

**STATE OF HAWAII
ANNUAL PUBLIC WATER SYSTEM
COMPLIANCE REPORT
CALENDAR YEAR 2019**

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Chapter 1. Overview of the Drinking Water Program

1.1. Federal Program

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

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

The SDWA allows states and territories to seek EPA approval to administer their own PWSS Programs. The authority to run a PWSS Program is called primary enforcement authority or **primacy**. For a state to receive primacy, EPA must determine that the state meets certain requirements laid out in the SDWA and the regulations, including the adoption of drinking water regulations that are at least as stringent as the Federal regulations and a demonstration that they can enforce the program requirements.

EPA can also set other requirements for states to meet in order to qualify and maintain primacy. Once a state receives primacy, it has the responsibility to administer all applicable terms of the

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National Primary Drinking Water Regulations with EPA oversight. In addition, EPA can provide federal funding to states that have been given primacy.

Appendix A lists the rules which EPA currently enforces and their effective dates.

1.2. Hawaii Program

Hawaii's drinking water program was created in 1976, when the state Safe Drinking Water Act (Chapter 340E, Hawaii Revised Statutes) was adopted. The state act is similar to the federal legislation and establishes two separate programs, one for supervision of public water systems, and the other for the protection of underground sources of drinking water from pollution.

The State of Hawaii Department of Health (DOH) was first granted primary enforcement authority over public water systems within the state pursuant to the federal Safe Drinking Water Act in January 1978.



1.3. Public Water Systems

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

There are three types of PWSs: community water systems (CWS), nontransient noncommunity (NTNC) water systems, and transient noncommunity (TNC) water systems.

Community water systems serve cities, towns and other areas with at least 15 service connections or 25 yearlong residents. Examples include cities such as Wailuku and communities such as Hawaiian Beaches.

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Nontransient noncommunity water 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 CWSs. Examples include businesses such as Mililani Memorial Park and facilities such as the Kilauea Military Camp.

Transient noncommunity water systems are systems that provide water for a population that is transient in nature, serving 25 or more different people per day for at least 60 days per year. Examples include the Hawaii Nature Center and Polihale State Park.

A **wholesale water system** means an entity that supplies water to one or more PWSs for resale, such as the Honolulu Board of Water Supply, Honolulu-Windward-Pearl Harbor system that supplies water to the Marine Corps Base Hawaii.

A **consecutive water system** is a system that does not have its own source, but receives water from a wholesale water system. The Marine Corps Base Hawaii is a consecutive water system.

136 public water systems were regulated in Hawaii as of December 31, 2019. Table 1 shows the number of systems in each county, broken out by the number of county water department systems (such as Hawaii Department of Water Supply (DWS)), and the number of non-county systems (state, federal and private water companies).

Table 1: The number of water systems in each county.

County	Water department	No. of systems	Water purveyor	No. of systems
Hawaii	Hawaii DWS	23	Hawaii non-DWS	17
Maui	Maui DWS	12	Maui non-DWS	26
Honolulu	Honolulu BWS	8	Honolulu non-BWS	31
Kauai	Kauai DOW	9	Kauai non-DOW	10
	County Dept Subtotal	52	Non-County Subtotal	84

Figure 1 shows the percentage of the population in the state that is served by either a county water department or by a non-county entity (state, federal or private water company).

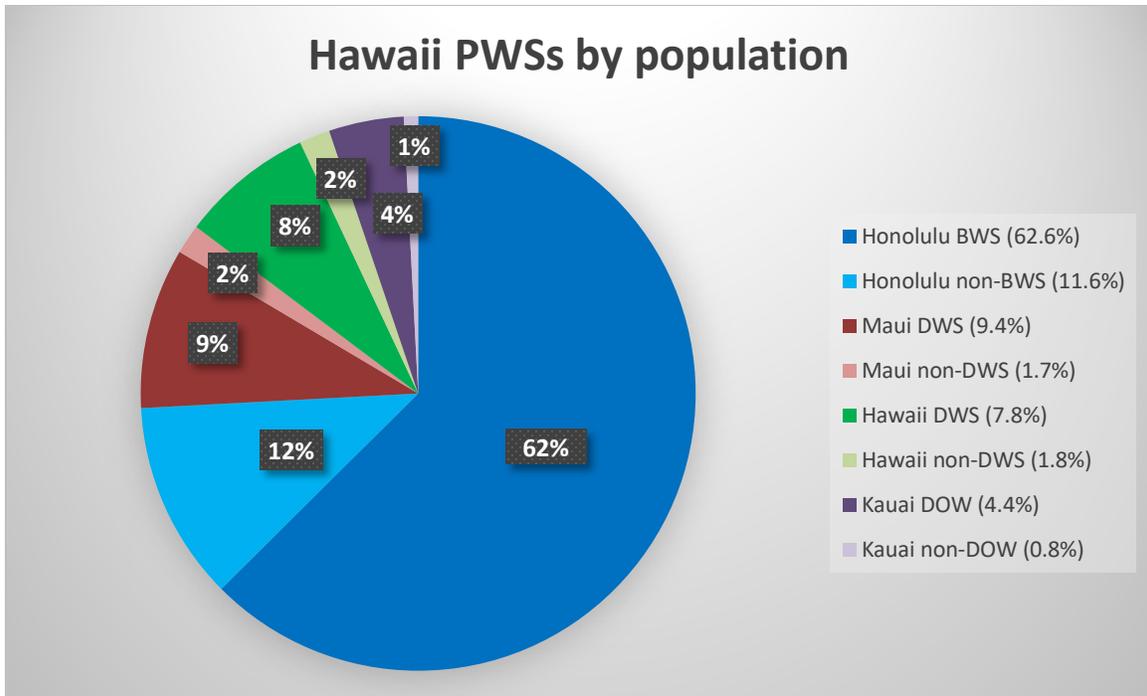


Figure 1. Percentage of state population served by the county water departments and non-county water purveyors (as of December 2019).

1.4. Sources of Drinking Water

The majority of public water systems in Hawaii use ground water as their primary source of supply. Table 1 shows the number and percentage of systems that use ground and surface water, and the percentage of population served by each type of source water. Public water systems that use *both* ground water and surface water sources are categorized as surface water systems by convention. The population of systems served surface water is determined based on breakdowns of ground water vs. surface water served per system provided by the water departments.

Table 2: Primary Sources of Drinking Water Used by Public Water Systems

Source	# of systems	% of systems	% by population
Ground Water	125	92%	94.5%
Surface water	11	8%	5.5%
Total # of systems	136		

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1.5 Safe Drinking Water Act

Under the 1974 federal SDWA and subsequent reauthorizations in 1986 and 1996, the EPA 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 (TTs) or action levels (ALs) 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 PWSs 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, and
- 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 an MCL: Primary drinking water standards have been adopted by the DOH for contaminants that may be found in drinking water supplies in Hawaii. 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 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 a compliance period. A reporting violation occurs when a water system fails to report test results in a timely fashion to the regulatory agency, or fails to provide certification that mandated information was

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provided to the public, such as through the issuance of a public notice or the annual Consumer Confidence Report (CCR). 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.

1.6. Annual Compliance Report

Section 1414(c)(3) of the federal Safe Drinking Water Act requires states to provide the EPA 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, TTs, 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.

1.7. Data Presented in This Report

Each quarter, primacy states submit data to the Safe Drinking Water Information System (SDWIS/FED), an automated database maintained by EPA. The data submitted include, but are not limited to, PWS inventory information, the incidence of MCL, Maximum Residual Disinfectant Level, monitoring, and TT 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. Data submitted to SDWIS/FED forms the basis of this Annual Compliance Report.

The 2019 Annual Compliance Report compiles violations for the following rule families:

1. Revised Total Coliform Rule (RTCR)
2. Surface Water Treatment Rule (SWTR), including the Filter Backwash Rule, Interim Enhanced SWTR, Long Term 1 Enhanced SWTR, and Long Term 2 and Enhanced SWTR
3. Ground Water Rule (GWR)
4. Inorganic Contaminants (IOC)
5. Synthetic Organic Contaminants (SOC)
6. Volatile Organic Contaminants (VOC)

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7. Disinfectants and Disinfection By-Products Rule (DBPR), including Stage 1 DBPR and Stage 2 DBPR
8. Lead and Copper Rule (LCR)
9. Radionuclides Rule (RAD)
10. Public Notification Rule (PN)
11. Consumer Confidence Report Rule (CCR)
12. Variances and Exemptions (V&E)

Chapter 2. Review of 2019 Violation Data

2.1 Overview of the Violations for Calendar Year 2019

In 2019, 10 violations were incurred by public water systems. Three of the violations were for failing to meet an MCL or TT, and seven were significant monitoring and/or reporting violations. Table 3 shows the number of violations by category for MCL/TT and M/R requirements for calendar year 2019 and calendar year 2018.

Table 3: Number of Violations by Category for MCLs / TT, and Significant Monitoring / Reporting (M/R)

Category	2019		2018	
	MCL/TT	M/R	MCL/TT	M/R
Revised Total Coliform Rule	0	0	1	0
Surface Water Treatment Rule	3	0	1	3
Synthetic Organic Contaminants Rule	0	5	0	0
Disinfection By-Products Rule	0	2	0	8

2.2 Overview of Public Water System Compliance for Calendar Year 2019

This section provides an overview of violations incurred by public water systems for the federal violation categories described in section 1.7. In 2019, four water systems violated at least one drinking water standard. One water system violated a TT, and three water systems violated an M/R requirement.

A summary of the 2019 drinking water MCL, TT, and significant M/R violations, sorted by rule family, is shown in Table 4. For this Annual Compliance Report, EPA has deemed that significant M/R violations are reportable. A M/R violation is significant if no samples were collected in the monitoring period.

Table 4: Summary of Violations by Rule Family

Rule Family	Rule	Violation Category	No. of Violations	No. of Water Systems
SWTR	Surface Water Treatment Rule	TT (could not determine if CT was met, or turbidity limit was met)	3	1
SOC	Synthetic Organic Contaminants Rule	Monitoring and Reporting	5	2
DBP	Stage 2 Disinfectants and Disinfection By-Products Rule	Monitoring and Reporting	2	1

A summary of the violations, with the water system names and listed in the same rule order, is provided in Appendix B.

2.3 Discussion of Violations

Hawaii's annual compliance report is based on State records and the violations submitted to the federal EPA SDWIS database.

The state issued violation letters to all systems which incurred violations in 2019. The water purveyors subsequently issued public notices to inform the public of the violations.

Revised Total Coliform Rule. There were no violations of the Revised Total Coliform Rule.

Surface Water Treatment Rule. One water system on Oahu incurred three TT violations in January to March 2019 and returned to compliance in April 2019.

Ground Water Rule. There were no violations of the TT requirements or triggered source water monitoring requirements.

Inorganic Chemicals and Organic Chemicals. There were no MCL violations for any of the 69 contaminants regulated under the Phase I Volatile Organic Chemical, or Phases II and V Synthetic Organic/Inorganic Chemical Rules. There were five significant M/R violations for Organic Chemicals.

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Disinfectant/Disinfectant By-Product Chemicals. One water system incurred significant monitoring violations for missing Total Trihalomethane and Total Haloacetic Acids (Five) sampling in the one-year compliance period ending in 2019.

Lead and Copper Rule. There were no significant violations of the Lead and Copper Rule.

Radiological Contaminants. There were no MCL violations for Radiological contaminants and no significant M/R violations. The Radionuclides monitoring period for the vast majority of community water systems next ends on December 31, 2025.

Public Notification Rule. There were no violations of the Public Notification Rule.

Consumer Confidence Report Rule. All community water systems complied with the rule by delivering an annual water quality or consumer confidence report.

Variations and Exemptions Rule. No variations or exemptions were granted by the State of Hawaii, and no variations or exemptions were already in existence. Therefore, there were no violations of variations or exemptions.

2.4 Hawaii-Specific Standards

One contaminant (1,2,3-Trichloropropane) is regulated by the State of Hawaii but not by the EPA, i.e. the contaminant has a state MCL but no federal MCL. Two contaminants (Ethylene dibromide and Dibromochloropropane) are regulated at a more stringent (lower) state MCL than the federal MCL.

Table 5: Federal MCL vs. Hawaii State MCL

Contaminant	Federal MCL	State MCL
1,2,3-Trichloropropane	None	0.0006 milligrams/Liter (mg/L)
Ethylene Dibromide	0.00005 mg/L	0.00004 mg/L
Dibromochloropropane	0.0002 mg/L	0.00004 mg/L

There were no violations of the Hawaii-specific standards in 2019.

Chapter 3. Conclusion

The DOH Safe Drinking Water Branch (SDWB) is the primacy agency responsible for administration and enforcement of the Safe Drinking Water Act requirements in Hawaii. The SDWB undertakes a wide range of activities to implement this program, including conducting sanitary surveys (inspections) of the water systems, monitoring for compliance with regulations, and taking enforcement action when violations are identified.

Water systems in Hawaii continue to have a very high rate of compliance with drinking water regulations.

The DOH continues to track compliance, ensure that the public is notified of violations, provide technical assistance to public water systems to address violations, and provide funding assistance to public water systems that are capable of undertaking planning or construction projects in order to address violations.

3.1 Drinking Water Compliance Activities

The DOH has implemented a number of projects to improve the tracking and reporting of water quality monitoring data, assist water systems with meeting their regulatory monitoring requirements, and ensure compliance with the drinking water regulations.

The DOH Environmental Health Administration, SDWB, and an information technology consultant partnered in 2012 to design and develop a Sample Analysis Tracking System (SATS). The system implemented a data exchange from the DOH State Laboratories Division to the SDWB's SDWIS/State information management system.

The Sample Collection and Reservation System (SCRS) was developed in 2013 to provide public water systems with a comprehensive source of information and tools they need to meet their compliance monitoring obligations. Water systems could review their monitoring requirements and schedule analyses with the State Laboratories Division.

The SDWIS Viewer was developed to give users the ability to query drinking water system, facility and sample point data and return results in a tabular and/or spatially enabled format.

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In 2019, the branch began the process to implement the EPA's Compliance Monitoring Data Portal (CMDP), which will enable laboratories to electronically transmit water quality monitoring data to SDWIS/State. The portal will replace the current paper and CD-based methods of drinking water quality monitoring data reporting by external laboratories.

3.2 Obtaining a Copy of the Report

As required by the SDWA, Hawaii has made the 2019 Annual Public Water System Compliance Report available to the public. Interested individuals can obtain a copy of the 2019 Annual Public Water System Compliance Report for Hawaii by accessing the DOH/SDWB Website: <http://health.hawaii.gov/sdwb/newsletters/>. Click on the 2019 Annual Public Water System Compliance Report link.

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Glossary of Terms

Public Water System (PWS)	A public water system (PWS) is defined as a system that provides water for human consumption via piping or other constructed conveyances to at least 15 service connections, or serves an average of at least 25 people for at least 60 days each year.
Community water system (CWS)	A water system that serve cities, towns and other areas with at least 15 service connections or 25 yearlong residents.
Non-transient non-community (NTNC)	A water system that serves facilities such as schools, businesses or other facilities that serve the same group of on-resident users at least 180 days out of the year.
Transient non-community (TNC)	A water system serving facilities such as parks that serve a transient population for at least 60 days out of the year.
Maximum Contaminant Level (MCL)	The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the MCL Goals as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water. In Hawaii, we have one MCL for a contaminant which EPA does not regulate: 1,2,3-Trichloropropane (TCP). In Hawaii, we have two MCLs for federally regulated contaminants that are lower than the federal MCL (more stringent). These MCLs are for 1,2-Dibromo-3-chloropropane (DBCP) and Ethylene dibromide (EDB).
Maximum Residual Disinfectant Level (MRDL)	The EPA sets national limits on residual disinfectant levels in drinking water to reduce the risk of exposure to disinfectant byproducts formed when public water systems add chemical disinfectant for either primary or residual treatment.
Treatment Technique (TT)	A required process intended to reduce the level of a contaminant in drinking water in lieu of an MCL. For example, TTs have been established for the treatment of surface waters to control the level of viruses and bacteria.
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 MCLs. A monitoring violation occurs when the system fails to have its water tested as required or fails to report test results correctly to the DOH.
Significant Monitoring or Reporting Violations	For this report, EPA defined significant monitoring or reporting violations as occurring 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 has to notify the public depends upon the risk posed by the violation or situation. Notices must be provided to persons served (not just billing consumers).
Consumer Confidence Report (CCR)	All community water systems are required to deliver to their customers an annual CCR, summarized water quality data collecting during the year. The report includes educational material, information on the source water(s), levels of any detected contaminants, and any compliance issues with the drinking water regulations.

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Appendix A: Safe Drinking Water Rules and Effective Dates

	RULE	PROMULGATION DATE	EFFECTIVE DATE
1	Phase I Volatile Organic Chemical Rule	7/8/1987	1/9/1989
2	Total Coliform Rule	6/29/1989	12/31/1990
3	Surface Water Treatment Rule	6/29/1989	12/31/1990
4	Lead and Copper Rule	6/7/1991	12/7/1992
5	Phase II Synthetic Organic/Inorganic Chemical Rule	1/30/1991	1/1/1993
6	Phase V Synthetic Organic/Inorganic Chemical Rule	7/17/1992	1/1/1993
7	Stage 1 Disinfectant/Disinfection By-Products Rule	1/16/1998	2/16/1999
8	Consumer Confidence Reports Rule	8/19/1998	10/19/1999
9	Lead and Copper Rule Minor Revisions	9/20/1999	4/11/2000
10	Public Notification Rule	5/4/2000	6/5/2000
11	Unregulated Contaminant Monitoring Rule	9/17/1999	1/1/2001
12	Interim Enhanced Surface Water Treatment Rule	12/16/1998	1/1/2002
13	Long Term 1 Enhanced Surface Water Treatment Rule	1/14/2002	2/13/2002
14	Revised Radionuclides Rule	12/7/2000	12/8/2003
15	Filter Backwash Rule	6/8/2001	6/8/2004
16	Arsenic and Clarifications to Compliance and New Source Monitoring Rule	1/22/2001	1/23/2006
17	Long Term 2 Enhanced Surface Water Treatment Rule	1/5/2006	3/6/2006
18	Stage 2 Disinfectant/Disinfection By-Products Rule	1/5/2006	3/6/2006
19	Ground Water Rule	10/11/2006	12/1/2009
20	Revised Total Coliform Rule	2/13/2013	4/1/2016

Appendix B: Summary of Violations by Rule and Water System

Monitoring Period (YrMo)	PWS	System name	Viotype (# of violations)	Comments
SWTR				
2019-01	348	Waiawa Correctional Facility	SWTR Long Term 2 TT (1)	Cl2 residual was not collected for part of the month, therefore it could not be determined if CT was met
2019-02, 2019-03	348	Waiawa Correctional Facility	SWTR Long Term 2 TT (2)	Turbidimeter malfunctioned, could not tell if turbidity limits were met
SOCs				
2019-09	263	Haiku Town Water Assn.	EDB and DBCP M/R (2)	No quarterly samples were collected
2019-12	324	Punahou School	Benzo(a)pyrene, Di(2-ethylhexyl)adipate and Di(2-ethylhexyl)phthalate M/R (3)	No samples were collected for compliance period 2017 - 2019
DBPs				
2019	247	Lower Kula	DBP M/R (2)	No samples were collected for Total THMs and Total HAA5s