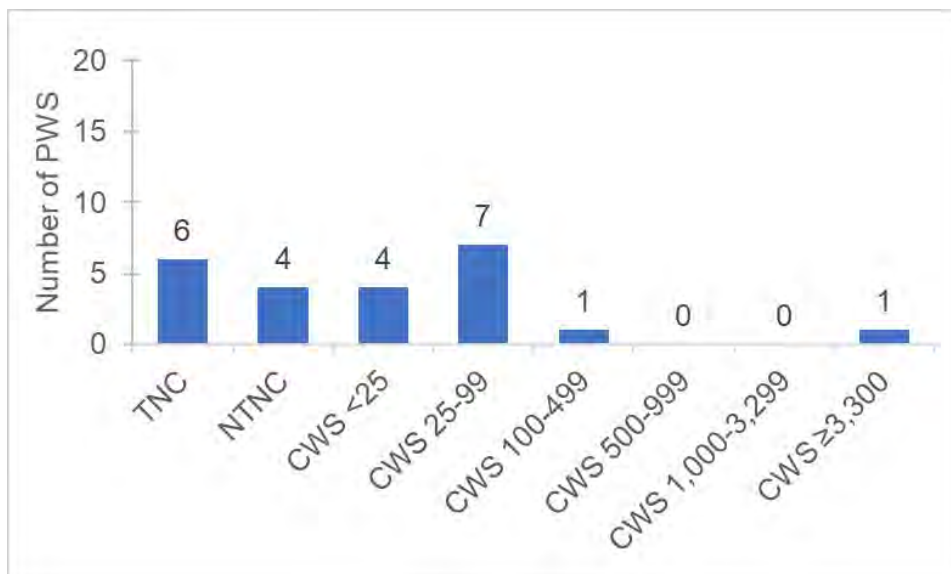


Figure 16 Number of PWS with SWTR TT violations for each PWS type/CWS size

Figure 16 shows that 96% of PWS that incurred SWTR TT violations in 2019 were noncommunity water systems and CWS serving less than 500 connections.

3.8. Groundwater Rule

All public water systems that use groundwater, such as wells or springs, must comply with the Groundwater Rule (GWR) to reduce the occurrence of disease associated with microorganisms in drinking water derived from groundwater. The GWR establishes a risk-based approach to target ground water systems that are vulnerable to fecal contamination. Ground water systems that are identified as being at risk of fecal contamination must take corrective action to reduce potential illness from exposure to microbial pathogens.

Special monitoring of the groundwater source for a fecal indicator microorganism must be conducted whenever a sample collected in the water distribution system pursuant to the rTCR is positive for total coliform (triggered source monitoring). California has chosen to use *E. coli* monitoring as the indicator of fecal contamination. A summary of MCL and TT violations of the GWR, such as failure to provide the required level of virus inactivation treatment, is provided below:

Contaminant/Rule	Violation Category	# of Violations	# of PWS
Groundwater Rule	TT – Failure to install treatment	2	2
Groundwater Rule	TT - Failure to provide treatment	5	3
Total		7	5

3.9. Lead and Copper Rule

All CWS and NTNC must comply with the Lead and Copper Rule (LCR). The LCR requires that tap samples be collected for lead and copper analysis from sites (typically single family homes or multi-family residences for CWS) that are at risk of containing lead pipes or copper pipe with lead solder, or which may be served by a lead service line. Samples are often collected by the occupants who live at the residences prioritized for sampling. PWS are required to collect the samples from sites that meet the site selection criteria, send the samples to a certified laboratory for analysis, and report the results to DDW and the occupant of each residence sampled.

The action level for lead is 0.015 mg/L, and copper has an action level of 1.3 mg/L, based on the 90th percentile concentration in all samples collected during a sampling period. For each monitoring compliance period, PWS must determine the 90th percentile lead and copper concentration calculated based on the results of all samples collected and determine whether the action levels for lead and copper are met. A finding that the 90th percentile lead or copper levels at concentrations above their respective action levels is not in itself a violation, but it triggers actions that PWS must take - the PWS must take specified steps to evaluate the need for corrosion control treatment, including conducting an optimal corrosion control treatment (OCCT) study and/or a source water treatment (SOWT) study, and implementation of study recommendations. A PWS must replace lead service lines if it fails to install treatment or if the treatment fails to control lead. For lead action level exceedances, PWS must conduct public education on the effects of lead and the ways that the public can reduce lead exposure.

The following table summarizes the LCR TT violations recorded for 2019.

Contaminant/Rule	Violation Category	# of Violations	# of PWS
LCR	TT - Maximum Permissible Level	1 (a)	1
LCR	TT – Failure to submit a OCCT study	2	2
LCR	TT – Failure to install OCCT/SOWT treatment	4	4
LCR	TT – Failure to provide public education	1	1
Total		8	7 (b)

(a) Maximum permissible levels (MPL) are the highest allowable lead and/or copper concentrations after treatment for source water that is entering a water system's distribution system. The MPL violation recorded was entered for exceedance of a lead action level, not an exceedance of an MPL.

(b) The total number of PWS is less than the sum of the PWS of each contaminant/rule listed, since a PWS may have violations of more than one violation category

Lead is generally present in drinking water as a result of internal corrosion of household plumbing or from lead service lines. It may also be present in source waters due to discharges from industrial manufacturers or erosion of natural deposits. Infants and children who drink water containing lead at concentrations above the action level may experience delays in their physical or mental development. Children may show slight deficits in attention span and learning

abilities. Adults who drink water with lead above the action level over many years may develop kidney problems or high blood pressure.

The major sources of copper in drinking water are from internal corrosion of household plumbing systems, erosion of natural deposits, and leaching from wood preservatives. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time may experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years may suffer liver or kidney damage. People with Wilson’s Disease should consult their personal doctor.

Figure 17 below shows that LCR TT violations were incurred by PWS across the type and size ranges in 2019.

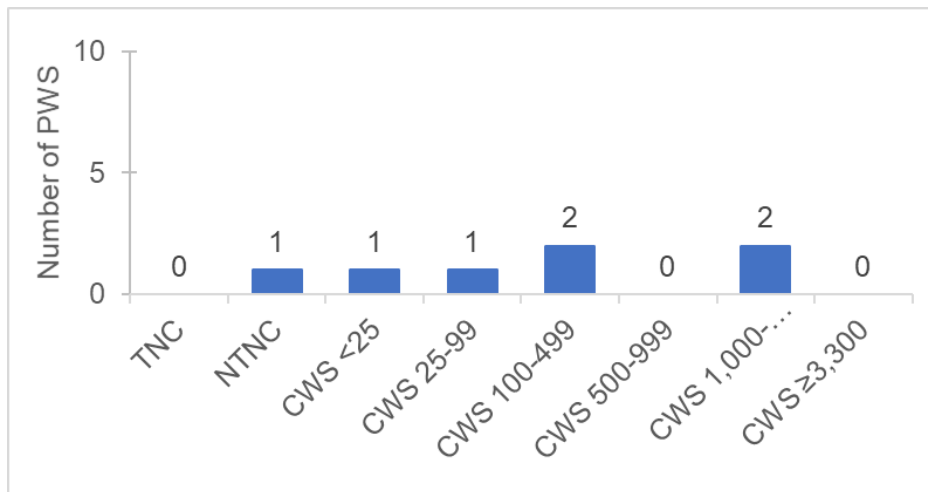


Figure 17 Number of PWS with LCR TT violations for each PWS type/CWS size

3.10. Public Notification

Public water systems are required to notify the people that are served by the water system whenever a violation of a drinking water standard occurs. Public notices are required to be issued immediately, usually within 24 hours, for violations of MCLs for contaminants with acute (short term) health effects. Examples of these include violation of the *E. Coli* MCL, violation of the nitrate, nitrite, or combined nitrate and nitrite MCL, or violation of the perchlorate MCL.

Public notices are issued for violations of drinking water standards for contaminants with chronic (long term) health effects, as soon as possible, usually within 30 days. Examples of these include violations of MCLs for arsenic, radioactivity or organic chemicals. A violation occurs when there is a failure to provide the required notice to the public within the required time frame. There were 30 violations for failure to provide the required notice to the public in 2018.

Contaminant/Rule	Violation Category	# of Violations	# of PWS
Public Notice	Failure to provide public notification of a violation	9	5

Figure 18 shows that PN violations were incurred by PWS across the type and size ranges in 2019.

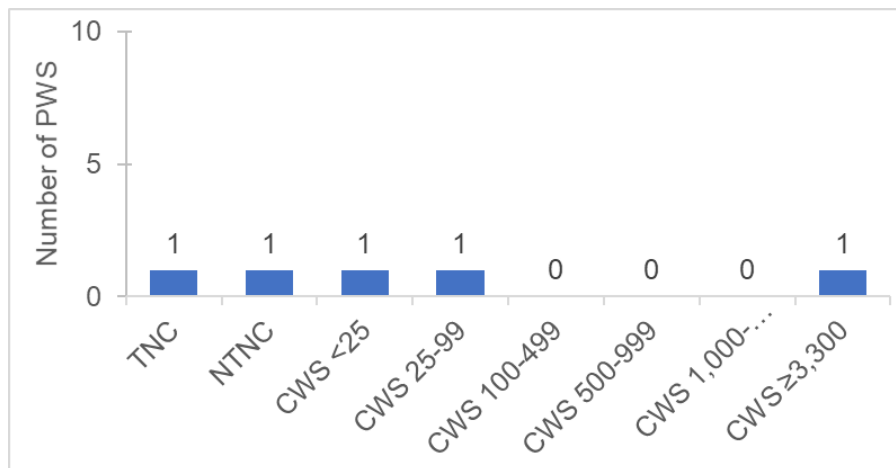


Figure 18 Number of PWS with PN violations for each PWS type/CWS size

3.11. Consumer Confidence Report Violations

CWS and NTNC are required to provide to their customers a report each year of the quality of the water served by their water system during the prior calendar year. Each year's Consumer Confidence Report (CCR) must also include information on the source(s) of drinking water, the levels of any detected

contaminants, and compliance with drinking water regulations. Public water systems must describe any violations of the water quality standards in the CCR.

In 2019, sixty-one (61) public water systems incurred violations for failure to prepare and distribute its CCR to its customers.

Contaminant/Rule	Violation Category	# of Violations	# of PWS
CCR	Failure to prepare and deliver a Consumer Confidence Report	74	61

Figure 19 below shows that 97% of CCR violations were incurred by NTNC and CWS serving less than 500 connections.

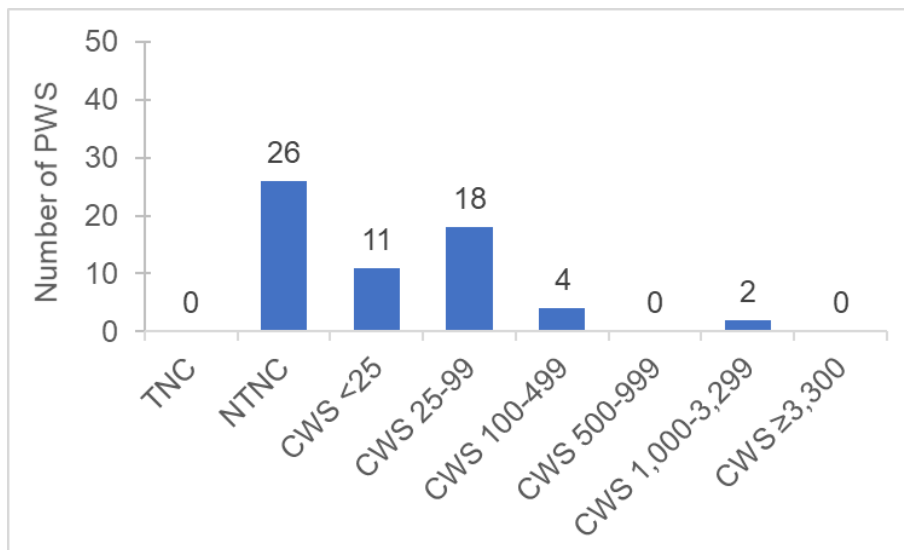


Figure 19 Number of PWS with CCR violations for each PWS type and CWS size

3.12. Variances, Exemptions and Other Violations

The State Water Board is authorized under the federal SDWA to issue variances and exemptions from meeting drinking water standards to PWS under special circumstances. No PWS incurred a violation of a variance, exemption, or other compliance tool in 2019.

3.13. Violations of California-Specific Standards

All CWS and NTNC are required comply with primary drinking water standards contained in Title 22 California Code of Regulations. Contaminants with primary MCLs regulated by California but not regulated by USEPA include the following:

Inorganic Contaminants:

- Perchlorate
- Aluminum
- Nickel

Synthetic Organic Contaminants

- Bentazon
- Molinate
- Thiobencarb
- 1,2,3-Trichloropropane

Volatile Organic Contaminants

- Methyl tert-butyl Ether (MTBE)
- 1,1-Dichloroethane
- 1,3-Dichloropropene
- 1,1,2,2-Tetrachloroethane
- Trichlorofluoromethane
- 1,1,2-Trichloro-1,2,2-trifluoroethane

In 2019, about 763 violations were incurred by public water systems for failing to meet an MCL or TT of a California-regulated contaminant. The table below summarizes the violations of a primary MCL, secondary MCL or TT for California regulated contaminant.

Contaminant/Rule	Violation Category	# of Violations	# of PWS
Perchlorate	Primary MCL	8	2
1,2,3-TCP	Primary MCL	452	128
CA TCR	Monthly Total Coliform MCL	315	269
Iron	Secondary MCL	7	3
Manganese	Secondary MCL	13	6
Copper	Secondary MCL	1	1
Turbidity	Secondary MCL	1	1

Perchlorate - MCL violations were incurred by two PWS in 2019 for all four quarters of 2019. The perchlorate level recorded ranged from 8 to 12 ug/L, exceeding the perchlorate MCL of 6 ug/L. The PWS are both in Tulare County, one a NTNC and the other a CWS serving less than 25 connections, and both also violated the perchlorate MCL for all four quarters in 2018.

The major sources of perchlorate in drinking water are solid rocket propellants, fireworks, explosives, flares, matches, and a variety of industries. Perchlorate usually gets into drinking water as a result of environmental contamination from

historic aerospace or other industrial operations that use, store, or dispose of perchlorate and its salts. Perchlorate's interference with iodide uptake by the thyroid gland can decrease production of thyroid hormone, which is needed for prenatal and postnatal growth and development, as well as for normal metabolism and mental function in the adult.

1,2,3-Trichloropropane (123TCP) The State Water Board established an MCL for 123TCP of 0.005 ppt (ug/L) on December 14, 2017. All CWS and NTNC must comply with the new 123TCP drinking water standards. These water systems started conducting initial monitoring of their sources in first quarter 2018.

123TCP is used as an industrial solvent, paint and varnish remover, and cleaning and degreasing agent. It is also a byproduct of the production of pesticides and other compounds and was an impurity and inactive ingredient of soil fumigant pesticides historically used in California. The major sources of 123TCP in drinking water include runoff/leaching of soil fumigant pesticides applied on agricultural lands and leaching from hazardous waste sites. Some people who drink water containing 123TCP in excess of the MCL over many years may have an increased risk of getting cancer.

Figure 20 summarizes the number of CWS and NTNC that incurred one or more MCL violations for 123TCP in 2019. It shows that 84% of PWS that incurred MCL violations were NTNC or small CWS serving less than 500 connections.

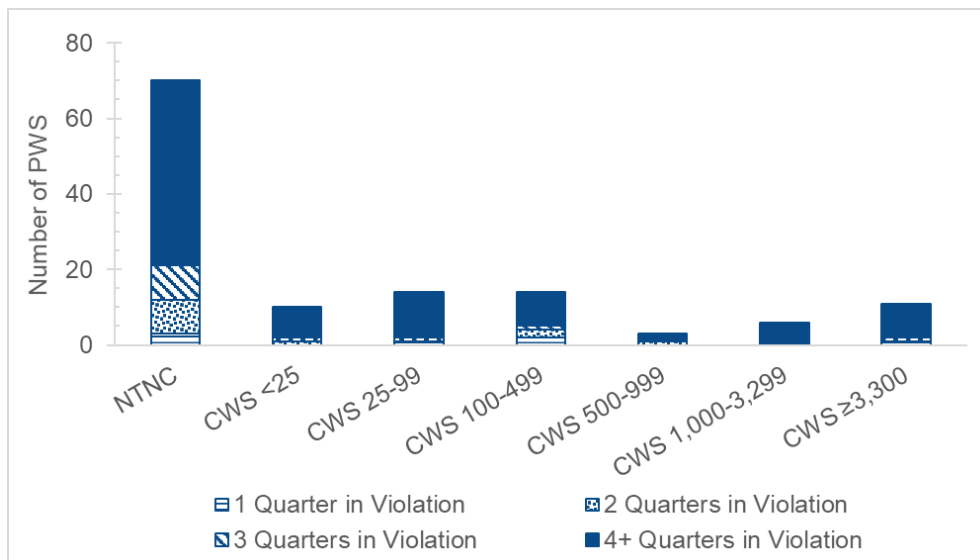


Figure 20 Number of PWS with 123TCP MCL violations per type/CWS size

Figure 21 shows a map of all counties with the number of PWS in each county that exceeded the 123TCP MCL in 2019.

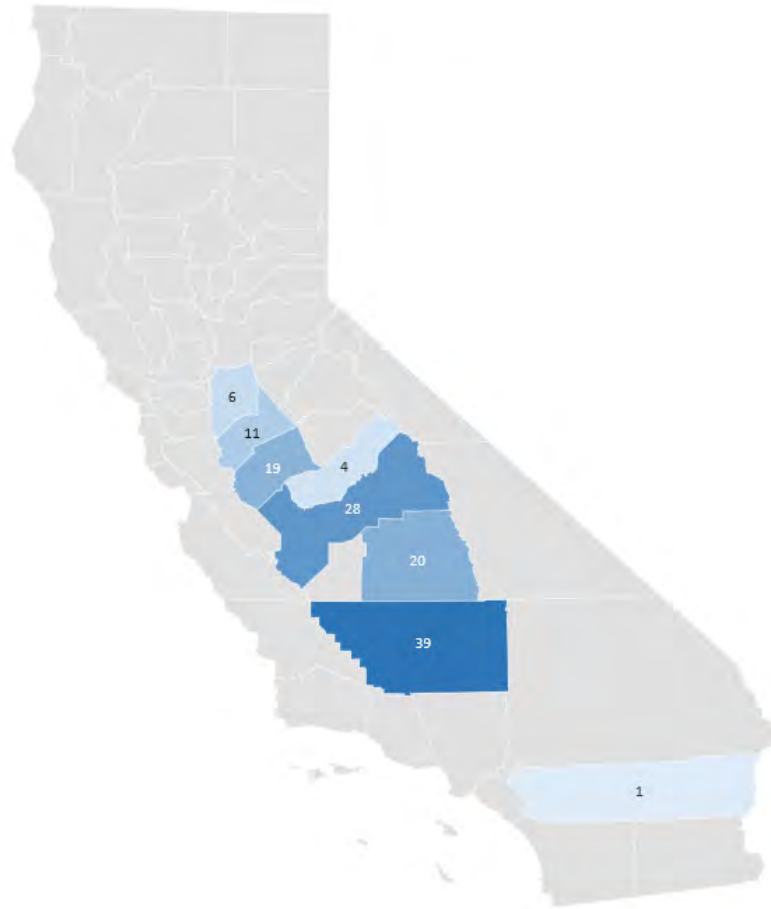


Figure 21 The number of PWS with 123TCP MCL violations in each county

Figure 22 shows the duration of 123TCP violations recorded in 2019. Ninety-five (95) PWS incurred 123TCP MCL violations in every quarter in 2019, up from 34 PWS in 2018. Twelve (12) of these PWS are participating in funding projects with the State Water Board to address the 123TCP problem.

CA TCR - As discussed in Section 2.1, the Drinking Water Program tracks violations for both the rTCR and TCR because California's TCR regulations have not yet been updated to reflect the rTCR. Violations of the monthly Total Coliform MCL are no longer reported to USEPA, so DDW tracks these as state violations. 315 monthly TCR MCL violations were incurred by 269 PWS in 2019.

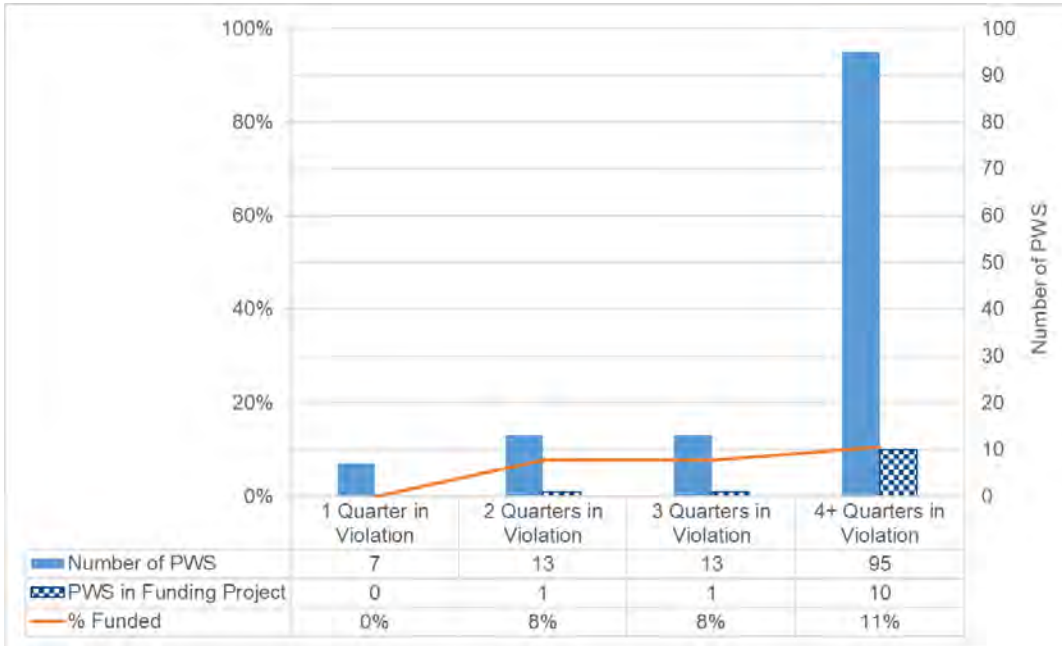


Figure 22 Number of PWS with 123TCP MCL violations and the duration of the violation.

Chapter 4. Enforcement Activities

DDW and LPAs take enforcement actions when a PWS violates an MCL or treatment technique or fails to conduct the required monitoring and reporting activities.

Enforcement action is an essential element of the DDW's regulatory program to bring all public water systems into full compliance with drinking water standards and regulations to ensure that the public receives a safe and reliable supply of drinking water. Carrying out an enforcement program is a requirement of the primacy delegation from USEPA. DDW may take a variety of enforcement actions depending on the type of violation and recurrence of a violation that includes both formal and informal enforcement actions. Issuance of progressively stringent enforcement actions is the means used to bring a non-responsive water system into compliance with drinking water standards.

DDW's enforcement strategy for public water systems that violate a primary drinking water MCL includes issuance of formal enforcement actions in a timely manner. The California Health and Safety Code (CHSC) section 116655(a) specifies that whenever the State Water Board determines that any person has violated or is violating the California SDWA or any permit, regulation, or standard issued or adopted pursuant to the California SDWA, the director may issue an order doing any of the following:

- (1) Directing compliance forthwith;
- (2) Directing compliance in accordance with a time schedule set by the State Water Board;
- (3) Directing that appropriate preventive action be taken in the case of a threatened violation.

Per CHSC section 116655(b), an order that DDW issues may include, but not be limited to, the following requirements:

- (1) That the existing plant, works, or system be repaired, altered or added to;
- (2) That purification or treatment works be installed;
- (3) That the source of water supply be changed;

- (4) That no additional service connection be made to the system;
- (5) That the water supply, the plant, or the system be monitored;
- (6) That a report on the condition and operation of the plant, works, system, or water supply be submitted to the State Water Board.

Formal enforcement actions available to DDW include citations, compliance orders, permit amendments, and revocation or suspension of an existing operating permit. The CHSC also authorizes assessing civil penalties up to \$25,000 per day for each day a drinking water standard violation occurs or placing a water system into receivership. DDW has implemented an enforcement strategy that includes the requirement for the PWS to submit a compliance plan within a short time frame that achieves compliance within a specified time period. Failure to achieve compliance within that time period may result in escalated enforcement, including issuance of civil penalties.

4.1. Enforcement Actions Taken

In 2019, the Drinking Water Program issued 1,795 enforcement actions to public water systems for failing to comply with regulations. An enforcement action can be a notice of violation, a citation, or a compliance order. An enforcement action can address one or more violations, and prescribe public notification requirements as necessary, corrective actions and deadlines that the public water system must meet, in order to return to compliance (RTC).

Figure 23 shows the number of federal and state violations, respectively, that were addressed by an enforcement action. Of the 3,400 violations (combined federal and state violations) that occurred in 2019, records show that over 94% were addressed with an enforcement action. Most of the unaddressed violations are associated with the Lead and Copper Rule, followed by the Revised Total Coliform Rule.

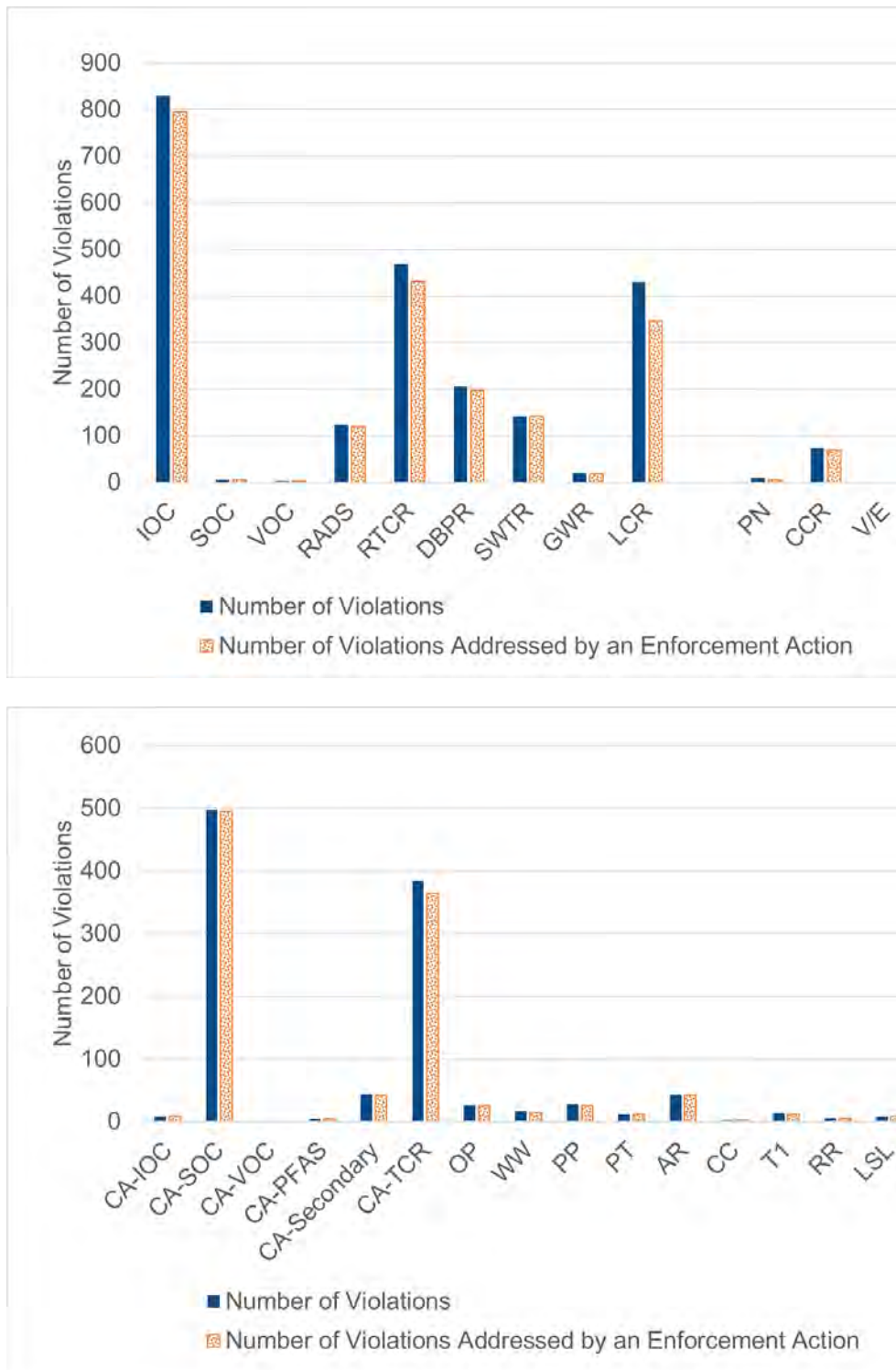


Figure 23 Number of federal (top) and state (bottom) violations that were addressed with an enforcement action

4.2. Enforcement Targeting Tool (ETT)

In 2009, USEPA implemented a new approach designed to identify public water systems that are in significant non-compliance. An Enforcement Targeting Tool (ETT) was developed to prioritize public water systems that have incurred health-based violations and those that show a history of violations across multiple rules. An ETT score is calculated based on points assigned to the various types of violations, the severity of the violation (e.g., higher points are assigned for violations of drinking water standards associated with acute health effects than those associated with chronic health effects) and the duration of the violation. Public water systems with an ETT score of 11 or greater are prioritized for evaluation of enforcement strategy and resources required to ensure a return to compliance.

DDW coordinates with USEPA to track the ETT scores and has reduced the number of PWS that are identified as significant non-compliers. It was found that many violation records were not routinely updated after a PWS has returned to compliance, and this contributed to high ETT scores. DDW continues to work to ensure accurate and timely updates of inventory data for violations and enforcement actions, so that the ETT score accurately reflects the PWS that are significant non-compliers.

4.3. Return to Compliance

When a PWS exceeds a drinking water standard, the Drinking Water Program issues enforcement actions that prescribe what must be done in order for the PWS to return to compliance (RTC). The criteria for when RTC is achieved may depend on the rule, type of violation, and contaminant. As an example, for an MCL violation of a chemical with chronic health effects, RTC is achieved when the PWS stops providing water that exceeds the MCL, issues the public notification, and submits the information required in the enforcement action, such as a corrective action plan. PWS may inactivate the source that exceeds the MCL, provide an alternate source of water that complies with drinking water standards, or provide reliable treatment such that the treated source of supply complies with the MCL. Depending on factors such as the technical, managerial, and financial capacity (TMF) and resiliency of the public water system, the MCL violation can be resolved in a manner of days or it can take years. PWS that remain out of compliance with the MCL are typically required to provide regular

public notification and conduct increased monitoring until such time that the PWS returns to compliance with the MCL. Failures to conduct monitoring and public notification resulting from an MCL violation are also considered violations. Many violations on record are not consistently updated in the database even though the violations may have been resolved. DDW continues to work on ways to efficiently conduct data maintenance activities.

Figure 24 shows the number of PWS of each classification and CWS system size that have returned to compliance in 2019 following an MCL/TT violation that was incurred in 2019 or prior years. Overall, 20% of PWS that incurred a MCL/TT violation returned to compliance in 2019.

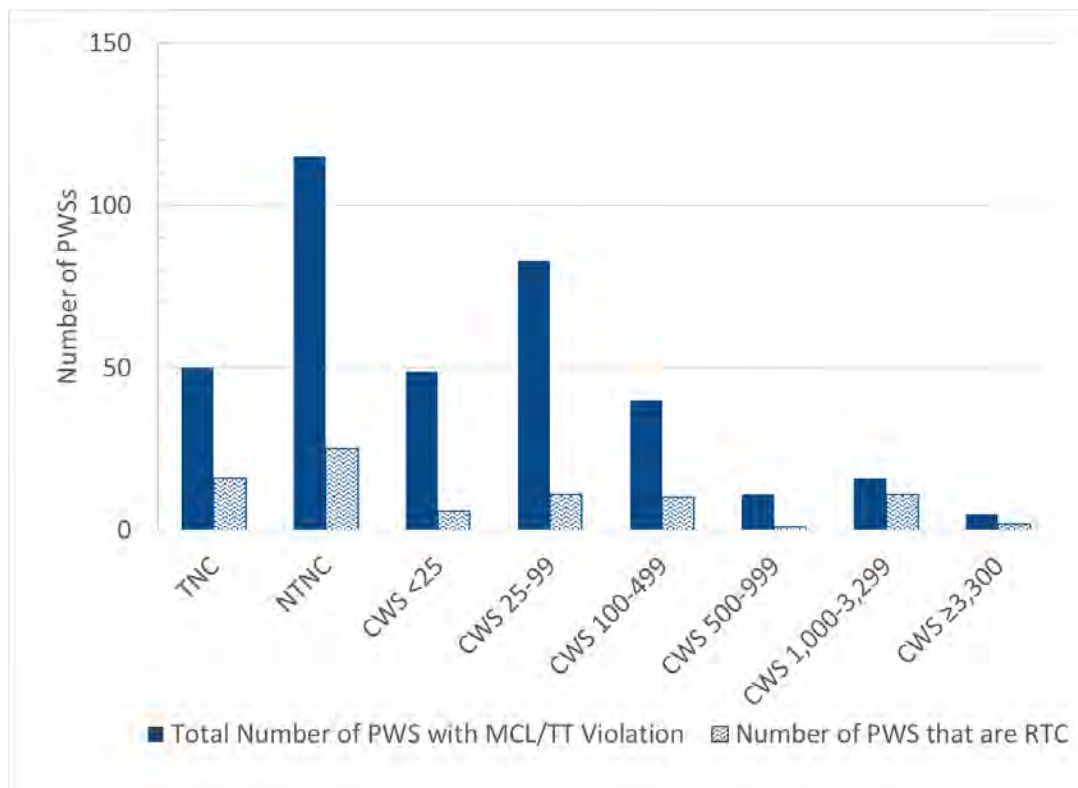


Figure 24 Number of PWS that returned to compliance in 2019 for an MCL/TT violation

For monitoring and reporting violations, the criteria for when RTC is achieved is generally when the delinquent samples are collected, when the report is submitted, or when the results reported to the Drinking Water Program. Depending on the rule, RTC can be achieved within a month; for rules such as

the Lead and Copper Rule, where sampling must occur in specific periods of the year, delinquent samples may not be collected for several months.

Figure 25 below shows the number of PWS of each classification and CWS system size that have returned to compliance in 2019 following a monitoring or reporting violation that was incurred in 2019 or prior years. Overall, 50% of PWS that incurred a monitoring/reporting violation returned to compliance in 2019.

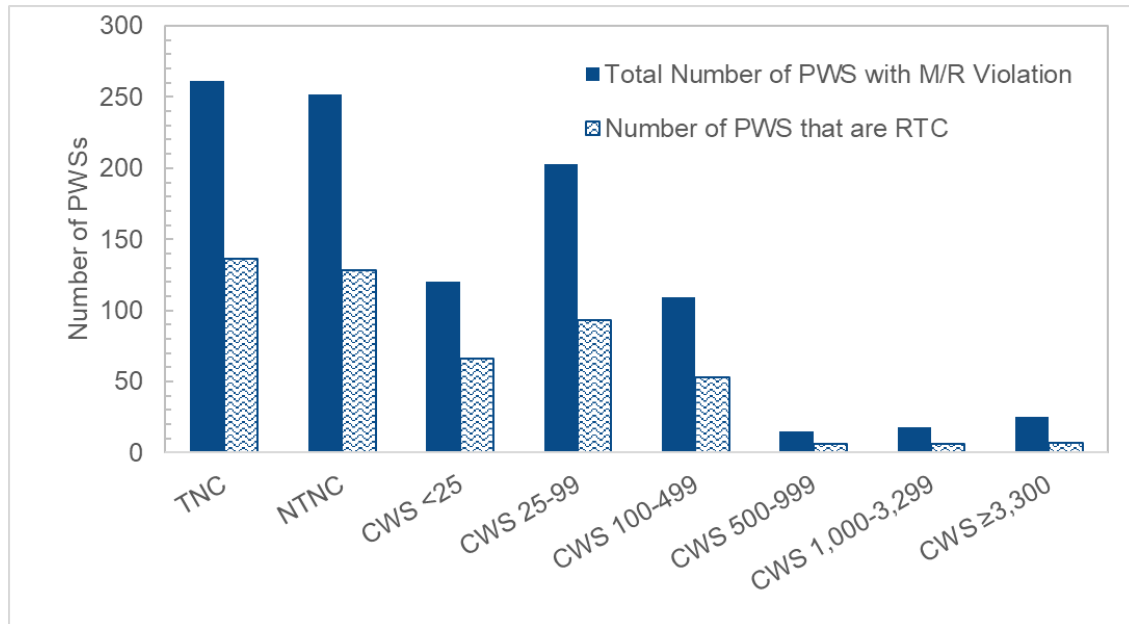


Figure 25 Number of PWS that returned to compliance in 2019 for M/R violations

The rate of RTC is generally higher for monitoring and reporting violations than MCL/TT violations. Often the SDWIS-State records are not regularly updated to reflect when a PWS has returned to compliance for a monitoring violation. DDW recently resumed a limited process across the Drinking Water Program to correct data validation errors and update inventory records, including violations records in SDWIS-State, to ensure that the compliance status of PWS as recorded in SDWIS-State is consistent with the compliance status determined by the local DDW and LPA staff. DDW continues to work to improve data procedures and data systems in order to ensure timely reporting of accurate compliance information for PWS in SDWIS-State.

Chapter 5. Conclusion

The State Water Board is the primacy agency responsible for the administration and enforcement of the SDWA requirements in California. The implementation of the program includes a range of activities and authorities including issuing operating permits, conducting inspections, monitoring for compliance with regulations, and taking enforcement action to compel compliance when violations are identified.

Overall, water systems in California have a high rate of compliance with drinking water standards. However, many public water systems continue to incur water quality violations as a result of contamination of drinking water sources. Arsenic and nitrate continue to impact communities in the state.

The State Water Board continues to track compliance, take enforcement actions to address violations, provide technical assistance to public water systems to address violations, provide funding assistance to public water systems that are capable of undertaking planning or construction projects in order to address violations, and compel public water systems that do not have adequate technical, managerial, and financial capacity to provide reliable and safe drinking water to its customers to consolidate with other public water systems that are able to provide safe drinking water.

5.1. Drinking Water Program Compliance Activities for 2020

DDW has planned a number of activities and projects that will ultimately improve the reporting of violations and enforcement actions, improve data quality, as well as assist in returning PWS to compliance after a violation has occurred.

DDW started working on updating the Safe Drinking Water Plan in 2018, and which will be published in 2020. The Safe Drinking Water Plan is a comprehensive assessment of drinking water in California which covers the quality and safety, types of problems that need to be addressed, overall health risks, current and projected costs, and current regulatory programs. The plan will contain specific recommendations to address issues identified and improve the overall quality and safety of California's drinking water.

DDW implemented new initiatives to address unsustainable public water systems, including mandatory water system consolidations and preventative measures to stop the establishment of unsustainable PWS. The State Water Board established the new Safe and Affordable Funding for Equity and Resilience (SAFER) Section under the DDW Deputy Director, a Safe and Affordable Drinking Water Section under the Division of Financial Assistance (DFA) Office of Sustainable Water Solutions, and one under DFA's Grants/Op-Cert/Administration Branch, for a total of more than 75 new positions in the State Water Board to meet the goals of safe, accessible, and affordable drinking water for all Californians. Information about SAFER is available on the webpage here <https://www.waterboards.ca.gov/safer/>.

DDW's Quality Assurance Section (QAS) was moved under the DDW Resiliency and Data (RAD) Branch and continues to improve the quality of data that DDW receives from laboratories and PWS, and the quality of the inventory data that DDW maintains in SDWIS-State. The Data Management Unit within QAS continues to develop tools to increase efficiency in routine data cleanup activities to ensure data quality. The Program Liaison Unit within QAS continues to coordinate with LPAs to ensure accurate and timely reporting of compliance data, and data cleanup.

DDW continues to work on a multi-year project to modernize the SDWA compliance data management system and integrate a multitude of compliance tracking tools into a single system.

5.2. Obtaining a Copy of the Report

A copy of this Annual Compliance Report is available from DDW's webpage at https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Publications.shtml. You may also contact DDW at (916) 449-5577 to obtain a copy of the report.

5.3. Human Right to Water Portal

DDW also maintains a public webpage on the compliance status of public water systems, as part of its implementation of the Water Boards resolution on the human right to water. The Human Right to Water Portal http://waterboards.ca.gov/water_issues/programs/hr2w/index.shtml provides

tools for the public to find out if their public water system is in compliance with the drinking water standards, and how to get in contact with their water system.

Glossary of Terms

Term	Description
Public Water System (PWS)	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.
Community water system (CWS)	A water system serving facilities such as cities, towns, mobile home parks.
Nontransient noncommunity water system (NTNC)	A water system serving facilities such as schools, factories or other facilities that serve the same group of non-resident users at least 180 days out of the year.
Transient noncommunity water system (TNC)	A water system serving facilities such as restaurants, parks, rest stops, campgrounds and other facilities that serve a transient population for at least 60 days out of the year.
Primary Drinking Water Standards	MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.
Maximum Contaminant Level (MCL)	The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.
Maximum Residual Disinfectant Level (MRDL)	The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Treatment Techniques (TT)	A required process intended to reduce the level of a contaminant in drinking water in lieu of an MCL. For example, treatment techniques have been established for the treatment of surface waters in order to control the levels of viruses, bacteria, and other pathogens.
Variations and Exemptions	State Water Board permission to exceed an MCL or not comply with a TT under certain conditions.
Monitoring and Reporting (M/R)	A water system is required to monitor and verify that the levels of contaminants present in the water do not exceed the MCL. A monitoring violation occurs when a

Term	Description
	water system fails to have its water tested as required or fails to report test results correctly to the regulatory agency.
Secondary Drinking Water Standards	MCLs for contaminants for aesthetics effects, to protect the odor, taste, and appearance of drinking water. Contaminants with secondary MCLs (SMCL) are not considered to present a risk to human health at the SMCL.
Significant Monitoring or Reporting Violations	For this report, significant monitoring or reporting violations are defined as when no samples were taken, or no results were reported
Public Notification	The Public Notification Rule requires all PWS to notify their consumers any time a PWS violated a national primary drinking water regulation or has a situation posing a risk to public health. The time period that a PWS must notify the public depends upon the risk posed by the violation or situation. Notices must be provided to persons served (not just billing consumers).
Significant Public Notification Violations	For this report, a significant public notification violation occurs when a PWS completely fails to notify its consumers that the PWS violated a national primary drinking water regulation or had a situation posing a risk to public health.
Consumer Confidence Report (CCR)	All community water systems and nontransient noncommunity water systems are required to deliver to their customers an annual CCR, summarizing water quality data collected during the year. The report is to include educational material, provide information on the source water(s), levels of any detected contaminants, and any compliance issues with the drinking water regulations.
Significant Consumer Notification Violations	For this report, a significant consumer notification violation is incurred if a community or nontransient noncommunity water system completely fails to provide its customers the required annual CCR.
pCi/L	Picocuries per liter, a measure of radioactivity
ppm	Parts per million, equivalent to about 32 seconds out of a year. Same as milligrams per liter (mg/L)
ppb	Parts per billion, equivalent to about three seconds out of a century. Same as micrograms per liter (ug/L)

Appendix A: Summary of MCL Violations for Arsenic by County

County	Contaminant	PWS ID	PWS Name	Population Served	Number of Violations
Fresno	Arsenic	CA1009051	Cantua Creek Vineyards, IV, LLC.	50	4
Fresno	Arsenic	CA1010039	Caruthers Comm Services District	2503	4
Fresno	Arsenic	CA1000577	Dunlap Leadership Academy	78	1
Inyo	Arsenic	CA1400036	Keeler Community Service District	50	4
Inyo	Arsenic	CA1400526	Eastern Sierra College Center – Bishop	280	3
Kern	Arsenic	CA1500378	Maher Mutual Water Company	150	2
Kern	Arsenic	CA1500424	Lands Of Promise MWC	174	4
Kern	Arsenic	CA1500436	Hungry Gulch MWC	74	4
Kern	Arsenic	CA1500442	Sunset Apartments WS	37	4
Kern	Arsenic	CA1500455	William Fisher Memorial Water Company	56	4
Kern	Arsenic	CA1500458	R.S. Mutual Water Company	67	2
Kern	Arsenic	CA1500461	Fountain Trailer Park Water	68	4
Kern	Arsenic	CA1500493	El Adobe POA, Inc.	200	2
Kern	Arsenic	CA1500525	Lakeview Ranchos Mutual Water Company	120	4
Kern	Arsenic	CA1500571	Lucky 18 On Rosamond, LLC	73	4
Kern	Arsenic	CA1500585	Oasis Property Owners Association	100	2
Kern	Arsenic	CA1502154	Lakeside School	800	2

County	Contaminant	PWS ID	PWS Name	Population Served	Number of Violations
Kern	Arsenic	CA1502231	Rosamond School Water System	940	4
Kern	Arsenic	CA1502383	Nord Road Water Association	32	2
Kern	Arsenic	CA1502569	First Mutual Water System	35	4
Kern	Arsenic	CA1510024	Greenfield County WD	10131	1
Kern	Arsenic	CA1510052	North Edwards WD	600	4
Kern	Arsenic	CA1503521	Primex Farms Water System	125	1
Kings	Arsenic	CA1600008	Central Union Elementary	320	4
Kings	Arsenic	CA1600048	Kettleman City Elementary	350	3
Kings	Arsenic	CA1600050	Central Valley Meat Co Inc	280	4
Kings	Arsenic	CA1600601	KWRA MRF	53	3
Kings	Arsenic	CA1600605	Baker Commodities Inc.	47	5
Kings	Arsenic	CA1610009	Kettleman City CSD	1450	2
Los Angeles	Arsenic	CA1900785	Mitchell's Avenue E Mobile Home Park	24	1
Madera	Arsenic	CA2010007	Hillview WC-Oakhurst/Sierra Lakes	3449	1
Madera	Arsenic	CA2010012	Hillview Water Co-Raymond	307	1
Madera	Arsenic	CA2000506	Sierra Linda Mutual Water Co	200	2
Madera	Arsenic	CA2000527	Yosemite Forks Est Mutual	110	3
Madera	Arsenic	CA2000538	Cedar Valley Mutual Water Co	137	4
Madera	Arsenic	CA2000552	MD 24 Teaford Meadow Lakes	150	2
Madera	Arsenic	CA2000561	MD 08 North Fork Water System	264	2
Madera	Arsenic	CA2000612	North Fork Elementary School	350	2
Madera	Arsenic	CA2000737	MD 42 Still Meadow	100	4
Madera	Arsenic	CA2000785	Valley Teen Ranch	50	2
Madera	Arsenic	CA2000866	AgriLand Farming	60	2

County	Contaminant	PWS ID	PWS Name	Population Served	Number of Violations
Merced	Arsenic	CA2400248	Yosemite Valley Beef Packing Co Inc	61	3
Merced	Arsenic	CA2400343	Gemperle Egg Ranch	55	4
Merced	Arsenic	CA2400345	JS West Milling Co Hilmar Ranch	68	1
Merced	Arsenic	CA2400346	Livingston Farmers Association Water Sys	30	3
Merced	Arsenic	CA2400342	California Fresh Farms	86	2
Mono	Arsenic	CA2600622	Sierra East HOA	84	3
Monterey	Arsenic	CA2700536	Corral De Tierra Estates WC	45	4
Monterey	Arsenic	CA2700799	Vista Del Toro WS	92	2
Monterey	Arsenic	CA2701221	Washington School WS	250	4
Monterey	Arsenic	CA2702009	Laguna Seca Recreation WS	500	4
Monterey	Arsenic	CA2702550	Grange Hall WS	25	4
Riverside	Arsenic	CA3301380	Saint Anthony Trailer Park	300	4
Riverside	Arsenic	CA3303100	Oasis Gardens Water Co.	314	4
Sacramento	Arsenic	CA3400130	The Courtland Group	40	1
Sacramento	Arsenic	CA3400433	Edgewater Mobile Home Park	40	3
San Benito	Arsenic	CA3500823	Best Road MWC	133	4
San Bernardino	Arsenic	CA3600025	Bar-Len MWC	124	4
San Bernardino	Arsenic	CA3600036	Calico Ghost Town	1000	4
San Bernardino	Arsenic	CA3600062	Caillier Water System	1000	4
San Bernardino	Arsenic	CA3600196	CSA 70 W-4 Pioneertown	625	2
San Bernardino	Arsenic	CA3600504	Knoll Enterprises	500	4
San Bernardino	Arsenic	CA3601015	Ironwood Camp	1000	4
San Diego	Arsenic	CA3701010	Warner Unified School District	250	2
San Joaquin	Arsenic	CA3900579	Century Mobile Home Park	50	3

County	Contaminant	PWS ID	PWS Name	Population Served	Number of Violations
San Joaquin	Arsenic	CA3901169	MUSD-Nile Garden School	804	3
San Joaquin	Arsenic	CA3901213	Sunny Road Water System	30	3
San Joaquin	Arsenic	CA3901418	Austin Industrial Park Water System	25	2
San Luis Obispo	Arsenic	CA4000637	Country Hills Estates	60	2
San Luis Obispo	Arsenic	CA4000750	Rim Rock Water Company	55	2
San Luis Obispo	Arsenic	CA4000774	Pleasant Valley Elementary	100	2
Sonoma	Arsenic	CA4900716	Cinnabar Elementary School	228	1
Stanislaus	Arsenic	CA5000033	Cobles Corner	50	4
Stanislaus	Arsenic	CA5000077	Ceres West MHP	161	4
Stanislaus	Arsenic	CA5010009	Keyes Community Services Dist.	5232	4
Stanislaus	Arsenic	CA5000255	Mountain View Elementary School	364	2
Tehama	Arsenic	CA5200550	New Orchard Mobile Home Park LLC	125	2
Tehama	Arsenic	CA5201137	Millstream Mobile Home Park	80	3
Tulare	Arsenic	CA5410009	Pixley Public Util Dist	2709	2
Yuba	Arsenic	CA5800824	Country Village Mobile Home Park	50	1

Appendix B: Summary of MCL Violations for Nitrate and Combined Nitrate-Nitrite by County

County	Contaminant	PWS ID	PWS Name	Population Served	Number of Violations
Butte	Nitrate	CA0400060	Honcut Elementary School	25	1
Butte	Nitrate	CA0400067	Feather River School	25	1
Fresno	Nitrate	CA1000057	Del Oro Water Co - Metropolitan District	96	1
Fresno	Nitrate	CA1000459	Road Runner Food And Fuel	300	4
Kern	Nitrate	CA1500393	Rainbird Valley Mutual Water Company	238	4
Kern	Nitrate	CA1500401	Mettler County Water District	157	2
Kern	Nitrate	CA1500409	Brock Mutual Water Company	462	4
Kern	Nitrate	CA1500458	R.S. Mutual Water Company	67	4
Kern	Nitrate	CA1500459	Lake Of The Woods Mobile Village	82	2
Kern	Nitrate	CA1500464	Lake Isabella KOA Campground	280	4
Kern	Nitrate	CA1500494	Wilson Road Water Community	66	1
Kern	Nitrate	CA1500566	Spring Mountain Mutual Water Company	26	3
Kern	Nitrate	CA1500575	San Joaquin Estates Mutual Water Company	165	1
Kern	Nitrate	CA1500588	Son Shine Properties	438	1
Kern	Nitrate	CA1502012	Heck Cellars Water System	47	4
Kern	Nitrate	CA1502680	Orange Grove RV Park	205	3

County	Contaminant	PWS ID	PWS Name	Population Served	Number of Violations
Kern	Nitrate	CA1502699	East Wilson Road Water Company	35	1
Kern	Nitrate	CA1503526	Wini Mutual Water Company	29	1
Kern	Nitrate	CA1503688	Grimmway Farms - David Road	114	3
Kern	Nitrate	CA1504003	Kern Ridge Growers	95	1
Kern	Nitrate	CA1510023	Lake of the Woods MWC	1103	2
Madera	Nitrate	CA2010012	Hillview Water Co-Raymond	307	1
Merced	Nitrate	CA2400331	Quail H Farms Water System	30	1
Merced	Nitrate	CA2400333	Yagi Brothers Produce Inc.	46	4
Merced	Nitrate	CA2400335	Olivares Farms Water System	30	4
Merced	Nitrate	CA2400336	Doreva Produce	36	1
Monterey	Nitrate	CA2700738	San Miguel WS #01	100	4
Monterey	Nitrate	CA2700771	Springfield Water Company	200	4
Monterey	Nitrate	CA2700772	Struve Rd WS #02	166	1
Monterey	Nitrate	CA2701036	Apple Ave WS #03	60	4
Monterey	Nitrate	CA2701040	McCoy Rd WS #05	72	2
Monterey	Nitrate	CA2701063	River Rd WS #25	65	4
Monterey	Nitrate	CA2701176	Soledad Mission WS	25	5
Monterey	Nitrate	CA2701241	Encinal Rd WS #01	41	4
Monterey	Nitrate	CA2701726	Spence Rd WS #05	25	4
Monterey	Nitrate	CA2702317	Mission School WS	100	1
Monterey	Nitrate	CA2702409	El Camino WC Inc	90	4
Monterey	Nitrate	CA2702616	Altman Plants WS #02	25	4
Riverside	Nitrate	CA3301330	Indian Oaks Trailer Park	90	2
Riverside	Nitrate	CA3301529	Ramona Water Company	250	4
Sacramento	Nitrate	CA3400466	Subway Sandwich	100	1

County	Contaminant	PWS ID	PWS Name	Population Served	Number of Violations
San Benito	Nitrate-Nitrite	CA3500903	San Juan Oaks Golf Club	450	2
San Bernardino	Nitrate	CA3600391	Hillcrest Mobile Estates	900	4
San Bernardino	Nitrate	CA3600768	Institute of Mental Physics	100	4
San Bernardino	Nitrate	CA3601137	Lizze Enterprises	25	4
San Diego	Nitrate	CA3700018	Campo Elementary School	300	6
San Diego	Nitrate	CA3700065	South Bay Rod & Gun Club Inc.	200	4
San Diego	Nitrate	CA3700291	Ocotillo Oasis Mobile Home Park	100	2
San Diego	Nitrate	CA3700912	YMCA Camp Marston/Raintree	310	2
San Diego	Nitrate	CA3700924	Lake Morena Views MW Co.	360	4
San Diego	Nitrate	CA3700934	Pauma Valley Mutual Water Company	120	4
San Diego	Nitrate	CA3701341	Quiet Oaks Mobile Home Park	120	5
San Diego	Nitrate	CA3702364	Clover Flat Elementary School	160	2
San Diego	Nitrate	CA3702706	Boulevard Pines Mobile Home and RV Park	25	2
San Joaquin	Nitrate	CA3901164	Subtera Water System	150	3
San Joaquin	Nitrate	CA3901182	Finleys	25	1
San Joaquin	Nitrate	CA3901387	Stockton Baptist Church	25	3
Santa Barbara	Nitrate	CA4200842	Saint Marie MHP	250	1
Santa Clara	Nitrate	CA4300630	Foothill Mutual Water Company	30	1
Santa Clara	Nitrate	CA4300996	Valley View Ranches	45	1
Sonoma	Nitrate	CA4900568	Valley Ford Water Association	61	1
Sonoma	Nitrate	CA4900913	Robin Way Water System	66	2
Stanislaus	Nitrate	CA5000295	Shiloh School District	105	3
Stanislaus	Nitrate	CA5000372	Storer Transportation	40	4
Stanislaus	Nitrate	CA5000402	Our Lady of Assumption Church	26	3

County	Contaminant	PWS ID	PWS Name	Population Served	Number of Violations
Stanislaus	Nitrate	CA5000411	McHenry Business Park	27	2
Stanislaus	Nitrate	CA5000426	Liberty Baptist Church	65	4
Stanislaus	Nitrate	CA5000435	BloomingCamp Water System	25	3
Stanislaus	Nitrate	CA5000457	One Stop WS	50	2
Stanislaus	Nitrate	CA5000462	Best Western-Orchard Inn	26	4
Stanislaus	Nitrate	CA5000499	Ratto Bros, Inc	100	1
Stanislaus	Nitrate	CA5000525	Oasis Market	25	2
Stanislaus	Nitrate	CA5000600	Mid Valley Nut Co	60	1
Tulare	Nitrate	CA5400541	Porterville Citrus Rayo	100	4
Tulare	Nitrate	CA5400558	Saucelito Elementary School	90	4
Tulare	Nitrate	CA5400616	Lemon Cove Water Co	109	4
Tulare	Nitrate	CA5400636	Orosi High School	1200	1
Tulare	Nitrate	CA5400651	Beverly Grand Mutual Water	92	4
Tulare	Nitrate	CA5400666	Del Oro Grandview Gardens District	327	3
Tulare	Nitrate	CA5400670	Triple R Mutual Water Co	408	4
Tulare	Nitrate	CA5400709	Sequoia Union Elementary School	400	4
Tulare	Nitrate	CA5400735	Rodriguez Labor Camp	110	4
Tulare	Nitrate	CA5400795	Waukena Elementary School	255	4
Tulare	Nitrate	CA5400964	Sierra Vista Assn	44	4
Tulare	Nitrate	CA5400987	Old Stage Saloon at Fountain Springs	25	2
Tulare	Nitrate	CA5400994	Hope Elementary School	275	2
Tulare	Nitrate	CA5401003	East Orosi CSD	932	3
Tulare	Nitrate	CA5401076	Golden State Vintners Cutler	46	1
Tulare	Nitrate	CA5402013	Sun Pacific Shippers LP - Exeter	200	3

County	Contaminant	PWS ID	PWS Name	Population Served	Number of Violations
Tulare	Nitrate	CA5402030	Waukena Market	100	3
Tulare	Nitrate	CA5402043	Monson Market	30	4
Tulare	Nitrate	CA5402046	Waterman Valve, LLC	157	3
Tulare	Nitrate	CA5402047	Gleanings for the Hungry	31	4
Tulare	Nitrate	CA5403022	Aptco LLC	150	4
Tulare	Nitrate	CA5403039	Teapot Dome Water Co	39	4
Tulare	Nitrate	CA5403041	Family Tree Farms	30	2
Tulare	Nitrate	CA5403046	Visalia Citrus Packing Group- Orange Cove	70	4
Tulare	Nitrate	CA5403048	J.D. Heiskell & Co.	60	2
Tulare	Nitrate	CA5403053	NS Mini Mart	140	3
Tulare	Nitrate	CA5403076	Central Cal Tristeza Erad	28	4
Tulare	Nitrate	CA5403081	Peters Fruit Farms, Inc	125	1
Tulare	Nitrate	CA5403105	The Barn	200	4
Tulare	Nitrate	CA5403106	Exeter-Ivanhoe Citrus Association	102	4
Tulare	Nitrate	CA5403110	Sierra Mutual Water Co	36	4
Tulare	Nitrate	CA5403122	PC's Food Mart	500	1
Tulare	Nitrate	CA5403151	Arco AM PM - Pixley	1000	3
Tulare	Nitrate	CA5403205	Pena's Disposal Services	86	3
Tulare	Nitrate	CA5403211	Booth Ranches LLC	150	4
Tulare	Nitrate	CA5403215	Fresh Select, LLC	30	4
Tulare	Nitrate	CA5410014	Tipton Community Services Dist	2543	1
Tulare	Nitrate	CA5410024	Richgrove Community Services District	1617	1
Yolo	Nitrate	CA5700617	Mariani Nut Company - Buckeye Rd	50	1
Yolo	Nitrate	CA5700623	Davis JUSD - Fairfield School	65	2

County	Contaminant	PWS ID	PWS Name	Population Served	Number of Violations
Yolo	Nitrate	CA5700788	North Davis Meadows	314	2
Yolo	Nitrate	CA5700795	Hay Kingdom	27	1
Yolo	Nitrate	CA5700802	Nelson's Grove	150	1

Appendix C: Summary of MCL Violations for 1,2,3-TCP by County

County	Contaminant	PWS ID	PWS Name	Population Served	Number of Violations
Fresno	1,2,3-Trichloropropane	CA1010039	Caruthers Comm Serv Dist	2503	2
Fresno	1,2,3-Trichloropropane	CA1000248	Double L Mobile Ranch Park	80	4
Fresno	1,2,3-Trichloropropane	CA1000279	U.C. Kearney Field Station	250	3
Fresno	1,2,3-Trichloropropane	CA1000533	Three Crowns Industrial Park, Inc.	25	1
Fresno	1,2,3-Trichloropropane	CA1010006	City of Fowler	5801	4
Fresno	1,2,3-Trichloropropane	CA1000004	Belmont Water Corporation	264	4
Fresno	1,2,3-Trichloropropane	CA1000023	FCSA #14/Belmont Manor	115	4
Fresno	1,2,3-Trichloropropane	CA1000180	Alta Elementary School	390	4
Fresno	1,2,3-Trichloropropane	CA1000187	Indianola School	511	2
Fresno	1,2,3-Trichloropropane	CA1000196	Riverview School	469	4
Fresno	1,2,3-Trichloropropane	CA1000204	American Union School	250	4
Fresno	1,2,3-Trichloropropane	CA1000206	Houghton-Kearney School	310	3
Fresno	1,2,3-Trichloropropane	CA1000299	Three Palms Mobile Home Park	300	3
Fresno	1,2,3-Trichloropropane	CA1000316	Kings Canyon High School	120	4
Fresno	1,2,3-Trichloropropane	CA1000383	Guardian Industries LLC	291	4
Fresno	1,2,3-Trichloropropane	CA1000411	O'Neill Vintners & Distillers	90	3
Fresno	1,2,3-Trichloropropane	CA1000416	Easton Presbyterian Church	450	1
Fresno	1,2,3-Trichloropropane	CA1000473	Belmont Country Club	150	4
Fresno	1,2,3-Trichloropropane	CA1000479	Franzia Winery-Sanger	39	4

County	Contaminant	PWS ID	PWS Name	Population Served	Number of Violations
Fresno	1,2,3-Trichloropropane	CA1000486	Lion Raisins Packing Company	80	2
Fresno	1,2,3-Trichloropropane	CA1000496	Copper River Country Club	125	4
Fresno	1,2,3-Trichloropropane	CA1000562	Southwest Transportation Agency	25	4
Fresno	1,2,3-Trichloropropane	CA1000566	Foster Farms - Cedar Hatchery	35	3
Fresno	1,2,3-Trichloropropane	CA1000580	Campos Bros. Farms	150	4
Fresno	1,2,3-Trichloropropane	CA1000593	Vie-Del Company	60	4
Fresno	1,2,3-Trichloropropane	CA1010019	Kingsburg, City of	11504	4
Fresno	1,2,3-Trichloropropane	CA1010025	City of Parlier	15250	4
Fresno	1,2,3-Trichloropropane	CA1010035	Del Rey Community Serv Dist	1500	4
Kern	1,2,3-Trichloropropane	CA1500401	Mettler County Water District	157	1
Kern	1,2,3-Trichloropropane	CA1500409	Brock Mutual Water Company	462	4
Kern	1,2,3-Trichloropropane	CA1500494	Wilson Road Water Community	66	4
Kern	1,2,3-Trichloropropane	CA1500575	San Joaquin Estates Mutual Water Company	165	4
Kern	1,2,3-Trichloropropane	CA1500588	Son Shine Properties	438	4
Kern	1,2,3-Trichloropropane	CA1502012	Heck Cellars Water System	47	4
Kern	1,2,3-Trichloropropane	CA1502699	East Wilson Road Water Company	35	4
Kern	1,2,3-Trichloropropane	CA1503526	Wini Mutual Water Company	29	4
Kern	1,2,3-Trichloropropane	CA1504003	Kern Ridge Growers	95	4
Kern	1,2,3-Trichloropropane	CA1503521	Primex Farms Water System	125	1
Kern	1,2,3-Trichloropropane	CA1503688	Grimmway Farms - David Road	114	2
Kern	1,2,3-Trichloropropane	CA1500231	Victory Mutual Water Company	849	4
Kern	1,2,3-Trichloropropane	CA1500289	Athal Mutual Water System	150	4

County	Contaminant	PWS ID	PWS Name	Population Served	Number of Violations
Kern	1,2,3-Trichloropropane	CA1500296	Fuller Acres Mutual Water Company	545	4
Kern	1,2,3-Trichloropropane	CA1500314	Del Oro WC - Country Estates Dist	297	4
Kern	1,2,3-Trichloropropane	CA1500344	South Kern Mutual Water Company	32	4
Kern	1,2,3-Trichloropropane	CA1500546	Harvest Moon Mutual Water Co	138	4
Kern	1,2,3-Trichloropropane	CA1500555	Mustang Mutual Water System	200	4
Kern	1,2,3-Trichloropropane	CA1500597	Grimmway Farms- Frozen Foods	300	4
Kern	1,2,3-Trichloropropane	CA1502066	Delano Growers Grape Products	41	4
Kern	1,2,3-Trichloropropane	CA1502133	V Lions Ops Water System	60	4
Kern	1,2,3-Trichloropropane	CA1502164	Llanas Camp Four Water System	54	4
Kern	1,2,3-Trichloropropane	CA1502229	Rio Bravo Greeley School Water System	887	4
Kern	1,2,3-Trichloropropane	CA1502273	Farmland Reserve, Inc.	80	4
Kern	1,2,3-Trichloropropane	CA1503093	Grimmway Enterprises-Malaga Water System	1200	4
Kern	1,2,3-Trichloropropane	CA1503194	Paradise Water System	31	4
Kern	1,2,3-Trichloropropane	CA1503290	The Garlic Company	120	4
Kern	1,2,3-Trichloropropane	CA1503336	Golden Empire Concrete Company	53	4
Kern	1,2,3-Trichloropropane	CA1503349	Wm. Bolthouse Farms, Inc.	2437	4
Kern	1,2,3-Trichloropropane	CA1503669	North Kranenburg WS	33	4
Kern	1,2,3-Trichloropropane	CA1504000	Famoso Nut Company	35	4

County	Contaminant	PWS ID	PWS Name	Population Served	Number of Violations
Kern	1,2,3-Trichloropropane	CA1504001	Wonderful Nurseries, LLC	250	4
Kern	1,2,3-Trichloropropane	CA1510005	Delano, City of	52658	1
Kern	1,2,3-Trichloropropane	CA1510006	East Niles CSD	31772	4
Kern	1,2,3-Trichloropropane	CA1510012	Lamont Public Utility Dist	19057	3
Kern	1,2,3-Trichloropropane	CA1510013	Mcfarland, City of	15105	4
Kern	1,2,3-Trichloropropane	CA1510019	Shafter, City of	20500	4
Kern	1,2,3-Trichloropropane	CA1510021	Wasco, City of	22690	4
Kern	1,2,3-Trichloropropane	CA1510801	Wasco St. Prison Reception Ctr	6514	4
Madera	1,2,3-Trichloropropane	CA2000553	Md 28 Ripperdan Self Help	48	2
Madera	1,2,3-Trichloropropane	CA2000602	Ripperdan Community Day School	91	2
Madera	1,2,3-Trichloropropane	CA2000659	Cbuso Mission Bell	440	2
Madera	1,2,3-Trichloropropane	CA2000920	San Joaquin Wine Company	90	2
Merced	1,2,3-Trichloropropane	CA2400331	Quail H Farms Water System	30	4
Merced	1,2,3-Trichloropropane	CA2400333	Yagi Brothers Produce Inc.	46	4
Merced	1,2,3-Trichloropropane	CA2400336	Doreva Produce	36	2
Merced	1,2,3-Trichloropropane	CA2400343	Gemperle Egg Ranch	55	4
Merced	1,2,3-Trichloropropane	CA2410010	Winton Water & Sanitary Dist	8500	4
Merced	1,2,3-Trichloropropane	CA2400011	Dole Atwater Plant	1500	4
Merced	1,2,3-Trichloropropane	CA2400013	Sensient Natural Ingredients LLC	400	4
Merced	1,2,3-Trichloropropane	CA2400079	McSwain Elementary School	950	4
Merced	1,2,3-Trichloropropane	CA2400084	Evergreen Mobile Home Park	36	4
Merced	1,2,3-Trichloropropane	CA2400097	Cressey School	155	4
Merced	1,2,3-Trichloropropane	CA2400099	Grace Mennonite School	100	4
Merced	1,2,3-Trichloropropane	CA2400162	Hughson Nut Inc. - Livingston	120	4

County	Contaminant	PWS ID	PWS Name	Population Served	Number of Violations
Merced	1,2,3-Trichloropropane	CA2400167	Ballico CSD	238	4
Merced	1,2,3-Trichloropropane	CA2400218	Foster Farms Fertilizer Plant	40	4
Merced	1,2,3-Trichloropropane	CA2400232	A V Thomas Produce, Inc.	212	4
Merced	1,2,3-Trichloropropane	CA2400255	Classic Yam Water System	60	2
Merced	1,2,3-Trichloropropane	CA2410001	City of Atwater	29397	4
Merced	1,2,3-Trichloropropane	CA2410004	City of Livingston	14894	4
Merced	1,2,3-Trichloropropane	CA2410011	Le Grand Comm Services Dist	1700	1
Riverside	1,2,3-Trichloropropane	CA3301577	CSA 62	700	4
San Joaquin	1,2,3-Trichloropropane	CA3901169	MUSD-Nile Garden School	804	3
San Joaquin	1,2,3-Trichloropropane	CA3900978	SJ County-Redwood School	83	3
San Joaquin	1,2,3-Trichloropropane	CA3900983	Cherry Lane Trailer Park	100	3
San Joaquin	1,2,3-Trichloropropane	CA3901425	Morada Produce	25	3
San Joaquin	1,2,3-Trichloropropane	CA3910005	Manteca, City of	81664	4
San Joaquin	1,2,3-Trichloropropane	CA3910014	San Joaquin County-Raymus Village	1086	2
Stanislaus	1,2,3-Trichloropropane	CA5000033	Cobles Corner	50	4
Stanislaus	1,2,3-Trichloropropane	CA5000077	Ceres West MHP	161	4
Stanislaus	1,2,3-Trichloropropane	CA5010009	Keyes Community Services Dist.	5232	4
Stanislaus	1,2,3-Trichloropropane	CA5000411	McHenry Business Park	27	4
Stanislaus	1,2,3-Trichloropropane	CA5000249	Stanislaus Union School Dist	390	4
Stanislaus	1,2,3-Trichloropropane	CA5000273	Gratton School	110	4

County	Contaminant	PWS ID	PWS Name	Population Served	Number of Violations
Stanislaus	1,2,3-Trichloropropane	CA5000552	Kiernan Business Center	120	4
Stanislaus	1,2,3-Trichloropropane	CA5000563	Elks Lodge 1282	25	4
Stanislaus	1,2,3-Trichloropropane	CA5000565	Sterling Industrial	35	4
Stanislaus	1,2,3-Trichloropropane	CA5010007	Hillsview Homes	887	2
Stanislaus	1,2,3-Trichloropropane	CA5010028	Ceres, City of	48697	4
Tulare	1,2,3-Trichloropropane	CA5400558	Saucelito Elementary School	90	3
Tulare	1,2,3-Trichloropropane	CA5400735	Rodriguez Labor Camp	110	4
Tulare	1,2,3-Trichloropropane	CA5400964	Sierra Vista Assn	44	4
Tulare	1,2,3-Trichloropropane	CA5401076	Golden State Vintners Cutler	46	4
Tulare	1,2,3-Trichloropropane	CA5403041	Family Tree Farms	30	4
Tulare	1,2,3-Trichloropropane	CA5403211	Booth Ranches LLC	150	4
Tulare	1,2,3-Trichloropropane	CA5410009	Pixley Public Util Dist	2709	4
Tulare	1,2,3-Trichloropropane	CA5410024	Richgrove Community Services District	1617	4
Tulare	1,2,3-Trichloropropane	CA5403081	Peters Fruit Farms, Inc	125	3
Tulare	1,2,3-Trichloropropane	CA5400553	Del Oro Traver District	663	1
Tulare	1,2,3-Trichloropropane	CA5400641	Teviston CSD	343	4
Tulare	1,2,3-Trichloropropane	CA5400711	Sierra View Jr Academy	104	4
Tulare	1,2,3-Trichloropropane	CA5400792	Woodville Farm Labor Center	688	4
Tulare	1,2,3-Trichloropropane	CA5400844	Elbow Creek School	530	4
Tulare	1,2,3-Trichloropropane	CA5401004	Styrotek, Inc.	36	2
Tulare	1,2,3-Trichloropropane	CA5403080	Legacy Packing	125	4
Tulare	1,2,3-Trichloropropane	CA5403140	Monarch Nut Co	400	4
Tulare	1,2,3-Trichloropropane	CA5403144	Ali Mutual Water Co	39	3
Tulare	1,2,3-Trichloropropane	CA5410015	Tulare, City Of	65982	4
Tulare	1,2,3-Trichloropropane	CA5410017	London Community Serv Dist	2138	4

