ANNUAL COMPLIANCE REPORT 2015

State Water Resources Control Board
Division of Drinking Water

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STATE WATER RESOURCES CONTROL BOARD
DRINKING WATER PROGRAM
ANNUAL COMPLIANCE REPORT OF PUBLIC WATER SYSTEMS

CALENDAR YEAR 2015

EXECUTIVE SUMMARY

The State of California Drinking Water Program (DWP), including designation by the EPA as the primacy agency, transferred in its entirety from the California Department of Public Health to the State Water Resources Control Board (SWRCB) on July 1, 2014.

Each quarter, the State's DWP submits data to the Safe Drinking Water Information System (SDWIS/FED), which is a database maintained by the U.S. Environmental Protection Agency (USEPA). The data submitted includes: public water system inventory information; incidents of violations for maximum contaminant levels (MCLs), maximum residual disinfectant levels (MRDLs), monitoring and reporting (M/R), treatment techniques (TT); violations concerning public and consumer notification; and information on enforcement activity related to these violations. In addition, SWRCB provides USEPA with this Annual Compliance Report, which includes a portion of the violation data listed above, that USEPA has identified for inclusion in this report.

Violation information included in this Annual Compliance Report is derived from the data available from the DWP's SDWIS/State database and the USEPA's Safe Drinking Water Information System Reporting Services for the Annual Compliance Report for the period of January 1, 2015 through December 31, 2015. Please note that the data tables used in this report are available at the website listed below. These data tables can be used to search for specific water systems or to sort violations by the name of the county.

A copy of this 2015 Annual Compliance Report (and associated data tables) will be available to the public by contacting the SWRCB's Division of Drinking Water at (916) 449-5600, or through the SWRCB website at:

[HYPERLINK "http://www.waterboards.ca.gov/drinking_water/programs/index.shtml"].

The 2015 Annual Compliance Report discusses violations by categories such as: contaminant category, by individual contaminant, and by the violations in each county. The table below lists the number of violations and estimated populations impacted by

the categories of MCL or treatment technique violations plus specific monitoring and reporting violations for 2015.

The violation data is used by the DWP in establishing priorities and focusing resources to resolve compliance problems. The data for this report and appendices is available at:

[HYPERLINK "http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Publications.shtml"]

Comparison of Data between 2014 and 2015

Part A: Violations with potential direct public health impacts						
MCL and TT Violation Category	Year 2014		Year 2015		Change between 2014 and 2015	
	MCL & TT Violations	Impacted Population	MCL & TT Violations	Impacted Population	MCL &TT Violations	Impacted Population
Inorganic Contaminants	798	206,654	232	129,545	-566	-77,109
Synthetic Organic contaminants	11	15,602	4	14,163	-7	-1,439
Volatile Organic Contaminants	3	250	0	0	-3	-250
Radionuclide Contaminants	73	23,865	26	52,411	-47	+28,546
Total Coliform Rule (acute and non-acute)	617	620,245	419	443,064	-198	-177,181
Disinfectants/ Disinfection Byproducts Rule	164	214,665	74	381,063	-90	+166,398
Surface Water Treatment Rules	86	20,766	42	558,159	-44	+537,393
Groundwater Treatment Rules	2	27,360	1	420	-1	-26,940
Lead and Copper Rule	1	3,441	11	10,494	+10	+7,053
Totals	**1,755**	**1,132,848**	**809**	**1,589,319**	**-946**	**+456,471**

Part B: Violations related to keeping the public informed						
PN Violation Category	Year 2014		Year 2015		Change between 2014 and 2015	
	PN Violations	Number of PWS	PN Violations	Number of PWS	PN Violations	Number of PWS
Public Notification Rule	3	2	52	42	+49	+40

Consumer Confidence Notification	80	69	337	258	+257	+188
Exemptions and Variances	0	0	N/A	N/A	N/A	N/A
Totals	**83**	**71**	**389**	**300**	**306**	228

SECTION 1: INTRODUCTION

This report provides information from the State of California's Water Resources Control Board (SWRCB) records on public drinking water system violation data for calendar year 2015. This report is provided to the U.S. Environmental Protection Agency (EPA) and to the public as required by the Federal Safe Drinking Water Act, sections 1414(c)(3)(A)(i) – (ii).

The Federal Safe Drinking Water Act (SDWA) requires states to report violations of primary drinking water standards via the electronic data system of record as well as this report for each calendar year. This report does not contain information on domestic water supplies such as private wells, which do not meet the definition of a public water system.

The State's Drinking Water Program (DWP), including designation by the EPA as the primacy agency, transferred in its entirety from the California Department of Public Health to the SWRCB on July 1, 2014. Since this transition, the DWP has switched from the PICME Data System to the State Drinking Water Information System (SDWIS) for tracking of violation and compliance data.

THE DRINKING WATER PROGRAM OVERVIEW

Public water systems are regulated and monitored by the Division of Drinking Water of the SWRCB, commonly referred to as the Drinking Water Program (DWP). Currently, the DWP, including county-based Local Primacy Agencies (LPAs), regulate a total of 7,586 public water systems (PWS) in California. A PWS is defined as a water system serving 15 or more service connections, or 25 or more users for 60-plus days per year. PWSs are divided into three principle classifications: community water systems (CWS), non-transient non-community water systems (NTNC), and transient, non-community 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.

CWSs serve cities, towns and other residential areas used by year-round users. Examples include water districts, cities, mutual water companies and even some small housing complexes served by their own well. NTNC systems are systems that provide water to the same non-residential users daily for at least 180 days out of the year but are not classified as CWS. Examples include schools, places of employment and institutions, etc. TNC systems are systems that provide water for a population that is transient. Examples include campgrounds, parks, ski resorts, roadside rest areas, gas stations and motels. As extracted from the SDWIS/State, Table 1 provides a count of the number and type of PWSs in California:

Table [SEQ Table * ARABIC]: Number of Water Systems by System Classification (As of April 2016)

Type of Water System	Count
Community Water Systems (CWS)	2902
Non-Transient, Non-Community (NTNC)	1470

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Type of Water System	Count
Transient, Non-Community (TNC)	3174
Wholesale Water Systems	40
Total number of water systems statewide	**7586**

Table [SEQ Table * ARABIC]: Number of Community Water Systems Statewide (As of April 2016)

Number of Service Connections	Typical Population Served	Number of Systems	Sum of Actual Population Served
3,300 or more	10,000 or more	405	35,350,616
1,000 to 3,299	3,000 to 10,000	271	1,756,737
500 to 999	1,500 to 3,000	148	467,148
100 to 499	300 to 1,500	592	492,143
25 to 99	75 to 300	962	165,967
Fewer than 25	25 to 75	524	40540
Total number of systems		**2902**	**38,273,151**

Under the 1974 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 users. These limits are known as maximum contaminant levels (MCL) and maximum residual disinfectant levels (MRDL). For some regulations, treatment techniques (TT) 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*).

Water systems must notify their consumers when they have violated drinking water standards. 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.

USEPA has designated the SWRCB as the primacy agency responsible for the administration and enforcement of the SDWA requirements in California. SWRCB has

adopted mandated statutes and regulations to implement the requirements of the SDWA.

SWRCB has regulatory responsibility over water systems including tasks such as issuance of operating permits, conducting inspections, monitoring for compliance with regulations, and taking enforcement actions to compel compliance when violations are identified.

In 30 counties, the SWRCB has delegated the drinking water program regulatory authority (known as 'Primacy') for most of the small public water systems serving fewer than 200 service connections. The delegated counties (Local Primacy Agencies or LPAs) are responsible for regulatory oversight of approximately 3,600 small public water systems statewide. The SWRCB retains direct regulatory authority over water systems serving 200 or more service connections and any small public water system not delegated to an LPA.

Each quarter, SWRCB submits data to the Safe Drinking Water Information System (SDWIS/FED), a database maintained by USEPA. The data submitted include:

- Water system inventory information;
- MCL, MRDL, M/R, and TT violations for regulated contaminants;
- Violations concerning public and consumer notification;
- Enforcement actions associated to these violations.
- 90th% data for the Lead and Copper Rule

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

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

- **Violation of a treatment technique:** 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 technique violations are a proven means to reduce the risk from various contaminants by closely controlling the treatment processes

- **Violation of a Monitoring and Reporting Requirement:** 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 a compliance period. A reporting violation occurs when a water system fails to report test results in a timely fashion to the regulatory agency. 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 violation of Monitoring and Reporting Requirements for each of the individual chemicals within this group.

SECTION 2: VIOLATION CATEGORY SUMMARY

The 2015 Annual Compliance Report lists violations by the following categories:

1. Inorganic contaminants
2. Synthetic organic contaminants
3. Volatile organic contaminants
4. Radionuclide contaminants
5. Total coliform rule
6. Disinfectant and disinfection byproduct rule
7. Surface water treatment rule
8. Groundwater treatment rule
9. Lead and copper rule
10. Public notification requirements
11. Consumer confidence report notification requirements
12. Variances and exemptions

SECTION 3: REVIEW OF 2015 VIOLATION DATA

Summary Data Tables for Calendar Years 2013, 2014, and 2015

There are four tables in the report that summarize the violation data for the 2015 calendar year as well as for calendar years 2013 and 2014. These tables include:

[REF _Ref431800247 \h * MERGEFORMAT] - Number of violations by category for maximum contaminant levels/treatment techniques and monitoring/reporting requirements

[REF _Ref431800257 \h * MERGEFORMAT] - Number and population of water systems with violations of maximum contaminant levels, maximum residual disinfectant levels and treatment techniques

[REF _Ref431800265 \h * MERGEFORMAT] - Number and population of water systems with violations of monitoring and reporting requirements

Table 6 – Total Coliform Rule MCL Violations for Calendar Years 2013, 2014 and 2015

Violation Information in the Appendix

Appendix A provides definitions of terminology used in this report

Appendix B summarizes violations by grouping by contaminant category

Appendix C summarizes violations by individual contaminant. It provides water system name, population and number of violations by contaminant. It sums up the population affected by each violation type.

Appendix D lists individual violations by county sorted by water system number. The table also sums up the population affected by these violations in each county.

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Appendices E & F list systems with violations of priority contaminants (arsenic & nitrate/nitrite) where SWRCB is directing enhanced compliance actions, technical assistance, and SWRCB funding for infrastructure improvements.

Table [SEQ Table * ARABIC]: Number of Violations by Category for Maximum Contaminant Levels / Treatment Techniques (MCL/TT) and/or Monitoring / Reporting Requirements (M/R)

No	Category	2013		2014		2015	
		MCL/TT	M/R	MCL/TT	M/R	MCL/TT	M/R
1	Inorganic contaminants	965	256	798	172	759	105
2	Synthetic organic contaminants	9	1	11	0	4	0
3	Volatile organic contaminants	2	5	3	2	0	0
4	Radionuclide contaminants	71	3	73	7	61	15
5	Total coliform rule (TCR)	495	634	617	710	589	614
6	Disinfectant and disinfection byproducts rule (DBPR)	216	39	164	47	182	25
7	Surface water treatment rules (SWTR, IESWTR, LT2SWTR)	143	5	86	4	126	1
8	Groundwater treatment rule	0	0	2	25	2	35
9	Lead and copper rule (LCR)	5	55	1	93	12	561
10	Public notification requirements	N/A	26	N/A	3	N/A	52
11	Consumer confidence report notification requirements	N/A	97	N/A	80	N/A	337
12	Variances and exemptions	N/A	0	N/A	0	N/A	N/A

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Table [SEQ Table * ARABIC]: Number and Population of Water Systems with Violations of Maximum Contaminant Level (MCL), Maximum Residual Disinfection Level (MRDL), and/or Treatment Technique (TT)

No	Category	2013		2014		2015	
		No. of Water Systems	Pop.	No. of Water Systems	Pop.	No. of Water Systems	Pop.
1	Inorganic contaminants	298	443,777	296	206,654	12	20,013
2	Synthetic organic contaminants	3	12,913	6	15,602	4	14,163
3	Volatile organic contaminants	2	475	2	250	0	0
4	Radionuclide contaminants	22	21,357	28	23,865	26	52,411
5	Total coliform rule (TCR)	370	301,387	442	620,245	419	443,064
6	Disinfectant and disinfection byproducts rule (DBPR), MRDL	73	411,026	62	214,665	74	381,063
7	Surface water treatment rules (SWTR, IESWTR, LT2SWTR)	31	18,886	31	20,766	42	558,159
8	Groundwater treatment rule	0	0	2	27,360	1	420
9	Lead and copper rule (LCR)	5	4,000	1	3,441	11	10,494

Table [SEQ Table * ARABIC]: Number and Population of Water Systems with Violations of Monitoring and Reporting Requirements (M/R)

No	Category	2013		2014		2015	
		No. of Water Systems	Pop.	No. of Water Systems	Pop.	No. of Water Systems	Pop.
1	Inorganic contaminants	209	313,904	153	131,814	74	93,551
2	Synthetic organic contaminants	1	36	0	0	0	0
3	Volatile organic contaminants	3	400	1	225	0	0
4	Radionuclide contaminants	3	600	3	616	9	1,153
5	Total coliform rule (TCR)	471	443,241	508	1,169,357	441	265,737
6	Disinfectant and disinfection byproducts rule (DBPR)	22	703,407	23	290,764	16	95,957
7	Surface water treatment rules (SWTR, IESWTR, LT2ESWTR)	5	169,616	2	600	1	500
8	Groundwater Treatment Rule	0	0	24	670,578	33	1,169,843
9	Lead and copper rule (LCR)	51	118,981	91	139,394	11	10,719
10	Public notification requirement	22	33,661	2	1,206	42	60,543
11	Consumer confidence report notification requirements	93	74,426	69	75,935	258	140,167
12	Variances and exemptions	0	0	0	0	N/A	N/A

SECTION 4: DISCUSSION OF VIOLATION TYPES AND CONTAMINANTS

This section contains summary information on violations entered into SWRCB's data system. More specific information on the water provided by a drinking water supplier can be obtained by requesting a copy of the Consumer Confidence Report (CCR) that all CWS and NTNC water systems are required to issue to their customers annually. To obtain a copy of a CCR, customers may contact public water system serving the area. Many public water systems also post their CCR to the internet. A link to identify contacts for a CWS is located at [HYPERLINK "https://sdwis.waterboards.ca.gov/PDWW/"]. When a system has violated a standard, the system is required to issue a public notice to their consumers, copies of which should also be available from the public water system upon request.

4.1 Inorganic Contaminants

Water systems are required to meet primary drinking water standards and monitoring and reporting requirements for 18 inorganic contaminants. A total of 759 MCL violations were recorded for the year, as summarized below:

Contaminant Category	Contaminant	Violation Category	No. of Violations	No. of Water Systems
IOC	Arsenic	MCL	482	142
IOC	Cadmium	MCL	5	2
IOC	Fluoride	MCL	22	8
IOC	Mercury	MCL	4	1
IOC	Nitrate	MCL	196	82
IOC	Nitrate-Nitrite	MCL	49	35
IOC	Selenium	MCL	1	1

Arsenic accounted for 482 MCL violations for inorganic chemicals. The major sources of arsenic in drinking water are from erosion of natural deposits. Other sources of arsenic may include runoff from orchards, and wastes from glass and electronics production. Some people who drink water containing arsenic in excess of the MCL for many years could experience skin damage or problems with their circulatory system, and may have an increased risk for cancer. In California, the drinking water standard for arsenic was lowered to 0.010 mg/l as of November 28, 2008.

Nitrate (including Nitrate + Nitrite combined) accounted for 245 of the total MCL violations for inorganic chemicals. Nitrate and nitrite are commonly found in fertilizers used in farming and gardening. Nitrates are found in sewage and wastes from humans, animals, and some industrial processes. Contamination from nitrates and nitrites 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

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interference with the oxygen carrying capacity of the infant's blood. This is an acute disease in that symptoms can develop rapidly. As infants mature, changes in the digestive system naturally occur that prevent the conversion of nitrates to nitrites.

The health of infants can deteriorate over a period of days, if exposed to high levels of nitrates through drinking water or water used for infant formula. Symptoms of nitrate exposure in infants include shortness of breath and a marked blueness of the skin. 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 for infants. SWRCB has set the drinking water standard at 10 milligrams per liter (mg/l) nitrate (measured as N) and 1 mg/l for nitrite (measured as N) to protect against the risk of these adverse effects. Drinking water that meets the SWRCB standards is associated with little to no risk for nitrite/nitrate toxicity and is considered safe with respect to compounds.

Fluoride accounted for 22 of the total MCL violations for inorganic chemicals. Major sources of naturally occurring fluoride in drinking water are from 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. To protect people from the adverse effects of dental fluorosis (a brownish staining of the teeth), the state has set the MCL at 2 mg/l. 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, levels are maintained at the optimal level for reduction of dental caries which is well below the state MCL.

Mercury accounted for four violations of the MCL for inorganic chemicals. In the U.S., mercury compounds are manufactured in small amounts for specialty uses, such as chemical and pharmaceutical applications. Mercury exposure at high levels can harm the brain, heart, kidneys, lungs, and immune system of people of all ages. Research shows that most people's fish consumption does not cause a health concern. However, it has been demonstrated that high levels of methyl-mercury in the bloodstream of unborn babies and young children may harm the developing nervous system, making the child less able to think and learn.

Cadmium accounted for 5 of the total MCL violations for inorganic chemicals. Some people who drink water containing cadmium in excess of the MCL over many years may experience kidney damage.

Selenium accounted for 1 violation. Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years may experience hair or fingernail losses, numbness in fingers or toes, or circulation system problems.

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4.2 Synthetic Organic Contaminants

Water systems are required to meet primary drinking water standards and monitoring and reporting requirements for 33 synthetic organic contaminants (SOC). There were a total of four (4) SOC MCL violations involving four different water systems. All SOC violations were for 1,2-dibromo-3-chloropropane exceedances.

Contaminant	Violation Category	No. of Violations	No. of Water Systems
1,2-Dibromo-3-chloropropane	MCL, Average	4	4

1,2-Dibromo-3-chloropropane (DBCP) accounted for 4 MCL violations for SOCs. DBCP was banned from use in 1978, but is still found in some groundwater sources as a result of prior use of DBCP use as a soil fumigant in soybeans, cotton, and orchard crops. Some people who drink water containing DBCP in excess of the MCL for many years could experience reproductive difficulties and may have an increased cancer risk. SWRCB has set the drinking water standard for DBCP at 0.0002 milligrams per liter (mg/l) to reduce these risks.

4.3 Volatile Organic Contaminants

Water systems are required to meet primary drinking water standards and monitoring and reporting requirements for 27 volatile organic contaminants (VOC). There were no VOC violations in 2015

4.4 Radionuclide Contaminants

Water systems are required to meet primary drinking water standards and monitoring and reporting requirements for six radionuclide contaminants. 61 MCL violations involving 26 public water systems were incurred for radionuclide contaminants, all of which were for uranium.

Contaminant Category	Contaminant	Violation Category	No. of Violations	No. of Water Systems
Radionuclide	Combined Uranium	MCL	61	26

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 SWRCB 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 water standard for uranium at 30 pCi/L.

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4.5 Total Coliform Rule (TCR)

The total coliform rule violations identify the presence of coliform bacteria contamination at a level above the MCL in the drinking water distribution systems or a failure of a water system to conduct the required water quality monitoring for coliform bacteria in the water distribution systems. Table 6 summarizes the TCR MCL violations for calendar years 2013, 2014, and 2015.

Table 6. TCR MCL violations for calendar years 2013-2015

Type of MCL Violations	2013	2014	2015
Acute[1] MCL violations	33	44	44
Non-acute MCL violations	462	573	545

Under the Total Coliform Rule (TCR), results are reported on a presence/absence basis. CWS are required to routinely sample between one sample per month and 120 samples per week, depending on the size of the system. NTNC and TNC systems are generally on a monthly or quarterly sampling frequency. A public water system is in violation of the total coliform MCL when any of the following occurs:

- For a public water system which collects at least 40 samples per month, more than 5.0 percent 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
- 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 presence of fecal coliforms and *E. coli* are considered serious because they usually are associated with direct contamination by sewage or animal wastes. The presence of these bacteria in drinking water indicates that the water may be contaminated with organisms that can cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and associated headaches and fatigue. Because many of these symptoms can be mild or are flu-like, you should consult with your physician to determine if they are the result of a water-borne disease or other more common diseases (e.g. cold, flu or other bacterial or viral illnesses that are not water-borne).

[1] Under the Total Coliform Rule, an MCL is considered to be acute when sample results indicate the presence of fecal coliform organism, i.e.: since fecal coliforms originate in the gut of most warm-blooded animals, the presence of fecal coliforms is considered to be an indicator of possible sewage contamination; which requires an escalated response to protect public health.

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4.6 Disinfectants and Disinfection Byproducts Rule (DBPR)

The following is the summary of violations for 2015:

Contaminant	Violation Category	No. of Violations	No. of Water Systems
Total Haloacetic Acids (HAA5)	MCL	57	24
Total Trihalomethanes	MCL	125	52
Total Organic Carbon	Treatment Technique Precursor Removal	4	3
Chlorine	Non-Acute MRDL	0	0
DBP Stage 1	Treatment Technique No Certified Operator	8	8

SWRCB has set primary drinking water standards and monitoring requirements for three disinfectants, and four disinfection byproduct contaminants which can form when chemical disinfectants are added to drinking water. To protect users from the acute health risk from microbial pathogens, SWRCB often requires public water systems to install disinfection facilities. However, disinfectants can also react with naturally-occurring organic matter present in water, or other chemicals, to form disinfection byproducts (DBPs).

SWRCB has determined that a number of DBPs are a health concern with long-term exposure and has adopted MCLs for trihalomethanes (THMs), haloacetic acids (HAAs), chlorite and bromate. THMs and HAAs have been shown to cause cancer in laboratory animals and have been shown to affect the liver and the nervous system, and cause reproductive or developmental effects in laboratory animals. Exposure to certain DBPs may produce similar effects in people. Chlorite, in excess of the MCL, can affect the nervous system in some infants and young children. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. In addition, some people exposed to chlorite may experience anemia.

Under the DBPR, enforceable standards, called Maximum Residual Disinfectant Levels (MRDL), have also been set for three common disinfectants. These include standards for chlorine, chloramine and chlorine dioxide disinfectant residuals in the distributions system. There was no MRDL violation in 2015.

Total organic carbon (TOC) is a precursor to DBP formation. Adding additional amounts of coagulant or lime to coagulation or softening treatment trains, respectively, can increase the amount of TOC removed and thereby lower DBP levels in finished water. The rule includes this treatment technique for systems using surface water or groundwater under the direct influence of surface water that use conventional treatment. The PWS subject to the rule are required to remove a percentage of TOC from the raw water. There were four (4) violations related to total organic carbon in 2015.

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As a requirement of the DBPR, California is required to maintain operator certification program for systems using a surface water source or a groundwater source under the direct influence of surface water. There were eight violations related to operator certification rule in 2015.

4.7 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 Surface Water Treatment Rule, Long-term 2 Surface Water Treatment Rule (LT2ESWTR), and Filter Backwash Rule. These rules establish monitoring and reporting requirements, treatment techniques, performance standards, and turbidity standards to be met by water systems using surface water as a drinking water source. The following is the summary of these violations:

Rule Violated	Violation Category	No. of Violations	No. of Water Systems
SWTR	Failure to Filter (SWTR)	86	23
SWTR	Treatment Technique (SWTR and GWR)	38	21
LT2ESWTR	Treatment Technique (SWTR and GWR)	2	2
IESWTR	Monthly Turbidity Exceedance (Enhanced SWTR)	1	1
IESWTR	Monitoring, Turbidity (Enhanced SWTR)	0	0
SWTR	Monitoring of Treatment (SWTR-filter/GWR)	1	1

Treatment techniques and performance standards are used to establish water quality objectives instead of the MCLs for microbiological contaminants that may be found in surface waters, including *Giardia lamblia, Cryptosporidium parvum*, *Legionella*, heterotrophic plate count bacteria, and viruses. Water systems that use surface water are required to provide multi-barrier treatment to protect against adverse health effects from microbiological contaminants. All multi-barrier treatment systems must include the use of a SWRCB approved filtration technology as a first barrier, and a reliable disinfection system, as a second barrier. Some systems can avoid filtration by meeting special requirements including rigorous standards on their source waters. However, these systems must still disinfect their water.

There were a total of 42 systems that had violations of the surface water treatment rule performance or treatment technique requirements. There were 86 violations of filtration requirements by 23 water systems. There were 38 violations of surface water treatment technique violations from a total of 21 water systems.

There was one (1) violation of the Interim Enhanced SWTR. The Interim Enhanced SWTR imposed a stricter turbidity monitoring and performance requirement and

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improves control of microbial contaminants, particularly Cryptosporidium, in systems using surface water that serve 10,000 or more persons.

There were no violations of the filter backwash recycling rule. The recycling of filter backwash water for reprocessing at the headwork's of the plant is a practice for water conservation. The filter backwash rule established requirements governing the way certain backwash streams are handled at water systems' filtration plants and established reporting and recordkeeping requirements for filter back-wash recycling practices to allow better evaluations and impacts of recycling practices on overall treatment plant performance.

4.8 Groundwater Rule

Groundwater Rule (GWR) establishes a risk-targeted approach to identify groundwater systems susceptible to fecal contamination and requires corrective action to correct significant deficiencies and source water fecal contamination in all public groundwater systems. The GWR applies to all PWS that use groundwater, including consecutive systems.

The purpose of the rule is to reduce disease incidence associated with disease-causing microorganisms in drinking water. The rule 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. The rule applies to all systems that use ground water as a source of drinking water. Special monitoring of the source water must be completed in response to total coliform contamination in the distribution system. A summary of violations for 2015 is below:

Rule Violated	Violation Category	No. of Violations	No. of Water Systems
Indicator Organism	Monitoring, Source Water	32	30
Groundwater Rule	Failure to Notify Other PWS	2	2
Groundwater Rule	Monitoring of Treatment (SWTR-Unfilt/GWR)	2	2
Groundwater Rule	Treatment Technique (SWTR and GWR)	2	1

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4.9 Lead and Copper Rule

Under the lead and copper rule, public water systems collect first draw samples at representative customer taps and test them for lead and copper. Public water systems are required to meet specific action levels for these contaminants, based on sample results, and take specified steps to lower exposure if an action level is exceeded. The following is the summary of violations for 2015:

Contaminant Category	Contaminant	Violation Category	No. of Violations	No. of Water Systems
Lead and Copper Rule	Lead	Maximum Permissible Level Non-Compliance	5	5
Lead and Copper Rule	Lead and Copper Rule	Follow-up Or Routine LCR Tap Monitoring	358	319
Lead and Copper Rule	Lead and Copper Rule	Initial Sampling for Lead and Copper	194	173
Lead and Copper Rule	Lead and Copper Rule	Initial, Follow-up, or Routine Source Water Monitoring	8	8

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. The major source of lead in drinking water is from internal corrosion of certain household plumbing systems or components. 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.

Lead can cause a variety of adverse health effects when people are exposed to it at levels above the action level for relatively short periods of time. These effects may include interference with red blood cell chemistry, delays in normal physical and mental development in babies and young children, slight deficits in the attention span, hearing, and learning abilities of children, and slight increases in the blood pressure of some adults. Lead has the potential to cause stroke, kidney disease and cancer based on a lifetime exposure at levels above the action level.

4.10 Public Notification

Water suppliers are required to notify SWRCB regulatory staff and the persons served by the water system whenever any of the following occurs: the water supplied to the consumers exceeds the MCLs for coliform bacteria, inorganic chemicals, turbidity, trihalomethanes, radioactivity, organic chemicals; or the water supplier fails to comply with a prescribed treatment technique established in lieu of an MCL; or the water supplier violates any schedule prescribed pursuant to a variance or exemption. A violation occurs when there is a failure to provide the required report to the public by the

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required date. There were fifty two (52) violations for failure to provide the required notice to the public in 2015.

Rule Violated	Violation Category	No. of Violations	No. of Water Systems
Public Notice	PN Violation for National Primary Drinking Water Regulations (NPDWRs or primary standards) violation	52	42

4.11 Consumer Confidence Report Violations

All CWS and NTNC water systems are required to provide to their customers a report each year of the quality of the water being served by their water system. Each year's consumer confidence report (CCR), also includes information on the source of drinking water, the levels of any detected contaminants, and compliance with drinking water regulations by including a clear and understandable explanation of the nature of the violation, its potential adverse health effects, steps that the water system is undertaking to correct the violation and the possibility of alternative water supplies available during the violation. Systems are considered to be in continuing violation until a CCR is issued or the data for a missed year is included in a subsequent year's CCR.

Rule Violated	Violation Category	No. of Violations	No. of Water Systems
CCR	CCR Complete Failure to Report	320	244
CCR	CCR Inadequate Reporting	17	17

4.12 Variances and Exemptions Violations

SWRCB is authorized under the Federal SDWA to issue variances and exemptions from meeting drinking water standards to public water systems under special circumstances. There were no violations associated with variances or exemptions in 2015.

SECTION 5: ENFORCEMENT ACTIVITIES

Enforcement action is an essential element of the SWRCB regulatory program to bring all public water systems into full compliance with drinking water standards and regulations to ensure that the public receives safe drinking water.

SWRCB's enforcement actions against a public water system that violates a primary drinking water standard vary according to the type of contaminant and the health risk. Typically, SWRCB will require a public water system to develop a plan of compliance which may include some of the following actions:

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- Provide an alternate source of drinking water.
- Shutdown or abandon the contaminated drinking water source, if this is possible.
- Conduct additional water quality monitoring to identify the cause and extent of the contamination and take appropriate corrective action.
- Install new water treatment facilities or modify the water treatment processes to eliminate the contamination.
- Issue a "Boil Water Notice" or "Do Not Drink Notice", depending on the type of contaminant.

Additional enforcement actions available to SWRCB include revoking or suspending a water system's operating permit, 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. Aggressive enforcement action is a key element of the SWRCB overall regulatory strategy to bring all public water systems into full compliance with drinking water standards and regulations.

SECTION 6: CONCLUSION

Overall, water systems in California have a high rate of compliance with drinking water standards. However, there are many communities that have to deal with serious water quality problems and ongoing violations. The State Water Resources Control Board (SWRCB) 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.

As of July 1, 2014, a copy of each enforcement action issued by SWRCB is available at:

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

All enforcement actions issued by LPAs are also posted on this page. Enforcement actions are grouped by county.

The following documents provide additional information on the SWRCB's overall drinking water regulatory program:

- The Safe Drinking Water Plan for California which is available at: [HYPERLINK "http://www.waterboards.ca.gov/drinking_water/safedrinkingwaterplan/index.shtml"]
- The SWRCB is carrying out a Small Water System Program Plan aimed at reducing violations of drinking water standards especially in smaller water systems. Information on the SWS Program Plan is available via the Small Water Systems Support page: [HYPERLINK "http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Smallwatersystems.shtml"]

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A copy of this report will be available to the public by contacting the SWRCB Division of Drinking Water at (916) 449-5600 or via the following page of SWRCB website:

[HYPERLINK "http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Publications.shtml"]

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APPENDIX A: DEFINITIONS

Public Water System (PWS)

A public water system (water system) is defined as a system that provides water via piping or other constructed conveyances for human consumption to at least 15 service connections or serves at least 25 people for at least 60 days each year. There are three types of water systems:

- Community water systems (CWS) is a water system serving facilities such as cities, towns, mobile home parks,
- Non-transient non-community (NTNC) is 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 non-community (TNC) is 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.

For purposes in this report, the term 'water system' refers to a public water system of any of the three types unless otherwise specified.

Primary Drinking Water Standards

Primary Drinking Water Standards are laws and regulations that apply to public water systems and are intended to:

1) Set maximum levels for specific contaminants that in the judgment of the SWRCB may have an adverse effect on the health of persons drinking the water.
2) Establish treatment techniques that are adopted by the SWRCB in lieu of a maximum contaminant level.
3) Establish monitoring and reporting requirements as specified by the SWRCB that pertain to either maximum contaminant levels, treatment techniques, or other aspects of operating a public water system.

Maximum Contaminant Level (MCL)

Maximum Contaminant Levels are health protective drinking water standards to be met by public water systems. The MCLs take into account not only chemicals' health risks but also factors such as their detectability and treatability, as well as costs of treatment. Health & Safety Code §116365(a) requires SWRCB to establish a contaminant's MCL at a level as close to its PHG as is technologically and economically feasible, placing primary emphasis on the protection of public health

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Maximum Residual Disinfectant Level (MRDL)

Limits have been set for residual disinfectant levels in drinking water to reduce the risk of exposure to disinfectants formed, when a water system adds chemical disinfectant for either primary or residual treatment. These limits are known as MRDLs.

Treatment Techniques (TT)

For some contaminants, treatment techniques have been established in lieu of an MCL to control unacceptable levels of certain contaminants. 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. Other treatment technique regulations are intended to establish operating parameters for other types of water treatment, where direct measurement of a contaminant is neither practical, nor cost effective.

Variances and Exemptions

SWRCB is authorized under the Federal SDWA to issue variances and exemptions from meeting drinking water standards to water systems under special circumstances. A variance is allowed in situations where the characteristics of a raw water source make it not feasible or too costly for a water system to meet the MCL with the installation of the best available technology, treatment techniques, or other approved method. The approval of any variance must ensure adequate protection of human health. Additionally, the variance is reviewed by SWRCB not less than every five years to determine whether continuation of the variance is appropriate and necessary.

An exemption from an MCL and/or treatment technique is allowed in situations where a water system is in noncompliance as the result of compelling factors and the exemption will not result in an unreasonable risk to public health. Any water system that receives an exemption must achieve compliance with the MCL or treatment technique as expeditiously as practicable, but not later than three years after the applicable compliance date.

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 water system fails to have its water tested as required or fails to report test results correctly to the regulatory agency.

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.

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Significant Public Notification Violations

Unless otherwise directed by SWRCB, water suppliers are required to notify SWRCB and the persons served by the water system whenever any of the following occurs: the water supplied to the consumers exceeds the MCLs for coliform bacteria, inorganic chemicals, turbidity, trihalomethanes, radioactivity, organic chemicals; or the water supplier fails to comply with a prescribed treatment technique established in lieu of an MCL; or the water supplier violates any schedule prescribed pursuant to a variance or exemption. A significant public notification violation occurs when there is a failure to provide the required notification.

Consumer Confidence Report (CCR) Notification

All community water systems and non-transient non-community 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 non-transient non-community water system completely fails to provide its customers the required annual consumer confidence report.

APPENDIX B: SUMMARY OF VIOLATIONS BY RULE FAMILY

Rule Family	Contaminant or Rule	Violation Category	No. of Violations	No. of Water Systems
Inorganics	Arsenic	Maximum Contaminant Level Violation, Average	465	137
Inorganics	Arsenic	Monitoring, Regular	15	11
Inorganics	Arsenic	Monitoring, Check/Repeat/Confirmation	2	2
CCR	Consumer Confidence Rule	Consumer Confidence Report Complete Failure to Report	320	244
CCR	Consumer Confidence Rule	Consumer Confidence Report Inadequate Reporting	17	17
Ground Water Rule	Ground Water Rule	Failure to Conduct Assessment Monitoring	1	1
Ground Water Rule	Ground Water Rule	Sanitary Survey (TCR)	1	1

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Rule Family	Contaminant or Rule	Violation Category	No. of Violations	No. of Water Systems
Ground Water Rule	Ground Water Rule	Monitoring of Treatment (SWTR-Unfilt/GWR)	2	2
Ground Water Rule	Ground Water Rule	Monitoring, Source Water (GWR)	32	30
Ground Water Rule	Ground Water Rule	Treatment Technique (SWTR and GWR)	2	1
Ground Water Rule	Ground Water Rule	Failure to Notify Other PWS	2	2
Inorganics	Inorganic Chemicals	Maximum Contaminant Level Violation, Single Sample	2	2
Inorganics	Inorganic Chemicals	Maximum Contaminant Level Violation, Average	30	10
Inorganics	Inorganic Chemicals	Monitoring, Regular	3	3
Inorganics	Inorganic Chemicals	Monitoring, Check/Repeat/Confirmation	1	1
LCR	Lead and Copper Rule	Initial Tap Sampling for Pb and Cu	194	173
LCR	Lead and Copper Rule	Follow-up Or Routine LCR Tap M/R	358	319
LCR	Lead and Copper Rule	Water Quality Parameter M/R	1	1
LCR	Lead and Copper Rule	Initial, Follow-up, or Routine Source Water M/R	8	8
LCR	Lead and Copper Rule	OCCT/SOWT Treatment Installation/Demonstration	6	5
LCR	Lead and Copper Rule	MPL Non-Compliance	5	5
LCR	Lead and Copper Rule	Public Education	1	1
SWTR	Long Term 1 Enhanced Surface Water Treatment Rule	Record Keeping	3	3
SWTR	Long Term 1 Enhanced Surface Water Treatment Rule	Treatment Tech. No Prior State Approval	1	1

Rule Family	Contaminant or Rule	Violation Category	No. of Violations	No. of Water Systems
SWTR	Long Term 1 Enhanced Surface Water Treatment Rule	Monthly Turbidity Exceed (Enhanced SWTR)	1	1
SWTR	Long Term 2 Enhanced Surface Water Treatment Rule	Failure to Filter (SWTR)	2	2
SWTR	Miscellaneous	Notification, Public	84	21
SWTR	Miscellaneous	Variance/Exemption/Other Compliance	22	13
Inorganics	Nitrates	Maximum Contaminant Level Violation, Single Sample	208	76
Inorganics	Nitrates	Maximum Contaminant Level Violation, Average	37	18
Inorganics	Nitrates	Monitoring, Regular	84	62
Inorganics	Nitrates	Notification, State	2	2
Public Notice	Public Notice Rule	Public Notification Violation for NPDWR Violation	34	24
Public Notice	Public Notice Rule	Public Notification Violation without NPDWR Violation	18	18
Radiological	Radionuclides	Maximum Contaminant Level Violation, Average	61	26
Radiological	Radionuclides	Monitoring, Regular	15	9
DBP	Stage 1 Disinfectants and Disinfection Byproducts Rule	Treatment Technique No Certif. Operator	8	8
DBP	Stage 1 Disinfectants and Disinfection Byproducts Rule	Monitoring and Reporting (DBP)	2	2
DPB	Stage 1 Disinfectants and Disinfection Byproducts Rule	Treatment Technique Precursor Removal	4	3

Rule Family	Contaminant or Rule	Violation Category	No. of Violations	No. of Water Systems
DBP	Stage 2 Disinfectants and Disinfection Byproducts Rule	Maximum Contaminant Level Violation, Average	182	63
DBP	Stage 2 Disinfectants and Disinfection Byproducts Rule	Monitoring and Reporting (DBP)	12	8
DBP	Stage 2 Disinfectants and Disinfection Byproducts Rule	Monitoring, Routine (IDSE)	11	6
SWTR	Surface Water Treatment Rule	Monitoring of Treatment (SWTR-Filter)	1	1
SWTR	Surface Water Treatment Rule	Treatment Technique (SWTR and GWR)	38	21
SWTR	Surface Water Treatment Rule	Failure to Filter (SWTR)	84	21
SOC	Synthetic Organic Chemicals	Maximum Contaminant Level Violation, Average	4	4
TCR	Total Coliform Rule	Notification, State	1	1
TCR	Total Coliform Rule	Maximum Contaminant Level Violation, Acute (TCR)	44	40
TCR	Total Coliform Rule	Maximum Contaminant Level Violation, Monthly (TCR)	545	392
TCR	Total Coliform Rule	Monitoring, Routine Major (TCR)	441	326
TCR	Total Coliform Rule	Monitoring, Routine Minor (TCR)	86	76
TCR	Total Coliform Rule	Monitoring, Repeat Major (TCR)	45	41
TCR	Total Coliform Rule	Monitoring, Repeat Minor (TCR)	42	38

APPENDIX C: SUMMARY OF VIOLATIONS BY INDIVIDUAL CONTAMINANT

Contaminant	Rule Family	Violation Category	No. of Violations	No. of Water Systems
1,2-DIBROMO-3-CHLOROPROPANE	Synthetic Organic Chemicals	Maximum Contaminant Level Violation	4	4
Arsenic	Inorganic Chemicals	Maximum Contaminant Level Violation	482	142
Arsenic	Inorganic Chemicals	Monitoring and Reporting	17	13
CARBON, TOTAL	Stage 1 Disinfectants and Disinfection Byproducts Rule	Treatment Technique Violation	4	3
Cadmium	Inorganic Chemicals	Maximum Contaminant Level Violation	5	2
Chlorine	Stage 1 Disinfectants and Disinfection Byproducts Rule	Monitoring and Reporting	2	2
Coliform (TCR)	Total Coliform Rules	Monitoring and Reporting	614	441
Coliform (TCR)	Total Coliform Rules	Maximum Contaminant Level Violation	589	419
Coliform (TCR)	Total Coliform Rules	Other Violation	1	1
Combined Uranium	Radionuclides	Maximum Contaminant Level Violation	61	26
Combined Uranium	Radionuclides	Monitoring and Reporting	1	1
Consumer Confidence Rule	Consumer Confidence Rule	Other Violation	337	258
E. COLI	Groundwater Rule	Monitoring and Reporting	31	29
ENTEROCOCCI	Groundwater Rule	Monitoring and Reporting	2	2
Fluoride	Inorganic Chemicals	Monitoring and Reporting	3	3
Fluoride	Inorganic Chemicals	Maximum Contaminant Level Violation	22	8
Gross Alpha, Excl. Radon and U	Radionuclides	Monitoring and Reporting	14	8
Groundwater Rule	Groundwater Rule	Monitoring and Reporting	2	2
Groundwater Rule	Groundwater Rule	Treatment Technique Violation	2	1
Groundwater Rule	Groundwater Rule	Other Violation	2	2

Contaminant	Rule Family	Violation Category	No. of Violations	No. of Water Systems
Interim Enhanced Surfsce Water Treatment Rule	Surface Water Treatment Rules	Treatment Technique Violation	2	2
Interim Enhanced Surfsce Water Treatment Rule	Surface Water Treatment Rules	Other Violation	3	3
Lead	Lead and Copper Rule	Treatment Technique Violation	5	5
Lead and Copper Rule	Lead and Copper Rule	Treatment Technique Violation	7	6
Lead and Copper Rule	Lead and Copper Rule	Monitoring and Reporting	561	477
Long Term 2 Enhanced Surface Water Treatment Rule	Surface Water Treatment Rules	Treatment Technique Violation	2	2
Mercury	Inorganic Chemicals	Maximum Contaminant Level Violation	4	1
Nitrate	Inorganic Chemicals	Other Violation	2	2
Nitrate	Inorganic Chemicals	Maximum Contaminant Level Violation	196	82
Nitrate	Inorganic Chemicals	Monitoring and Reporting	41	24
Nitrate-Nitrite	Inorganic Chemicals	Maximum Contaminant Level Violation	49	35
Nitrate-Nitrite	Inorganic Chemicals	Monitoring and Reporting	39	37
Nitrite	Inorganic Chemicals	Monitoring and Reporting	4	4
Public Notice	Public Notice Rule	Other Violation	52	42
Selenium	Inorganic Chemicals	Monitoring and Reporting	1	1
Selenium	Inorganic Chemicals	Maximum Contaminant Level Violation	1	1
Stage 1 Disinfectants and Disinfection Byproducts Rule	Stage 1 Disinfectants and Disinfection Byproducts Rule	Treatment Technique Violation	8	8
Stage 2 Disinfectants and Disinfection Byproducts Rule	Stage 2 Disinfectants and Disinfection Byproducts Rule	Monitoring and Reporting	1	1
Surface Water Treatment Rule	Surface Water Treatment Rules	Treatment Technique Violation	122	40

Contaminant	Rule Family	Violation Category	No. of Violations	No. of Water Systems
Surface Water Treatment Rule	Surface Water Treatment Rules	Monitoring and Reporting	1	1
TTHM	Stage 2 Disinfectants and Disinfection Byproducts Rule	Maximum Contaminant Level Violation	125	52
TTHM	Stage 2 Disinfectants and Disinfection Byproducts Rule	Monitoring and Reporting	13	13
Total Haloacetic Acids (HAA5)	Stage 2 Disinfectants and Disinfection Byproducts Rule	Monitoring and Reporting	9	9
Total Haloacetic Acids (HAA5)	Stage 2 Disinfectants and Disinfection Byproducts Rule	Maximum Contaminant Level Violation	57	24
-	Groundwater Rule	Other Violation	1	1
-	Miscellaneous	Other Violation	106	34

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APPENDIX D: SUMMARY OF MCL VIOLATIONS FOR ARSENIC BY COUNTY (MCL = 5 µg/l)

County	PWS ID	PWS Name	Pop Served	No. of Violations
Colusa	CA0600008	COLUSA CO. WWD #1 - GRIMES	500	3
Contra Costa	CA0707602	BEACON WEST	45	1
Contra Costa	CA0707615	DOUBLETREE RANCH WATER SYSTEM	49	2
El Dorado	CA0900102	GOLD BEACH PARK	100	1
Fresno	CA1000053	LANARE COMMUNITY SERVICES DIST	660	4
Fresno	CA1000071	LAKEVIEW IMPROVEMENT ASSOICATION #1	160	5
Fresno	CA1000072	SHAVER LAKE POINT #2	202	6
Fresno	CA1000238	CAMDEN TRAILER PARK	75	2
Fresno	CA1000369	ZONNEVELD DAIRY - CEDAR	70	4
Fresno	CA1000584	TRUE ORGANIC PRODUCTS	40	6
Fresno	CA1000602	BAKER COMMODITIES INC.	60	4
Fresno	CA1009051	CANTUA CREEK VINEYARDS, IV, LLC.	50	4
Fresno	CA1009091	OLAM SPICES AND VEGETABLES, INC.	125	3
Fresno	CA1010039	CARUTHERS COMM SERV DIST	2497	4
Inyo	CA1400036	KEELER COMMUNITY SERVICE DISTRICT	50	4
Kern	CA1500378	MAHER MUTUAL WATER COMPANY	150	2
Kern	CA1500405	AERIAL ACRES WATER COMPANY, INC.	172	4
Kern	CA1500424	LANDS OF PROMISE MUTUAL WATER ASSOCIATIO	190	7
Kern	CA1500436	HUNGRY GULCH WATER SYSTEM	33	5
Kern	CA1500442	SUNSET APARTMENTS WATER SYSTEM	37	4
Kern	CA1500449	FOURTH STREET WATER SYSTEM	56	4
Kern	CA1500455	WILLIAM FISHER MEMORIAL WATER COMPANY	56	4
Kern	CA1500458	R.S. MUTUAL WATER COMPANY	67	4
Kern	CA1500461	FOUNTAIN TRAILER PARK WATER	68	4
Kern	CA1500493	EL ADOBE POA, INC.	200	4
Kern	CA1500521	BOULDER CANYON WATER ASSOCIATION	28	5
Kern	CA1500525	LAKEVIEW RANCHOS MUTUAL WATER COMPANY	120	4
Kern	CA1500571	LUCKY 18 ON ROSAMOND, LLC	73	3
Kern	CA1500585	OASIS PROPERTY OWNERS ASSOCIATION	100	3
Kern	CA1502154	LAKESIDE SCHOOL	800	2
Kern	CA1502231	ROSAMOND SCHOOL WATER SYSTEM	900	2
Kern	CA1502383	NORD ROAD WATER ASSOCIATION	32	3
Kern	CA1502569	FIRST MUTUAL WATER SYSTEM	35	4
Kern	CA1502724	QUAIL VALLEY WATER DIST-EASTSIDE SYSTEM	92	5
Kern	CA1502744	60TH STREET ASSOC. WATER SYSTEM	44	2

County	PWS ID	PWS Name	Pop Served	No. of Violations
Kern	CA1510001	ARVIN COMMUNITY SERVICES DIST	19000	3
Kern	CA1510002	BORON CSD	2253	3
Kern	CA1510016	RAND COMMUNITIES WATER DISTRICT	450	4
Kern	CA1510024	GREENFIELD COUNTY WD	8500	4
Kern	CA1510052	NORTH EDWARDS WD	600	3
Kings	CA1600004	FOUR SEASONS MOBILE HOME PARK	350	2
Kings	CA1600004	FOUR SEASONS MOBILE HOME PARK	350	17
Kings	CA1600008	CENTRAL UNION ELEMENTARY	320	1
Kings	CA1600050	CENTRAL VALLEY MEAT CO INC	280	4
Kings	CA1600296	OLAM SPICES AND VEGETABLES INC	75	2
Kings	CA1600601	KWRA MRF	53	4
Kings	CA1610009	KETTLEMAN CITY CSD	1450	3
Los Angeles	CA1900038	LANCASTER PARK MOBILE HOME PARK	53	4
Los Angeles	CA1900100	METTLER VALLEY MUTUAL	135	4
Los Angeles	CA1900520	THE VILLAGE MOBILE HOME PARK	70	4
Los Angeles	CA1900785	MITCHELL'S AVENUE E MOBILE HOME PARK	28	4
Los Angeles	CA1900961	WINTERHAVEN MOBILE ESTATES	45	2
Los Angeles	CA1910246	LAND PROJECT MUTUAL WATER CO.	1500	4
Madera	CA2000150	LIBERTY HIGH SCHOOL	1340	1
Madera	CA2000150	LIBERTY HIGH SCHOOL	1340	1
Madera	CA2000293	MD#46 AHWAHNEE RESORTS	300	2
Madera	CA2000512	EAST ACRES MUTUAL WATER COMPANY	250	2
Madera	CA2000527	YOSEMITE FORKS EST MUTUAL	110	5
Madera	CA2000538	CEDAR VALLEY MUTUAL WATER CO	137	3
Madera	CA2000550	MD#06 LAKE SHORE PARK	130	9
Madera	CA2000551	MD#07 MARINA VIEW HEIGHTS	200	5
Madera	CA2000552	MD#24 TEAFORD MEADOW LAKES	150	2
Madera	CA2000561	MD#08 NORTH FORK WATER SYSTEM	264	1
Madera	CA2000612	NORTH FORK UNION SCHOOL	350	3
Madera	CA2000619	COLD SPRING GRANITE CO RAYMOND	43	3
Madera	CA2000737	MD#42 STILL MEADOW	100	2
Madera	CA2000737	MD#42 STILL MEADOW	100	1
Madera	CA2000785	VALLEY TEEN RANCH	50	1
Madera	CA2000866	AGRILAND FARMING CO INC	60	4
Madera	CA2010007	HILLVIEW WC-OAKHURST/SIERRA LAKES	2740	6
Madera	CA2010012	HILLVIEW WATER CO-RAYMOND	294	4
Madera	CA2010801	VALLEY STATE PRISON	3300	2
Mariposa	CA2210937	MARIPOSA COUNTY PUBLIC WORKS DEPARTMENT	135	4
Merced	CA2400165	FOSTER FARMS DELHI FEEDMILL COLLIER ROAD	200	4
Merced	CA2400170	HILMAR CHEESE COMPANY	1000	6

County	PWS ID	PWS Name	Pop Served	No. of Violations
Merced	CA2410004	CITY OF LIVINGSTON	14894	3
Mono	CA2600622	SIERRA EAST MOBILE HOME COMMUNITY	50	5
Mono	CA2610003	BRIDGEPORT PUD	850	2
Monterey	CA2700536	CORRAL DE TIERRA ESTATES WC	45	4
Monterey	CA2700612	LAGUNA SECA WC	162	8
Monterey	CA2700799	VISTA DEL TORO WS	87	6
Monterey	CA2701221	WASHINGTON SCHOOL WS	250	6
Monterey	CA2701926	MORO RD WS #09	210	5
Monterey	CA2701959	TIERRA VISTA MWC	57	7
Monterey	CA2702009	LAGUNA SECA RECREATION WS	500	3
Monterey	CA2702030	CYPRESS COMMUNITY CHURCH WS	200	7
Monterey	CA2702550	GRANGE HALL WS	25	7
Plumas	CA3210011	PLUMAS EUREKA CSD	325	3
Riverside	CA3301380	SAINT ANTHONY TRAILER PARK	300	4
Riverside	CA3301482	ORTEGA OAKS RV PARK&CAMPGROUND	25	3
Riverside	CA3303092	MECCA ARCO TRAVEL CENTER	47	4
Riverside	CA3303112	COACHELLA VALLEY FACILITY	245	4
Sacramento	CA3400130	THE COURTLAND GROUP	40	4
Sacramento	CA3400138	LOCKE WATER WORKS CO [SWS]	80	8
Sacramento	CA3400149	RANCHO MARINA	250	4
Sacramento	CA3400164	VIEIRA'S RESORT, INC	150	10
Sacramento	CA3400271	ARCOHE ELEM SCHOOL - MAIN CAMPUS	465	2
Sacramento	CA3400332	OXBOW MARINA (SWS)	200	8
Sacramento	CA3400364	JEAN HARVIE SCHOOL [SWS]	30	48
Sacramento	CA3400433	EDGEWATER MOBILE HOME PARK	40	2
Sacramento	CA3400433	EDGEWATER MOBILE HOME PARK	40	6
San Benito	CA3500570	B & R FARMS	25	6
San Benito	CA3500810	WHISPERING PINES INN	38	2
San Bernardino	CA3600025	BAR-LEN MWC	124	3
San Bernardino	CA3600036	CALICO GHOST TOWN	1000	3
San Bernardino	CA3600062	CALLIER WATER SYSTEM	1000	3
San Bernardino	CA3600196	CSA 70 W-4 PIONEERTOWN	625	3
San Bernardino	CA3600504	KNOLL ENTERPRISES	500	1
San Bernardino	CA3601013	DARR WATER CO	1000	2
San Bernardino	CA3601015	IRONWOOD CAMP	1000	3
San Bernardino	CA3610705	US ARMY - FORT IRWIN	16000	4
San Diego	CA3701010	WARNER UNIFIED SCHOOL DISTRICT	250	4
San Joaquin	CA3900579	CENTURY MOBILE HOME PARK	50	1
San Joaquin	CA3900579	CENTURY MOBILE HOME PARK	50	3
San Joaquin	CA3901169	MUSD-NILE GARDEN SCHOOL	804	4
San Joaquin	CA3901213	AVALOS, SILVIA	30	4

County	PWS ID	PWS Name	Pop Served	No. of Violations
San Joaquin	CA3901290	FISHER NURSERY	50	1
San Joaquin	CA3901334	BJJ COMPANY LLC	40	4
San Joaquin	CA3901392	ENVIROPLEX, INC	25	3
Santa Cruz	CA4400621	RIVER GROVE MUTUAL WATER ASSN	54	1
Sierra	CA4600019	SIERRA CO. W.W.D #1 CALPINE	225	11
Solano	CA4800561	SNUG HARBOR RESORT	337	3
Sonoma	CA4901267	TLC CHILD & FAMILY SERVICES	35	3
Stanislaus	CA5000033	COBLES CORNER	50	2
Stanislaus	CA5000051	MOBILE PLAZA PARK	125	4
Stanislaus	CA5000077	CERES WEST MHP	161	4
Stanislaus	CA5000080	COUNTRY WESTERN MOBILE HOME PARK	90	4
Stanislaus	CA5000085	GREEN RUN MOBILE ESTATES	100	4
Stanislaus	CA5000086	COUNTRYSIDE MHP	60	4
Stanislaus	CA5000218	COUNTRY VILLA APTS	30	4
Stanislaus	CA5000273	GRATTON SCHOOL	110	4
Stanislaus	CA5000389	MONTEREY PARK TRACT CSD	186	3
Stanislaus	CA5000484	UNITED PALLET SERVICES INC WATER SYSTEM	45	4
Stanislaus	CA5000570	VALLEY PETERBILT	25	2
Stanislaus	CA5010008	HUGHSON, CITY OF	6082	4
Stanislaus	CA5010009	KEYES COMMUNITY SERVICES DIST.	4891	4
Sutter	CA5100107	SUTTER CO. WWD#1 (ROBBINS)	350	4
Sutter	CA5100145	WINSHIP ELEMENTARY SCHOOL	38	4
Sutter	CA5100149	BARRY ELEMENTARY SCHOOL	650	4
Tehama	CA5200550	NEW ORCHARD MOBILE HOME PARK LLC	125	3
Tehama	CA5201137	MILLSTREAM MOBILE HOME PARK	80	3
Tehama	CA5210003	LOS MOLINOS COMM. SERVICES DIST.	1500	4
Trinity	CA5301002	LEWISTON COMMUNITY SERVICES DISTRICT	250	4
Tulare	CA5403054	PFFJ, LLC	32	4
Tulare	CA5410009	PIXLEY PUBLIC UTIL DIST	3310	3
Tulare	CA5410050	ALPAUGH COMMUNITY SERVICES DISTRICT	1026	2
Yolo	CA5700652	YOLO FLIERS CLUB	410	2

APPENDIX E: SUMMARY OF MCL VIOLATIONS FOR NITRATE-NITRITE BY COUNTY

County	PWS ID	PWS Name	Pop Served	No. of Violations
Kern	CA1500409	BROCK MUTUAL WATER COMPANY	511	1
Kern	CA1500494	WILSON ROAD WATER COMMUNITY	72	2
Kern	CA1500575	SAN JOAQUIN ESTATES MUTUAL WATER COMPANY	165	2
Kern	CA1500584	GOOSELAKE WATER COMPANY	105	1
Kern	CA1500588	SON SHINE PROPERTIES	438	1
Kern	CA1502017	WHEELER FARMS HEADQUARTERS	25	1
Kern	CA1502229	RIO BRAVO GREELEY SCHOOL WATER SYSTEM	887	2
Kern	CA1502273	SUN WORLD INTERNATIONAL, INC.-COM CENTER	80	1
Kern	CA1502398	FARMER JOHN EGG RANCH #2	30	1
Kern	CA1502699	EAST WILSON ROAD WATER COMPANY	35	1
Monterey	CA2700665	OAK HEIGHTS W & R CO INC	105	2
Monterey	CA2700738	SAN MIGUEL WS #01	100	1
Monterey	CA2700771	SPRINGFIELD WATER COMPANY	200	2
Monterey	CA2701036	APPLE AVE WS #03	60	1
Monterey	CA2701063	RIVER RD WS #25	65	1
Monterey	CA2701153	GROWERS TRANSPLANTING WS	50	2
Monterey	CA2701241	ENCINAL RD WS #01	41	4
Monterey	CA2701542	GONZALES GAS STATION WS	200	2
Monterey	CA2701912	SPRECKELS LN WS #03	50	1
Monterey	CA2702409	EL CAMINO WC INC	90	4
Monterey	CA2702616	ALTMAN PLANTS WS #02	25	2
Monterey	CA2702621	IVERSON RD WS #03	40	3
San Joaquin	CA3900649	GLENWOOD MOBILE HOME PARK	100	2
San Joaquin	CA3901164	JIMCO TRUCK PLAZA WATER SYSTEM	150	1
San Joaquin	CA3901182	FINLEYS	25	2
San Joaquin	CA3901387	STOCKTON BAPTIST CHURCH	25	4
San Joaquin	CA3901479	PG&E: MANTECA SERVICE CENTER	25	2
Tehama	CA5200655	LOUISIANA-PACIFIC CORPORATION	55	1
Tulare	CA5400616	LEMON COVE WATER CO	200	1
Tulare	CA5400651	BEVERLY GRAND MUTUAL WATER	108	1
Tulare	CA5400666	DEL ORO GRANDVIEW GARDENS DISTRICT	389	1
Tulare	CA5400735	RODRIGUEZ LABOR CAMP	110	1
Tulare	CA5400805	SOULTS MUTUAL WATER CO	120	1

County	PWS ID	PWS Name	Pop Served	No. of Violations
Tulare	CA5400964	SIERRA VISTA ASSN	44	1
Tulare	CA5401003	EAST OROSI CSD	700	2