2025 DRINKING WATER NEEDS ASSESSMENT

JUNE 2025

CALIFORNIA
Water Boards

Acknowledgements

Contributors

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DEFINITION OF TERMS

Adequate Supply: means sufficient water to meet residents' health and safety needs at all times. (Health & Saf. Code, § 116681, subd. (a).)

Administrator: an individual, corporation, company, association, partnership, limited liability company, municipality, public utility, or other public body or institution which the State Water Board has determined as competent and performs the administrative, technical, operational, legal, or managerial services required for a water system to comply with Health and Safety Code section 116686, pursuant to the Administrator Policy Handbook adopted by the State Water Board. (Health & Saf. Code, §§ 116275, subd. (g), 116686, subd. (m)(1).)

Affordability Assessment: the evaluation of any community water system and non-transient non-community water systems serving K-12 schools serving a disadvantaged community to ascertain if it must charge fees, directly or indirectly, that exceed the Affordability Threshold to supply, treat, and distribute potable water that complies with federal and state drinking water standards. The assessment utilizes several indicators to identify communities experiencing economic challenges which make them unable to incur additional costs. (Health & Saf. Code, § 116769, subd. (a)(2)(B).)

Affordability Threshold: the designated values used to assess the economic capacity of a community or household to pay for current drinking water charges and incur additional costs or fees in the future. This capacity is used in the Affordability Assessment. For the purposes of the 2025 Affordability Assessment, the State Water Board employed affordability thresholds for the following indicators independently and combined: Percent Median Household Income; Extreme Water Bill; and Household Socioeconomic Burden. Learn more about indicators and affordability thresholds in Appendix: Affordability Assessment Methodology.[1]

Arrearage: debt accrued by a water system's customer from failure to pay water service bill(s) which are at least 60 days or more past due.

At-Risk Public Water System: a community water system with up to 30,000 service connections and 100,000 population served or non-transient non-community water systems that serve K-12 schools that are confronting circumstances which threaten its ability to continue to meet one or more key Human Right to Water goals: (1) providing safe drinking water; (2) accessible drinking water; (3) affordable drinking water; and/or (4) maintaining a sustainable water system.

At-Risk State Small Water Systems (SSWS) and Domestic Wells (DW): State Small Water Systems and Domestic Wells located in areas where groundwater is threatened by: (1) encroaching contaminants which are likely to lead to concentration levels that exceed safe

[1] Appendix: Affordability Assessment Methodology
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025affordabilityassessment-methodology.pdf

drinking water standards; (2) water shortage risk; and/or (3) socioeconomic risk. This definition may be expanded in future assessments as more data becomes available.

Assembly Bill 2454: a legislative bill signed into law in 2024. The bill requires an owner of a domestic well that serves a rental property in designated areas to participate in water testing.

Assembly Bill 2962: a legislative bill signed into law in 2024. The bill requires the City and County of San Francisco to implement capital improvement projects to restore and enhance the Bay Area regional water system. It also extends the act's repeal date to January 1, 2036.

Assembly Bill 157: a legislative bill signed into law in 2024. The bill requires 5 percent of annual proceeds from the Greenhouse Gas Reduction Fund (GGRF) to be transferred to the Safe and Affordable Drinking Water Fund. This allocation supports California's ongoing efforts to ensure access to clean and affordable drinking water.

CalEnviroScreen[2]: a mapping tool produced and maintained by the Office of Environmental Health Hazard Assessment (OEHHA) that uses environmental, health, and socioeconomic information to identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects.

California Native American Tribe: socially-divided communities of California indigenous peoples recognized federally and non-federally and on the contact list maintained by the Native American Heritage Commission for the purposes of Chapter 905 of the Statutes of 2004. (Health & Saf. Code, § 116766, subd. (c)(1).) Typically, drinking water systems for federally recognized tribes fall under the regulatory jurisdiction of the United States Environmental Protection Agency (U.S. EPA), while public water systems operated by non-federally recognized tribes currently fall under the jurisdiction of the State Water Board.

Centralized Treatment: treating water at a central place before conveying it through a dedicated distribution system to customers.

Community Water System: a public water system that serves at least 15 service connections used by yearlong residents or regularly serves at least 25 yearlong residents of the area served by the system. (Health & Saf. Code, § 116275, subd. (i).)

Consistently Fail: a failure to provide an adequate supply of safe drinking water. (Health & Saf. Code, § 116681, subd. (c).)

Consolidation: the joining of two or more public water systems, state small water systems, or affected residences into a single public water system, either physically or managerially. For the purposes of this report, consolidations may include voluntary or mandatory consolidations. (Health & Saf. Code, § 116681, subd. (e).)

Constituents of Emerging Concern: encompass any physical, chemical, biological, or radiological substance or matter in any environmental media that may pose a risk to human

[2] CalEnviroScreen 4.0 | OEHHA
https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40

and/or ecological health, for which there is not currently enforceable California or federal environmental or health standard, or the existing standard is evolving or being re-evaluated, and/or the presence, frequency of occurrence, source, fate and transport, and/or toxicology of which is not well understood, routinely monitored, and/or may lack analytical methods. For purposes of the Risk Assessment on public water systems, three chemicals are incorporated: hexavalent chromium, 1,4-dioxane, and per- and polyfluoroalkyl substances (PFAS).

Contaminant: any physical, chemical, biological, or radiological substance or matter in water. (Health & Saf. Code, § 116275, subd. (a).)

Cost Assessment: the estimation of funding needed for the Safe and Affordable Drinking Water Fund for the next fiscal year based on the amount available in the fund, anticipated funding needs, and other existing State Water Board funding sources. Thus, iterations of the Cost Assessment estimates anticipated expenditures related to the implementation of interim and/or emergency measures and longer-term solutions for Failing and At-Risk public water systems, State Small Water Systems, and Domestic Wells. Some iterations of the Cost Assessment also include the identification of available funding sources and the funding and financing gaps that may exist to support interim and long-term solutions. (Health & Saf. Code, § 116769.)

Disadvantaged Community (DAC): the entire service area of a community water system, or a community therein, in which the median household income is less than 80% of the statewide annual median household income level. (Health & Saf. Code, § 116275, subd. (aa).)

Domestic Well: a groundwater well used to supply water for the domestic needs of an individual residence or a water system that is not a public water system and has no more than four service connections. (Health & Saf. Code, § 116681, subd. (g).)

Drinking Water Needs Assessment (**Needs Assessment):** the annual State Water Board report that provides a comprehensive identification of California drinking water challenges in achieving the Human Right to Water. The report analyzes and identifies drinking water infrastructure, managerial capacity, technical, and financial needs for communities served by public water systems, state small water systems, and domestic wells. The Needs Assessment consists of four core components: 1) Failing Water System List, 2) Risk Assessment, 3) Cost Assessment, and 4) Affordability Assessment. The Needs Assessment informs the annual Fund Expenditure Plan for the Safe and Affordable Drinking Water Fund and broader SAFER program activities. (Health & Saf. Code, § 116769.)

Drinking Water State Revolving Loan Fund (DWSRF): a funding program managed by the State Water Board that finances infrastructure improvements to mitigate drinking water risks and support the Human Right to Water. In accordance with federal rules, the DWSRF program generally prioritizes financing for projects that (1) address the most serious human health risks, (2) are necessary to comply with federal Safe Drinking Water Act requirements and (3) assist public water systems most in need on a per household basis.

Electronic Annual Report (eAR): the Water Board's annual survey of California's public water systems which collects critical information to assess their compliance with regulatory

requirements, updates contact and inventory information (such as population and number of service connections), and captures information used to assess capacities, financial and otherwise, of water systems.

Entrenched Failing Water System: Failing water systems that are currently Failing and have been on the Failing list for at least three consecutive years.

Failing: the inability of a public water system to provide an adequate and reliable supply of drinking water which is at all times pure, wholesome, and potable. (Health & Saf. Code, § 116555.)

Failing List: the catalogue of public water systems that are out of compliance or consistently fail to meet primary drinking water standards. Systems that are assessed for meeting the Failing List criteria include community water systems and non-community water systems that serve K-12 schools and daycares. The Failing List criteria were expanded in April 2021 to better align with statutory definitions of what it means for a water system to consistently fail to meet primary drinking water standards. (Health & Saf. Code, § 116275(c).)

Fund Expenditure Plan (**FEP):** based on the Drinking Water Needs Assessment and adopted annually by the State Water Board, describes how money from the Safe and Affordable Drinking Water Fund will be prioritized, documents past and planned expenditures, prioritizes projects for funding, and includes elements pursuant to Article 4 of Chapter 4.6 of the Health and Safety Code for the Safe and Affordable Drinking Water Fund, established pursuant to Health and Safety Code section 116766.

Human Consumption: the use of water for drinking, bathing or showering, hand washing, oral hygiene, or cooking, including, but not limited to, preparing food and washing dishes. (Health & Saf. Code, § 116275, subd. (e).)

Human Right to Water (HR2W): the recognition that “every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking and sanitary purposes,” as defined in Assembly Bill 685 (AB 685). (California Water Code § 106.3, subd. (a).)

Intended Use Plan (IUP): The Drinking Water State Revolving Fund (DWSRF) program finances infrastructure improvements to mitigate drinking water risks and support the human right to water. This Intended Use Plan (IUP) describes the State Water Board plan for implementing the DWSRF and its complementary financing programs within a fiscal year.

Intertie: an interconnection allowing the passage of water between two or more water systems.

Interim Replacement Water or **Interim Solution:** includes, but is not limited to; bottled water, vended water, and point-of-use or point-of-entry treatment units. (Health & Saf. Code, § 116767, subd. (q).)

Large Community Water Systems: a community water system that serves more than 30,000 service connections or a population greater than 100,000.

Loan: any repayable financing instrument, including a loan, bond, installment sale agreement, note, or other evidence of indebtedness.

Local Cost Share: a proportion of the total interim and/or long-term project costs (capital, O&M, and financing costs) that are not eligible for a State grant and would therefore be borne by water systems, their ratepayers, and/or domestic well-owners. Some local cost share needs may be eligible for public or private financing (*i.e.,* a loan). Some local costs share needs may not be eligible for financing and are typically funded through available reserves or cash on hand.

Local Primacy Agency (LPA): the local health officer within a county to whom the State Water Board has delegated primary responsibility for the administration and enforcement of California Safe Drinking Water Act. An LPA is authorized by means of a local primacy delegation agreement if the local health officer demonstrates the capability to meet the local primacy program requirements established by the State Water Board pursuant to subdivision (h) of Health and Safety Code section 116375. (Health & Saf. Code, § 116330, subd. (a).)

Mandatory Consolidation: State Water Board mandated consolidation requiring two or more water systems to merge with, or receive an extension of service from another, public water system.

Maximum Contaminant Level (MCL): the highest permissible amount of a contaminant statutorily allowed in water. (Health & Saf. Code, § 116275, subd. (f).)

Median Household Income (MHI): the financial level that represents the middle value of revenue for an entire community, where half of the households earn more and half earn less, based on the total income received per each home and its occupants. The methods utilized for calculating MHI are included in Appendix: Median Household Income (MHI) and Economic Status Determination Methodology[3] and Appendix: Affordability Assessment Methodology[4] . MHIs in this Needs Assessment are estimated values for the purposes of this statewide assessment. The State Water Board's Division of Financial Assistance determines funding eligibility using the MHI and on a system-by-system basis.

Medium Community Water System: a community water system that serves between 3,301[5] and 30,000 service connections and a population up to 100,000.

Non-Community Water System: a public water system that is not a community water system. (Health & Saf. Code, § 116275, subd. (j).)

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[3] Appendix: Median Household Income (MHI) and Economic Status Determination Methodology https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025mhi-calculation.pdf

[4] Appendix: Affordability Assessment Methodology https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025affordabilityassessment-methodology.pdf

[5] The previous Needs Assessments mistakenly listed 3,000 due to a typographical error.

Non-Transient, Non-Community Water System: a public water system that is not a community water system and regularly serves at least 25 of the same persons for six months or more during a given year, such as a school. (Health & Saf. Code, § 116275, subd. (k).)

Point of Use (**POU):** a treatment device located where the end user accesses drinking water.

Point of Entry (POE): a treatment device located at the inlet to an entire building or facility.

Potentially At-Risk: categorical description of a Community Water System with 30,000 service connections or less, or population served up to 100,000 and K-12 schools that is potentially threatened by circumstances which could cause its failure to meet one or more key Human Right to Water goals—all Californians have drinking water that is: (1) safe; (2) accessible; (3) affordable; and/or (4) sustainable.

Primary Drinking Water Standard: a set of established protocols for water intended for human consumption: (1) Maximum levels of contaminants that, in the judgment of the State Water Board, beyond which may have an adverse effect on the health of persons, (2) Specific treatment techniques adopted by the state board in lieu of maximum contaminant levels pursuant to Health & Saf. Code, section 116365, subd. (j), and (3) Monitoring and reporting requirements as specified in regulations adopted by the state board that pertain to maximum contaminant levels. (Health & Saf. Code, § 116275, subd. (c).)

Public Water System: 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 an average of at least 25 individuals daily at least 60 days out of the year. A public water system includes any collection, pre-treatment, treatment, storage, and distribution facilities under control of the operator of the system that are used primarily in connection with the system; any collection or pretreatment storage facilities not under the control of the operator that are used primarily in connection with the system; and any water system that treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption. (Health & Saf. Code, § 116275, subd. (h).)

Resident: a person who physically occupies, whether by ownership, rental, lease, or other means, the same dwelling for at least 60 days of the year. (Health & Saf. Code, § 116275, subd. (t).)

Risk Assessment: This evaluation identifies water systems that may be at risk of failing to provide an adequate supply of safe drinking water. For public water systems, this evaluation focuses on small and medium community water systems as well as non-transient, non-community K–12 schools. It also evaluates Domestic Wells or State Small Water Systems in areas of high risk for groundwater contamination; water shortage; and/or socioeconomic risk. (Health & Saf. Code, § 116769.)

Risk Indicator: the quantifiable measurements of key data points that allow the State Water Board to assess the potential for a community water system or a non-transient, non-community water system that serves a K-12 school to fail to sustainably provide an adequate supply of safe drinking water due to water quality, water accessibility, affordability, institutional, and/or TMF capacity issues.

Risk Threshold: the levels, points, or values associated with an individual indicator that delineates when a water system is threatening failure, typically based on regulatory requirements or industry standards.

Safe and Affordable Drinking Water Fund (**SADWF):** the fund created through the passage of Senate Bill 200 (SB 200) to help provide an adequate and affordable supply of drinking water for both the near and long term. SB 200 directs the annual transfer of five percent of the annual proceeds of the Greenhouse Gas Reduction Fund (GGRF) (up to $130 million) into the fund until June 30, 2030. (Health & Saf. Code, § 116766.)

Safe and Affordable Funding for Equity and Resilience Program (**SAFER Program):** a set of State Water Board tools, funding sources, and regulatory authorities designed to ensure safe, accessible, and affordable drinking water for all Californians.

Safe Drinking Water: water that meets all primary and secondary drinking water standards, as defined in Health and Safety Code section 116275.

SAFER Clearinghouse: a database system, developed and maintained by the State Water Board to assist with the implementation, management, and tracking of the SAFER Program.

SAFER Status: a categorization of community water systems and non-transient, non-community K-12 schools determined by the Needs Assessment's Failing system criteria and Risk Assessment. The following five SAFER Statuses are used by the State Water Board. If a water system's SAFER Status is currently Failing, its Risk Assessment result will replace its SAFER Status once the system comes off the Failing list.

- ***Failing***: Water systems that meet the current *Failing* criteria as defined by the State Water Board.[6]
- ***At-Risk***: Water systems at-risk of Failing. The system's risk scores are the highest within the results of the Risk Assessment.
- ***Potentially At-Risk***: Water systems potentially at-risk of Failing. The system has accrued risk points within the Risk Assessment, but not enough to be designated At-Risk.
- ***Not At-Risk***: Water system's not at-risk of Failing. The system has accrued zero or very little risk points within the Risk Assessment.
- ***Not Assessed***: Water systems that are currently not Failing and are excluded from the Risk Assessment analysis.

Sanitary Survey: a comprehensive inspection to evaluate a water system's ability to provide safe drinking water to their customers and comply with the federal Safe Drinking Water Act (SDWA).

Score: a standardized numerical value scaled between 0 and 1, that quantifies risk across risk indicators. Scores enable the evaluation and comparison of risk indicators.

[6] Failing criteria is summarized in the Drinking Water Needs Assessment and detailed online at the link below. Failing Criteria: https://www.waterboards.ca.gov/water_issues/programs/hr2w/docs/hr2w_expanded_criteria.pdf

Secondary Drinking Water Standards: these standards specify Maximum Contaminant Levels necessary to protect the public welfare. Secondary drinking water standards may apply to any contaminant in drinking water that may adversely affect its odor or appearance, potentially causing a significant number of consumers to discontinue its use, or that may otherwise negatively impact public welfare. Regulations establishing secondary drinking water standards may vary according to geographic and other circumstances and may apply to any contaminant in drinking water that adversely affects the taste, odor, or appearance of the water when the standards are necessary to ensure a supply of pure, wholesome, potable water. (Health & Saf. Code, § 116275, subd. (d).)

Service Connection: the point of water access between the customer's piping or constructed conveyance, and the system's meter, service pipe, or constructed conveyance, with certain exceptions set out in the definition in the Health and Safety Code. (See Health & Saf. Code, § 116275, subd. (s).)

Senate Bill No. 200: the legislative bill signed into law in 2019 that established the Safe and Affordable Funding for Equity and Resilience (SAFER) Program that enabled the State Water Board to advance the goals of the Human Right to Water. (Senate Bill No. 200, CHAPTER 120)

Senate Bill No. 552: a legislative bill signed into law in 2021 that requires small water suppliers and non-transient non-community water systems, to apply draught resiliency measures subject to funding availability. (Senate Bill No. 552, CHAPTER 245)

Senate Bill No. 1188: a legislative bill signed into law in 2024. The bill requires the State Water Board to develop and enforce minimum standards for the technical, managerial, and financial capacity of small community water systems serving under 10,000 connections and non-transient non-community water systems serving schools.

Senate Bill No. 1147: a legislative bill signed into law in 2024. The bill mandates the Office of Environmental Health Hazard Assessment (OEHHA) to study the health effects of microplastics in drinking and bottled water.

Senate Bill No. 867: a legislative bill signed into law in 2024. The bill authorizes $10 billion in bonds to fund projects for water safety, climate resilience, wildfire prevention, biodiversity, sustainable agriculture, park creation, and clean air initiatives.

Severely Disadvantaged Community (**SDAC):** the categorization of an entire water system with a service area in which the median household income is less than 60% of the statewide MHI. (See Water Code § 13476, subd. (j).)

Significant Deficiencies: State Water Board staff or LPA staff observed shortcomings identified during a Sanitary Survey or other water system inspections. Significant Deficiencies include but are not limited to defects in design, operation, or maintenance; failure or malfunction of the sources, treatment, storage; or use of a distribution system that U.S. EPA determines to be causing or has the potential to cause the introduction of contamination into the water delivered to consumers.

Small Community Water System: a community water system that serves no more than 3,300[7] service connections.

Small Disadvantaged Community (Small DAC or **SDAC):** category for entire service area, or the community therein, with a community water system that serves no more than 3,300 service connections or a year-round population of no more than 10,000, and in which the median household income is less than 80% of the statewide annual MHI.

Source Capacity: the total amount of water supply available, expressed as a flow, from all active sources permitted for use by a water system, including approved surface water, groundwater, and purchased water. (Title 22 of the California Code of Regulations, § 64551.40.)

State Small Water System (SSWS): a system for the provision of piped water to the public for human consumption that serves at least five, but not more than 14, service connections and does not regularly serve drinking water to more than an average of 25 individuals daily for more than 60 days out of the year. (Health & Saf. Code, § 116275, subd. (n).)

State Water Board: the California State Water Resources Control Board.

Technical Assistance: direct support, provided by third parties contracted with the State Water Board, to communities to identify challenges, develop plans, build capacity, and develop application materials to access water infrastructure funding. In many cases technical assistance does not eliminate the need for other capital improvements, but it should increase the technical, managerial, and financial capacity of water systems.

Technical, Managerial and Financial capacity (TMF capacity): the ability of a water system's administrators to plan for, achieve, and maintain long term compliance with drinking water standards, thereby ensuring the quality and adequacy of the water supply. This includes adequate resources for fiscal planning and management of the water system.

Transient, Non-Community Water System: A public water system that does not meet the definition of a community water system or non-transient, non-community water system, which serves 25 or more people at least 60 days out of a year or there are 15 or more service connections that are not used by yearlong residents (*e.g.*, restaurants, gas stations, parks, *etc.*).

Waterworks Standards: regulations adopted by the State Water Board entitled California Waterworks Standards (Chapter 16 (commencing with § 64551) of Division 4 of Title 22 of the California Code of Regulations). (Health & Saf. Code, § 116275, subd. (q).)

Weight: numerical significance established by the application of a multiplying value to each risk indicator or category within the Risk Assessment. It allows for the accentuation of significance of certain risk indicators and categories deemed more critical than others.

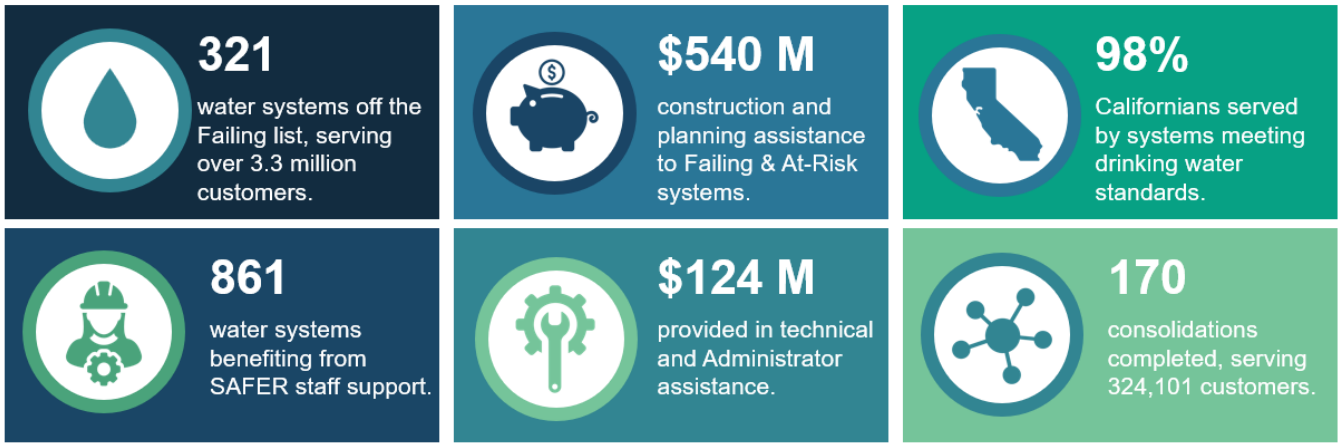
[7] The previous Needs Assessments mistakenly listed 3,000 due to a typographical error.

EXECUTIVE SUMMARY

The Human Right to Water (HR2W) recognizes that "every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking and sanitary purposes." In 2019, to advance the goals of the HR2W, California passed Senate Bill 200 (SB 200), which enabled the State Water Board to create the Safe and Affordable Funding for Equity and Resilience Drinking Water program (SAFER program). SB 200 established a set of tools, funding sources, and regulatory authorities that the State Water Board harnesses through the SAFER program to help struggling water systems sustainably and affordably provide safe drinking water. The SAFER program is driven by collective responsibility: water systems, non-profit organizations, governments, a community advisory board, and other interested parties work together to develop and implement solutions.

As of December 31, 2024—nearly six years into the SAFER program—the State Water Board has awarded over $900 million in drinking water grants to disadvantaged communities across California, averaging $150 million per year. This represents a significant increase from the $310 million distributed in the five years prior to SAFER, which averaged $62 million annually. In this same period, 321 water systems serving 3.3 million people have come off of the Failing list and 170 consolidations, benefiting approximately 324,101 people, have been completed.

Figure 1: SAFER Program Accomplishments (2019 - 2024)



The Needs Assessment is a comprehensive, data-driven analysis that:

1. Identifies communities served by Failing public water systems;
2. Predicts which public water systems are At-Risk of Failing, and identifies state small water systems and domestic wells in areas of high risk;
3. Estimates how much it may cost to achieve the Human Right to Water for Failing and At-Risk systems and the communities they serve (last conducted in 2024 Needs Assessment);
4. Estimates the potential five-year funding gap between estimated funding needs and state funding availability (last conducted in 2024 Needs Assessment); and
5. Identifies disadvantaged communities that may be facing affordability challenges, which may limit their ability to address existing and future drinking water challenges.

The results of the annual Needs Assessment are used by the State Water Board's SAFER program and the SAFER Advisory Group[8] to inform the prioritization of available state funding in the Safe and Affordable Drinking Water Fund (SADWF) Fund Expenditure Plan (FEP).[9]

Figure 2: How the Needs Assessment is Utilized by the SAFER Program

The Needs Assessment serves to highlight and track progress in achieving safe drinking water in communities that have historically lacked access. It also serves to document the pace of implementing drinking water solutions, measure water system performance to encourage resiliency, explore sustainable long-term solutions like consolidation, and estimate the cost of implementing these solutions.

By incorporating this Needs Assessment into the SAFER program and implementation of SADWF, the State Water Board will continue to lead long-term drinking water solutions. At the same time, the Needs Assessment brings clarity to the amount and type of work that must be done by state, federal, local and stakeholder partners collectively to realize the Human Right to Water for all Californians.

[8] SAFER Advisory Group
https://www.waterboards.ca.gov/safer/advisory_group.html
[9] Safe and Affordable Drinking Water Fund
https://www.waterboards.ca.gov/water_issues/programs/grants_loans/sustainable_water_solutions/safer.html

2025 NEEDS ASSESSMENT RESULTS

390
FAILING
Public Water Systems

Population Served **811,964**

62% Receiving $443 M in State Funding & Technical Assistance

589
AT-RISK
Public Water Systems

Population Served **1,490,776**

19% Receiving $174 M in State Funding & Technical Assistance

205
HIGH-RISK
State Small Water Systems

93,028
HIGH-RISK
Domestic Wells

KEY FINDINGS:

1. 98% of California's population receives water from systems that meet drinking water standards in 2024.
2. 77% of community water systems and K-12 schools have continually been in compliance with drinking water standards since 2017.
3. Approximately 79% of Failing water systems serve disadvantaged communities and 52% serve the majority communities of color in 2024.
4. The Risk Assessment was able to predict risk of failure for 92% of water systems on the Failing list in 2024.
5. Small community water systems charge on average $33 more a month for the same volume of water compared to large water systems in 2024.
6. Approximately 90 (3%) community water systems face a high drinking water affordability burden and 375 (13%) are experiencing a medium affordability burden in 2024.

SAFER PROGRAM 2019-2024 ACCOMPLISHMENTS

The Safe and Affordable Funding for Equity and Resilience (SAFER)[10] program is a set of tools, funding resources, and regulatory authorities coordinated to assist California communities as they work to develop local compacity to ensure reliable access to safe drinking water. Informed by the Drinking Water Needs Assessment, State Water Board staff and partner organizations proactively identify and reach out to water systems that are on the Failing list or At-Risk list to inform them of available resources, support them through the financial assistance application process, and collaboratively develop interim and long-term solutions.

As of December 31, 2024, nearly six years into the SAFER program, the State Water Board has awarded over $900 million in drinking water grants to disadvantaged communities across California, averaging $150 million per year. This represents a significant increase from the $310 million distributed in the five years prior to SAFER, which averaged $62 million annually. In this same period (2019-2024), 321 water systems serving 3.3 million people have come off of the Failing list and 170 consolidations, benefiting approximately 324,101 people, have been completed.

The following provides a high-level summary of the tools and resources employed by the SAFER program and the systems that were prioritized for State Water Board engagement and support.

ENHANCING WATER SYSTEM CAPACITY

The goal of the SAFER program is to help Failing and At-Risk systems address their drinking water problems by building their operators' technical, financial, and managerial capacity. The program accomplishes this through funding support and regulatory authorities, including consolidations, Administrator appointments, technical assistance, and the facilitation of community involvement to advance sustainable solutions. Ultimately, the SAFER program enables systems to operate independently and sustainably so they can secure the Human Right to Water for the communities they serve, in partnership with those communities. The

[10] SAFER Program
https://www.waterboards.ca.gov/safer/

State Water Board's Division of Drinking Water (DDW),[11] which administers the SAFER program together with the Division of Financial Assistance (DFA),[12] utilizes a broad and diverse set of programs and tools to help support water system capacity. The following sections summarize how these tools are leveraged to support California water systems.

SANITARY SURVEYS

A sanitary survey is a comprehensive review and inspection to evaluate the adequacy of a water system to provide safe drinking water. The comprehensive evaluation and inspection must include: 1) sources of supply, 2) treatment facilities, 3) distribution system, 4) finished water storage, 5) pumps, pump facilities, and controls, 6) monitoring, reporting, and data verification, 7) system management and operation, and 8) operator compliance with State requirements. The sanitary survey includes an in-office file review and a physical field visit inspection.

U.S. EPA requires that sanitary surveys be conducted at least every three years for community water systems and every five years for non-community water systems. Typically, DDW staff perform these sanitary surveys. However, in 26 counties, this authority is delegated to Local Primacy Agencies (LPAs). The State Board tracks sanitary survey completion rates annually as shown in Table 1 and Table 2.

During sanitary surveys, DDW and LPA staff visit public water systems to evaluate their compliance with the Safe Drinking Water Act (SDWA) and ensure responsible staff are proficient in sampling and complying with other California regulations and requirements. The sanitary survey is also an opportunity to identify shortcomings, such as technical assistance needs, capacity development needs, or significant deficiencies. Significant deficiencies are substantial defects that are causing or have the potential to cause the introduction of contamination into water delivered to customers. Sanitary survey results enable DDW and LPA staff to initiate technical assistance or other capacity development.

Table 1: Community Water System Sanitary Survey[13]

Regulating Agency	# of Systems	2024 Inspections	Sig. Def. Identified in 2024	# of Inspections 2019-2024	# Sig. Def. Identified 2019-2024
State Water Board	2,032	536	15	3,353	117
LPAs	783	267	3	1,641	21
TOTAL:	**2,815**	**803**	**18**	**4,994**	**138**

[11] Division of Drinking Water I State Water Board
https://www.waterboards.ca.gov/drinking_water/programs/
[12] Division of Financial Assistance I State Water Board
https://www.waterboards.ca.gov/water_issues/programs/grants_loans/
[13] Sanitary surveys conducted between January 1, 2024 and December 31, 2024. Data was pulled on February 19, 2025.

Table 2: Non-Community Water System Sanitary Surveys[14]

Regulating Agency	# of Systems	2024 Inspections	Sig. Def. Identified in 2024	# of Inspections 2019-2024	# Sig. Def. Identified 2019-2024
State Water Board	2,242	405	5	2,394	65
LPAs	2,195	533	6	3,185	46
TOTAL:	**4,437**	**938**	11	**5,579**	111

SAFER ENGAGEMENT UNITS

DDW's SAFER Section includes four Engagement Units[15] located across the state.[16] SAFER Engagement Units provide direct assistance to water systems, the communities they serve, and key partners to help navigate and address drinking water challenges.

SAFER Engagement Units focus on community water systems and schools (defined as non-transient, non-community water systems) that are on the Failing list. Many Failing water systems struggle to implement solutions on their own and the staff of the SAFER Engagement Units are experienced and trained to help navigate obstacles and assist systems achieve the Human Right to Water goal of delivering safe, reliable, and affordable drinking water. The SAFER Engagement Units are staffed by engineers, scientists and analysts who provide guidance, analysis, and support to water systems and communities. SAFER Engagement Unit staff help manage projects, facilitate communication, overcome obstacles, and inform local decision-making.

Many of the water systems the SAFER Engagement Units work with are experiencing long-term challenges, often pre-dating the first Risk Assessment (2021) and Failing list criteria (2017). Because these systems are combatting antiquated and Failing infrastructure, inadequate economic resources, historic disinvestment and customer affordability challenges, it can take many years to determine sustainable solutions, foster necessary agreement, and deliver new or upgraded drinking water infrastructure. Furthermore, implementing project solutions to deliver safe drinking water to these systems is extremely sophisticated and logistically challenging, while the technical, managerial, and financial (TMF) capacity within the system is often far too limited to shepherd these projects to a successful outcome. This mismatch of limited TMF capacity and complicated sustainable solutions necessitates project leadership from SAFER Engagement Unit staff to guide water systems and stakeholders to successful project outcomes. Figure 3 illustrates the steps the Engagement Units often take to

[14] Sanitary surveys conducted between January 1, 2024 and December 31, 2024. Data was pulled on February 19, 2025.
[15] SAFER Engagement Units I State Water Board
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/engagement_unit.html
[16] The four SAFER Engagement Units are: the Northern Engagement Unit, Southern Engagement, Rural Solutions Engagement Unit, and County Engagement Unit. Currently the SAFER Section is comprised of 27 staff.

guide water systems through successful planning and implementation of drinking water projects.

Figure 3: SAFER Engagement Unit Project Facilitation Process

6 STEPS: WHAT SAFER ENGAGEMENT UNITS DO

STEP 1: PROBLEM IDENTIFICATION

Coordinate with water systems, communities, and regulators to ensure accurate information is collected to identify water quality, quantity, and other unique challenges. The goal of this step is to fully understand the drinking water needs of the community.

STEP 2: EVALUATE ALTERNATIVES

Evaluate interim and long-term drinking water solution alternatives to identify solutions. Engage water systems, communities, and stakeholders to ensure alternatives meet the unique needs of each community or communities.

STEP 3: SCOPE THE PROJECT

Develop an appropriate project schedule and deliverables with stakeholders.

STEP 4: COMPLETE PLANNING ACTIVITIES & FINALIZE DESIGN

Guide systems and project teams to ensure all applicable project planning items are completed on project specific timelines. Ensure the engineered solution meets project goals and timelines.

STEP 5: CONSTRUCT PROJECT

Manage projects and work with stakeholders to ensure infrastructure projects are constructed in alignment with project concepts, planning activities, and engineered design.

STEP 6: DELIVER SAFE & ACCESSIBLE WATER

Work closely with communities and project stakeholders to implement projects that provide communities with safe and affordable drinking water.

Since their establishment in 2019-2020, SAFER Engagement Units have worked with 861 water systems. As summarized in Table 3, the number of systems Engagement Unit staff-initiated support for was highest when the units were first formed. Since 2020, between 26 – 122 new Failing systems were added to the Failing list each year. Therefore, the number of systems receiving newly initiated Engagement Unit support has declined and will vary in the future based on trends with the Failing list. In 2024, SAFER Engagement Units had supported 344 unique public water systems. Unit staff provide a wide range of support to public water systems and the communities they serve.

Table 3 Total Number of New Engagement Initiated per Year[17]

Year	Total Number of New Engagements
2019	N/A
2020	366
2021	219
2022	127
2023	78
2024	71
Total	**861**

SAFER Engagement Units utilize funding tools and build collaboration with water systems and project stakeholders. These tools include voluntary and mandatory consolidations, the Water System Outreach Map,[18] partnership events, third-party Administrators, Point of Use/Point of Entry household treatment[19] and SAFER funding. By engaging, training, and supporting

[17] The trend for new engagement services may decrease, but this reflects the program commitment to prioritizing SAFER efforts more effectively, focusing on those who have been on the Failing list the longest and other key factors to drive meaningful improvements.

[18] Water System Outreach Map
https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=70d27423735e45d6b037b7fbaea9a6a6

[19] Point-of-Use (POU) and Point-of-Entry (POE) Treatment - Permanent Regulations
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/regulations/

communities and stakeholders, SAFER Engagement Units lead complex projects to success—securing access to safe and affordable drinking water.

Table 4: Current Active Engagement Services Rendered (December 2024)[20]

Engagement Service	Description	# of Systems
Consolidation Assistance	Provide support to water systems navigating a consolidation project. Services may include review of consolidation agreements, assisting funding acquisition and/or technical assistance, community outreach and education, liaising with the receiving water system, and review of project scope, design, and timeline.	248
Administrator Support	Work with DFA to appoint an Administrator and support that Administrator to advance long-term solutions for the water system. This support includes but is not limited to designating public water systems for administrators, holding public meetings, working with proposed administrators on their respective workplans for administrator assignments, working with DFA on funding eligibility, issuance of administrator orders, and ongoing performance review of appointed Administrators.	18
Interim Solutions	Provide support to a water system to access interim or emergency assistance. This may include support in acquisition of funding and technical assistance, community outreach and education, and technical review of proposed interim solutions.	11
General Assistance	Provide expertise in navigating funding options for engineering, community engagement, funding acquisition for projects, legal assistance, water system staff training, regulatory compliance and reporting, and performing rate studies and rate setting.	95
Tracking	Some Failing and At-Risk water systems do not require assistance to identify and implement long-term solutions. Or some systems have received SAFER support and are on a path towards compliance. These systems are tracked to ensure progress is being made.	298

[20] Some water systems many have more than one service rendered while working with Engagement Unit staff.

Small Water System + Challenges

Six years of SAFER program implementation has provided the State Water Board with substantial experience and insight into the struggles facing small systems. SAFER Engagement Unit staff describe and categorize these challenges as follows:

Governance Limitations
Volunteer boards, integral to the governance of small water systems, frequently encounter limitations that impede effective operations. Many boards struggle to maintain full membership, leading to gaps in leadership and decision-making capacity. Aging staff and volunteers, without successors in sight, struggle to grasp evolving regulatory and technical demands. As a result, crucial decisions related to infrastructure upgrades, compliance issues, and emergency response can be delayed or inadequately addressed. This knowledge gap necessitates reliance on third-party expertise, adding coordination challenges and extending project timelines.

Financial Constraints
Financial constraints pose another significant hurdle for small water systems. Limited resources restrict their ability to respond to emergencies promptly or sustain day-to-day operations effectively. Inadequate water rates, billing practices, and collections exacerbate financial strains, making critical infrastructure improvements unattainable and perpetuating a cycle of deferred maintenance. This financial instability further compromises the long-term viability of these systems. Small water systems may have limited ability to hire the proper staff and technical experts to operate the water system, provide financial oversight, or design and execute construction projects. Additionally, small water systems face challenges in accessing State Water Board funding due to the complexity of funding processes, including securing financial assistance, and managing the reimbursement process.

Technical and Regulatory Competency
The lack of technical expertise from small water system staff often falls short of the increasingly complex legal, regulatory, and operational demands placed on water systems today. These challenges also complicate project implementation. Securing necessary legal agreements, navigating intricate regulatory frameworks, and addressing compliance issues require significant time and resources.

Public Communication and Transparency Gaps
Public trust and perception also play a key role in project acceptance and stakeholder engagement. Public skepticism towards water system organizations, fueled by past incidents or lack of transparency, can hinder community buy-in for necessary projects and initiatives. Small water systems routinely struggle to communicate with their customers. Public meetings can be irregular and other forms of communication, such as webpages, emails and mailers may not exist. SAFER Engagement Unit staff routinely hear about small water systems' inadequate communication with their customers.

Project Challenges
Consolidation, while recognized as a preferred strategy for enhancing system sustainability, is not without challenges. Legal complexities surrounding entity mergers, divergent interests among stakeholders, governance complexities, and infrastructure and operational hurdles can

impede consolidation efforts. From the small water systems' perspective, consolidation may represent a loss of ownership, autonomy, and control. Large receiving water systems, pivotal partners in consolidation initiatives, may exhibit reluctance due to capacity constraints. They may also lack the staffing and resources needed to support a small water system consolidation project or the excess source capacity to serve the small water system. Lastly, some large water systems have expressed reluctance about being involved with the State Board's funding program. Large water systems have communicated to SAFER Engagement Unit staff the following concerns:

- The funding process can be long and complex.
- The reimbursement process may not be timely enough to pay contractors, requiring the large water system to float construction costs.
- Project components for the consolidation may not follow established local ordinances or water master plans.
- Legal requirements in the State Board's funding agreements may create an unnecessary liability and may not follow a system's normal processes for adding customers.

SAFER Engagement Unit staff work with water systems to navigate project challenges. They host regular stakeholder meetings to secure buy-in, coordinate and participate in public meetings to gain project momentum and liaise with the DFA to ensure crucial support reaches small water systems through the state Water Board's Technical Assistance program. However, the scale and complexity of these challenges underscore the ongoing need for sustained support and advocacy to safeguard community health and ensure the resilience of our water systems. Each hurdle presents a unique set of challenges that require strategic solutions and collaborative efforts to overcome. Project examples throughout the remainder of this report section illustrate the types of challenges communities encounter and how SAFER Engagement Units work with communities and their water systems to overcome them.

PROJECT EXAMPLE

Best Road Mutual Water Company Consolidation

Best Road Mutual Water Company (MWC) is a Failing system due to multiple issues: a groundwater well exceeding the arsenic maximum contaminant level, disinfection byproduct exceedances in the distribution system, failure to filter, and a dry well in 2022 due to drought. DDW's Drought Program and SAFER Northern Engagement Unit partnered with the Department of Water Resources (DWR) to highlight Best Road MWC as a prioritized candidate for DWR's Small Community Grant Fund program. Best Road MWC applied for and was awarded grant funding to consolidate with Sunnyslope Community Services District (CSD) in 2023. Since then, the SAFER Northern Engagement Unit has led monthly project meetings and coordinated with key stakeholders to ensure the project is on track to complete and expend funds from the DWR Small Community Grant. Key efforts included navigation and confirmation of a

consolidation agreement between Sunnyslope CSD and Best Road MWC. Currently, the project is set to break ground in spring 2025 to complete the consolidation by summer 2025.

Northern and Southern Engagement Units

The Northern and Southern Engagement Units primarily assist Failing water systems to consolidate with neighboring, higher-capacity systems. Navigating the landscape of small water system compliance and project implementation is a complex endeavor marked by numerous formidable challenges that underscore the critical need for strategic interventions and dedicated resources from the SAFER Engagement Units. Engagement Unit staff work closely with project stakeholders, such as potential receiving water systems, and coordinate with other board staff in the DFA or Office of Public Participation, to help drive consolidations to completion.

PROJECT EXAMPLE

Oceano Community Services District Regional Consolidation

In San Luis Obispo County, several small communities are pursuing consolidation with the Oceano Community Services District (OCSD) to address long-standing water quality and supply issues. The Halcyon Water System (HWS), which serves approximately 110 residents through 48 connections and relies on a single well, has exceeded the State's maximum contaminant levels (MCLs) for nitrate and selenium. Additionally, six homes within the HWS community rely on privately owned wells, which are also at risk of water quality issues.

Northeast of HWS, the Ken Mar Gardens (KMG) mobile home park serves about 84 residents through 49 connections via a single well and is similarly out of compliance due to nitrate and selenium exceedances. During stakeholder meetings, two additional mobile home parks, located north of KMG—Grande Mobile Manor (35 connections) and Halcyon Estates (26 connections)—were identified for inclusion in the consolidation project. They both fall within OCSD's sphere of influence and are currently served through water wheeling agreements between OCSD and the City of Arroyo Grande.

The proposed project includes extending the existing OCSD water main to serve all four communities. HWS and the six homes on private wells would be connected via individual meters. Ken Mar Gardens, Grande Mobile Manor, and Halcyon Estates would be connected using master meters. This regional consolidation effort will address ongoing water quality violations, eliminate reliance on a neighboring jurisdiction, and provide a

sustainable, long-term drinking water solution for approximately 250 residents across the four communities.

The SAFER Southern Engagement Unit has spent many hours meeting with key stakeholders from the small water systems to share the benefits of consolidation and address concerns about relinquishing their water systems. Additionally, SAFER staff have reviewed and commented on engineering reports, which required meetings with the SAFER funded third-party technical assistance provider and their contract engineer.

Work toward consolidation continues and SAFER Engagement Unit staff are actively engaged in all aspects of the project. Tasks yet to be completed include environmental clearance, funding acquisition, project bidding, and project construction.

Rural Solutions Unit

In 2022, the SAFER program established the Rural Solutions Unit (RSU) with the primary objective of assisting Failing water systems that are too removed from others to be physically consolidated. Strategies supported by the RSU for these communities include Administrator appointments, development of new or additional water sources, centralized treatment, point-of-entry (POE) treatment, point-of-use (POU) treatment, and other innovative solutions throughout the State. The RSU works with DFA, public water systems, domestic well owners, technical assistance providers, engineering firms, device manufacturers, and stakeholders to develop and implement drinking water solutions.

The RSU led the State Water Board's effort to develop a report[21] identifying and addressing the potential successes and shortcomings of POU/POE treatment equipment as interim solutions to contamination in public drinking water systems and domestic wells. Finalized and published in 2023, the report addresses equity, technical, social, regulatory, and financial aspects of POU/POE treatment, and provides recommendations and identifies areas for further study for successful implementation of POU/POE treatment. A technical assistance provider (Stantec Consulting) is now making progress on the following three recommended efforts listed in the 2023 report: 1) development of an educational strategy and materials; 2) performance certification for devices; and 3) operator education cohort and workforce development. Additional recommended efforts will commence in 2026.

County Engagement Unit

In 2023, the SAFER program established the County Engagement Unit (CEU)[22] to oversee county Local Primacy Agency (LPA) programs and work with counties to implement Senate Bill

[21] 2023 State Water Board POU POE Report
https://www.waterboards.ca.gov/safer/docs/2023/2023-POU-POE-report.pdf
[22] County Engagement Unit I State Water Board
https://waterboards.ca.gov/drinking_water/programs/documents/ddw-lpa-not-lpa-map-exp.pdf

SB 552[23] requirements. Statewide, 26 out of 58 counties elect to operate an LPA program through which they carry out provisions of the California Safe Drinking Water Act and California Health and Safety Code. The CEU works with LPAs to ensure that the regulatory requirements delegated to them through Local Primacy Delegation Agreements are consistently met. This includes developing annual workplans, conducting annual evaluations and providing guidance, often in coordination with other branches of the DDW. The CEU also works with counties and other stakeholders to facilitate drought preparedness for domestic wells and state small water systems, as required by SB 552.

In 2024, the CEU worked closely with counties to evaluate their performance during the 2023-2024 fiscal year. The evaluations established that LPAs successfully:

- Completed 167 of 397 (42%) of their permit goals, with an additional 167 permits completed that were not required but were completed throughout the year.
- Completed 604 of 778 (78%) of their sanitary survey goal, with an additional 293 sanitary surveys that were not required but were completed throughout the year.
- Issued 1,247 enforcement actions.
- Returned 19 systems to compliance (Failing, At-Risk, and other public water systems have resolved violations and are now delivering safe, affordable, accessible, and reliable drinking water).
- Achieved an average of 92% completion rate for their required electronic Annual Report (eAR) submission.

In addition to these successes, staff identified areas for improvement for LPA programs and provided recommendations and directives for short-term changes in program implementation. Information gathered during the evaluations will guide long-term LPA program development at the State Water Board.

For developing water shortage contingency plans as required by SB 552, the CEU also supported small community water systems and non-transient non-community schools by providing templates, best practice examples, and training.[24] These were collaboratively developed with the Department of Water Resources and the California State University, Sacramento in 2022, with feedback solicited from small water systems to ensure the resources met their needs and complied with SB 552 requirements. To date, 567 of 2,647 (21%) systems required to develop a water shortage contingency plan have done so. The State Water Board has no enforcement authority associated with the water shortage contingency plans. Additional

[23] Senate Bill No. 552, section 10609.62, Chapter 245
https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220SB552
[24] Water Shortage Contingency Plan Templates:
Small Water Supplier Template (community water systems w/ 1,000 - 2,999 service connections)
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2023/templateblankwscp1000-2999connections.docx
Small Water Supplier Best Practice Example
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2023/smalltowncsdsamplewscp1000-2999connections.docx
Non-Transient, Non-Community School Template
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2023/templateblankwscpschools.docx
Non-Transient, Non-Community School Best Practice Example
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2023/sampletemplatewscpschools.docx

information about the templates and events can be found on the State Water Board's website.[25]

TECHNICAL ASSISTANCE

Technical assistance is direct support to communities provided by third parties contracted with the State Water Board. These parties identify challenges, develop plans, build capacity and develop application materials to access water infrastructure funding. In many cases technical assistance does not eliminate the need for other capital improvements, but it should increase the technical, managerial, and financial capacity of the water systems. Technical assistance is designed to assist water systems in developing the financial and managerial structures necessary to maintain a sustainable water system, including asset management plans, water rate studies, fiscal policies, drought plans, *etc.* A combination of updated infrastructure and proactive long-term managerial and fiscal policies can help address affordability issues and preventatively meet the needs of these water systems before expensive emergency responses are necessary.

The State Water Board prioritizes water systems serving small, disadvantaged communities (DACs) or low-income households for technical assistance support. Technical assistance providers utilize the results for the Needs Assessment as a starting point to better assess entrenched challenges and work with the water systems to better understand their needs. Technical assistance providers often support project scoping, including development of an engineering report, cost estimate, plans and specifications, and necessary environmental documentation for the most feasible long-term solution.

In addition, the State Water Board may use a regional approach to pool services to multiple systems within an area to reduce costs.[26] In all cases, DFA staff are assigned to oversee and manage the scope, cost and progress of all technical assistance work, with increased attention given to new types of services that have been approved under the SAFER program.

The State Water Board continues to expand investments in the technical assistance program, with a focus on small, disadvantaged communities and consolidations. Legislation enacted in 2021 added qualified technical assistance providers as a new eligible funding recipient for monies from the Safe and Affordable Drinking Water Fund. The State Water Board developed a Request for Qualifications (RFQ) process to identify qualified technical assistance providers, including for-profit entities. The State Water Board has qualified 21 eligible technical assistance providers. In 2024, DFA had 14 drinking water technical assistance providers actively providing assistance. The expanded list of qualified technical assistance providers enables new types and a greater volume of services to be available to communities and public water systems, as well as the expansion of services to other areas of the state.

[25] Drought Planning for Small Water Suppliers and Rural Communities (SB 552): https://water.ca.gov/Programs/Water-Use-And-Efficiency/SB-552

[26] Policy for Developing the Fund Expenditure Plan https://www.waterboards.ca.gov/water_issues/programs/grants_loans/sustainable_water_solutions/docs/2023/final_policy_for_dev_fep_sadwf_0130.pdf

Table 5: Technical Assistance Providers in 2024

Technical Assistance Providers	
California Rural Water Association	Provost & Pritchard Consulting Group
California Urban Water Agencies	Pueblo Unido Community Development Corporation
Sanbell Engineering	Rural Community Assistance Corporation
Community Water Center	Self-Help Enterprises
GHD, Inc.	Stantec Consulting Services, Inc.
Leadership Counsel for Justice and Accountability	University Enterprises Inc. at California State University, Sacramento
NV5, Inc.	University of California at Davis, School of Law

From 2019 through 2024, the State Water Resources Control Board provided approximately $126.8 million in technical assistance funding to support 764 water systems and communities through work plan agreements with multiple technical assistance providers. Of this total, around $61.2 million was allocated to 180 projects focused on comprehensive planning efforts, which help guide systems toward securing construction funding agreements. Table 6 summarizes the number of unique water systems receiving technical assistance, organized by the year in which support was first initiated. It is important to note that some projects span multiple years to complete, and certain systems may receive multiple technical assistance assignments for different tasks or through different providers.

Table 7 summarizes the amount of funding committed by funding sources to support technical assistance via master funding agreements with qualified technical assistance providers. As of April 2025, the amount of funding remaining for multi-year technical assistance master agreements is approximately $ 30.2 million.

Table 6: Number of Unique Water Systems Receiving Technical Assistance by Initial Year of Engagement (2019-2024)[27]

SAFER Status	2019	2020	2021	2022	2023	2024
Failing	54	37	55	23	28	15
At-Risk	37	18	38	18	20	7
Potentially At-Risk	20	12	22	10	10	3
Not At-Risk	47	42	74	19	33	7
Not Assessed	24	18	31	9	13	20
TOTAL:	**182**	**127**	**220**	**79**	**104**	**52**

Table 7: Technical Assistance Funding Committed to Master Agreements (2019 – 2024)

Year	Drinking Water State Revolving Fund Set-Aside	Prop 1[28]	Safe and Affordable Drinking Water Fund	General Fund
2024	$0	- $213,260	$1,336,900	$324,775
2023	$0	-$163,995	$56,368,394	$16,885,948
2022	$0	-$364,057	$51,766,654	$2,176,087
2021	$0	- $481,187	$8,058,045	$0
2020	$0	- $11,693,393[29]	$67,171,151	$0
2019	$0	$250,000	$0	$0
TOTAL:	**$0**	**-$ 12,665,892**	**$ 184,701,144**	**$ 19,386,810**

[27] These are the number of unique SAFER systems which received technical assistance each year. A total of 764 different water systems received technical across these years combined. For 2020 through 2024, this represents the amount of Prop 1 funding disencumbered due to either funding swap or unused funding at the end of a funding agreement. A total amount of $24,998,396 Prop 1 funds was encumbered for technical assistance from July 1, 2016 to December 31, 2019.

[28] For 2020 – 2024, this represents the amount of Prop 1 funding disencumbered due to either funding swap or unused funding at the end of a funding agreement. A total amount of $24,998,396 Prop 1 funds was encumbered for technical assistance from July 1, 2016 to December 31, 2019.

[29] In 2020, Prop 1 funds on five technical assistance agreements were swapped for Safe and Affordable Drinking Water Fund funding.

PROJECT EXAMPLE

Hillcrest Mobile Estates and South Mesa Water Company Consolidation

Hillcrest Mobile Estates (HME) is a small water system serving approximately 900 residents through 180 service connections, historically reliant on a single groundwater well. In 2018, this well was found to be in violation of the maximum contaminant level (MCL) for nitrate. To address this ongoing water quality issue, HME entered into a Memorandum of Agreement (MOA) with the neighboring South Mesa Water Company (SMWC) in December 2020, initiating a formal plan for system consolidation.
In October 2023, the project secured $10,236,913 in Drinking Water State Revolving Fund (DWSRF) grant funding to support the full consolidation of HME with SMWC. The scope of work included the construction of an intertie and replacement of pipeline infrastructure to ensure reliable and compliant water service. The consolidation was finalized with the inactivation of Hillcrest Mobile Estates as a public water system by LPA66 – San Bernardino County on January 23, 2025. The Hillcrest Mobile Estates is now a customer of SMWC, and the residents are being served compliant drinking water.

WATER SYSTEM PARTNERSHIPS & CONSOLIDATIONS

Small water systems are often less resilient to natural disasters like drought and wildfire, have more difficulty adjusting to regulatory changes, and struggle to fund infrastructure maintenance and replacement. Water system partnerships and consolidations are proven strategies that have successfully benefited many small communities.[30] Water system partnerships strengthen the collective ability of all stakeholders to ensure safe and sustainable drinking water. These partnerships can be either informal, such as resource sharing, or formal, such as contracting between water systems. Consolidation, or the combining of two or more water systems, can be either physical or managerial, and leverage economies of scale that can result in cost savings from resource sharing.

Physical consolidation is the joining of two or more water systems, which commonly includes a smaller system being subsumed into a larger water system. When a physical consolidation occurs, one water system is dissolved, and its customers are provided service by the receiving water system. If the project can be expanded to include multiple water systems in the area, the State Water Board may support a regionalization project that benefits a broader customer base. Managerial consolidation occurs when a small water system becomes part of a larger water system for all managerial purposes but continues to use its original water supply and distribution system. More organization and connectivity in the water system landscape creates a more sustainable and resilient water supply. Some hypothetical examples include:

[30] Water Partnerships Overview I State Water Board
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/waterpartnership.html

- **Managerial Consolidation**: “Water System A” is a mutual water system with an aging, all-volunteer staff. The staff no longer want to be responsible for the water system and there are no community members willing to take over. The water system is too far from the nearest large water system to make it cost-effective to physically consolidate, but the larger water system is willing to assume legal responsibility for the system and take over regulatory reporting, billing, operations, *etc*. The smaller water system dissolves and is no longer legally responsible for water service.

- **Physical consolidation**: “Water System B” is a senior mobile home park with its own water system and the owner decides it no longer wishes to be responsible for providing drinking water. The nearest city can provide water to the mobile home park through a physical pipe interconnection. By connecting with the nearest city’s water system, the mobile home park will dissolve its water system and no longer be responsible for providing water. In this case, the city’s water system is considered the "receiving" water system and the mobile home park the "subsumed" water system.

- **Regionalization**: The neighbors of “Water System C” include other mobile home parks, some neighborhoods with their own small water systems, and a K-12 school with an unreliable well. Community organizations and local elected officials work with the State Water Board to develop a regionalization project that will leverage economies of scale to create a regional sustainable drinking water solution.

SAFER program funds help small water systems pay for consolidations and may incentivize the larger water systems to assume additional responsibility where feasible. Consolidations typically require community engagement, water system governance changes, complex engineering, and multiple agreements between numerous parties. DDW’s SAFER Engagement Unit staff and engineers assist with initiating partnership discussions, outreach to other agencies and stakeholders, and facilitate possible consolidation alternatives.

PROJECT EXAMPLE

Porterville Regional Consolidation

Consolidating multiple smaller water systems with larger, regional water systems expands the resilience and resources of all concerned. Just outside of Porterville in Tulare County, two small, disadvantaged communities, located approximately one mile apart, were served by Failing drinking water systems for some time. Akin Water Company served 26 homes and approximately 90 people, while Central Mutual Water Company served 40 homes, a preschool, and an estimated 120 individuals. In 2017, Akin began having total coliform and *E. coli* bacteriological contamination. Concurrently, Central Mutual Water began experiencing water outages due to an aging well and a decreasing water table caused by the severe drought. Fortunately, Porterville agreed to consolidation, which enabled the State Water Board to support the advancement of a consolidation project, leveraging the proximity and resources of the three communities.

Joining the two struggling water systems with Porterville is an example of a regional consolidation that benefits all. Since 2017, Porterville has successfully consolidated seven small community water systems and the East Porterville area of private domestic wells. The city continues to collaborate with the State Water Board to pursue additional consolidation projects in the region.

"The funding, support and assistance provided by the State Water Board and the staff of the Division of Financial Assistance were critical for the success of these consolidations," said Michael L. Knight, Porterville Assistant City Manager. "We—the residents of Porterville and surrounding communities were partners with the State for the consolidation projects, leveraging the proximity and resources of the three communities to the benefit of all."

Since 2019, 170 public water systems have been consolidated, serving nearly 324,101 Californians (Table 8). Fifteen (15) mandatory consolidation projects are currently in process (Table 9).[31] The State Water Board maintains an online map of completed consolidation projects.[32]

In addition, the SAFER program is actively facilitating or tracking roughly 208 ongoing water system consolidations. Approximately 34% of currently Failing water systems are considering or are moving forward with full physical consolidation, including 9 schools. SAFER Engagement Unit staff actively manage consolidation projects for Failing water systems, which includes engagement with other State Water Board staff, LPA staff, the various water systems involved in the project, the communities served, and additional key partners.

[31] Mandatory Consolidation I State Water Board
https://www.waterboards.ca.gov/drinking_water/programs/compliance/
[32] California Water Partnership
https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=fabf64fbe50343219a5d34765eb7daad

Table 8: Consolidated Public Water Systems (2019 – 2024)[33]

SAFER Status	2019	2020	2021	2022	2023	2024	TOTAL	Total Population Served
Failing	12	5	3	5	6	8	**39**	8,626
At-Risk	N/A	N/A	0	2	3	1	**6**	36,099
Potentially At-Risk	N/A	N/A	1	6	1	2	**10**	4,507
Not At-Risk or Not Assessed	27	18	24	18	13	15	**115**	274,869
TOTAL:	**39**	**23**	**28**	**31**	**23**	26	**170**	**324,101**

Table 9: Mandatory Consolidations in Process

Joining System	Receiving System	Population	County	Year Initiated
Cutler PUD	Orosi PUD	6,200	Tulare	2023
Athal MWC	Lamont PUD	150	Kern	2022
Fuller Acres MWC	Lamont PUD	545	Kern	2022
East Wilson Road WC	East Niles CSD	35	Kern	2022
Oasis Property Owners Assoc.	East Niles CSD	100	Kern	2022
San Joaquin Estates MWC	East Niles CSD	165	Kern	2022
Wilson Road WC	East Niles CSD	66	Kern	2022
Wini Mutual Water Company	East Niles CSD	29	Kern	2022
Del Oro WC – Country Estates District	East Niles CSD	297	Kern	2022
Victory MWC	East Niles CSD	849	Kern	2022
NorCal Water Works	Del Oro Water Company	45	Tehama	2021
West Water Company	CSA 41-Fitch	40	Sonoma	2020
East Orosi CSD	Orosi Public Utility District	423	Tulare	2018
South Kern Mutual Water Company	City of Bakersfield	32	Kern	2016

[33] Variations between consolidation numbers in the 2024 and 2025 Needs Assessment Reports are primarily due to ongoing efforts to enhance data accuracy through continued data entry and the systematic cleanup of historical records.

Joining System	Receiving System	Population	County	Year Initiated
Old River Mutual Water Company	City of Bakersfield	130	Kern	2016
TOTAL:		**9,106**		

ADMINISTRATORS

A water system Administrator is a qualified specialist that provides technical, managerial, and/or financial expertise to struggling water systems. Disadvantaged communities served by a Failing water system are eligible for an Administrator funded through the SAFER program. The Administrator Policy Handbook[34] (Policy) provides direction regarding the appointment of Administrators by the State Water Board. The Policy was updated in January 2025 to include provisions for appointing Administrators for designated sewer systems pursuant to AB 805.[35]

Administrators may be individual persons, businesses, non-profit organizations, local agencies like counties or nearby larger utilities, and other entities. Administrators act on behalf of a designated water system as a general manager or may be assigned limited specific duties, such as supervising an infrastructure improvement project. Administrators are often appointed for a limited term to help a water system through the consolidation process or to come into compliance.

The appointment of an Administrator is an authority given to the State Water Board to act when a water system, based on the Needs Assessment and the direct knowledge and expertise of DDW/LPA staff, is identified as in need but does not have the resources itself to secure one. The State Water Board does recognize the significant and, in some cases, the potentially disruptive effect of ordering acceptance of an Administrator and therefore uses this authority prudently; only doing so after careful consideration and seeking and incorporating significant community engagement, as stipulated in the Administrator Policy Handbook.

At present, qualified Administrators include:

- Counties (*e.g.*, Sonoma and Tulare)
- For-profit water systems (*e.g.*, Russian River Utility), and
- Engineering services providers (*e.g.*, Provost and Prichard, Stantec Consulting, SRT Consultants)

Since obtaining a list of qualified Administrators in 2020, the State Water Board has designated 17 public water systems[36] in need of an Administrator and held public meetings for

[34] Administrator Policy Handbook https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2025/administrator-policy-handbook.pdf
[35] Assembly Bill No, 805 https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240AB805
[36] Ten systems were initiated in 2020, three in 2021, one in 2022, one in 2023, and two in 2024.

the impacted communities, representing approximately 4,846 people and 1,501 service connections in seven counties.[37]

Currently, there are 13 Administrator projects with appointments and funding approved by the State Water Board (Table 10). Two additional water systems have identified Administrator and await an executed funding agreement (Table 11). Thus far, two Administrator appointments have been completed (Table 12). Six Acres Water Company had a new administrator appointed in 2024 and thus listed in both Table 10 and Table 12. One administrator appointment has been cancelled (Table 13).

[37] Water System Administrators
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/administrator.html

Table 10: Administrator Projects – Currently Active (2020 – 2024[38])

System Name	Population	County	Funding Approved by State Water Board	Administrator Appointed	Year Appointed
East Orosi CSD	423	Tulare	$994,544	County of Tulare	2022
Six Acres Water Company	66	Sonoma	$728,288	SRT Consultants	2024
Keeler CSD	66	Inyo	$1,221,173	Provost and Pritchard	2023
Cazadero Water Company	250	Sonoma	$512,765	Russian River Utility	2023
Teviston CSD	370	Tulare	$1,794,595	Stantec Consulting	2023
NorCal Water Works	45	Tehama	$1,166,558	Provost and Pritchard	2023
Sierra Vista Water Association	44	Tulare	$1,166,558	Provost and Pritchard	2023
South Kern Mutual Water Company	22	Kern	$688,882	Provost and Pritchard	2024
Old River Mutual Water Company	126	Kern	$688,882	Provost and Pritchard	2024
West Water Company	40	Sonoma	$184,670	County of Sonoma	2024
Las Deltas Mutual Water Company	375	Fresno	$773,937	Provost and Pritchard	2024
Lake Morena Views Mutual Water Company	360	San Diego	$1,060,009	Stantec Consulting	2024
Allensworth CSD	521	Tulare	$965,787	Stantec Consulting	2024
TOTAL:	**2,708**		**$11,946,648**		

[38] Through February 2024.

Table 11: Administrator Projects - In Development

System Name	Population	County	Administrator Identified
Valley Ford Water Association	88	Sonoma	Russian River Utility
Daggett Community Services District	795	San Bernardino	Provost and Pritchard
TOTAL:	**883**		

Table 12: Administrator Projects - Completed

System Name	Population	County	State Water Board Funding	Administrator Identified	Year Appointed	Year Completed
North Edwards Water District	944	Kern	$309,457	California Rural Water Association	2020	2023
Six Acres Water Company	66	Sonoma	$214,472	Demery and Associates[39]	2022	2024
TOTAL:	**1,010**		**$523,929**			

Table 13: Administrator Projects - Cancelled

System Name	Population	County	Administrator Identified
Athal Mutual Water Company[40]	150	Kern	Stantec
TOTAL:	**150**		

The State Water Board is currently working with Administrators that are likely to have multiple Administrator projects spanning multiple years. This has led to the development of Administrator master agreements to simplify the process and expedite future Administrator appointments for multiple water systems.

In 2022, the State Water Board developed Administrator master agreements with Provost & Pritchard Consulting Group and Stantec. In 2023, a third Administrator master agreement was developed with SRT Consultants. No additional Administrator master agreements are in development. As of March 2025, the amount remaining in these multi-year Administrator

[39] Demery and Associates requested to step away from the administrator appointment for Six Acres Water Company, SRT Consultants was appointed as the replacement administrator in 2024.
[40] Athal Mutual Water Company is being supported through technical assistance and inclusion in the consolidation project for Athal, Lamont, and Fuller Acres.

master agreements is $21.8 million, which can go towards assisting approximately 9 future systems that are designated for Administrator appointment over the next three years. The State Water Board continues to accept Statements of Qualifications from potential Administrators. More information about the Administrator program is found on the State Water Board's Administrator web page.[41]

PLANNING & CONSTRUCTION FUNDING ASSISTANCE

In 2024, long-term solutions, such as drinking water infrastructure construction and consolidation, were provided to 88 water systems serving approximately 6.3 million individuals. Planning assistance (towards construction of long-term solutions) was provided to 11 water systems serving approximately 1.6 million individuals.[42] Since 2019, the percentage of Failing and At-Risk systems receiving assistance from the State Water Board and the amount of funding received each fiscal year has increased year to year, with a majority of funding going towards capital projects. Table 14 summarizes the amount of funding provided for planning and construction projects from 2019 through 2024. Table 15 and Table 16 summarize which funding programs supported these projects.

Table 14: Planning and Construction Funding (2019 – 2024)

Funding Provided	# of Systems	# of Projects	Planning Funding	Construction Funding
2024	98	88	$17.4 M	$752 M
2023	82	64	$5.8 M	$448.2 M
2022	55	48	$6.2 M	$749.0 M
2021	73	60	$8.3 M	$511.4 M
2020	55	40	$5.2 M	$209.5 M
2019	37	33	$7.0 M	$188.0 M
TOTAL:	**400**	**333**	**$49.9 M**	**$2,858 M**

[41] State Water Board Administrators – Information for Potential Administrators
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/future-administrator.html
[42] Additional planning resources are available via the technical assistance program.

Table 15: Planning Funding by Funding Program (2019 – 2024)

Funding Provided	Drinking Water State Revolving Fund	Drinking Water Bonds	General Fund	Safe and Affordable Drinking Water Fund
2024	$16 M	$0 M	$1.4 M	$0 M
2023	$4.3 M	$0.4 M	$0.8 M	$0.3 M
2022	$2.0 M	$2.1 M	$2.1 M	$0
2021	$2.0 M	$6.2 M	$0	$0.1 M
2020	$1.2 M	$2.8 M	$0	$1.2 M
2019	$6.6 M	$0.7 M	$0	$0
TOTAL:	**$32.1 M**	**$12.2 M**	**$4.3 M**	**$1.6 M**

Table 16: Construction Funding by Funding Program (2019 – 2024)

Funding Provided	Drinking Water State Revolving Fund	Drinking Water Bonds	General Fund	Safe and Affordable Drinking Water Fund
2024	$525 M	$47.9 M	$156 M	$22.7 M
2023	$222.0 M	$11.2 M	$192.5 M	$22.5 M
2022	$689.0 M	$13.1 M	$42.5 M	$7.2 M
2021	$394.3 M	$83.2 M	$4.8 M	$29.4 M
2020	$131.1 M	$22.5 M	$4.4 M	$45.8 M
2019	$166.1 M	$21.8 M	$0	$0
TOTAL:	**$2,127.5 M**	**$199.7 M**	**$400 M**	**$127.6 M**

The State Water Board continues to work on several funding process improvements that are currently being implemented. These are described further in the FY 2024-25 and Affordable Drinking Water FEP, which was adopted by the Board August 20, 2024. The FEP continues to include data on racial and other demographics for projects funded by the SADWF, and staff will continue to further evaluate racial equity in the program.

INTERIM OR EMERGENCY FUNDING ASSISTANCE

Interim water solutions target Failing or At-Risk public water systems. Interim solutions continued to be prioritized for community water systems, state small water systems, and domestic wells, serving small DACs or low-income households, with contaminants above primary MCLs or response levels. Interim solutions include POU/POE systems, hauled water, bottled water, vending machines/filling stations, or temporary connections to safe water sources.

Interim solutions are also available to support state small water systems and domestic wells via the development of regional bottled water, well testing, and/or POU/POE programs with counties (or other local partners) with the highest numbers of state small water systems and/or domestic wells either in high-risk aquifers or high-risk of water shortage. These programs can include interim measures to address both drought and contamination, as well as longer-term solutions such as consolidations, public water system connections, or well repair/replacement.

Funding may be provided for these types of solutions by either system-specific agreements or regional (including county-wide) programs with third parties that can administer funding to eligible systems or households served by state small water systems or domestic wells. Table 17 summarizes system-specific interim solution and emergency funding for the last three fiscal years by funding program and lists the estimated number of people that benefited from this assistance. Table 18 summarizes active regional and county-wide programs.

Table 17: System-specific Interim Solutions & Emergency Funding by Funding Program (2020 – 2024)

Fiscal Year	SAFER Program Funding	Total Population Assisted	No. of Systems Assisted
2023-24	$4.7 M	21,350	12
2022-23	$5 M	24,614	19
2021-22	$1.64 M	19,964	21
2020-21	$707,218	358	5
2019-20	$1.27 M	5,348	9
TOTAL:	**$13.32 M**	**71,634**	**66**

Table 18: Regional Programs for Interim Solutions & Emergency Funding Approved (2019 – 2024)

Recipient and Program	County or Region Covered	Funding Approved by State Water Board	Funding Remaining[40]	Active Enrollees[43]
Self-Help Enterprises (SHE) Bottled Water	San Joaquin Valley[44]	$6,892,264	$1,309,112	3,600
SHE Point of Use/Point of Entry	San Joaquin Valley	$14,698,375	$11,480,148	245

[43] Information presented on amount of funding remaining and active enrollees for the programs is as of January 2025. These programs include enrollees served by private wells, state smalls and eligible public water systems. Total enrollment over the life of the programs is higher.
[44] SHE's service area includes nine counties: Fresno, Kern, Kings, Madera, Mariposa, Merced, San Joaquin, Stanislaus, and Tulare.

Recipient and Program	County or Region Covered	Funding Approved by State Water Board	Funding Remaining	Active Enrollees
SHE Tanks and Hauled Water	San Joaquin Valley	$86,376,502	$8,798,760	1,100
SHE Regional Private Domestic Water Well Abandonment, Repair, Replacement & Connection Program	San Joaquin Valley	$ 50,153,253	$19,593,246	325
Rural Community Assistance Corporation (SB108 Drinking Water Well Replacement Program)	Statewide except in SHE Service Area	$11,069,013	$7,056,318	108
SHE Emergency Funding	San Joaquin Valley	$5,500,000	$2,867,557	35[45]
Community Water Center Bottled Water	Regional[46]	$3,976,612	$2,305,077	505
Pueblo Unido Community Development Corporation – Interim Drinking Water Program	Riverside County	$2,265,437	$170,099	320
Santa Cruz County Regional Program	Santa Cruz County	$601,000	$551,754	0[47]
Shasta County Drinking Water Drought Assistance Program	Shasta County	$2,474,998	$465,414	113

[45] Active enrollees represent services provided to 37 eligible state small water systems and public water systems within SHE's service area, representing 2208 households.
[46] Santa Cruz, San Benito, San Luis Obispo, Santa Barbara, and portions of Santa Clara, Monterey, and Ventura Counties.
[47] Programs with zero enrollment are in earlier phases of implementation.

Recipient and Program	County or Region Covered	Funding Approved by State Water Board	Funding Remaining	Active Enrollees
Imperial County Regional Point of Entry Installation and Urgent Drinking Water Needs Program	Imperial County	$3,184,725	$3,184,725	0[48]
Valley Water Collaborative	Modesto and Turlock Groundwater Basins	$5,540,725	$4,680,308	391
Tule Basin Water Foundation	Tule Groundwater Basin	$4,528,822	$4,528,822	0[49]
Drinking Water for Schools Program[50]	Statewide	$6,435,000	$983,139	99
Bottled Water for Schools	Statewide	$4,547,038	$2,416,187	73

SAFER PROGRAM PUBLIC ENGAGEMENT

Public outreach and community engagement activities for the SAFER program are intended to increase early community involvement; keep local drinking water projects on track; identify potential risks, issues, or delays; build local capacity and create a path towards equitable and resilient water governance.

STAKEHOLDER ENGAGEMENT

The State Water Board has a robust Public Outreach and Engagement Strategy[51] to ensure SAFER program staff provide the public with multiple and diverse opportunities to participate. Since 2017, the State Water Board has hosted 154 public meetings and workshops, with approximately 8,101 participants (Table 19). The following summarizes the different types of stakeholder engagement activities implemented by the SAFER program.

[48] Programs with zero enrollment are in earlier phases of implementation.
[49] Programs with zero enrollment are in earlier phases of implementation.
[50] Includes 2 separate funding agreements – one implemented by RCAC statewide, and another implemented by SHE within their existing service area.
[51] SAFER Program Outreach and Engagement Strategy
https://www.waterboards.ca.gov/safer/docs/SAFER-Outreach-Engagement-Strategy-ADA.pdf

Community Meetings & Workshops: Local community meetings and workshops were convened to discuss challenges and solutions. These discussions addressed administrator needs, consolidation projects, regionalization projects, operational needs, *etc*. Below are some of the projects where the State Water Board staff conducted community outreach and engagement to ensure a successful outcome.

Northern Tulare County Regional Drinking Water Solutions Project: This project aims to explore and evaluate potential long-term drinking water solutions and governing options for a sustainable regional approach to serve the seven neighboring communities of Cutler, East Orosi, Monson, Orosi, Seville, Sultana, and Yettem. These communities are served by Cutler Public Utility District, Sultana Community Services District, Orosi Public Utility District, Yettem-Seville Community Services District, and East Orosi Community Services District. This project has the potential to successfully address existing water quality concerns in this region, mitigate potential future water challenges, and enable capacity for future development and growth. State Water Board staff conduct outreach and engagement to these communities to build support for the project, identify needs and barriers, provide information on technical solutions and governance options, and collectively develop a vision for the region. This outreach includes public community meetings and attendance at each local water district board meeting.

San Lucas Community Drinking Water Solution: This project aims to support the San Lucas County Water District in identifying and selecting a potential technical solution to resolve water quality concerns regarding nitrate contaminants and aesthetic contaminants, including iron and manganese. The Water Board hosts public community meetings to ensure community voices are incorporated into the San Lucas County Water District decision-making process. These meetings discuss the differences between the potential water solutions being considered, the Water Board's recommendations based on the final engineering report, and next steps the San Lucas County Water District's board can take to select a preferred solution and pursue funding for a long-term sustainable water quality solution within their community. These meetings also address questions and public comments directly from the public as this community in Monterey County is weighing potential options to resolve their water quality concerns. The Water Board also works to address engagement concerns in the community, including language access at local district board meetings, and provides touch points as required to ensure both residents and local district board members are positioned to move forward with a solution.

Community Partner Initiative: This project establishes a novel funding mechanism to provide resources for and support local community water advocates, called community partners. These community partners are key community members who are working to improve drinking water conditions in their areas and are under-resourced to effectively continue this work. This project provides a technical assistance framework to recruit, onboard, and support community partners while also enabling direct funding to compensate them for their time and effort spent working on drinking water projects in their communities. These community partners are seen as key members of drinking water project teams, which may also include representatives from the Division of Drinking Water, the Division of Financial Assistance, the Office of Public Engagement,

Equity, and Tribal Affairs, and technical assistance providers. This project is modeled on the promotor concept of local community support for public health initiatives seen across Latin America. Community partners are expected to increase community involvement and support for drinking water projects.

SAFER Advisory Group Convenings: The SAFER Advisory Group[52] provides the State Water Board with feedback and constructive advice on the Safe and Affordable Drinking Water Fund, the Fund Expenditure Plan, and other related policies and analyses. The SAFER Advisory Group is composed of 20 appointed members that represent public water systems, technical assistance providers, local agencies, nongovernmental organizations, the public and residents served by community water systems in disadvantaged communities, state small water systems, and domestic wells. The SAFER Advisory Group meets up to four times a year either virtually and/or at locations throughout California to provide many opportunities for public and community input. All meetings are widely publicized, open to the public, and offer translation services.[53]

Needs Assessment Workshops: The State Water Board provides stakeholders with opportunities to support the development and refinement of the methodologies employed in the Needs Assessment. Since 2019, the State Water Board has hosted 28 public workshops associated with the Needs Assessment. These workshops are typically hosted virtually to maximize public participation.

Table 19: SAFER Program Public Engagement (2019-2024)

Year	# of Meetings	# of Participants[54]	# of Meetings with Interpretation Services[55]
2024	8	425	3
2023	26[56]	1,566	11
2022	32[57]	1,484	10
2021	48	1,572	27
2020	38	3,054	N/A
2019	2[58]	N/A	N/A
TOTAL:	**154**	**8,101**	**51**

[52] SAFER Advisory Group
https://www.waterboards.ca.gov/safer/advisory_group.html
[53] SAFER Advisory Group
https://www.waterboards.ca.gov/safer/advisory_group.html
[54] Count includes unique participants or registrants per event. If an attendee participated in multiple meetings, their participation is included for each event.
[55] The State Water Board provided interpretation services upon request. Information regarding interpretation services provided for meetings prior to 2021 is not available.
[56] 5 meetings were held virtually and 9 in-person.
[57] 29 meetings were held virtually and 3 in-person.
[58] This count represents two Needs Assessment related workshops hosted in 2019. It likely under-reports the number of SAFER program related meetings in 2019 because, at that time, this information was not tracked.

TRIBAL WATER SYSTEM ENGAGEMENT

The State Water Board recognizes the sovereignty of California Native American tribes and understands that tribes face unique challenges in providing clean, safe, and affordable drinking water to their communities. The State Water Board also recognizes that solutions rarely happen in a vacuum. They require intentional relationship building and collaboration with key state and federal partners who have established relationships with California Native American Tribes.

Initial program efforts focused on: 1) building relationships and collaboration with those state and federal partners, and 2) providing outreach and education about the SAFER program to tribes, tribal governments, and tribal communities.

Over the last six years, collaboration with state and federal partners has proven its worth in both identifying tribal water systems in need and finding unique and collaborative ways to meet those needs. Agency partners meet on a regular basis to strategize solutions for tribal partners. Through this collaboration, staff have identified how the SAFER program's unique funding tools can be used to fill funding gaps that impede progress.

SAFER program staff actively seek to engage tribal communities through regular presentations and information sharing at various tribal-focused events. These events include tribal conferences and summits, the Assembly Committee on Native American Affairs, tribal board presentations, and community events. Meeting with tribal leadership at in-person events has proven invaluable in building confidence and advancing the SAFER program goal of providing safe and affordable drinking water to all Californians and better understanding tribal-specific opportunities available through the SAFER program and obtaining feedback from tribes about the best ways to engage with them In January 2023, Assembly Bill 2877 (AB 2877)[59] was passed to further address barriers to funding tribal water solutions. As a result of AB 2877, internal and external collaboration increased, resulting in an improved understanding of tribal drinking water needs and advancement of tribal drinking water projects.

The State Water Board is currently involved in over 25 drinking water projects impacting tribes and tribal communities, including technical assistance, planning, construction, emergency services, and operations and maintenance projects.

PROJECT EXAMPLE

Yurok Tank Project

In November 2024, in collaboration with federal partners, the State Water Board committed more than $300,000 from the SAFER Drinking Water Program to address a federal funding gap and support a sustainable drinking water solution for the Yurok Tribe.

[59] Assembly Bill 2877
https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220AB2877

The SAFER funding will supplement an Indian Health Service (IHS) grant to construct a 150,000-gallon storage tank, ensuring the Klamath Community Services District—a public water system primarily serving the tribal community—can meet daily water demands. The increased storage capacity will also enable the connection of water services to the Yurok Tribe's newly constructed emergency center. This investment ensures the Tribe's continued access to safe and reliable drinking water.

NEW PROGRAMS & TOOLS

The State Water Board implements and enforces legislative and regulatory requirements to ensure the Human Right to Water is achieved. In 2024, several new regulatory developments—SB 867, SB 1188, and AB 2454—were introduced that directly impact the SAFER program or the broader Capacity Development Strategy. There were also no modifications to the state's control points for assessing capacity for new public water systems. However, in 2024 there were indirectly related new legislation as well as a new State Water Board resolution which are summarized below. The Appendix *New Legislation Related to the SAFER Program and Capacity Development Strategy*[60] includes a full summary of relevant legislation and Board resolutions directly and indirectly related to the SAFER Program and the State Water Board's broader Drinking Water Capacity Strategy.

NEW LEGISLATION (2024)

Below is a list of new legislation in 2024. See Appendix: New Legislation Related to the SAFER Program and Capacity Development Strategy[61] for more information.

- Senate Bill 1188 [62] - Drinking water: technical, managerial, and financial SB standards.
- Senate Bill 1147[63] - Drinking water: microplastics levels.
- Senate Bill 867[64] - Safe Drinking Water, Wildfire Prevention, Drought Preparedness, and Clean Air Bond Act of 2024.

[60] Appendix: New Legislation Related to the SAFER Program and Capacity Development Strategy https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025-legislation-safer-capdev.pdf

[61] Appendix: New Legislation Related to the SAFER Program and Capacity Development Strategy https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025-legislation-safer-capdev.pdf

[62] Bill Text- SB-1188 Drinking water: technical, managerial, and financial standards. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240SB1188

[63] Bill Text- SB-1147 Drinking Water microplastic levels: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240SB1147

[64] Bill Text-SB 867- Safe Drinking Water, Wildfire Prevention, Drought Preparedness, and Clean Air Bond Act of 2024: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202320240SB867

- Assembly Bill 2454[65] - Drinking water: rental property: domestic well testing.
- Assembly Bill 2962[66] - Wholesale Regional Water System Security and Reliability Act.
- Assembly Bill 157[67] - Budget Act of 2024.

NEW STATE WATER BOARD RESOLUTIONS (2024)

On August 20, 2024, the State Water Board adopted Resolution No. 2024-0028, adopting the Fiscal Year 2024-25 Fund Expenditure Plan (FEP). Expenditures from the Safe and Affordable Drinking Water Fund (SADW Fund) on and after July 1, 20224, must be consistent with the FEP. The resolution adopts the FEP and authorizes the Deputy Director of DFA, or his or her designee, to approve or deny funding from the SADW Fund without limitation on funding amount per project or program, for uses consistent with the FEP.

CLEARINGHOUSE REPORTING

On January 1, 2024, the DDW issued a revised Technical Reporting Order[68] to all public water systems requiring reporting of water shortage, source conditions, and supply and demand information. The SAFER Clearinghouse is the reporting platform used to submit this data.[69]

The intent of reporting in the SAFER Clearinghouse is to satisfy multiple reporting requirements utilizing one reporting portal. These platforms include: Monthly Conservation Reporting for Urban Retail Water Suppliers, Drought Resiliency (Senate Bill 552) for Small Communities and non-transient non-community Schools, and supply and demand reporting for all public water systems previously submitted to the electronic Annual Report. This reporting had continued in 2024 with an amendment to the Technical Reporting Order.

WATER SYSTEM REPORTING IN THE CLEARINGHOUSE

In 2024, 6,837 water systems had accounts with the Water System Reporting in the SAFER Clearinghouse. Over 36,000 reports were submitted, 38% percent of which came from community water systems. 667 water systems had past due reports.

SYSTEM AREA BOUNDARY LAYER (SABL)

The State Water Board maintains a geospatial dataset of water service area boundaries for California public water systems, known as the System Area Boundary Layer (SABL).[70] To provide an accurate dataset of these boundaries, the State Water Board has undertaken a project to review, add, and correct public water system boundaries that were collected under

[65] Bill Text AB-2454: Drinking water: rental property: domestic well testing:
https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240AB2454
[66] Bill Text: 2962 Wholesale Regional Water System Security and Reliability Act
https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240AB2962
[67] Bill Text AB-157 Budget Act of 2024:
https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240AB157
[68] 2024 DDW Technical Reporting Order
https://www.waterboards.ca.gov/drought/resources-for-drinking-water-systems/docs/ddw-technical-order.pdf
[69] Drought & Conservation Reporting Webpage
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/clearinghouse_drought_conservation_reporting.html
[70] California Drinking Water System Boundaries
https://gispublic.waterboards.ca.gov/portal/home/item.html?id=fbba842bf134497c9d611ad506ec48cc

previous efforts.[71] All missing community water system boundaries have been added to the SABL layer as of 2024. Efforts to verify and correct boundaries are ongoing and are expected to be completed by 2026.

In 2024, the State Water Board verified 447 existing boundaries that were either pending or not verified, for a total of 4,807. SABL is an essential dataset utilized in the Needs Assessment to calculate risk indicator datapoints for water systems such as median household income, location in critically over drafted groundwater basin, and household socioeconomic burden. SABL is also used to determine potential consolidation or intertie projects. Accurate system boundaries improve the findings of the Needs Assessment.

STATE SMALL WATER SYSTEMS & DOMESTIC WELL INVENTORY & WATER QUALITY DATA

SB 200 (Health and Safety Code § 116772) requires county health officers and other relevant local agencies to electronically submit state small water system and domestic well inventories and water quality testing results (performed by accredited laboratories) to the State Water Board. The collection and submittal of water quality testing and associated data for state small water systems and domestic wells has, historically, been performed at the county level with little to no oversight or support from the State Water Board. In 2021, the State Water Board developed and shared with counties, a guidance document on how to comply with SB 200 reporting requirements.[72]

[71] System Area Boundary Layer (SABL) Look-up Tool
https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=272351aa7db14435989647a86e6d3ad8

[72] State Small Water System and Domestic Well Water Quality Data Submission Guidance for Counties
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/ssws_dw_data_submittal_guidance.pdf

ABOUT THE NEEDS ASSESSMENT

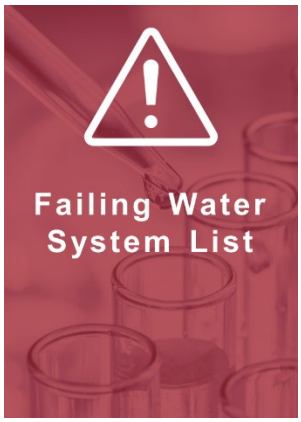
In 2016, the State Water Board adopted a resolution making the Human Right to Water (HR2W), as defined in Assembly Bill 685, a primary consideration and priority across all state and regional board programs.[73] The HR2W recognizes that "every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking and sanitary purposes."

In 2019, to advance the goals of the HR2W, California passed Senate Bill 200 (SB 200) which enabled the State Water Board to establish the Safe and Affordable Funding for Equity and Resilience (SAFER) program. SB 200 established a set of tools, funding sources, and regulatory authorities the State Water Board can harness through the SAFER program to help struggling water systems sustainably and affordably provide safe drinking water to their customers. Among the tools created under SB 200 is the Safe and Affordable Drinking Water Fund (SADWF). The Fund provides up to $130 million per year through 2030 to enable the State Water Board to develop and implement sustainable solutions for underperforming drinking water systems.

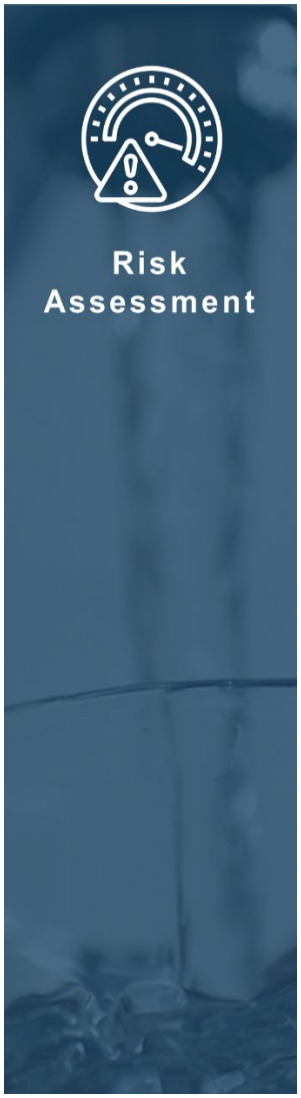
The SAFER program harnesses the SADWF together with other State Water Board financial assistance programs to advance the implementation of interim and long-term solutions for communities across the state. The State Water Board prioritizes SAFER program funding annually through the SADWF's Fund Expenditure Plan (FEP). The annual FEP should be informed by "data and analysis drawn from the drinking water Needs Assessment**,**" as required by California Health and Safety Code section 116769.

The State Water Board's Drinking Water Needs Assessment (Needs Assessment) consists of four core components: the Failing Water System List (Failing list), Risk Assessment, Cost Assessment, and Affordability Assessment.

[73] State Water Board Resolution No. 2016-0010
https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2016/rs2016_0010.pdf



Since 2017, the State Water Board has assessed water systems that fail to meet the goals of the HR2W and maintains a list and map of these systems on its website. Systems that are on the Failing list are those that are out of compliance or consistently fail to meet drinking water standards. Systems that are assessed for meeting the Failing list criteria include community water systems and non-transient non-community water systems that serve schools and daycares.[74] The Failing list criteria was expanded in April 2021 & 2024 and may be refined over time.



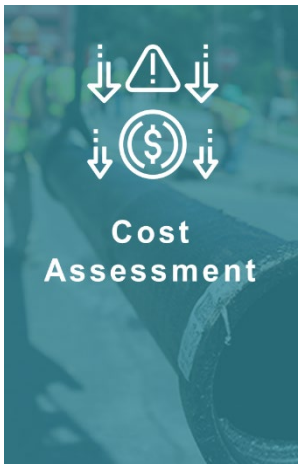
SB 200 directs the State Water Board to identify "public water systems, community water systems, and state small water systems that may be at risk of failing to provide an adequate supply of safe drinking water" and "an estimate of the number of households that are served by domestic wells or state small water systems in high-risk areas."[75] Therefore, the annual Needs Assessment report contains a Risk Assessment that uses different methodologies to analyze risk across these types of systems, as follows:

Public Water Systems
The Risk Assessment methodology utilizes indicators to identify non-transient, non-community systems serving K-12 schools and community water systems--serving up to 30,000 service connections and up to 100,000 population —that are at risk of Failing. These indicators assess risk in the following categories: water quality, accessibility, affordability, and TMF (technical, managerial, and financial) capacity.

State Small Water Systems & Domestic Wells
The Risk Assessment methodology for state small water systems and domestic wells utilizes indicators to assess risk in the following categories: water quality, water shortage, and socioeconomic risk.

Tribal Water Systems
The State Water Board is partnering with Indian Health Services, U.S. Environmental Protection Agency, and tribal communities to understand the best way to integrate tribal drinking water needs into the Needs Assessment.[76]

[74] California Health and Safety Code section 116275(c)
[75] California Health and Safety Code section 116769
[76] Not enough data is available to identify At-Risk tribal water systems or conduct Affordability Assessment.



SB 200 directs the State Water Board to "estimate the funding needed for the next fiscal year based on the amount available in the fund, anticipated funding needs, other existing funding sources."[77] Thus, the Cost Assessment estimates the costs related to the implementation of interim and/or emergency measures and longer-term solutions for Failing and At-Risk public water systems and high-risk state small water systems and domestic wells. Due to minor changes to the number of Failing and At-Risk systems, in addition to minimal changes in markets prices, the State Water Board did not update the Cost Assessment estimates in the 2025 Needs Assessment.

SB 200 calls for the identification of "any community water system that serves a disadvantaged community that must charge fees that exceed the affordability threshold established by the board in order to supply, treat, and distribute potable water that complies with federal and state drinking water standards."[78] The Affordability Assessment evaluates several different affordability indicators that compare a customer's average water expenses to their socioeconomic risk to identify communities that may be experiencing affordability challenges. The Affordability Assessment is conducted for all community water systems and non-transient, non-community systems serving K-12 schools and determines whether a system is facing a High, Medium or Low Affordability Burden.

DEVELOPMENT AND ENHANCEMENT PROCESS

The State Water Board's Needs Analysis Unit in the Division of Drinking Water (DDW) leads the development of the annual Needs Assessment in coordination with the Division of Water Quality (DWQ), Division of Financial Assistance (DFA), and Division of Information Technology (DIT).

The State Water Board developed the foundational methodologies utilized in the Needs Assessment in 2019 and 2020 through multiple public workshops and a one-time contract with the University of California, Los Angeles Luskin Center for Innovation (UCLA) (agreement term: 09.01.2019 through 03.31.2021).[79] The State Water Board has also partnered with the

[77] California Health and Safety Code section 116769.
[78] California Health and Safety Code section 116769 (2) (B).
[79] Before SB 200 was passed in 2019, the Legislature appropriated $3 million in 2018 via Senate Bill 862 (Budget Act of 2018) to implement a "Needs Analysis" on the state of drinking water in California. The State Water Board

Department of Water Resources (DWR) and the Office of Environmental Health Hazard Assessment (OEHHA) to further enhance the Needs Assessment.

The State Water Board is committed to engaging the public and key stakeholder groups to solicit feedback and recommendations to inform the development of the Needs Assessment methodologies. Since 2019, 28 workshops (some covering multiple component topics) have been hosted to inform the core methodologies (Figure 4, no workshops were offered in 2024). White papers, presentations, public comments and webinar recordings can be found on the State Water Board's Needs Assessment webpage.[80] The State Water Board will continue to host public workshops to provide opportunities for stakeholders to learn about and contribute to its efforts to enhance and develop a more robust Needs Assessment.

Figure 4: Number of Public Workshops on Needs Assessment Methodologies

NEEDS ASSESSMENT COMPONENTS	2019	2020	2021	2022	2023	2024
Failing List		1	1	1	2	0
Risk Assessment: Public Water Systems	1	3	1	2	3	0
Risk Assessment: State Small Water Systems & Domestic Wells	1	4	2	2	3	0
Cost Assessment	3	2	2	3	5	0
Affordability Assessment		2	1	5	3	0

contracted with UCLA to support the initial development of Needs Assessment methodologies for the Risk Assessment and Cost Assessment from September 1, 2019, to March 31, 2021. UCLA in turn collaborated with subcontractors Corona Environmental Consulting (Corona), the Sacramento State University Office of Water Programs (OWP), the Pacific Institute, and the University of North Carolina Environmental Finance Center (UNC EFC) to produce a portion of the work contained in the 2021 Needs Assessment and previous white papers.

[80] Drinking Water Needs Assessment I State Water Board
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/needs.html

HOW THE NEEDS ASSESSMENT IS UTILIZED BY THE STATE WATER BOARD

The State Water Board conducts the Needs Assessment annually to inform the annual SAFER Fund Expenditure Plan, support implementation of the SAFER program and advance its water system Technical, Managerial, Financial (TMF) Capacity Development Strategy.

SAFER PROGRAM

The results of the Needs Assessment are used by the State Water Board and the SAFER Advisory Group[81] to inform prioritization of public water systems, tribal water systems, state small water systems and domestic wells for funding in the Safe and Affordable Drinking Water Fund Expenditure Plan; guide State Water Board technical assistance; and develop strategies for implementing interim and long-term solutions (Figure 5).

Figure 5: How the Needs Assessment is Utilized by the SAFER Program

The SAFER program's goal is to ensure that all Californians can access safe drinking water. Meeting this goal requires solving many difficult, multi-faceted problems and addressing aspects of long-term disparities, especially in disadvantaged communities.

PUBLIC WATER SYSTEM CAPACITY DEVELOPMENT STRATEGY

The Capacity Development program was established as a key component of the 1996 Federal Safe Drinking Water Act (SDWA) Amendments. The Amendments were passed by Congress in part because of the significant problems small public water systems were having providing safe and reliable drinking water to their customers. The SDWA emphasizes prevention and assistance, both financial and technical, to resolve these problems. The Amendments have provided incentives (including funding) for each state to develop a Capacity Development program to assist public water systems in building technical, managerial, and financial capacity.[82] The Capacity Development program provides a framework for states and water systems to work together to protect public health.

[81] SAFER Advisory Group
https://www.waterboards.ca.gov/safer/advisory_group.html
[82] State Water Board Capacity Development Webpage
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/TMF.html

The SDWA allows states the flexibility to develop strategies to meet their individual needs. California's initial Capacity Development Strategy was adopted in 2000,[83] and in 2022 the State Water Board engaged with stakeholders through two public workshops to update the Strategy to better align with the SAFER program and new federal requirements.[84] Stakeholders helped identify barriers to capacity development and shaped the Strategy's eight core Elements (Table 20). No changes to the Strategy have been made since 2022.

Many elements from the previous Strategy have been revised to incorporate the activities implemented through the SAFER program. The Needs Assessment is a core component of Element 2, "Identification & Prioritization of Existing Systems in Need of Improved TMF Capacity" and Element 8, "Measuring TMF Capacity Building Success." The results of the Needs Assessment help ensure the State Water Board and the public have the information needed to advance capacity development activities for Failing and At-Risk water systems. The Retrospective section of the Needs Assessment provides an annual update on State Water Board activities and progress in implementing the State Water Board's Capacity Development Strategy Elements.

Table 20: Capacity Development Strategy Elements

Number	Capacity Development Strategic Elements
Element 1	Ensuring NEW Public Water Systems have TMF Capacity

Element 2	Identification & Prioritization of Existing Systems in Need of Improved TMF Capacity
	• Needs Assessment
	  ○ Failing Water Systems
	  ○ Risk Assessment
	  ○ Cost Assessment
	  ○ Affordability Assessment

Element 3	Supporting Direct Capacity Building • Water System Partnerships & Consolidation • Administrators • Engagement Units • Operator Certification • Sanitary Surveys
Element 4	Supporting Capacity Building Work of Third-Party Organizations • Technical Assistance
Element 5	Ensuring TMF Capacity of State Funding & Financing Recipients

[83] 2000 Capacity Development Strategy
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/cd_strategy.pdf
[84] California Capacity Development Strategy for Public Water Systems (2022)
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2022/2022-capdev-strategy-v2.pdf

Number	Capacity Development Strategic Elements
Element 6	Promoting Asset Management
Element 7	Building Capacity Through Complete and Accurate Data Gathering and Reporting
Element 8	Measuring TMF Capacity Building Success

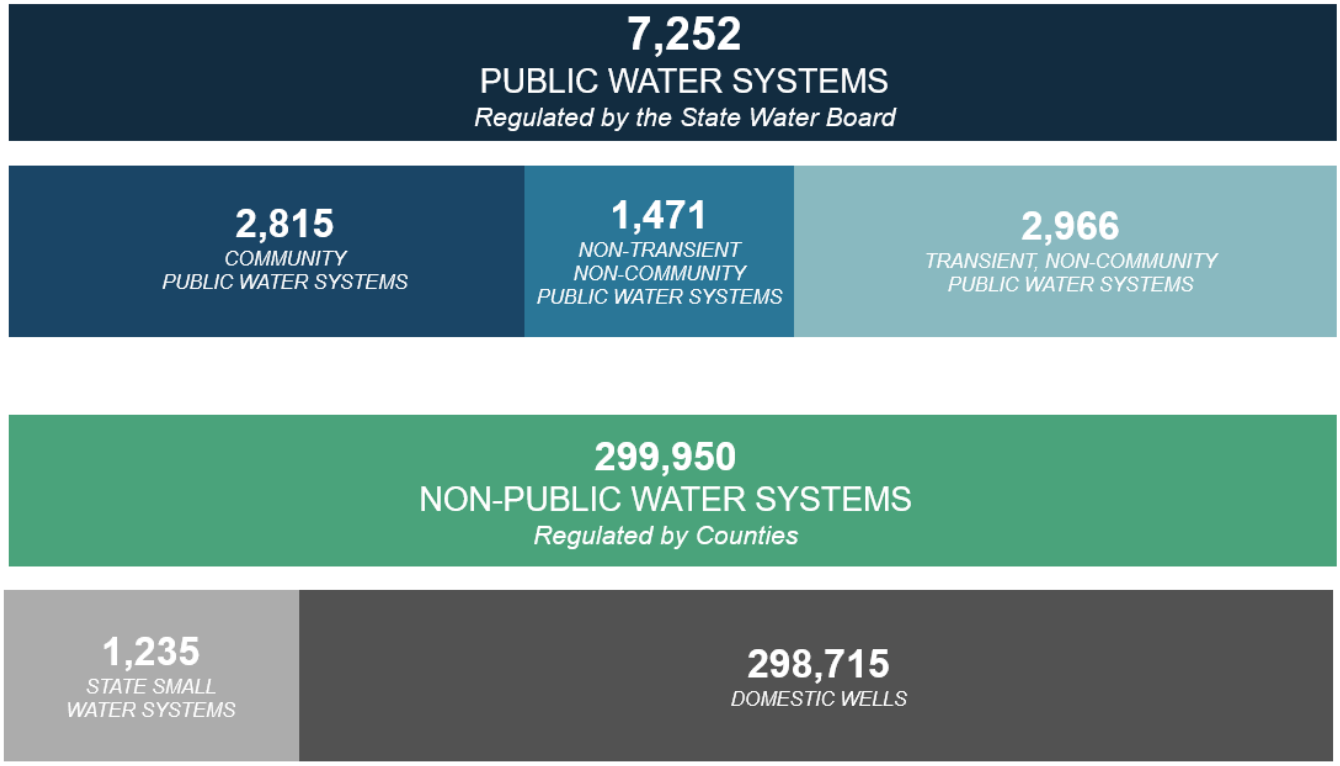
SYSTEMS ANALYZED

CALIFORNIA WATER SYSTEM CLASSIFICATIONS

California currently has about 7,252 active public water systems, 1,235 state small water systems, and approximately 298,715 known domestic wells (estimates for domestic wells are much higher, but data for locations and activity status are missing). The State Water Board classifies water systems into different water systems "types" or "classifications," which often correspond to different regulatory requirements.

The State Water Board and Local Primacy Agencies are responsible for regulating public water systems. State small water systems and domestic wells are permitted and regulated by counties. Data on state small water systems and domestic wells is limited.

Figure 6: California Water System Classifications[85]



In 2024, 27 new public water systems were created, 38 were deactivated, and 22 went from public to non-public. Over the past three years, 88 new public water systems were created and no newly permitted public water systems have been on U.S. EPA's Significant Non-Compliers list. [86] Notably, 85.5% of community water systems are considered "small," serving less than 3,300 service connections (Figure 7). However, these small water systems serve approximately 7.6% of the population (Figure 8).

[85] The counts of public water systems reflect the current active inventory of public water systems on February 2, 2025. The number of state small water systems included represents systems with known locations included in the Needs Assessment. The count of domestic wells is based on the number of domestic well records identified using the Department of Water Resources Online System for Well Completion Reports (OSWCR). The actual count and location of active domestic wells is currently unknown.

[86] New Public Water Systems (2022 – 2024) https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025-new-public-water-systems-3-years.xlsx

Figure 7: Number of Community Water Systems Grouped by Service Connections[87]

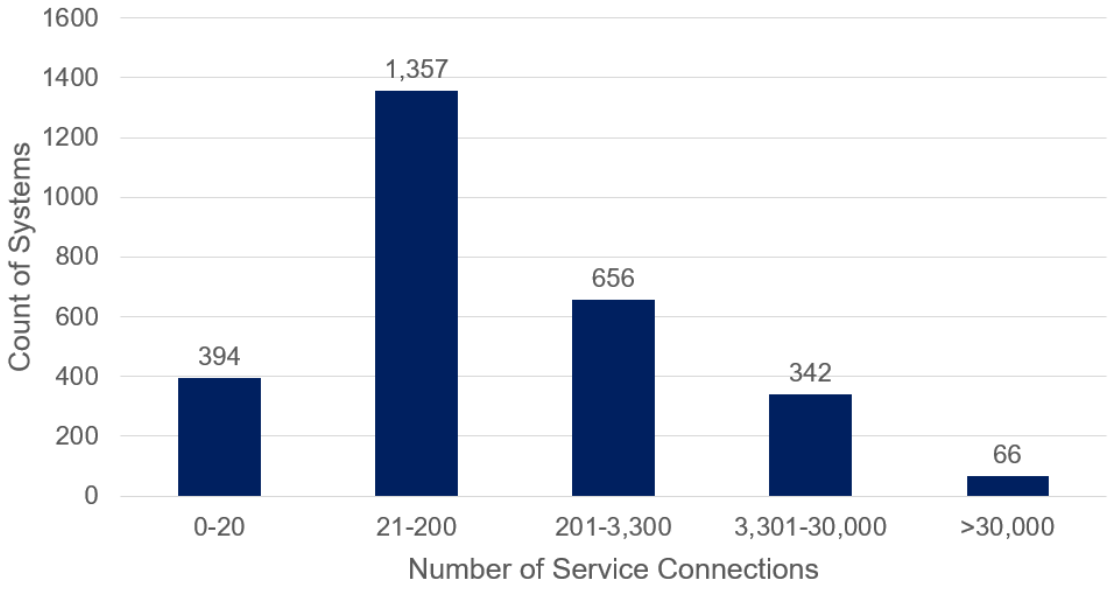
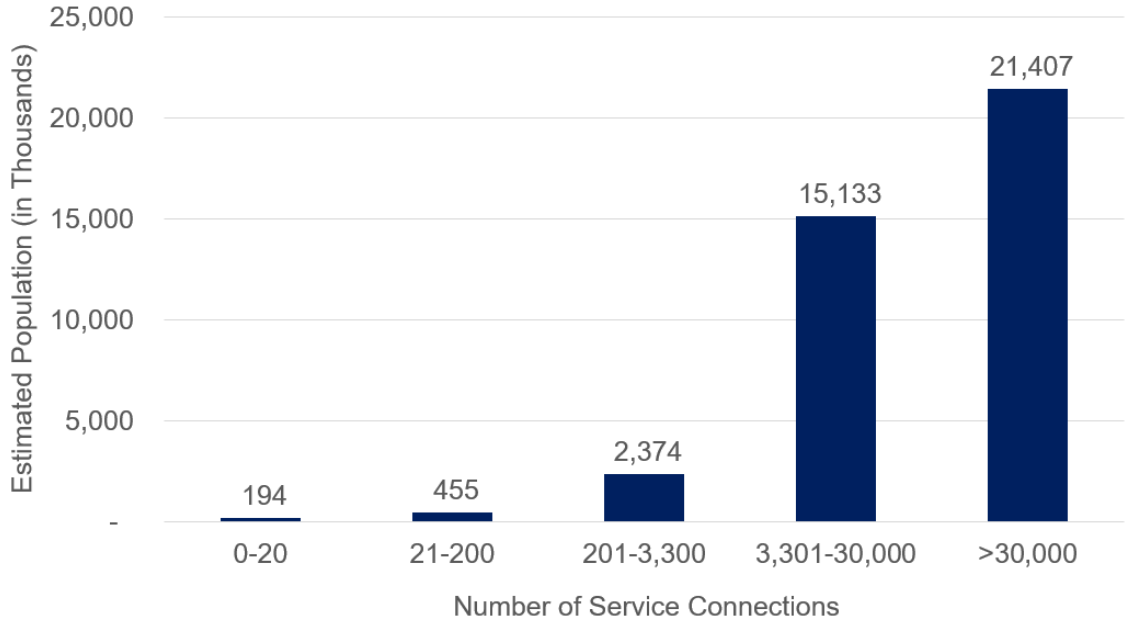


Figure 8: Population (In Thousands) Served by Community Water Systems of Different Service Connections[88]



[87] These counts are based on data pull from February 02, 2025.
[88] These counts are based on data pull from February 26, 2025.

SYSTEMS INCLUDED IN THE NEEDS ASSESSMENT

The 2025 Needs Assessment's components analyze different inventories of water system types. Table 21 summarizes the water system types included in each component.

Table 21: Count of Water Systems Included in the 2025 Needs Assessment Components

Needs Assessment Component	Water Systems Included	# Systems
Failing List	• All community water systems	2815
	• Non-community schools and daycares	413
Affordability Assessment	• All community water systems	2,815
	• Non-transient non-community K-12 schools	363
Risk Assessment for Public Water Systems	• Community water systems up to 30,000 service connections and up to 100,000 population served ○ Wholesalers are excluded	2,674
	• Non-transient non-community K-12 schools	363
Risk Assessment for State Small Water Systems and Domestic Wells	• All state small water systems where location data is available	1,235
	• All domestic wells with "domestic" well completion reports in the Department of Water Resources Online System for Well Completion Reports	298,715

Table 22: System Types Included in the 2025 Needs Assessment Components

Water System Type	Public	Failing List	Assessments		
			Affordability	Risk	Cost
Community					
Small Less than 3,301 service connections	✓	✓	✓	✓	Only Failing & At-Risk
Medium Between 3,301 - 30,000 service connections & a population of less than 100,000	✓	✓	✓	✓	Only Failing & At-Risk
Large More than 30,000 service connections or a	✓	✓	✓		Only Failing

Water System Type	Public	Failing List	Assessments		
			Affordability	Risk	Cost
population greater than 100,000					
Wholesalers Supply water to other water systems	✓	✓	✓		Only Failing
Non-Community					
Non-Transient Non-Community *e.g.,* schools, hospitals	✓	Only Schools & Daycares	Only K-12 Schools	Only K-12 Schools	Only Failing & At-Risk
Transient Non-Community *e.g.,* hotels, rest stops	✓	Only Schools & Daycares			Only Failing
Non-Public					
State Small Water Systems Between 5 and 14 connections & not serving a population greater than 25 more than 60 days per year				✓[89]	Only High Risk
Domestic Wells Less than 4 service connections				✓[90]	Only High Risk
Tribal					
Federally Recognized Tribal Water Systems		Failing Equivalent List			Only Failing Equivalent

[89] Assessed separately from public water systems in the Risk Assessment for State Small Water Systems & Domestic Wells.
[90] Assessed separately from public water systems in the Risk Assessment for State Small Water Systems & Domestic Wells.

FAILING PUBLIC WATER SYSTEMS

OVERVIEW

On September 25, 2012, Governor Edmund G. Brown Jr. signed Assembly Bill (AB) 685, making California the first state in the nation to legislatively recognize the human right to water (HR2W). Now in the Water Code as Section 106.3, the state statutorily recognizes that "every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes." The HR2W extends to all Californians, regardless of socioeconomic status or whether they live in rural or urban communities.

On February 16, 2016, the State Water Board adopted a resolution identifying HR2W as a top priority and core value of the Board. The resolution stated the State Water Board will work "to preserve, enhance, and restore the quality of California's water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use, for the benefit of present and future generations."

FAILING CRITERIA

The State Water Board assesses public water systems that fail to meet the goals of the Human Right to Water and maintains a list and map of these systems on its website.[91] The Failing list is updated and refreshed daily as violations and enforcement actions are issued, updated, or resolved. Systems that are on the Failing list are those that are out of compliance with or consistently fail to meet drinking water standards.

The original Failing criteria developed in 2017 only identified water systems with water quality-based violations and active/open enforcement actions. The Failing list criteria were expanded in April 2021 to better align with statutory definitions of what it means for a water system to "consistently fail" to meet primary drinking water standards.[92] At that time, *E. coli* violations,

[91] SAFER Dashboard
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/saferdashboard.html
[92] California Health and Safety Code section 116275(c)

treatment technique violations, and multiple monitoring and reporting violations were also added.

In April 2024, taking into account lessons learned from the 2021-2022 drought, the State Water Board expanded the Failing criteria again to better capture water systems that are unable to consistently provide safe drinking water to their customers due to water shortage. In particular, the State Water Board added source capacity and water outage violations to the Failing criteria. By including systems experiencing water shortages on the Failing list, the State Water Board ensures that these systems are duly prioritized for funding and support.

Table 23 summarizes how Failing criteria have changed over time. Additional details regarding the history of the Failing list and criteria methodology can be found on the State Water Board's Failing water system webpage.[93]

Table 23: Criteria for Failing Water Systems

Criteria	Jan. 2017 – April 2021	April 2021 – April 2024	After April 2024
Primary MCL Violation with an open Enforcement Action	Yes	Yes	Yes
Secondary MCL Violation with an open Enforcement Action	Yes	Yes	Yes
***E. coli* Violation with an open Enforcement Action**	No	Yes	Yes
Treatment Technique Violations: • One or more Treatment Technique violations (in lieu of an MCL), related to a primary contaminant, with an open enforcement action; and/or • Three or more Treatment Technique violations (in lieu of an MCL), related to a primary contaminant, within the last three years.	Partially	Expanded	Yes
Monitoring and Reporting Violations: • Three Monitoring and Reporting violations (related to an MCL) within the last three years where at least one violation has been open for 15 months or greater.	No	Yes	Yes

[93] Human Right to Water | California State Water Resources Control Board https://www.waterboards.ca.gov/water_issues/programs/hr2w/

Criteria	Jan. 2017 – April 2021	April 2021 – April 2024	After April 2024
Source Capacity & Water Outage Violations with an open Enforcement Action	No	No	Yes

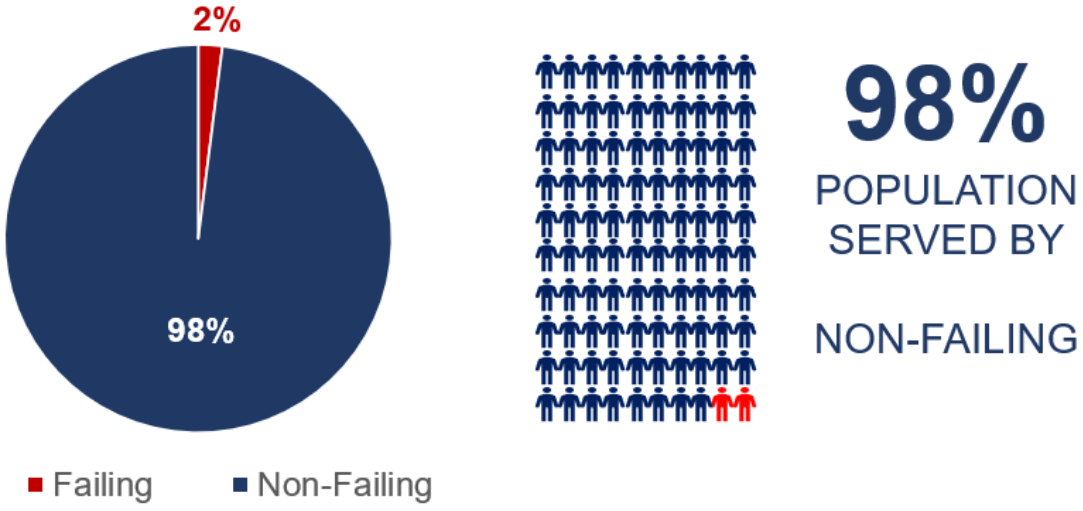
WATER SYSTEMS ASSESSED

Systems that are assessed for meeting the Failing list criteria include all community water systems (CWSs) and non-community (NC) water systems serving schools and daycares. The current Failing list is refreshed daily and publicly available on the SAFER Dashboard.[94]

FAILING LIST TRENDS

As of December 31, 2024, 98% of California's population received water from public water systems that meet drinking water standards (Figure 9). 77%[95] of community water systems and non-transient non-community water systems serving K-12 schools have not been on the Failing list from 2017 to 2024.

Figure 9: Population Served by Non-Failing Water Systems



From January 1, 2017 through December 31, 2024: [96]

- There have been 797 unique water systems on the Failing list and 401 (50%) of these systems have come off the list during this time (Figure 10).

[94] SAFER Dashboard https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/saferdashboard.html
[95] 2,194 community water systems and 278 NTNC water systems that serve K-12 schools from 2017 to 2024.
[96] Water systems that are no longer public water systems regulated by the State Water Board are excluded from this analysis.

- On average, 78 unique systems are added to the Failing list each year and 67 unique systems are removed (Figure 11). Please note that some water systems have repeatedly got on and off the list in different years and therefore the sum of unique water systems from individual years is larger than the total number of unique water systems for the entire duration.
- The proportion of public water systems on the Failing list each year has increased over time (Figure 12). This is driven by two main factors (1) more systems come on the Failing list as the State Water Board has expanded the Failing criteria; (2) on average, water systems stay on the Failing list for three years or more. The following section explains this further.
- Among systems that have been removed from the Failing list, 10.9% are classified as Large Water Systems, in contrast to only 0.7% among those that remain on the list—indicating a higher likelihood for larger systems to return to compliance.
- Systems on the Failing list are more likely to serve disadvantaged communities (DAC) or severely disadvantaged communities (SDAC) than systems that have come off the list. 79% of systems that are on the Failing list serve DAC/SDAC communities, compared to 65% of water systems that have come off the Failing list in 2024.
- Systems currently on the Failing list serve a larger share of communities of color on average (53%). In contrast, only 26% of the population for systems that have come off the Failing list are serving majority communities of color.

Figure 10: Number of Water Systems on the Failing List (Unique Water System Count per Quarter, 2017-2024)

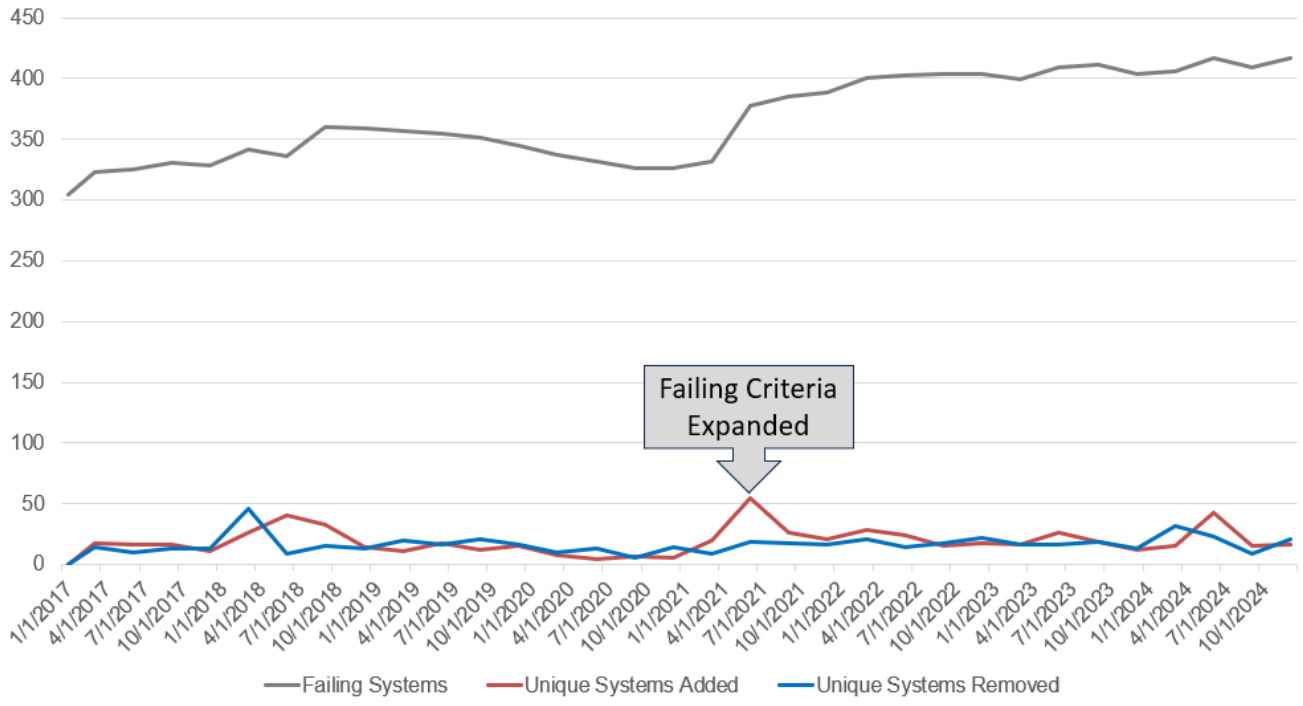
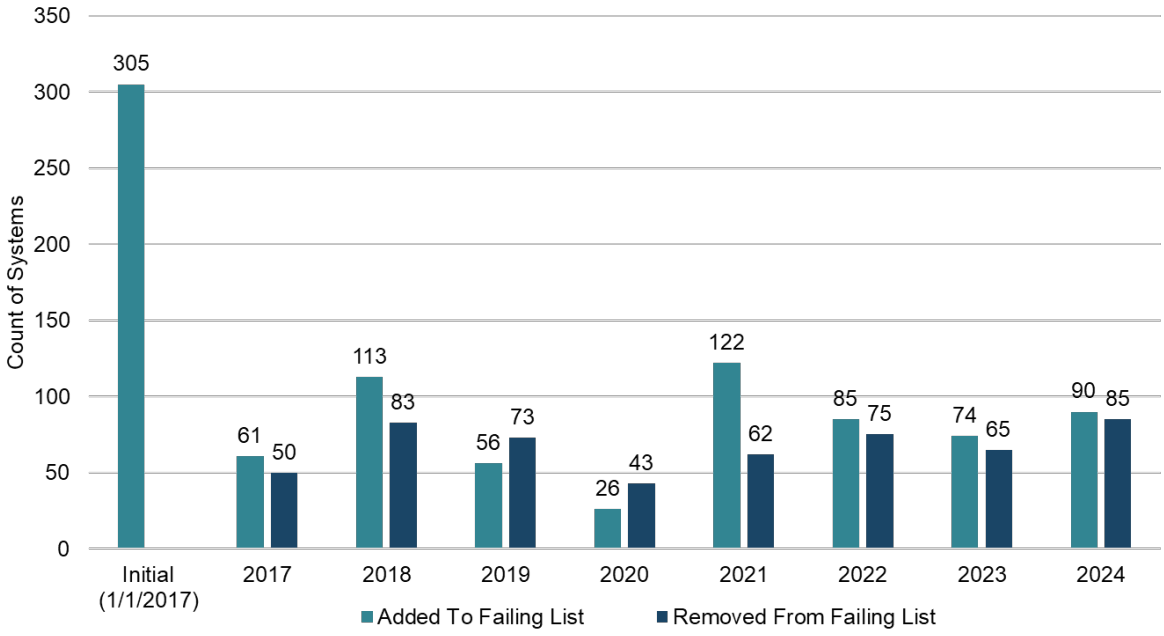
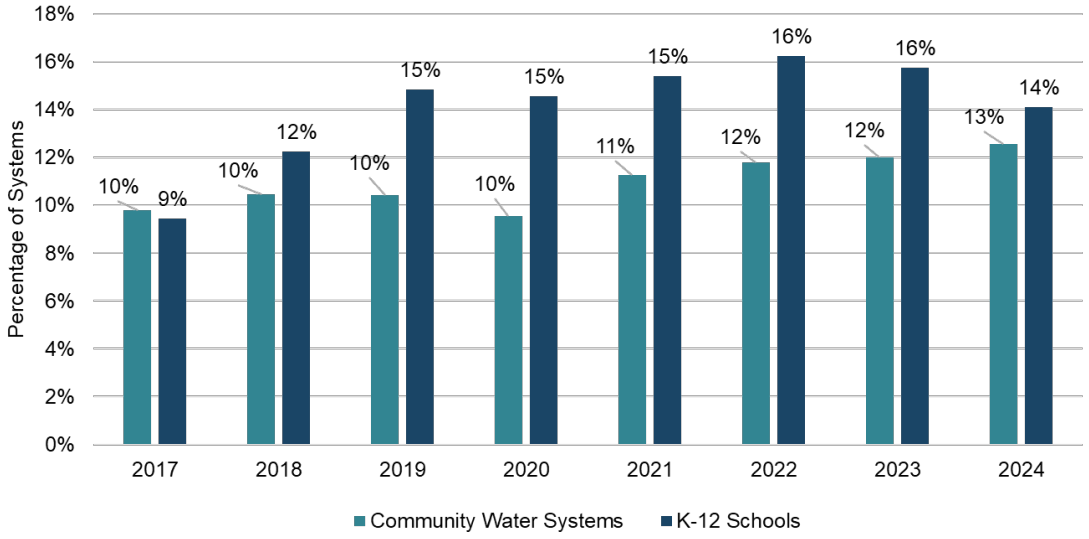


Figure 11: Unique Number of Systems Coming on and off the Failing List Annually Based on the Latest Data[97]



[97] Minor changes from previous years' reports are due to data clean-up effort.

Figure 12: Percentage of Community Water Systems and Non-Community Water Systems serving K-12 Schools on the Failing List (Annual Unique Water System Count, 2017-2024)



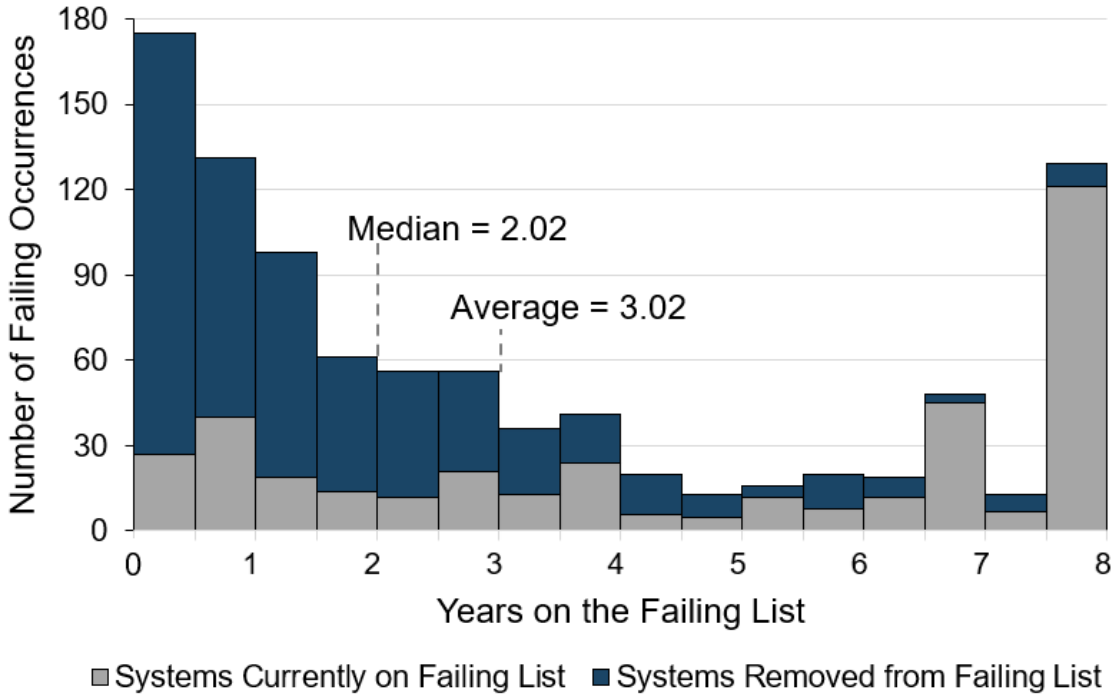
ENTRENCHED FAILING SYSTEMS

Entrenched Failing water systems are those that have been on the Failing list for more than three years and have not come off the list. Figure 13 below is a histogram showing the duration of stay on the Failing list for all systems that have either returned to compliance or are currently in violation. The histogram shows periods of 6 months, indicating by the height of the bar how many total systems have been on or are on the list for a duration of that six-month period. The length of stay for systems that have returned to compliance or are currently in violation can be distinguished by the two colors.

As shown in Figure 13, since 2017, the average duration of public water systems that had been on the Failing list, including those had come off the list and those still on the list, is three years. However, that duration is not uniformly or evenly distributed, as the most common lengths of stay on the Failing list are less than six months (169 occurrences), one year (131 occurrences) and eight years (129 occurrences)Figure 13. Of those Failing occurrences with a duration of eight years, 121 unique water systems (94%)[98] are currently still on the Failing list, while only 27 (18%)[99] unique water systems with a duration of less than six months are still on the Failing list. The average Failing list duration of three years is higher than the median duration, which is closer to two years spent on the Failing list before returning to compliance.

[98] Total count of unique systems with a duration of eight years was 129.
[99] Total count of unique systems with a duration of less than six months was 148.

Figure 13: Duration of Systems on the Failing List[100]



There are notable differences in the composition of public water systems on the Failing list for six months or less compared to those on the list for over seven years. A higher percentage of small water systems appear in the over seven years group: 99.3% of systems that have remained on the list for over seven years are small water systems, whereas 89.1% of those on the list for six months or less are small water systems. Conversely, large water systems make up a larger share of the six months or less group—accounting for 10.9%—compared to just 0.7% in the over-seven-years group. This suggests that large water systems are more likely to come off the Failing list within six months, while small water systems tend to remain on the list for extended periods.

Duration of Systems that have Come off the Failing List Since 2017

As dark blue bars shown in Figure 13, 401 water systems had come off the Failing list from January 1, 2017 to December 31, 2024. Systems that have come off the Failing list tend to do so within two years of first coming on to the list. Of all the water system Failing occurrences that have come off the Failing list, nearly 44% of the occurrences did so within one year and 67% within the first two years. Only 40 systems have spent five years or more on the Failing list before coming off the Failing list.

[100] The histogram includes all separate occurrences of public water systems on the Failing list, whether they are currently on the list or not. Systems which have had multiple occurrences are included multiple times, with each stay represented separately. Currently Failing public water systems (as of January 1, 2025) do not have an end date. The duration of these systems on the Failing list is based on the number of days between when they came on the list to January 1, 2025.

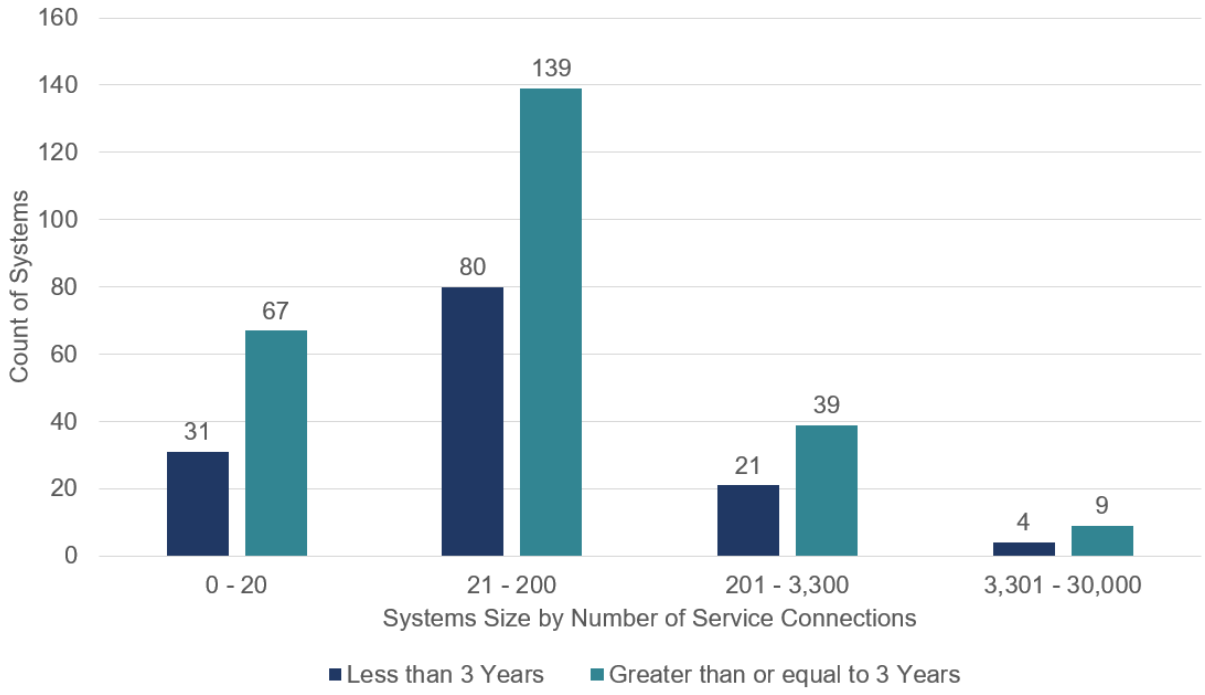
Duration of Systems Currently on the Failing List of December 31, 2024

As grey bars shown in Figure 13, there were 390 community water systems (CWS) or non-transient non-community (NTNC) water systems serving schools on the Failing list on December 31, 2024. 33% of the systems were on the Failing list for seven years or more. The length of time on the list will continue to increase for these systems until they no longer meet the Failing list criteria.

65% of the systems currently on the Failing list are considered entrenched, *i.e.*, having been on the Failing list for over three years. The largest concentration of these systems is in the Central Valley: Kern County (46 systems); Fresno County (26 systems); Tulare County (23 systems); and Madera County (22 systems).

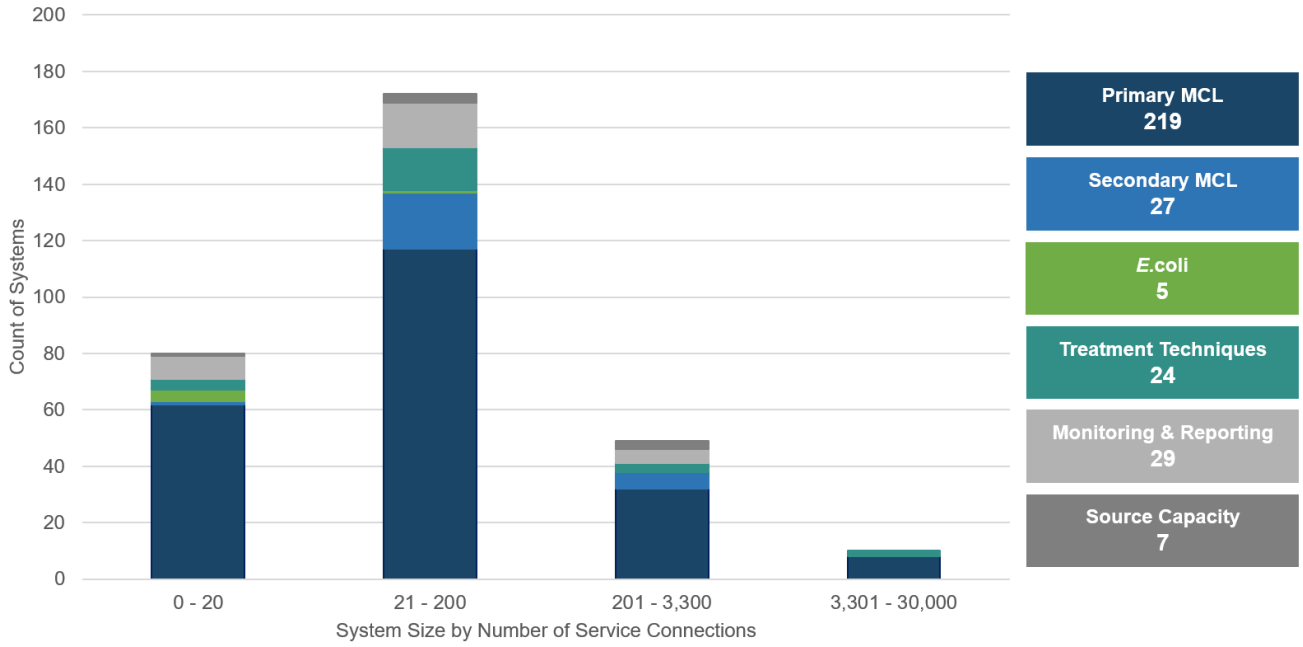
Figure 14 describes if the current Failing systems – 390 of community water systems or non-transient non-community water systems serving schools – are on the entrenched list, grouped by the number of connections served by the system. There are more small water systems on the Failing list and correspondingly, more small water systems on the entrenched list.

Figure 14: Duration of Staying on the Failing List for Current Failing Water Systems, Grouped by Service Connections (December 31, 2024)



To better understand these entrenched Failing water systems, the State Water Board analyzed why they are Failing. As shown in Figure 15 many entrenched Failing systems have fewer than 200 service connections, and regardless of size, the most common reason for their Failing status is a Primary MCL violation. Note that some PWS meet multiple Failing criteria and thus would be counted more than once in Figure 15.

Figure 15: Count[101] of Failing Criteria Met by Entrenched Water Systems on Current Failing List (December 31, 2024), Grouped by Service Connections



The State Water Board is actively assisting entrenched Failing water systems. All of the 114 Failing water systems that have been on the Failing list since 2017 are receiving funding assistance, technical assistance, Administrator assistance, and/or SAFER Engagement Unit assistance.

SYSTEMS WITH MULTIPLE FAILING LIST OCCURRENCES

Since the Failing list was established in 2017, 2,634 (77%) of all community water systems and non-community schools and daycare (3,412 total) have never been on the list. 797 water systems have been on the Failing list, of which 787 are community water systems or non-transient non-community water systems serving schools and 10 systems are transient non-community water systems serving schools. Of the 787 water systems, 675 have had only one occurrence on the Failing list. Of the 675 water systems that have had a single Failing list occurrence, 339 have come off the Failing list. The remaining 112 water systems have appeared on the Failing list more than once, with the extreme case of one system being on the failing list seven times. Of those 112, only 18 have appeared on the Failing list more than twice. Eleven of the water systems that have had multiple occurrences on the Failing list returned to the Failing list for the same reason as their prior occurrence, while the other 7 systems returned to the Failing list for a different reason. For the 7 systems that met a different

[101] Counts represented in each size category are not unique there are many systems that are Failing for multiple Failing criteria.

Failing criterion, a switch from Primary MCL to a different criterion was the most common reason (Figure 16).

Figure 16: Community Water Systems and Non-Community Schools on the Failing List, Grouped by Number of Failing Occurrences per Water System (2017-2024)

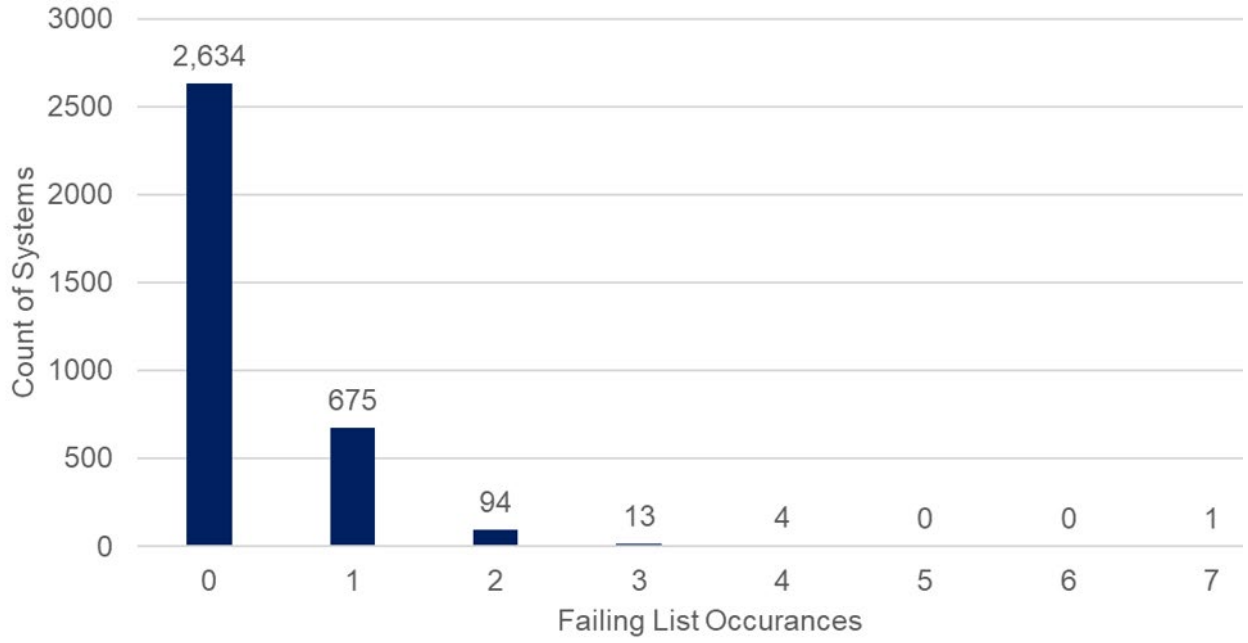


Figure 17 displays the percentage of water systems that have never appeared, appeared once, or appeared multiple times on the Failing list during 2017-2024, grouped by number of service connections. Water systems between 21and 200 service connections have the highest percentage that have appeared once (22.6%) while systems between 201 to 3, 300 connections have the largest proportion with multiple occurrences (4.4%). However, larger water systems with 30,000 service connections or more have the highest proportion that have never appeared on the Failing list (95.5%).

Figure 17: Percentage of Systems with Zero, Single or Multiple Occurrences on the Failing List, Grouped by Service Connections (2017-2024)

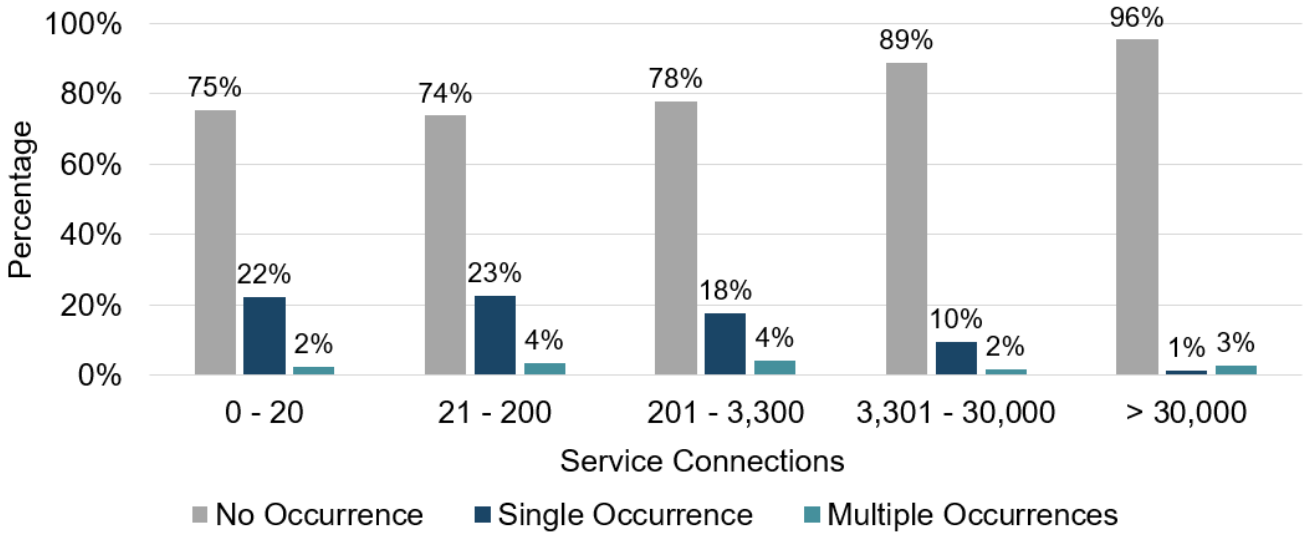
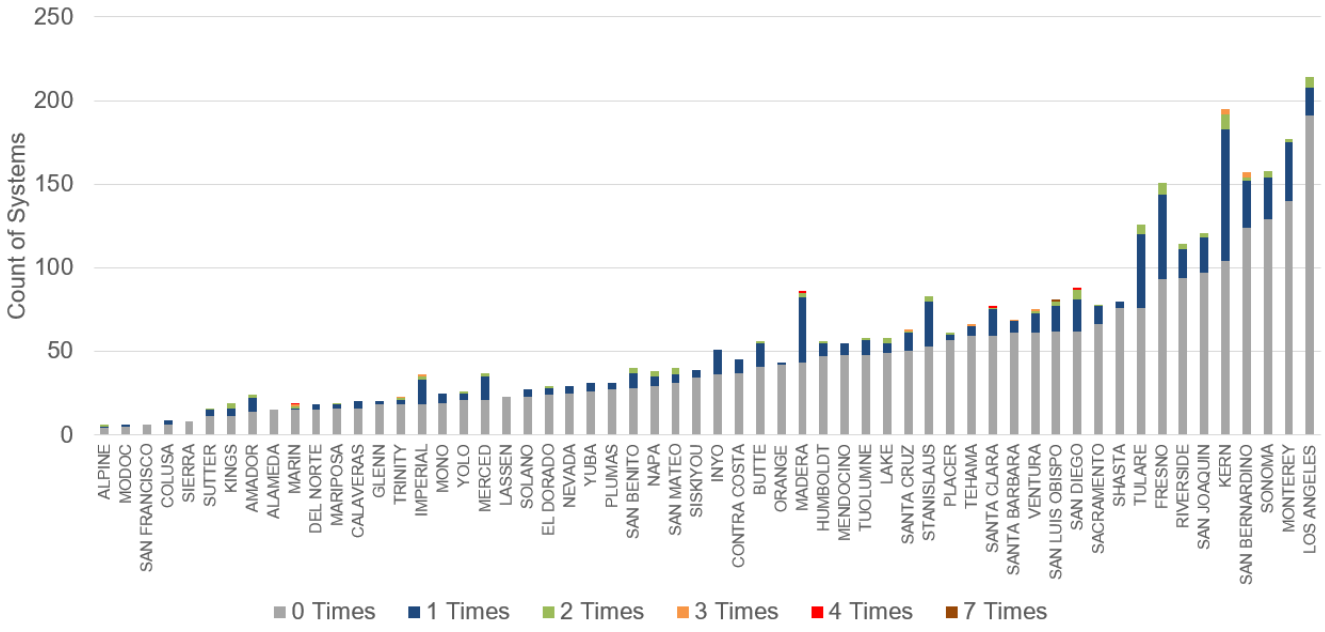


Figure 18 display information about the number of Failing list occurrences within each county. As shown in Figure 18, Los Angeles (191), Monterey (140), Sonoma (129), and San Bernardino (124) have the largest number of systems that have not appeared on the Failing list. Fresno, San Diego, Tulare, Los Angeles and Kern each have had six or more systems appear on the Failing list more than once.

Figure 18: Count of Failing List Occurrences by County (2017-2024)



2024 CUMULATIVE FAILING LIST

In 2024 there were 473 unique water systems on the Failing list for various durations throughout the year (Table 24). This includes systems that were on the Failing list prior to 2024 but had yet to come off the list.

Table 24: 2024 Cumulative Failing List

Water Systems	Number of Unique Systems	Total Population Served	Average Number of Service Connections	# of Systems on List Greater than 3-Yrs.
Small Water Systems	396 (84%)	398,364 (34%)	246	228 (81%)
Medium Water Systems	19 (4%)	552,244 (48%)	8,090	12 (4%)
Large Water Systems	1 (0.2%)	190,688 (16%)	50,687	0
K-12 Schools	57 (12%)	18,102 (2%)	6	40 (14%)
TOTAL:	**473**	**1,159,398**	**59,029**	**280**

In 2024, there were 90 unique water systems that came on, and 85 water systems that came off the Failing List. Table 25 breaks down, by water system size, the Failing criteria that caused all systems on the list to come or remain on the list in 2024. Please note that approximately 50 unique water systems met more than one criterion and therefore were listed more than once in this table.

Table 25: Number of Instances of Failing List Criteria Met in 2024

Water Systems	Primary MCL Violation	Secondary MCL Violation	*E. coli* Violation	Treatment Technique Violation	Monitoring & Reporting Violations	Source Capacity Violations
Small Water Systems	267	59	10	36	61	38
Medium Water Systems	16	1	0	5	0	0
Large Water Systems	1	0	0	0	0	0
K-12 Schools	48	1	5	3	5	1
TOTAL:	**332**	**61**	**15**	**44**	**66**	**39**

Statewide, the top contaminants that contributed to higher proportions of systems on the Failing list in 2024 are unchanged from 2023 and are: arsenic, 1,2,3-trichloropropane, and nitrate / nitrate + nitrite for primary MCL violations and manganese and iron for secondary MCL violations.

FAILING LIST USED IN THE 2025 NEEDS ASSESSMENT

After risk assessments for small and medium community water system and non-transient non-community water systems serving schools are completed, their risk assessment result will be designated to "Failing" if they are on the Failing list. However, if a water system is later removed from the Failing list, it will be reassigned to the At-Risk, Potentially At-Risk, or Not At-Risk based on its Risk Assessment results.

The Needs Assessment analyzes data at a fixed point in time. For purposes of the 2025 Needs Assessment, the State Water Board utilized the Failing list as of December 31, 2024.[102] The Failing list on this date had 390 water systems (serving 811,964 people) that are included in the Risk and Affordability Assessment.

Table 26: Failing List from December 31, 2024

System Type	Count	In Risk Assessment	In Affordability Assessment	In Cost Assessment
Small Community Water Systems	335	Yes	Yes	Yes
Medium Community Water Systems	13	Yes	Yes	Yes
Large Community Water Systems	0	No	Yes	Yes
NTNC Schools and Daycare	42	K-12 Schools Only	K-12 Schools Only	Yes
TNC Schools and Daycare	0	No	No	Yes
TOTAL:	**390**	**390**	**390**	**390**

[102] This list of Failing public water systems on December 31, 2024 was queried from the State Water Board's databases on March 4, 2025.

RISK ASSESSMENT RESULTS FOR PUBLIC WATER SYSTEMS

OVERVIEW

The purpose of the Risk Assessment for public water systems is to identify systems at-risk or potentially at-risk of failing to meet one or more key Human Right to Water goals: (1) providing safe drinking water; (2) accessible drinking water; (3) affordable drinking water; and/or (4) maintaining a sustainable water system. Data on performance and risk is most readily available for public water systems and thus the Risk Assessment methodology for public water systems allows for a multi-faceted examination across four risk indicator categories: Water Quality, Accessibility, Affordability; and TMF (Technical, Managerial, and Financial) Capacity.

FAILING LIST PREDICTIVE POWER OF THE 2024 RISK ASSESSMENT

The Risk Assessment results identified 913 At-Risk and 482 Potentially At-Risk water systems in 2024.[103] Approximately 92% of systems that were on the Failing list from December 31, 2024 were designated At-Risk or Potentially At-Risk in the 2025 Risk Assessment. The Risk Assessment continues to improve its ability to identify systems at-risk of Failing. The predictive power of the Risk Assessment improved by 1% from the 2024 Assessment.

Table 27: Predictive Power of the 2025 Risk Assessment

2025 Risk Assessment Result *(based on 2024 data)*	Total Systems	Systems on the Failing List	Predictive Power of Risk Assessment
At-Risk	913	324	83%
Potentially At-Risk	482	33	8.5%
Not At-Risk	1,642	33	8.5%
TOTAL:	**3,037**	**390**	

[103] Regardless of Failing status. When the State Water Board publishes the Risk Assessment results, systems currently present on the Failing list are typically excluded from the counts of systems identified as At-Risk, Potentially At-Risk, or Not At-Risk. However, the original Risk Assessment results (*i.e.*, before excluding Failing systems) are used to evaluate the predictive power of the assessment.

2025 RISK ASSESSMENT METHODOLOGY UPDATES

The following changes have been made to the Risk Assessment methodology when compared to the methodology used in the 2024 Needs Assessment.

Bottled or Hauled Water Reliance Indicator

The data source used to identify water systems that have relied on bottled water and/or hauled water has changed. In 2024, DFA's spreadsheet for interim solution[104] was used as the primary source, along with the Drought and Conservation Reports for a one-year duration,[105] and water source data from the State Water Boards' database. In an ongoing effort to enhance data quality, accuracy, and availability, the State Water Board has decided to make the Drought and Conservation Reports[106] the primary data source, as they are fully machine-readable and reported by water systems. The DFA spreadsheet has been removed, while the State Water Board's water source data continues to be used to serve as a supplementary data source. One caveat is that the data from the Drought and Conservation Reports is currently available for a maximum of two full years, which does not perfectly align with the definition[107] of this indicator for tracking three years' information. Data for a three-year duration will be available starting with next year's Risk Assessment. More details on the "Bottled Water or Hauled Water Reliance" calculation methodology and data sources can be found in the Appendix: Risk Assessment Methodology for Public Water Systems.[108]

Critically Overdrafted Groundwater Basin Indicator

To identify water systems that are reliant on groundwater wells located in groundwater basins in conditions of critical overdraft, the 2025 Needs Assessment utilized additional location information to increase data availability on the location of active ground water sources. SDWIS is the primary source of information on the location of water system facilities, including active wells. However, in a few cases, data on the exact location of wells are missing. Previously, wells that were missing exact location were excluded from the analysis. The 2025 Needs Assessment used information on the location of other water system facilities from SDWIS to approximate the latitude and longitude of wells with missing data. By increasing the number of groundwater wells in the analysis, the Needs Assessment can better capture the risk associated with reliance on wells in critically overdrafted groundwater basins. More details on

[104] Internal State Water Board Interim Solution Data Spreadsheet managed by Division of Financial Assistance (DFA)

[105] Water System Monthly Drought and Conservation Reports are collected through the SAFER Clearinghouse. The reporting requirements began in January 2023, therefore for the 2024 Risk Assessment, only one year of data was available.

[106] Drought and Conservation Reporting https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/clearinghouse_drought_conservation_reporting.html

[107] The purpose of this risk indicator is to identify water systems that have had to supplement or replace their source of supply to meet customer demand with bottled water, and/or hauled water at any point within the past three years.

[108] Appendix: Risk Assessment Methodology for Public Water Systems https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025risk-assessment-pws-methodology.pdf

the “Critically Overdrafted Groundwater Basin” calculation methodology and data sources can be found in the Appendix: Risk Assessment Methodology for Public Water Systems.[109]

Median Household Income and Disadvantaged Community Status

To identify water systems that serve customers who may be facing economic vulnerability, median household income (MHI) is used as a key data point in the Risk Assessment and to determine which water systems serve disadvantaged communities. For the 2025 Need Assessment, the methodology used to determine MHI was enhanced to increase data coverage and accuracy of estimates. Previously, MHI was calculated for each water system based solely on block group-level data from the American Community Survey (ACS) 5-Year Estimates.[110] The updated method used in 2025 incorporated additional sources of census data along with block group – census tract and place which includes incorporated cities and towns and unincorporated census designated places defined for statistical purposes) – and used the lowest estimate from three different geographic levels to more accurately reflect economic conditions in diverse service areas. Additional years of census data from each of the three levels were also used when the most recent ACS estimates are not available. This change significantly reduced the number of systems with missing MHI data and helped avoid overestimating income in areas where income is unevenly distributed. More details on the “Median Household Income” calculation methodology and data sources can be found in the Appendix: Median Household Income (MHI) and Economic Status Determination Methodology.[111]

The Needs Assessment uses median household income to determine if a water system serves a disadvantaged community (DAC) or severely disadvantaged community (SDAC). Water systems with an MHI less than 80% of the statewide median household income ($77,067) are classified as DAC, and those with an MHI less than 60% of the statewide MHI ($57,800) are classified as SDAC. Although DAC status is not used directly as a risk indicator, accurately determining which systems serve disadvantaged communities is critical for identifying priority water systems that may require additional support and assistance and allocating funding equitably.

Percent Median Household Income (%MHI) Indicator

This affordability indicator measures a water system’s average annual water bill charges for residential customers relative to the annual median household income within a water system’s service area. In the 2025 Needs Assessment, this indicator relied on updated MHI estimates detailed above. More details on the “Percent of Median Household Income” calculation methodology and data sources can be found in the Appendix: Risk Assessment Methodology

[109] Appendix: Risk Assessment Methodology for Public Water Systems
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025risk-assessment-pws-methodology.pdf
[110] American Community Survey Data
https://www.census.gov/programs-surveys/acs/data.html
[111] Appendix: Median Household Income (MHI) and Economic Status Determination Methodology
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025mhi-calculation.pdf

for Public Water Systems.[112] The underlying data used to conduct the Risk Assessment has been refreshed with the most recent and available data. See Appendix: Risk Assessment Methodology Public Water Systems for more information.[113]

WATER SYSTEMS ASSESSED

The Risk Assessment is conducted for community water systems with fewer than 30,000 service connections and a population of less than 100,000 people served, as well as non-transient non-community systems that serve K-12 schools. 89 large community water systems with more than 30,000 service connections or more than 100,000 population served are excluded from the Risk Assessment. The inventory of systems included in the Risk Assessment aligns with the State Water Board's expanded funding eligibilities in the 2021-22 Intended Use Plan (amended on March 15, 2022), to medium disadvantaged community water systems.[114] The 2025 Risk Assessment also excludes 52 wholesalers because they do not provide direct service to residential customers. Some water system types have also been excluded from certain risk categories or specific risk indicators (Table 28).

Table 28: Public Water Systems Analyzed in the 2025 Risk Assessment

Water System Type	Number	Water Quality	Accessibility	Affordability	TMF Capacity
Community Water Systems[116]	2,674	Yes	Yes	Yes	Military bases are excluded
K-12 Schools[117]	363	Yes	Yes	Yes	Yes
TOTAL ANALYZED:	**3,037**				

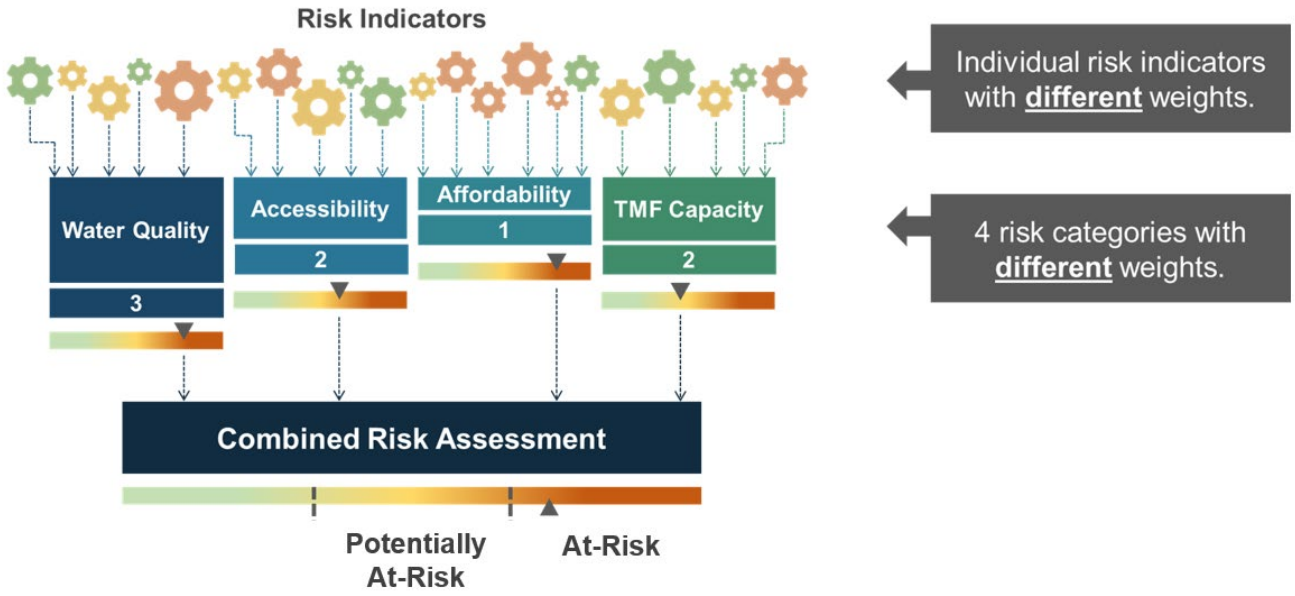
RISK ASSESSMENT METHODOLOGY

The first Risk Assessment, published in the 2021 Needs Assessment, was developed by the State Water Board in partnership with UCLA though a phased public process from January 2019 through January 2021. Since the initial Risk Assessment, many enhancements have been made to the methodology to accommodate new or missing data, respond to stakeholder feedback and improve the predictive power of the analysis. Appendix: Risk Assessment

[112] Appendix: Risk Assessment Methodology for Public Water Systems https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025risk-assessment-pws-methodology.pdf
[113] Appendix: Risk Assessment Methodology for Public Water Systems https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025risk-assessment-pws-methodology.pdf
[114] Drinking Water State Revolving Fund (DWSRF) Intended Use Plan https://www.waterboards.ca.gov/water_issues/programs/grants_loans/docs/dwsrf_iup_sfy2021_22_final2.pdf
[115] Systems on the Failing list were included in the Risk Assessment analysis if they met the Risk Assessment inventory criteria: small and medium-sized community water systems, and NTNC K-12 schools.
[116] 52 wholesalers and 89 large water systems were excluded.
[117] These systems were manually identified and recorded in the State Water Board's database.

Methodology for Public Water Systems[118] contains an in-depth overview of the Risk Assessment methodology, which relies on three core elements that are utilized to calculate an aggregated risk score for the public water systems assessed (Figure 19):

Figure 19: Illustration of the Risk Assessment Methodology



Risk Indicators	Quantifiable measurements of key data points that assess the potential for a water system to fail to sustainably provide an adequate supply of safe drinking water due to water quality, water quantity, infrastructure and/or institutional issues.
Risk Indicator Thresholds	The levels, points, or values associated with an individual risk indicator that delineates when a water system is more at-risk of Failing, typically based on regulatory requirements or industry standards.
Scores & Weights	The application of a multiplying value or weight to each risk indicator and risk category, as certain risk indicators and categories may be deemed more critical than others and/or some may be outside the of control of the water system.

[118] Appendix: Risk Assessment Public Water System Methodology https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025risk-assessment-pws-methodology.pdf

RISK INDICATOR CATEGORIES

The Risk Assessment analyzes risk in the following categories:

Water Quality — Water Quality risk indicators measure current water quality and trends to identify compliance with regulatory requirements, as well as frequency of exposure to drinking water contaminants.

Accessibility — Accessibility risk indicators measure a system's ability to deliver safe, sufficient, and continuous drinking water to meet public health needs.

Affordability — Affordability risk indicators measure the capacity of households and the community to supply the revenue necessary for a water system to pay for necessary capital, operations, and maintenance expenses.

TMF Capacity — Technical, Managerial, & Financial (TMF) Capacity risk indicators measure a system's capacity to plan for, achieve, and maintain long term compliance with drinking water standards.

RISK INDICATORS

The initial 2021 Risk Assessment utilized 19 risk indicators. These risk indicators were identified and developed between 2019-2021 by the State Water Board and UCLA, with public feedback.[119] Risk indicators that measure water quality, accessibility, affordability, and TMF capacity were selected based on their direct relationship to a water system's ability to remain in compliance with drinking water standards. In 2021, the State Water Board made significant changes to the indicators used in the 2022 Risk Assessment. To keep the Risk Assessment methodology static, minimal changes were made to the 2023 risk indicators, and no changes have been made for the 2024 and 2025 Risk Assessment (Table 29). Information on each risk indicator calculation methodology, thresholds, scores, and weights can be found in Appendix: Risk Assessment Methodology for Public Water Systems.[120]

Table 29: Risk Indicators

Category	2023 – 2025 Risk Indicators
Water Quality	History of *E. coli* Presence

[119] Information on how the initial 19 risk indicators used in 2021 were selected from a list of 129 potential risk indicators is detailed in the October 7, 2020 white paper:
Evaluation of Potential Indicators and Recommendations for Risk Assessment 2.0 for Public Water Systems
https://www.waterboards.ca.gov/safer/docs/e_p_i_recommendations_risk_assessment_2_public_water_systems.pdf

[120] Appendix: Risk Assessment Public Water System Methodology
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025risk-assessment-pws-methodology.pdf

Category	2023 – 2025 Risk Indicators
	Increasing Presence of Water Quality Trends Toward MCL
	Treatment Technique Violations
	Past Presence on the Failing List
	Percentage of Sources Exceeding a MCL
	Constituents of Emerging Concern
Accessibility	Number of Sources
	Absence of Interties
	DWR – Drought & Water Shortage Risk Assessment Results
	Critically Overdrafted Groundwater Basin
	Bottled or Hauled Water Reliance
	Source Capacity Violations
Affordability	Percent of Median Household Income (%MHI)
	Extreme Water Bill
	Household Socioeconomic Burden
TMF Capacity	Operator Certification Violations
	Monitoring and Reporting Violations
	Significant Deficiencies
	Days Cash on Hand
	Operating Ratio
	Net Annual Income

RISK ASSESSMENT RESULTS

The results of the Risk Assessment are presented as a water system's "SAFER Status." The SAFER Status can be one of five options as defined in Table 30. If a water system's SAFER Status is currently Failing, its Risk Assessment result (At-Risk, Potentially At-Risk, Not At-Risk, or Not Assessed) will replace its SAFER Status once the system comes off the Failing list.

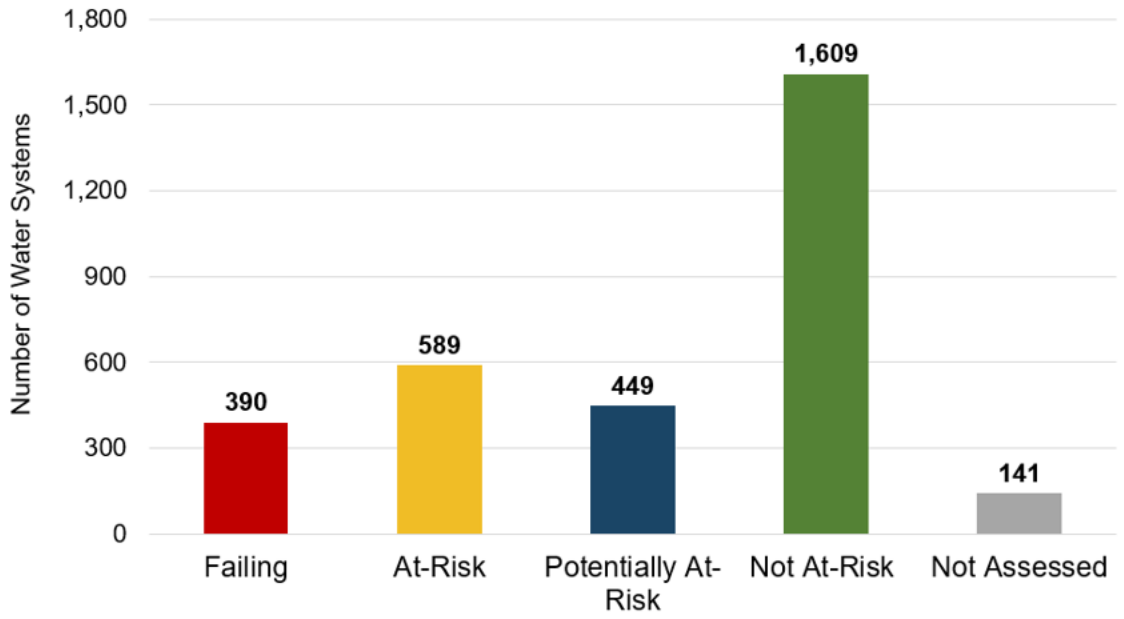
Table 30: SAFER and Risk Assessment Status

Status	About
Failing	Failing water systems are those that are meeting current Failing criteria as defined by the State Water Board.[121]
At-Risk	Water systems at-risk of Failing. The system's risk scores are the highest within the results of the Risk Assessment.
Potentially At-Risk	Water systems potentially at-risk of Failing. The system has accrued risk points within the Risk Assessment, but not enough to be designated At-Risk.
Not At-Risk	Water systems not at-risk of Failing. The system has accrued zero or very little risk points within the Risk Assessment.
Not Assessed	Water systems that are currently not Failing and excluded from the Risk Assessment analysis.

AT-RISK WATER SYSTEMS

The 2025 Risk Assessment was conducted for 3,037 public water systems, including the 390 (13%) Failing systems,[122] 589 (19%) At-Risk water systems, 449 (15%) Potentially At-Risk water systems, and 1,609 (53%) Not At-Risk water systems were identified (Figure 20).[123]

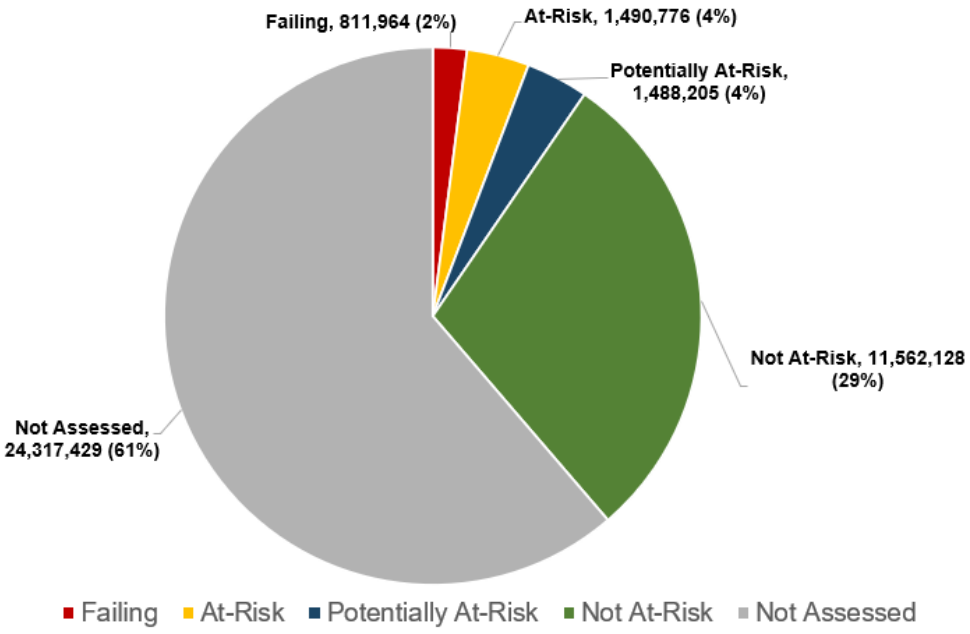
Figure 20: 2025 Risk Assessment Results



[121] Failing Criteria
https://www.waterboards.ca.gov/water_issues/programs/hr2w/docs/hr2w_expanded_criteria.pdf
[122] There were 390 Failing systems on December 31, 2024. The Risk Assessment analysis excludes 89 large Failing water system due to their size.
[123] Attachment: Risk Assessment Results Spreadsheet
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025risk.xlsx

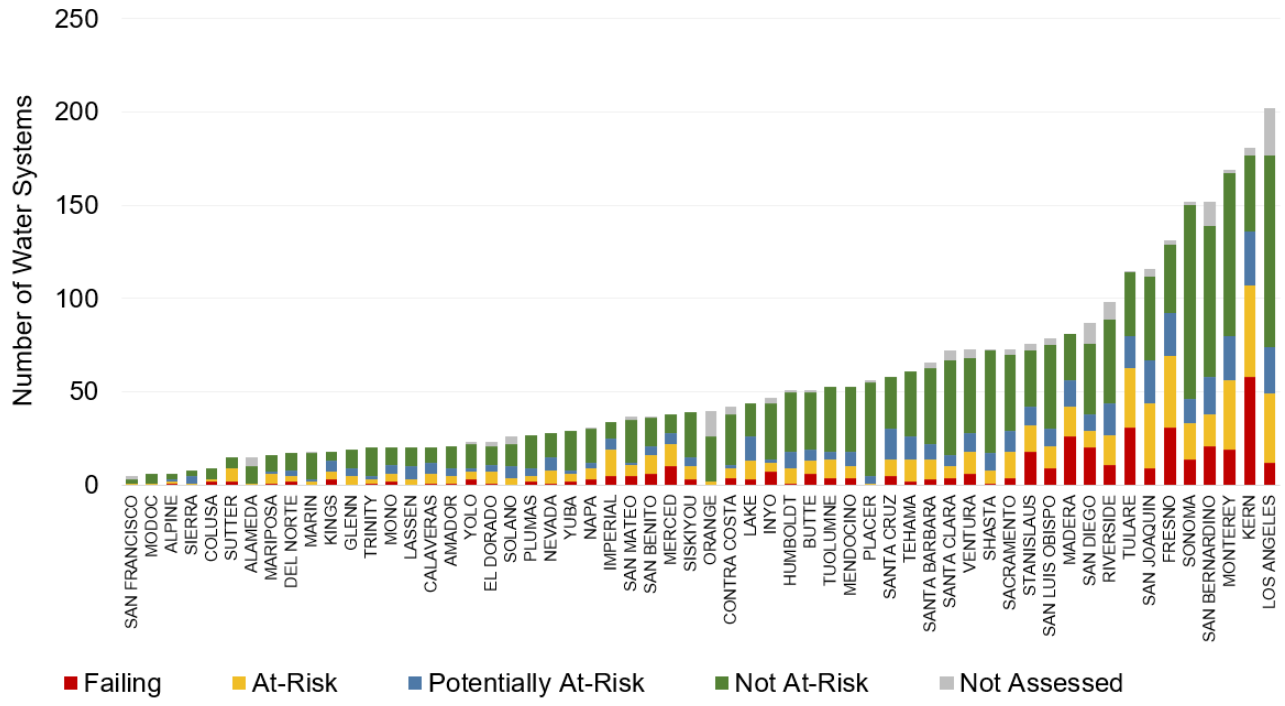
Figure 21 shows the proportion of the population served by water systems in the five SAFER statuses. Not At-Risk water systems serve approximately 29% of the population. At-Risk water systems serve approximately 4% of the population. Potentially At-Risk water systems serve approximately 4% of the population. Failing water systems serve approximately 2% of the population. However, most of the state's population is in water systems that are not assessed, particularly the large water systems (61%).

Figure 21: Population of Communities by SAFER Status for Assessed Water Systems



The distribution of At-Risk and Potentially At-Risk systems also varies substantially across the state, as shown in Figure 22. The largest number of Not At-Risk water systems are in Sonoma County (104), followed by Los Angeles County (103) and Monterey County (87). Kern County has the largest count of Failing Systems (58).

Figure 22: Count of Water Systems by SAFER Status in Each County



RESULTS BY SYSTEM SIZE

The analysis of the Risk Assessment results indicates the majority (83%) of At-Risk water systems are small water systems with 3,300 service connections or less (Table 31).

Table 31: 2024 Failing Status and Risk Assessment Results by Systems Size and Type

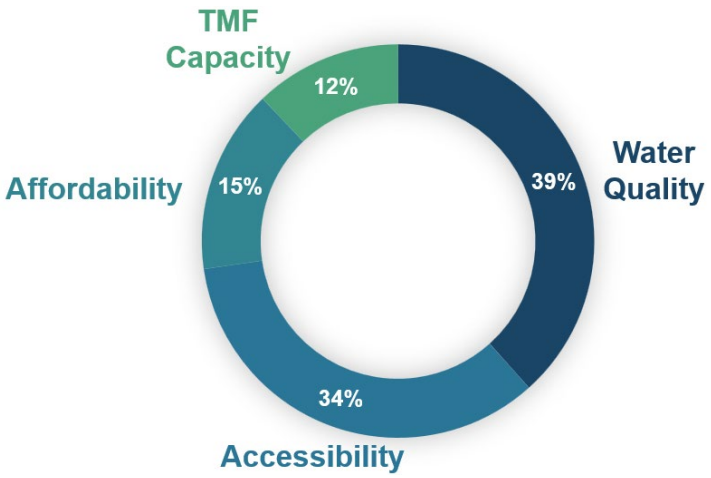
System Type	Small Community Systems	Medium Community Systems	Large Community Systems	Wholesalers	NTNC K-12 Schools
Failing	335 (14%)	13 (4%)	0	0	42 (12%)
At-Risk	484 (21%)	27 (8%)	N/A	N/A	78 (21%)
Potentially At-Risk	372 (16%)	32 (10%)	N/A	N/A	45 (12%)
Not At-Risk	1,165 (49%)	246 (77%)	N/A	N/A	198 (55%)
Not Assessed	0	0	89[124]	52	
TOTAL:	**2,356 (100%)**	**318 (100%)**	**89**	**52**	**363 (100%)**

[124] This count does not include two large-sized wholesaler systems. For purposes of the Risk Assessment, wholesalers are defined as having a primary service area of wholesaler.

RISK DRIVERS

The performance of At-Risk water systems across all individual risk indicators shows that the Water Quality category contributes the most weighted risk points to At-Risk scoring (39%), with Accessibility coming second (34%) and the Affordability (15%) and TMF Capacity (12%) categories contributing distant third and fourth highest shares of risk points (Figure 23).

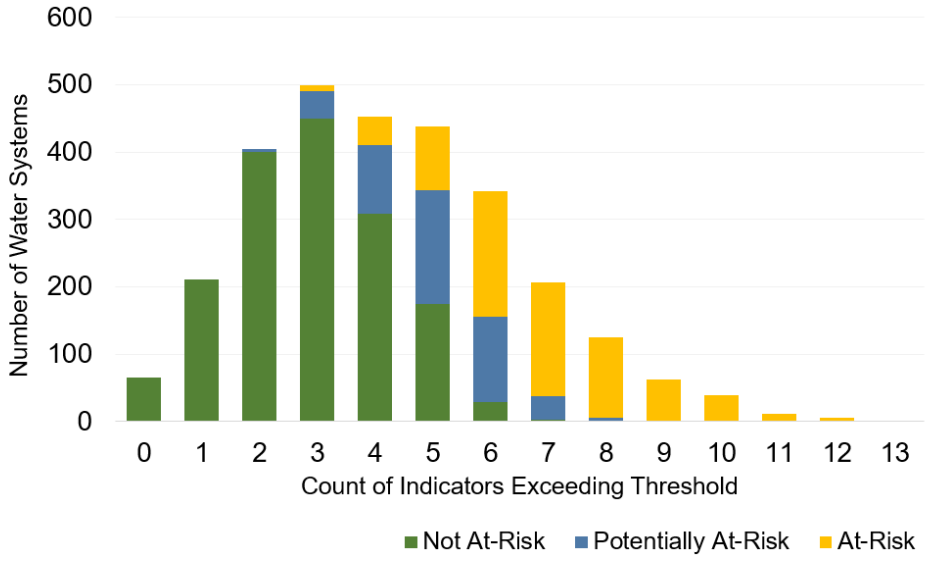
Figure 23: Share of Each Risk Indicator Category in Calculating the Total Risk Score for Systems Meeting At-Risk Threshold (n= 913)[125]



As Figure 24 below shows, all systems classified as At-Risk exceed the threshold of concern for at least three risk indicators, with an average of exceeding seven risk indicator thresholds. All Potentially At-Risk systems exceed the threshold of concern for at least two risk indicators. This means that systems were not designated as At-Risk based on a single risk indicator. Moreover, At-Risk systems tended to have concerns on many more indicators than Not At-Risk systems.

[125] This analysis includes the 589 At-Risk systems and 324 Failing systems that meet the At-Risk threshold in the 2025 Risk Assessment.

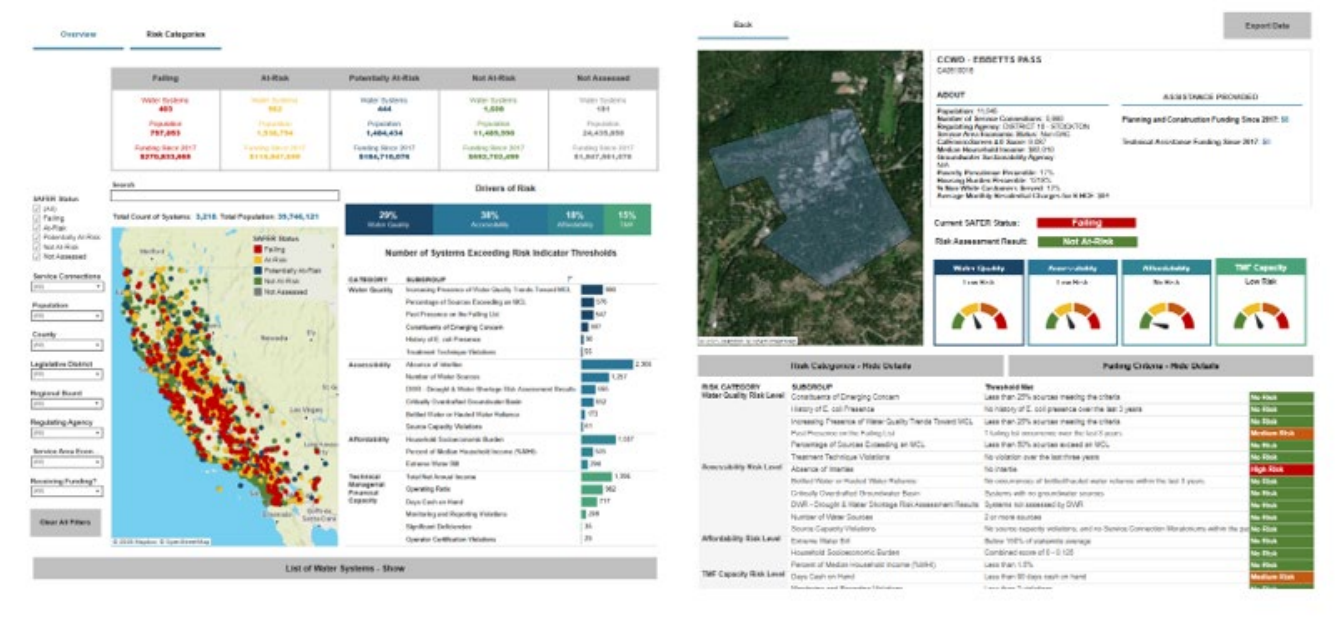
Figure 24: Distribution of the Number of Risk Indicator Thresholds Exceeded by Individual Water Systems According to Their Risk Assessment Result Status (n=2,864)[126]



The results of the Risk Assessment and the current list of Failing water systems are accessible online through the State Water Board's SAFER Dashboard.[127] The SAFER Dashboard updates the Failing list daily and the Risk Assessment results are updated on a quarterly basis with new data as it becomes available. Learn more about the SAFER Dashboard in Appendix: SAFER Dashboard User Guide.[128]

[126] This analysis is based on the Risk Assessment results prior to incorporating in the Failing status of systems. Systems that were automatically At-Risk for meeting the risk thresholds for "Number of Water Sources" and/or "Bottled or Hauled Water Reliance" were excluded from this analysis.
[127] SAFER Dashboard
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/saferdashboard.html
[128] Appendix: SAFER Dashboard User Guide
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/2025-needs/saferdashboardug.pdf

Figure 25: SAFER Dashboard



DEMOGRAPHIC ANALYSIS OF AT-RISK PUBLIC WATER SYSTEMS

Results for the 2025 Risk Assessment for public water systems can be combined with demographic data to better understand the populations that are most at-risk. However, there are several limitations to this demographic analysis. Demographic data is collected at the census tract or block group-level, and current census surveys do not indicate household drinking water source information. Therefore, the demographic information presented in the tables below may not represent the actual population served by water systems. Any interpretation of these results should keep in mind the limitations of the analysis.

Demographic data come from CalEnviroScreen 4.0 and the American Community Survey. CalEnviroScreen 4.0 identifies California communities facing socioeconomic and health-related challenges and a high environmental burden. CalEnviroScreen combines a Population Characteristics Score, which captures social and health vulnerability, and a Pollution Burden Score, which captures exposure to environmental hazards and pollutants to assign each census tract in California. The Population Characteristics and Pollution Burden Scores both range from 0 to 10, with scores of 10 indicating the highest vulnerability to environmental hazards and socioeconomic or health challenges, respectively.[129] The overall score is calculated by multiplying the Population Characteristics and Pollution Burden Scores, where 100 indicates the most vulnerable. Data for poverty, linguistic isolation (percentage of limited English-speaking households), household size, and race/ethnicity, as well as data used to

[129] OEHHA CalEnviroScreen
https://oehha.ca.gov/calenviroscreen

calculated median household income and disadvantaged community status was taken from 2019-2023 5-Year American Community Survey estimates.[130] The socioeconomic analysis was calculated using water service area boundaries and census tract or block group boundaries to determine area-weighted averages. This methodology means that there may be a bias towards demographic data from larger census tracts and block groups that are less populated and more rural.

Table 32 summarizes the findings of the demographic analysis for water systems included in the Risk Assessment. When compared with Not At-Risk water systems, Failing and At-Risk public water systems areas tend to have higher CalEnviroScreen scores, a higher percentage of population in poverty, a higher percentage of limited English-speaking households, and a larger household size. Failing and At-Risk water systems are also more likely to serve disadvantaged and severely disadvantaged communities and majority communities of color.[131]

Table 32: Demographic Analysis for Water Systems of Different SAFER Statuses[132]

	Statewide (all areas)	Not At-Risk	Potentially At-Risk	At-Risk	Failing
Total Count of Systems	**3,037**	**1,609**	**449**	**589**	**390**
Average CalEnviroScreen 4.0 Score (Out of 100, w/ 100 being most impacted by pollution burden)	24.2	20.7	26.5	28.1	30.5
Average CalEnviroScreen 4.0 Population Characteristics Score[133]	4.76	4.37	5.06	5.17	5.37

[130] American Community Survey Data
https://www.census.gov/programs-surveys/acs/data.html

[131] All differences between Failing (and At-Risk) water systems and all water systems assessed are statistically significant at the 95% level, meaning they are unlikely to be due to chance and reflect real demographic differences between Failing and At-Risk water systems and other systems.

[132] CalEnviroScreen 4.0 data are available at the 2019 census tract-level. The other demographic data are available at the block group-level from the 2023 5-Year American Community Survey estimates. To determine the average demographic estimates for each water system, the water service area boundaries are used to calculate area-weighted census tract-level estimates for the CalEnviroScreen 4.0 data, and area-weighted block group-level estimates for the American Community Survey data. More information on the area-weighted methodology can be found in the Appendix: GIS Methodology for Calculating Data (https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/2025-needs/general-gis-methodology.pdf).

[133] Population Characteristics for each census tract are derived from the average percentiles for 3 sensitive populations indicators (asthma, cardiovascular disease, and low birth weight) and 5 socioeconomic factors indicators (educational attainment, housing-burdened low-income households, linguistic isolation, poverty, and unemployment). For more information, see the CalEnviroScreen 4.0 Report (https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40).

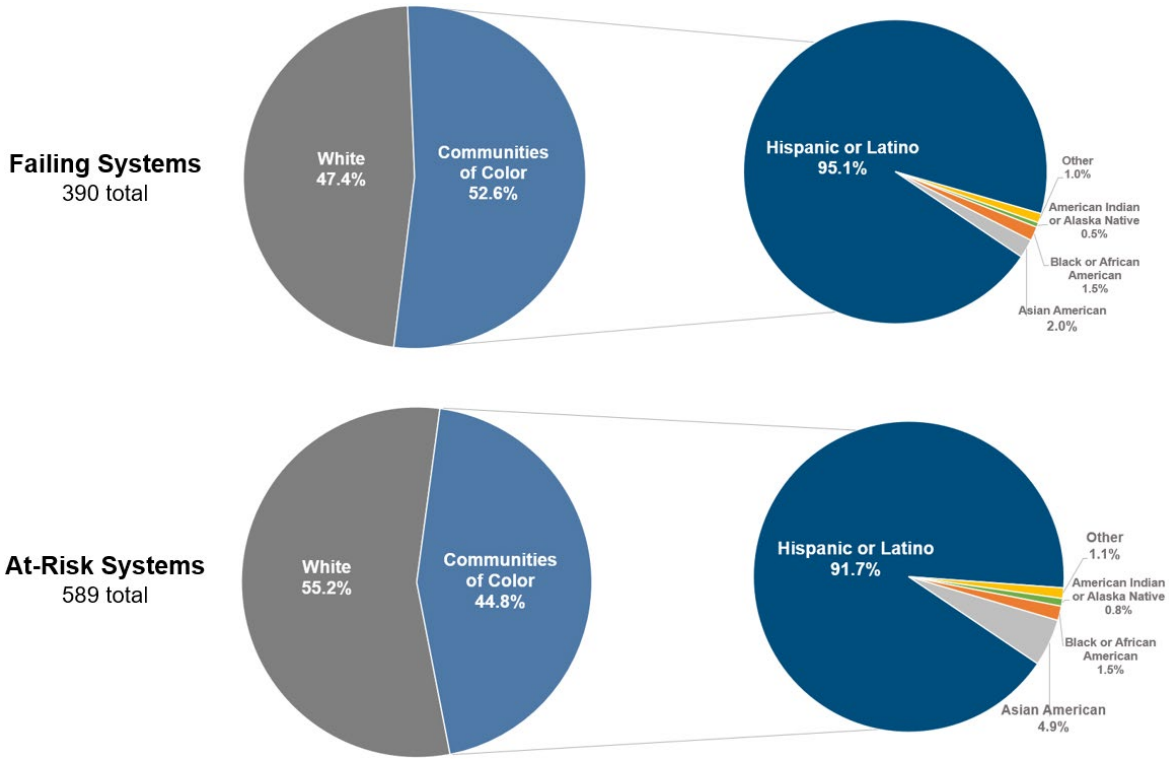
	Statewide (all areas)	Not At-Risk	Potentially At-Risk	At-Risk	Failing
(Out of 10, w/ 10 being most vulnerable)					
Average CalEnviroScreen 4.0 Pollution Burden Score[134] (Out of 10, w/ 10 being most pollution burden)	4.85	4.56	5.00	5.14	5.41
Average percentage of the population living below twice the federal poverty level	29.9%	25.3%	33.7%	35.3%	36.0%
Average percentage of households with limited English speaking (linguistically isolated)	5.3%	3.7 %	6.1%	6.9 %	8.1 %
Average household size[135]	2.8	2.7	2.8	2.9	3.0
Percentage serving Disadvantaged or Severely Disadvantaged Communities[136]	68.1% (2,067)	59.5% (958)	75.7% (340)	78.3% (461)	79.0% (308)
Percentage serving majority communities of color	37.2%	29.5%	41.4%	44.8%	52.6%

[134] The Pollution Burden score for each census tract combines 7 pollution exposure indicators (ozone/PM2.5 concentrations, diesel particulate matter emissions, drinking water contaminants, children's lead risk from housing, pesticide use, toxic releases from facilities, and traffic density) and 5 environmental effects indicators (cleanup sites, impaired water bodies, groundwater threats, hazardous waste facilities and generators, and solid waste sites and facilities). The score ranges from 0.1-10 with 10 being the most pollution burden. For more information, see the CalEnviroScreen 4.0 Report (https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40). The average pollution burden score for each water system is calculated as the area-weighted average of census tract-level scores. More information on the area-weighed methodology can be found in the Appendix: GIS Methodology for Calculating Data (https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/2025-needs/general-gis-methodology.pdf)

[135] Block groups that had 0 households (154 out of 25,607 total block groups) were not included in the average.

[136] Disadvantaged community water systems have a median household income less than 80% of the California median household income (< $77,067) and severely disadvantaged systems have an MHI less than 60% of the statewide average (< $57,800).

Figure 26: Distribution of Failing and At-Risk Public Water Systems by Majority Race/Ethnicity of Block Group



RISK ASSESSMENT TRENDS ANALYSIS

SAFER STATUS TRENDS

Figure 27 and Table 33 provide a comparison of how the SAFER Status of water systems has changed from 2021 through 2025 assessment. It is important to note that the Risk criteria as well as data collection has evolved since 2021, which affects the changes in the analysis results over time. The most significant changes in the Risk Assessment were observed between 2021 and 2022, primarily due to substantial revisions in risk indicators used and adjustments to risk thresholds. Additionally, in 2022, the inventory of assessed systems was expanded to include medium-sized community water systems. Between 2022 and 2023, there was a major update in Affordability category indicators, along with adjustments to the calculation methodology for several indicators. Another notable change took place between 2023 and 2024, driven by improved data collection related to bottled and/or hauled water reliance.

Figure 27: Count of Water Systems Grouped by SAFER Status (2021-2025)

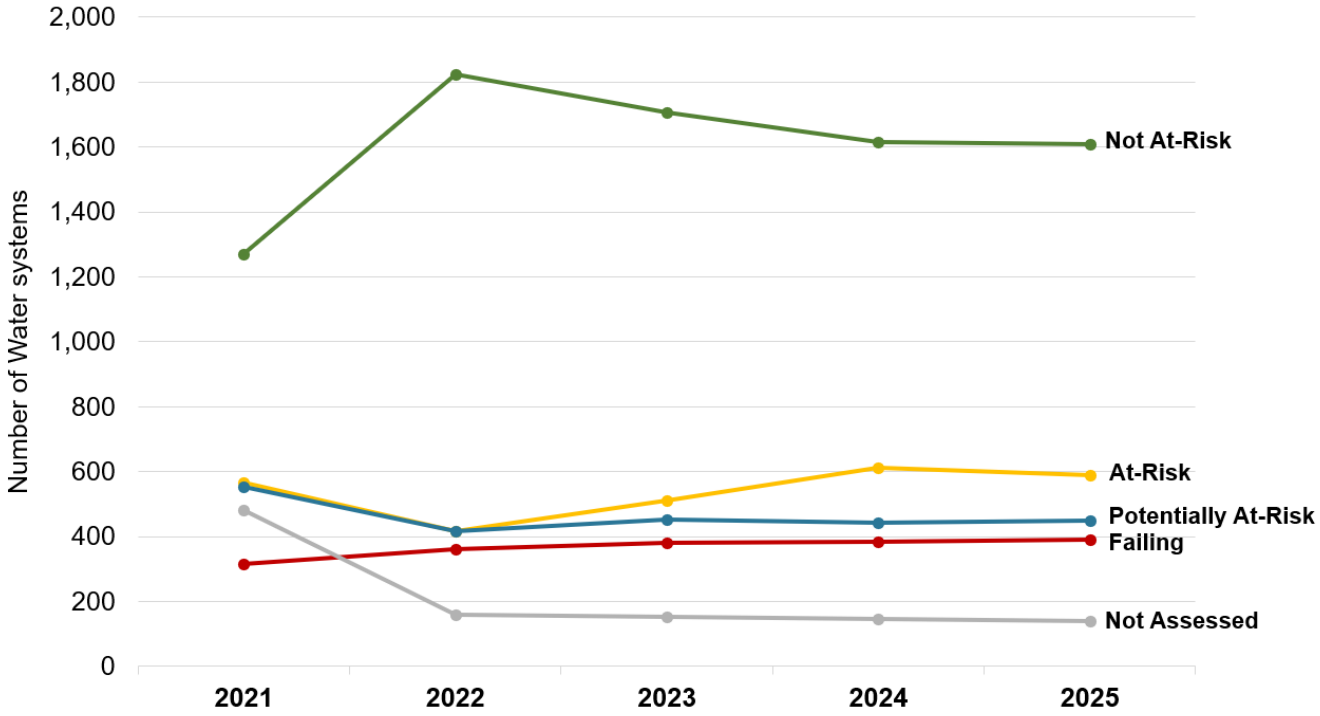


Table 33: SAFER Status (2021-2025)

System Type	2021	2022	2023	2024	2025
Failing	316	361	381	384	390
At-Risk	567	415	512	613	589
Potentially At-Risk	553	416	453	442	449
Not At-Risk	1,271	1,825	1,707	1,616	1,609
Not Assessed[137]	481	160	154	145	141
TOTAL:	**3,188**	**3,177**	**3,207**	**3,200**	**3,178**

RISK ASSESSMENT CATEGORY PERFORMANCE TRENDS

A comparison of water system performance in each risk category was conducted for all five years that the Risk Assessment has been conducted (Figure 28). The largest shifts in water system performance across the Risk Assessment categories occurred between the 2021 and 2022 Risk Assessments across all four categories and in 2023 in the Affordability category. It

[137] "Not Assessed" includes in 2021, wholesalers and community water systems with greater than 3,300 service connections; in 2022, 2023, and 2024, wholesalers and community water systems with greater than 30,000 service connections or 100,000 population served.

is important to note that these shifts in category scores were largely driven by changes in the Risk Assessment's methodology[138] and did not reflect a shift in actual water system performance. From 2023 to 2025, there were no changes to the Risk Assessment methodology, only improvements in data sources and quality. Performance across the Risk Assessment categories remained relatively stable since 2023.

Figure 28: Average Risk Scores per Category in 2021-2025 Risk Assessment

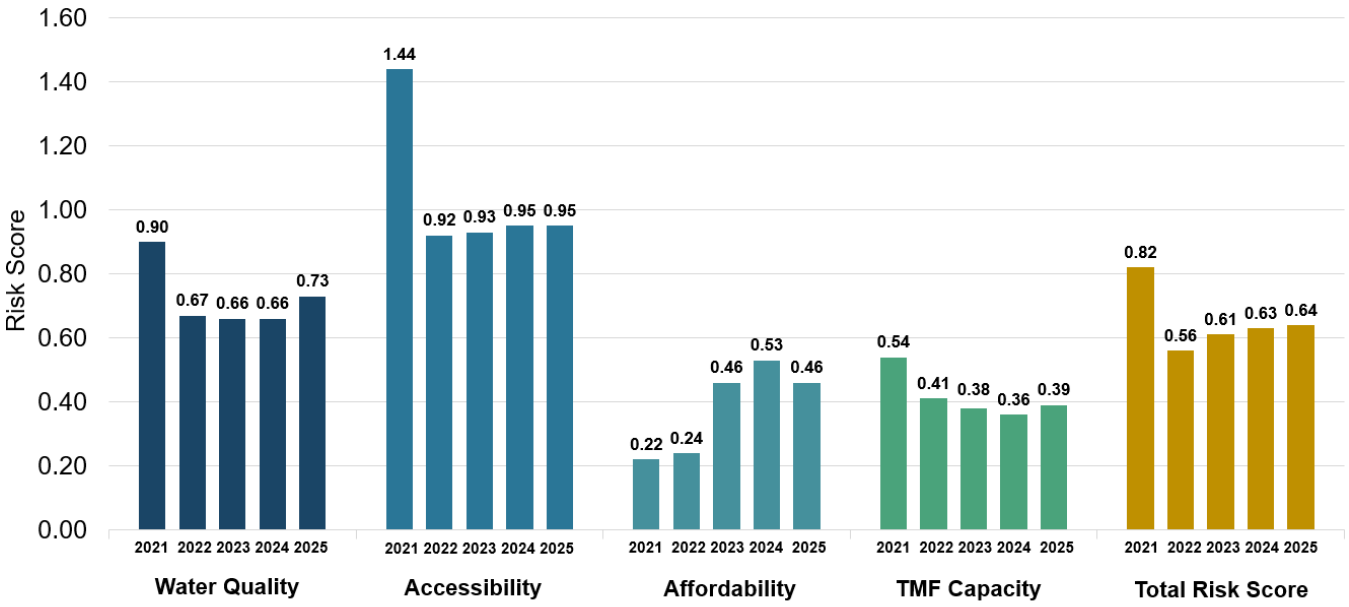


Table 34 display the changes in risk scoring that occurred per risk category for the 3,008 water systems assessed in both the2024 and 2025 Assessments. At individual risk categories, a majority of water systems didn't experience any change in risk scores. However, 41% of systems showed an overall increase in their total risk score, slightly more than those that experienced a decrease (38%); and 21% of systems showed no change in their overall total risk scores. The category that showed the greatest increase in risk scores was TMF Capacity (22%), followed by Affordability (18%). The greatest decrease was also in Affordability (27%).

[138] In 2022, the State Water Board removed five of the risk indicators used in the 2021 Risk Assessment and added eight new risk indicators. Additional modifications included enhancements to how existing risk indicators were calculated. These changes led to a reduction in category risk scores for most water systems in the Risk Assessment. In 2023, the State Water Board added a new Affordability category risk indicator: Household Socioeconomic Burden. The addition of the new risk indicator added *new* risk scores for 947 water systems that historically had been excluded from the Affordability category because they did not charge customers directly for water.

Table 34: Changes in Risk Scores by Category: 2024 vs. 2025 Risk Assessment[139]

Changes in Risk Scores	Water Quality	Accessibility	Affordability	TMF Capacity	Total Score
# Systems **risk score unchanged**	2,177 (72%)	2,117 (70%)	1,655 (55%)	1,849 (61%)	**630 (21%)**
# Systems **risk score increased**	490 (16%)	446 (15%)	556 (18%)	660 (22%)	**1,226 (41%)**
# Systems **risk score decreased**	341 (11%)	445 (15%)	797 (27%)	499 (17%)	**1,152 (38%)**
TOTAL:	**3,008**	**3,008**	**3,008**	**3,008**	**3,008**

[139] This analysis only includes 3,008 systems that were assessed in *both* the 2024 and 2025 Risk Assessments.

RISK ASSESSMENT RESULTS FOR STATE SMALL WATER SYSTEMS & DOMESTIC WELLS

OVERVIEW

Figure 29: Categories of Risk

The Risk Assessment for state small water systems and domestic wells is focused on identifying areas where groundwater is at high-risk of containing contaminants that exceed safe drinking water standards, is at high-risk of water shortage, and where there is high socioeconomic risk. This information is presented as an online dashboard.[140] Water quality risk data is from the State Water Board's Aquifer Risk Map,[141] water shortage risk data is from the Department of Water Resources (DWR) Water Shortage Vulnerability Tool for Self-Supplied Communities,[142] and socioeconomic risk data was developed by the Office of Environmental Health Hazard Assessment. Previous work is available on the State Water Board's Needs Assessment webpage.[143]

[140] State Small Water System and Domestic Well Risk Assessment Dashboard https://gispublic.waterboards.ca.gov/portal/apps/experiencebuilder/experience/?id=ece2b3ca1f66401d9ae4bfce2e6a0403

[141] Aquifer Risk Map Webtool https://gispublic.waterboards.ca.gov/portal/apps/experiencebuilder/experience/?id=18c7d253f0a44fd2a5c7bcfb42cc158d

[142] Water Shortage Vulnerability for Self-Supplied Communities https://experience.arcgis.com/experience/ae1b4e3e41004f07b4901a7a3fa50637/

[143] Drinking Water Needs Assessment https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/needs.html

RISK CATEGORY DATA

The State Water Board has limited water quality, water shortage, and location data for state small water systems and domestic wells, as these systems are not regulated by the state, nor are maximum contaminant levels directly applicable to domestic wells.[144] Due to the lack of data from actual state small water systems and domestic wells, it is difficult to precisely determine the count of state small water systems and domestic wells that are At-Risk.

Water Quality

The risk analysis in the Water Quality category uses groundwater quality data in the square mile sections immediately surrounding or next to the location of the state small water systems and domestic wells to identify where shallow groundwater quality may exceed primary drinking water standards, notification or action levels. *These data do not directly assess the compliance of state small water systems and domestic wells with state or federal water quality standards.* As a result, the presence of a given state small water system or domestic well within an "At-Risk" area does not signify that they are known to be accessing groundwater with contaminants above drinking water standards.

Water Shortage

The risk analysis in the Water Shortage category, conducted by DWR, includes a suite of risk indicators that identify areas where state small water systems and domestic wells may experience water shortage issues.[145] The risk indicators utilize modeled data and observed data to assess the risk of water shortages. As a result, the presence of a given state small water system or domestic well within an "At-Risk" area does not signify that the well has gone dry or is currently experiencing water shortage problems.

Socioeconomic Risk

The Socioeconomic Risk is based on county and census data, which does not differentiate state small water system and domestic well-reliant communities from the county, census tract or block group boundaries. Therefore, the socioeconomic risk of an area may not represent the socioeconomic risk of individual homes or communities.

Physical monitoring and testing of state small water systems and individual domestic wells is needed to determine if those systems are unable to access safe drinking water. The State Water Board will continue to coordinate and support counties in their data collection, management, and sharing so that the Risk Assessment can improve its accuracy over time.

RISK ASSESSMENT METHODOLOGY

The three risk categories (water quality, water shortage, and socioeconomic risk) are combined following a similar methodology as the Risk Assessment for public water systems[146].

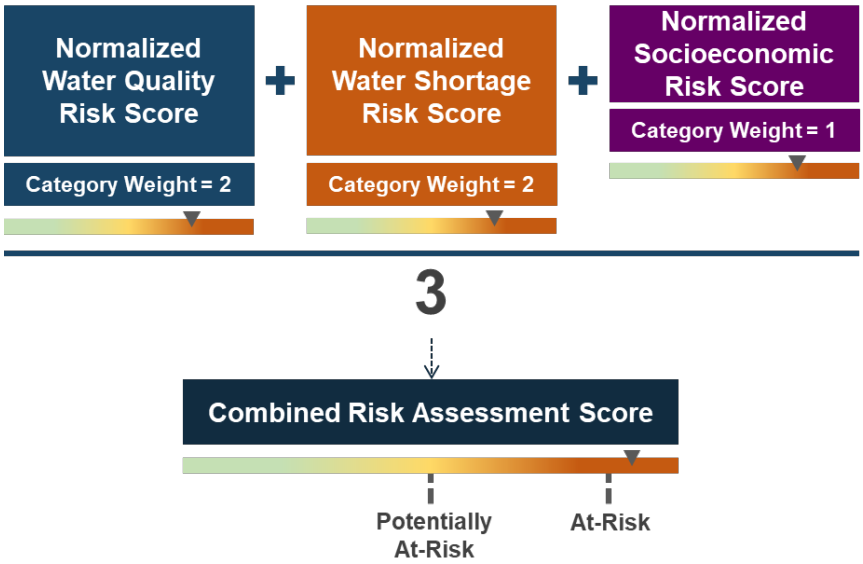
[144] State small water systems are typically required to conduct minimal monitoring. If water quality exceeds an MCL, corrective action is required only if specified by the Local Health Officer. State small water systems provide an annual notification to customers indicating the water is not monitored to the same extent as public water systems.

[145] Water Shortage Vulnerability Tool for Self-Supplied Communities
https://experience.arcgis.com/experience/ae1b4e3e41004f07b4901a7a3fa50637/

[146] Appendix: Risk Assessment Public Water System Methodology

Data from each category is normalized into four scores based on thresholds. The final combined risk score is calculated per square mile section. The score is calculated by multiplying the normalized category scores by the category weights, adding the weighted scores for all three categories, and dividing by the number of categories with data. The final risk score is binned into three groups: “At-Risk,” “Potentially At-Risk,” and “Not At-Risk.” Any area that serves a state small water systems or a domestic well with a high score in two or more categories is always designated “At-Risk” and any area with a high score in either the water quality or water shortage categories is designated “At-Risk” or “Potentially At-Risk.”

Figure 30: Risk Assessment Methodology



The risk designation per square mile section is assigned to all state small water systems and domestic wells within that section. Location data for state small water systems were provided to the State Water Board through county reporting required through SB 200. Location data for domestic wells were sourced from the Online System for Well Completion Records[147] (managed by DWR) and consist of “domestic” type well records, excluding those drilled prior to 1970 and only including “New/Production or Monitoring/NA” completion record types. Combined risk scores are calculated for all areas of the state, but the Risk Assessment is only intended for areas with a state small water system or domestic well record. The online webtool includes a filter that only shows the risk scores for areas of the state with at least one domestic well or state small water system, although the data for all areas are available to download.

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025risk-assessment-pws-methodology.pdf

[147] Department of Water Resources OSWCR database
https://services.arcgis.com/aa38u6OgfNoCkTJ6/arcgis/rest/services/i07_WellCompletionReports_Exported_v2_gdb/FeatureServer

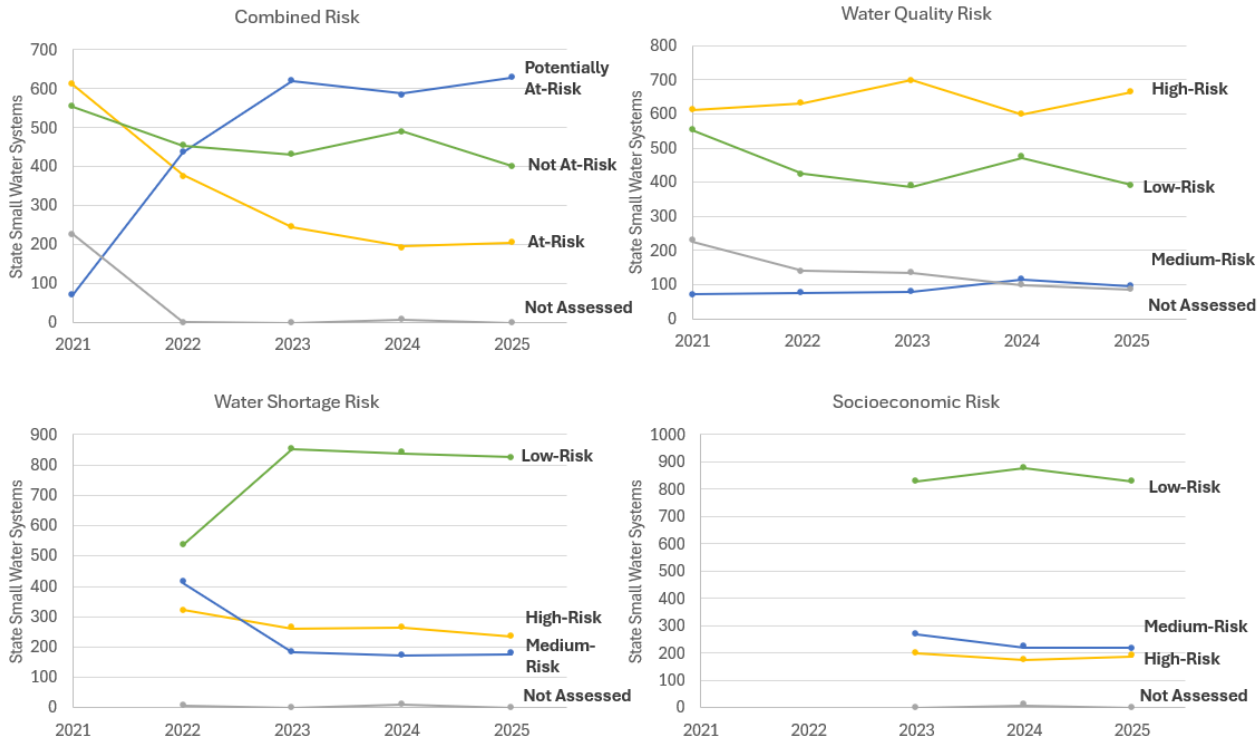
RISK ASSESSMENT RESULTS

Table 35 shows the approximate counts of state small water systems and domestic wells statewide located in different risk areas based on data from the 2025 Risk Assessment. Figure 31 and Table 36 show the state small water system Risk Assessment results over time. Figure 32 and Table 37 show the domestic well Risk Assessment results over time.[148]

Table 35: State Small Water System and Domestic Well Results (Statewide)

Systems	At-Risk	Potentially At-Risk	Not At-Risk	Total
State Small Water Systems	205 (16.6%)	629 (50.9%)	401 (32.5%)	1,235
Domestic Wells	93,028 (31.1%)	101,090 (33.8%)	104,597 (35.0%)	298,715

Figure 31: State Small Water System Risk Assessment Results 2021-2025



[148] 2025 State Small Water System and Domestic Wells Risk Assessment included five additional contaminants in the Water Quality Risk category – hexavalent chromium, perfluorohexane sulfonic acid (PFHxS), perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), and perfluorobutane sulfonic acid (PFBS). These contaminants were not included in 2024 State Small Water System and Domestic Wells Risk Assessment.

Table 36: State Small Water System Risk Assessment Results 2021-2025

State Small Water Systems	2021	2022	2023	2024	2025
Combined Risk					
At-Risk	611	378	245	195	205
Potentially At-Risk	71	438	620	588	629
Not At-Risk	554	455	432	490	401
Not Assessed	227	2	0	9	0
Water Quality Risk					
High-Risk	611	631	699	597	665
Medium-Risk	71	75	78	115	95
Low-Risk	554	426	387	472	391
Not Assessed	227	141	133	98	84
Water Shortage Risk					
High-Risk	N/A[149]	321	261	263	234
Medium-Risk	N/A	411	183	173	176
Low-Risk	N/A	535	853	837	825
Not Assessed	N/A	6	0	9	0
Socioeconomic Risk					
High-Risk	N/A[150]	N/A	198	174	189
Medium-Risk	N/A	N/A	269	220	218
Low-Risk	N/A	N/A	830	879	828
Not Assessed	N/A	N/A	0	9	0

[149] Water Shortage data was not included as a risk indicator in the 2021 Risk Assessment.
[150] Socioeconomic Risk data was not included as a risk indicator in the 2021 or 2022 Risk Assessments.

Figure 32: Domestic Well Risk Assessment Results (2021-2025)

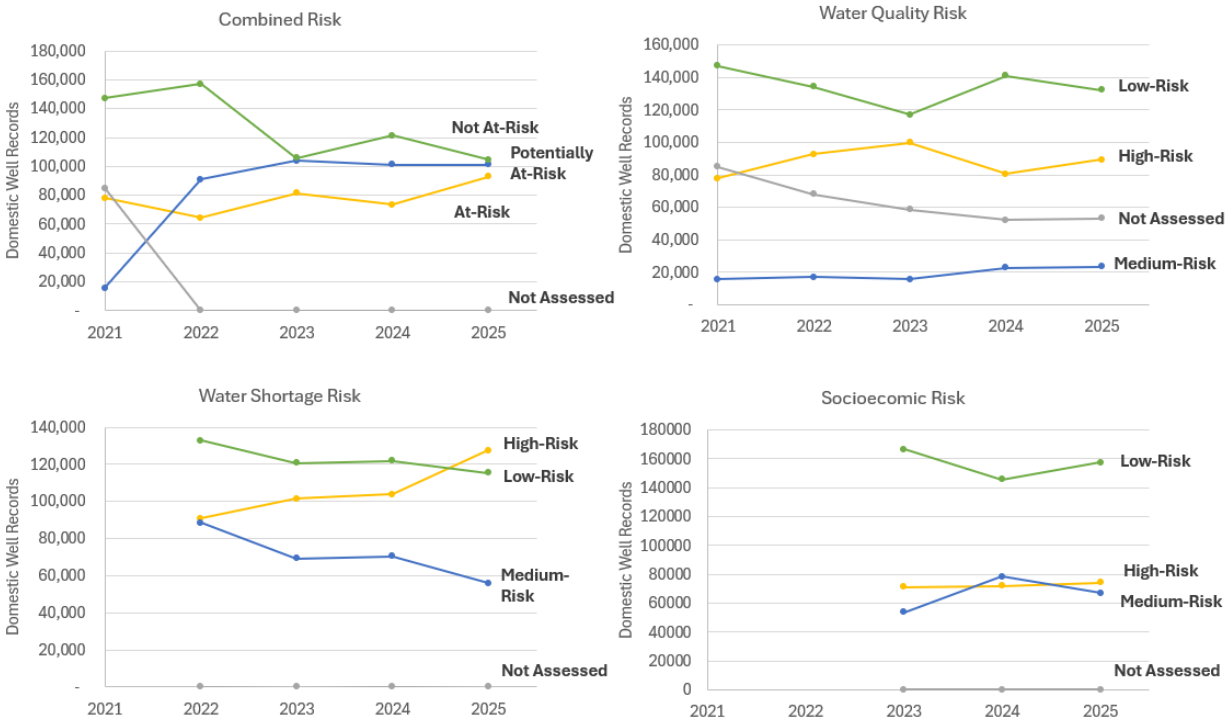


Table 37: Domestic Well Risk Assessment Results (2021-2025)

Domestic Wells	2021	2022	2023	2024	2025
Combined Risk					
At-Risk	77,973	64,176	81,588	73,431	93,028
Potentially At-Risk	15,791	90,840	103,986	101,325	101,090
Not At-Risk	147,185	157,146	105,827	121,527	104,597
Not Assessed	84,800	25	0	0	0
Water Quality Risk					
High-Risk	77,973	92,635	99,814	80,517	89,523
Medium-Risk	15,791	17,078	15,869	22,691	23,604
Low-Risk	147,185	134,282	117,028	140,962	132,317
Not Assessed	84,800	68,192	58,690	52,113	53,271
Water Shortage Risk					
High-Risk	N/A[151]	90,974	101,393	103,954	127,425
Medium-Risk	N/A	88,340	69,245	70,350	55,864
Low-Risk	N/A	132,709	120,763	121,888	115,426
Not Assessed	N/A	164	0	91	0
Socioeconomic Risk					
High-Risk	N/A[152]	N/A	71,156	72,000	74,283
Medium-Risk	N/A	N/A	53,734	78,628	66,989
Low-Risk	N/A	N/A	166,511	145,655	157,443
Not Assessed	N/A	N/A	00	00	00

Figure 33 is a map that shows the combined risk for areas of the state with a state small water system or domestic well. To view this spatial data in more detail, and to see the state small water system and domestic well risk counts summarized by county, please refer to the 2025 Risk Assessment – State Small Water System and Domestic Well Dashboard.[153]

[151] Water Shortage data was not included as a risk indicator in the 2021 Risk Assessment.
[152] Socioeconomic Risk data was not included as a risk indicator in the 2021 or 2022 Risk Assessments.
[153] State Small Water System and Domestic Well Risk Assessment Dashboard https://gispublic.waterboards.ca.gov/portal/apps/experiencebuilder/experience/?id=ece2b3ca1f66401d9ae4bfce2e6a0403

Figure 33: Risk Assessment - State Small Water Systems and Domestic Well Dashboard

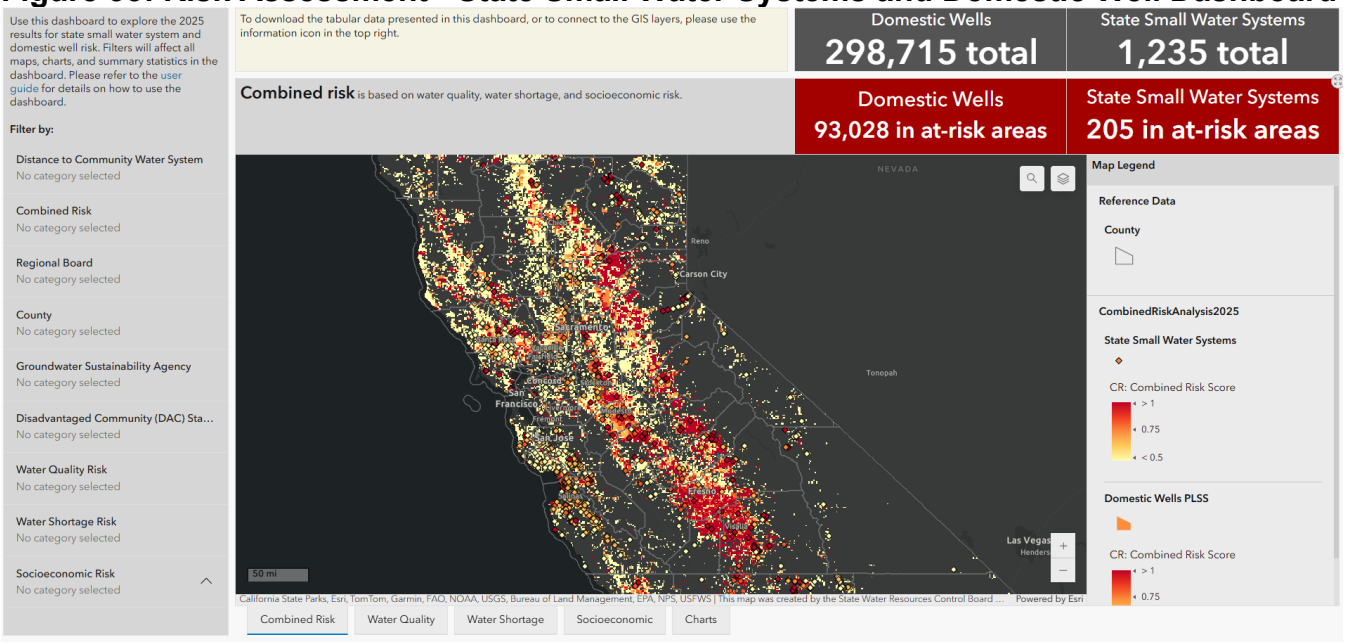
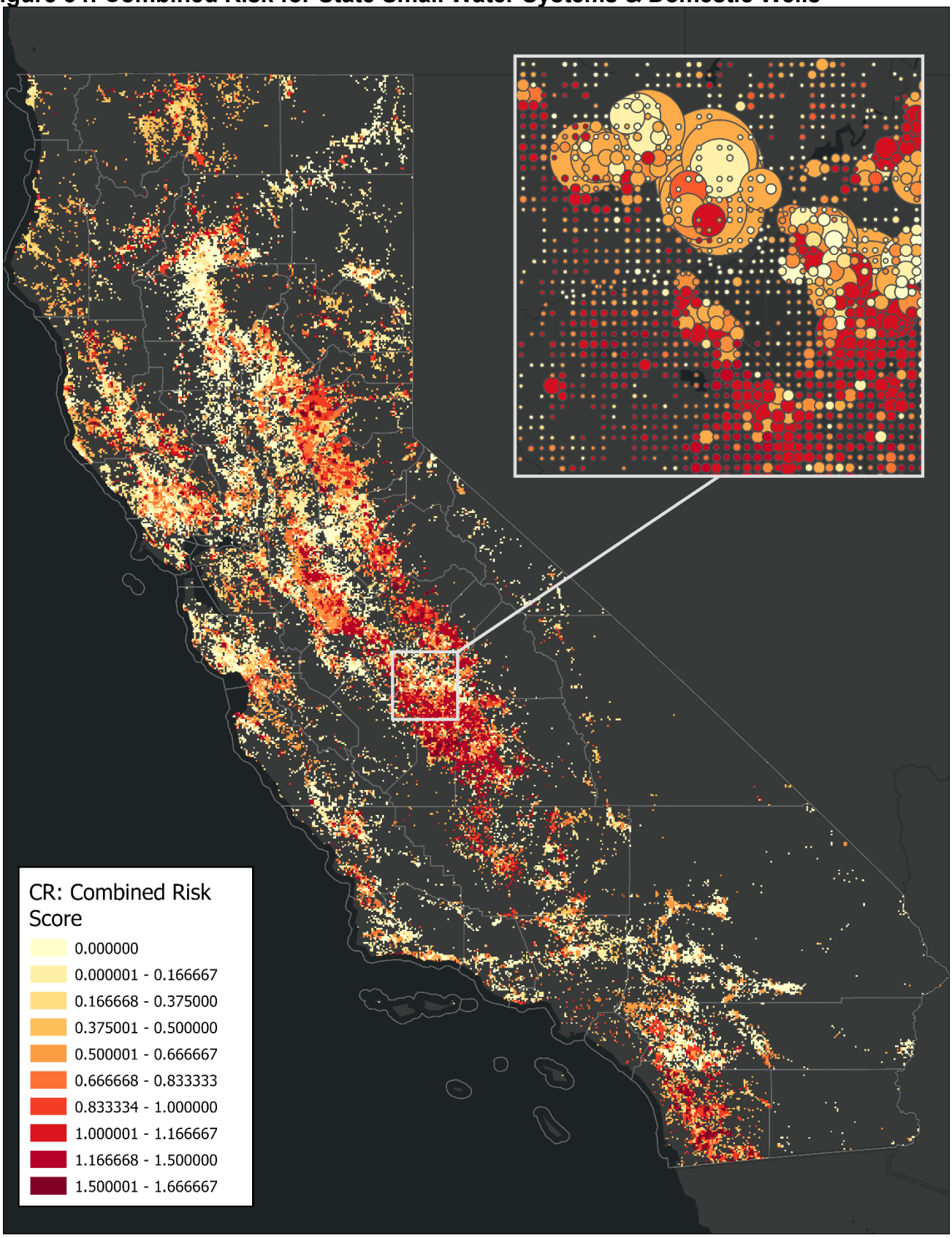


Figure 34: Combined Risk for State Small Water Systems & Domestic Wells



COMBINED RISK ANALYSIS

Areas of highest combined risk are located in the Southern San Joaquin Valley, parts of the western Sierra Nevada foothills, and parts of San Diego County. The counties with the highest number of domestic wells in At-Risk areas are Nevada, Fresno, El Dorado, and San Diego counties. The counties with the highest number of state small water systems in At-Risk areas are Kern, Tulare and Monterey counties.

Approximately 18,546 At-Risk domestic wells (20% of At-Risk domestic wells) and 55 At-Risk state small water systems (27% of At-Risk state small water systems) are located within the boundary of a community water system. A further 33,547 At-Risk domestic wells and 91 At-Risk state small water systems are located within one mile of a community water system boundary.

Table 38: Distance of At-Risk Systems to Nearest Community Water System

Distance to Nearest Community Water System	At-Risk State Small Water Systems	At-Risk Domestic Wells[154]
Within boundary	55 (27%)	18,546 (20%)
< 0.38 miles	56 (27%)	14,497 (16%)
0.38 - 1 mile	35 (17%)	19,050 (20%)
1 – 3 miles	37 (18%)	26,710 (29%)
> 3 miles	22 (11%)	14,225 (15%)
TOTAL:	**205**	**93,028**

WATER QUALITY RISK ANALYSIS

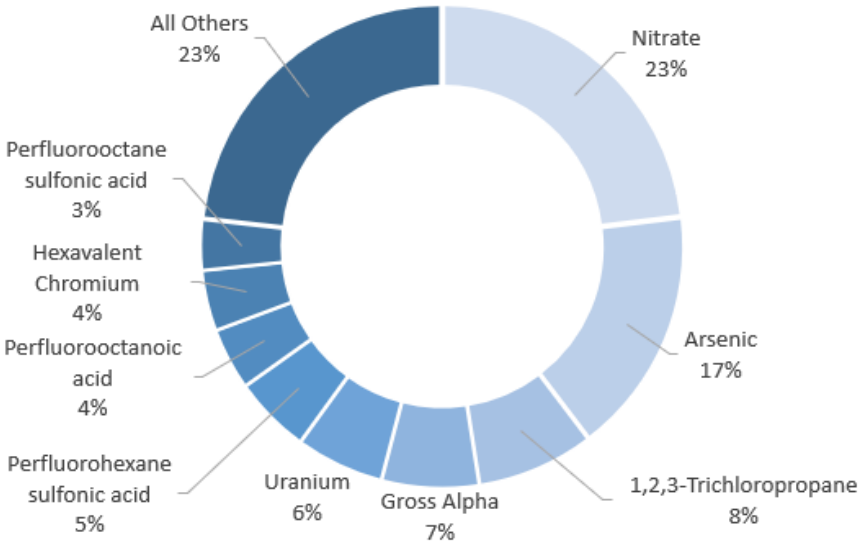
Central Valley contains the most areas at high water quality risk. The counties with the highest number of domestic wells in high water quality risk areas include Fresno, Sonoma, San Joaquin and Tulare counties. The counties with the highest number of state small water systems in high water quality risk areas include Monterey, Riverside, Kern and Santa Clara counties.

Statewide, the top contaminants that contributed to higher risk designations in domestic wells and state small water systems are nitrate, arsenic, 1,2,3-trichloropropane, gross alpha, and uranium, perfluorohexane sulfonic acid (PFHxS), perfluorooctanoic acid (PFOA), hexavalent chromium, and perfluorooctane sulfonic acid (PFOS). Figure 35 shows the proportion of domestic wells in high water quality risk areas where the contaminant may exceed drinking water standards. Note that multiple contaminants may exceed drinking water standards at a single location.

[154] Percentage represents the domestic wells in At-Risk areas that meet the distance criteria compared to the total number of domestic wells in At-Risk areas. To determine the distance of domestic wells to community water systems, the centroid of each PLSS section was used as a reference point for all domestic well records in that section, as the exact location of domestic well records within each PLSS section is not known.

The number of domestic wells and state small water systems in high water quality risk areas increased from 2024 to 2025. The main contributing factor to this increase was a methodology change that included five additional contaminants in the Risk Assessment – hexavalent chromium, perfluorohexane sulfonic acid (PFHxS), perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), and perfluorobutane sulfonic acid (PFBS). Perfluorononanoic acid (PFNA) and hexafluoropropylene oxide-dimer acid (HFPO-DA) may be included in future assessments.

Figure 35: Constituents Contributing to Shallow Water Quality Risk



WATER SHORTAGE RISK ANALYSIS

Areas of high water shortage risk are concentrated in the Southern San Joaquin Valley and in the fractured rock areas of the western Sierra foothills. The counties with the highest number of domestic wells in areas of high water shortage risk are Fresno, Nevada, Placer, Madera, and El Dorado. The counties with the highest number of state small water systems in areas of high water shortage risk are Tulare, Monterey, Plumas, and Kern.

The number of domestic wells in high water shortage risk areas increased from 2024 to 2025. The methodology for DWR's Water Shortage Vulnerability Tool was updated during this time, including a data refresh and a change to the precision of final risk scores. Results from the tool show increased water shortage risk in the Nevada County, El Dorado County, and Placer County areas, which also contain very high domestic well density, contributing to the increase in the count of domestic wells in high water shortage risk areas.

High water shortage risk areas are highly correlated with reported dry wells. Of the dry well reports[155] made to the Department of Water Resources within the past year, 78% are located

[155] Households report well outages or issues to the Department of Water Resources through the Dry Well Reporting System (https://mydrywatersupply.water.ca.gov/report/)

within an area with high water shortage risk. 15% of reports are located within medium water shortage risk areas, and 6% of reports are located within low water shortage risk areas.

Over half of communities served by domestic wells with high water shortage risk are within the boundary of or within one mile of an existing community water system. Over two-thirds of communities served by a state small water system with high water shortage risk are within the boundary of or within one mile or an existing community water system. Distance to existing community water systems is an important factor when considering water shortage risk because after a well has gone dry it can take a considerable amount of time for a long-term solution to be implemented.

Table 39: High Water Shortage Risk Areas Distance to a Nearby Community Water System

Distance to Nearest Community Water System	State Small Water Systems with High Water Shortage Risk	Domestic Wells with High Water Shortage Risk
Within boundary	44 (19%)	23,524 (18%)
< 0.38 miles	75 (32%)	19,383 (15%)
0.38 - 1 mile	44 (19%)	26,687 (21%)
1 – 3 miles	49 (21%)	37,979 (30%)
> 3 miles	22 (9%)	19,852 (16%)
TOTAL:	**234**	**127,425**

SOCIOECONOMIC RISK ANALYSIS

For socioeconomic scores assigned at the county level (*e.g.* testing requirements, testing type, testing impact, monitoring programs, administrative services, website quality, funding resources, replacement well cost and average number of wells per driller), higher average county scores do not always correlate with higher domestic well counts. For example, the counties with the highest number of domestic well records (Fresno and Nevada counties) have extremely different county risk scores. Fresno County has one of the lowest county scores, while Nevada County has the highest. Some of the counties with the lowest number of domestic wells also have some of the highest county risk scores (Alameda, Humboldt, Contra Costa, Orange counties), while some counties with moderate numbers of domestic wells have very low county risk scores (San Joaquin, Tulare, San Bernardino).

The Central Valley has relatively low socioeconomic risk scores, which could be because the county-level quality and administrative capacity indicator scores for the Central Valley are lower, indicating that many of these counties have more robust support for domestic wells than others.[156] This lowers the overall socioeconomic risk scores in the Central Valley, even in areas with high census-level socioeconomic indicator scores. The counties with the highest number of domestic wells in areas of high socioeconomic risk are Nevada, El Dorado, San Diego, and

[156] County Risk Indicator Analysis
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2023prelimcountydata.xlsx

Siskiyou. The counties with the highest number of state small water systems in areas of high socioeconomic risk are Plumas, Kern, El Dorado, and Siskiyou.

Disadvantaged community status is associated with higher socioeconomic risk. Among domestic wells in areas with high socioeconomic risk, 52% are located in disadvantaged or severely disadvantaged communities. In areas with low socioeconomic risk, 37% of domestic wells are in disadvantaged or severely disadvantaged communities.

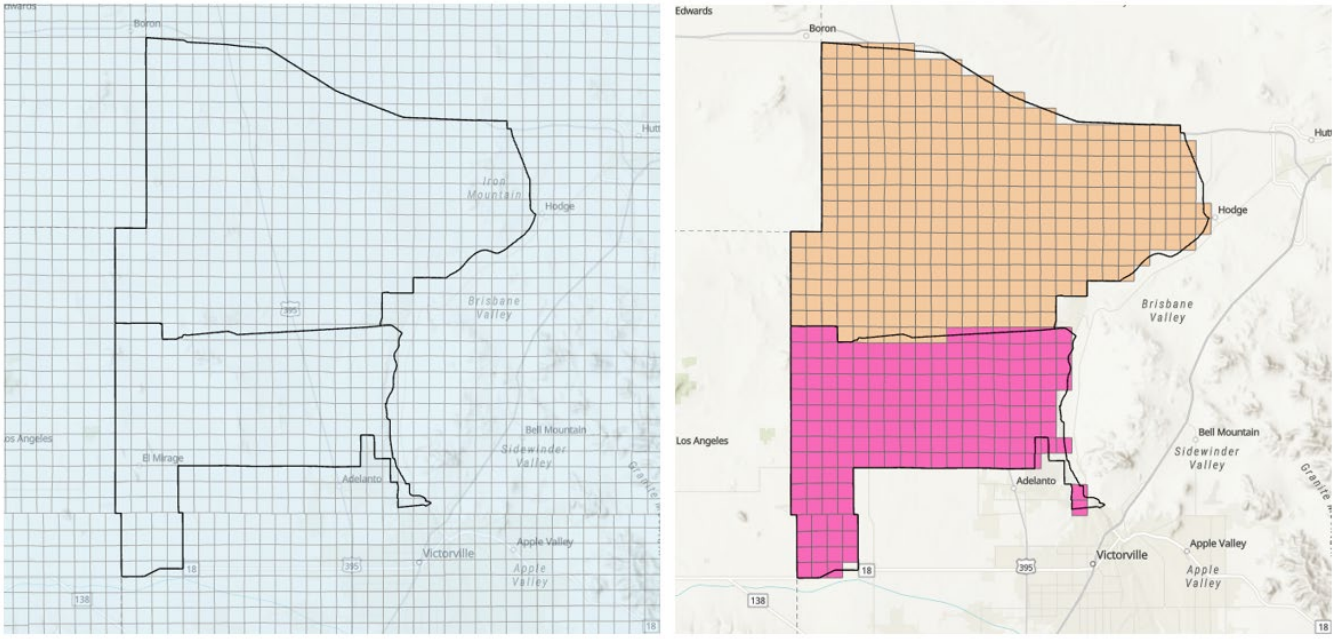
DEMOGRAPHIC ANALYSIS OF AT-RISK STATE SMALL WATER SYSTEMS AND DOMESTIC WELL AREAS

Results for the 2025 Risk Assessment for state small water systems and domestic wells can be combined with demographic data to better understand the populations most at-risk for water shortage and water quality issues. However, there are several limitations to this demographic analysis. Demographic data is available at the census tract or block group-level, and current census surveys do not indicate household drinking water source information. Therefore, the demographic information presented in the tables below may not represent the actual population served by state small water systems or domestic wells. Any interpretation of these results should keep in mind the limitations of the analysis.

Demographic data come from OEHHA's CalEnviroScreen 4.0[157] and the American Community Survey.[158] CalEnviroScreen 4.0 identifies California communities facing socioeconomic and health-related challenges and a high environmental burden. CalEnviroScreen combines a Population Characteristics Score, which captures social and health vulnerability, and a Pollution Burden Score, which captures exposure to environmental hazards and pollutants to assign each census tract in California. The overall score is calculated by multiplying the Population Characteristics and Pollution Burden Scores. The CalEnviroScreen 4.0 data is then displayed as percentiles, with higher percentiles indicating areas that are most affected by pollution and where people are especially vulnerable to the effects of pollution. Data for poverty, linguistic isolation (percentage of limited English-speaking households), household size, and race/ethnicity, as well as data used to calculated median household income and disadvantaged community status was taken from 2023 5-Year American Community Survey block group-level estimates. The demographic analysis for state small water systems was calculated by assigning census data to state small water systems using the census area overlying the point location of the state small water system. The demographic analysis for domestic wells was calculated by assigning census data to square mile sections using the census area overlying the section centroid (Figure 36).

[157] OEHHA CalEnviroScreen
https://oehha.ca.gov/calenviroscreen
[158] American Community Survey Data
https://www.census.gov/programs-surveys/acs/data.html

Figure 36: Public Land Survey System (PLSS)[159] and Block Group Boundary Intersection by Section Centroid



When compared with state small water systems in Not At-Risk areas, state small water systems in At-Risk areas tend to have higher CalEnviroScreen 4.0 scores, a slightly higher percentage of the population living below 200% of the federal poverty level, a similar percentage of limited English-speaking households, a slightly smaller household size, and are more likely to be in a disadvantaged community (DAC) or severely disadvantaged community (SDAC) area. For many of these demographic metrics, the state small water systems in Potentially At-Risk areas contain the highest percents and scores. State small water systems that are Potentially At-Risk are the most likely to be in a majority community of color census areas and have the highest percentage of households with limited English speaking.

Table 40: Demographic Analysis for Areas with Combined At-Risk State Small Water Systems[160]

	Statewide (All areas)	Statewide (State Small Water System areas only)	Not At-Risk	Potentially At-Risk	At-Risk
Total Count of Systems	**1,235**	**1,235**	**401**	**629**	**205**
Average CalEnviroScreen 4.0 Percentile	0	40	37	41	44

[159] The Public Land Survey System (PLSS) is a way of subdividing and describing land in the United States.
[160] The three CalEnviroScreen 4.0 data categories in this assessment utilize 2015-2019 American Community Survey (ACS) data. The following data categories in this assessment utilize updated 2019-2023 5-Year ACS block group-level data: average percentage of population with incomes below 200% of federal poverty level, average percentage of households with limited English speaking, average household size, percentage of systems in DAC/SDAC areas, and percentage serving majority communities of color.

	Statewide (All areas)	Statewide (State Small Water System areas only)	Not At-Risk	Potentially At-Risk	At-Risk
Average CalEnviroScreen 4.0 Population Characteristics[161] Percentile	50	41	39	40	46
Average CalEnviroScreen 4.0 Pollution Burden Percentile	50	42	38	44	43
Average percentage of the population living below twice the federal poverty level[162]	27.5%	30.8%	29.2%	31.5%	31.7%
Average percentage of households with limited English speaking (linguistically isolated)[163]	8.3%	7.4%	5.0%	9.7%	5.0%
Average household size[164]	2.86	2.86	2.74	2.99	2.67
Percentage of state small water systems in DAC/SDAC areas[165]	42% (516)	42% (516)	42% (167)	38% (241)	53% (108)
Percent of state small water systems serving majority communities of color	47% (580)	47% (580)	33% (134)	60% (379)	33% (67)

[161] "Population Characteristics" scores for each census tract are derived from the average percentiles for three sensitive populations indicators (asthma, cardiovascular disease, and low birth weight) and five socioeconomic factor indicators (educational attainment, housing-burdened low-income households, linguistic isolation, poverty, and unemployment). These data points represent demographic factors known to effect vulnerability to impacts of pollution.

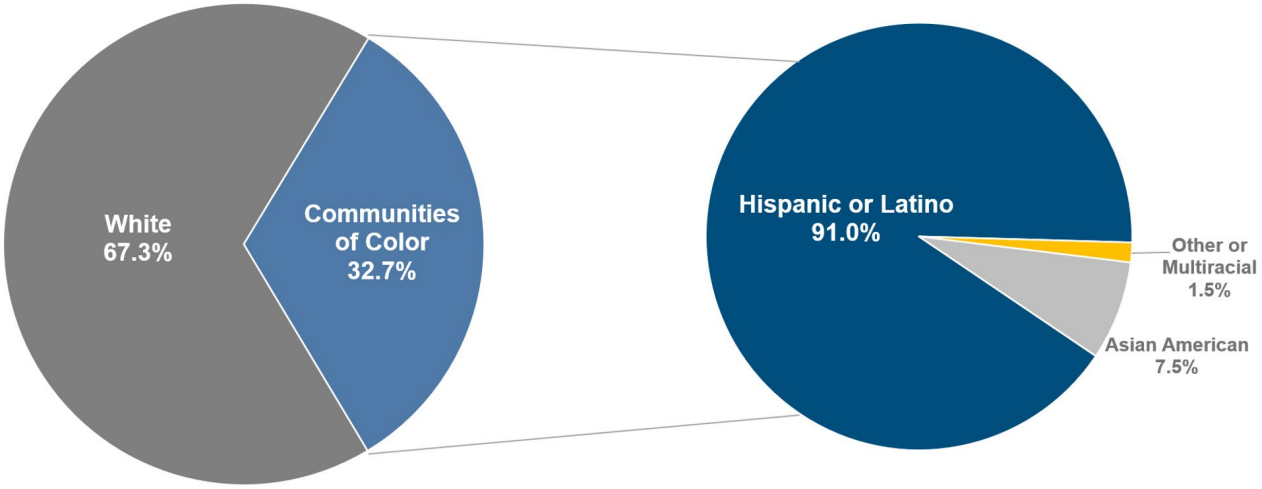
[162] Census Bureau Table C17002: Ratio of Income to Poverty Level in the Past 12 months
https://data.census.gov/table/ACSDT5Y2023.C17002?q=c17002&g=040XX00US06$1500000

[163] Census Bureau Table-C16002: Household Language by Household Limited English Speaking Status
https://data.census.gov/table/ACSDT5Y2023.C16002?q=limited&g=040XX00US06$1500000

[164] Census Bureau Table B25010: Average Household Size of Occupied Housing Units by Tenure
https://data.census.gov/table/ACSDT5Y2023.B25010?q=B25010:+Average+Household+Size+of+Occupied+Housing+Units+by+Tenure&g=040XX00US06

[165] Disadvantaged community (DAC) refers to areas with a lower bound median household income less than 80% of the California median household income (< $77,067). The lower bound median household income is determined by subtracting the margin of error from the median household income estimate for each block group. The maximum usable margin of error is determined by the block group population - $15,000 for block groups with less than 500 people and $7,500 for block groups with more than 500 people.
Severely disadvantaged community (SDAC) refers to areas with a lower bound median household income less than 60% of the California median household income (< $57,800).

Figure 37: Distribution of At-Risk State Small Water Systems by Majority Race/Ethnicity of Block Group



When compared with Not At-Risk domestic well areas, At-Risk domestic well areas tend to have higher CalEnviroScreen scores and a higher percentage of the population living below twice the federal poverty level, households with limited English speaking. At-Risk domestic well areas also tend to have a larger household size, are more likely to be in a disadvantaged community area, and are more likely to serve majority communities of color.

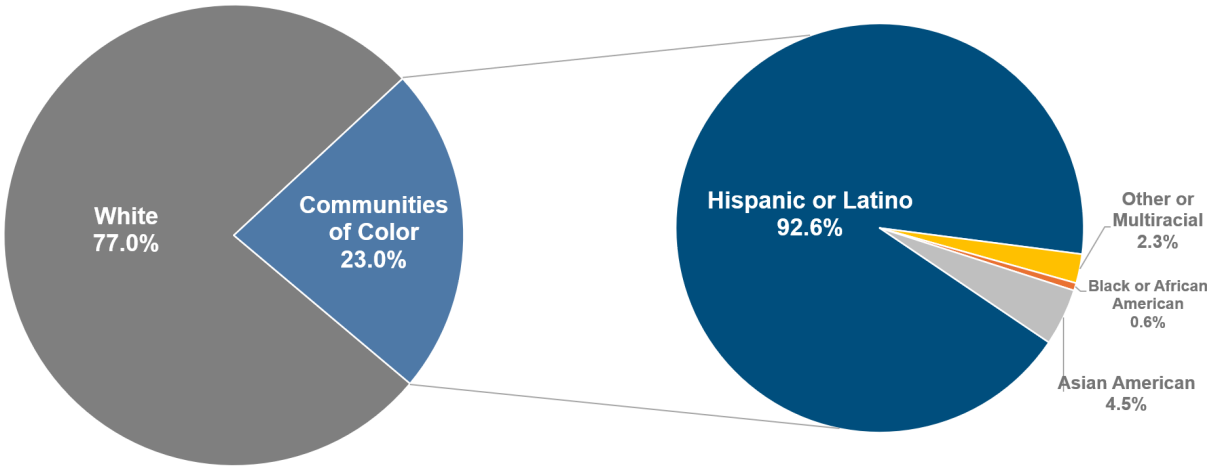
Table 41: Demographic Analysis for Areas with Combined At-Risk Domestic Wells[166, 167]

	Statewide (All areas)	Domestic Well Areas Only	Not At-Risk	Potentially At-Risk	At-Risk
Total Count of Domestic Wells	**298,715**	**298,715**	**104,597**	**101,090**	**93,028**
Average CalEnviroScreen 4.0 Percentile	50	41	39	42	44
Average CalEnviroScreen 4.0 Population Characteristics Percentile	50	43	42	44	45
Average CalEnviroScreen 4.0 Pollution Burden Percentile	50	40	38	42	43
Average percentage of the population living below twice the federal poverty level	27.5%	29.8%	28.4%	30.8%	31.4%
Average percentage of households with limited English speaking (linguistically isolated)	8.3%	4.4%	3.7%	4.9%	5.3%
Average household size	2.86	2.75	2.70	2.79	2.82
Percentage of domestic wells in DAC/SDAC areas[168]	41% (123,184)	41% (123,184)	39% (40,441)	38% (38,905)	47% (43,838)
Percentage of domestic wells serving majority communities of color	22% (65,565)	22% (65,565)	18% (18,322)	26% (25,828)	23% (21,415)

[166] CalEnviroScreen 4.0 data is available per census tract. Combined risk status for domestic wells is available per square mile section. To determine the CalEnviroScreen 4.0 percentile score average per combined risk category, each section was assigned the CalEnviroScreen 4.0 percentile score based on the tract that contains the centroid of the section. Some census tracts do not contain any section centroid and therefore do not contribute to the averages even if they overlap a section with a domestic well.

[167] The three CalEnviroScreen 4.0 data categories in this assessment utilize 2015-2019 American Community Survey (ACS) data. The following data categories in this assessment utilize updated 2019-2023 5-Year ACS block group-level data: average percentage of population with incomes below 200% of the federal poverty level,

Figure 38: Distribution of At-Risk Domestic Wells by Majority Race/Ethnicity of Block Group



average percentage of households with limited English speaking, average household size, percentage of wells in DAC/SDAC areas, and percentage of wells serving majority communities of color.

[168] Disadvantaged community (DAC) refers to areas with a lower bound median household income less than 80% of the California median household income (< $77,067). The lower bound median household income is determined by subtracting the margin of error from the median household income estimate for each block group. The maximum usable margin of error is determined by the block group population - $15,000 for block groups with less than 500 people and $7,500 for block groups with more than 500 people.
Severely disadvantaged community (SDAC) refers to areas with a lower bound median household income less than 60% of the California median household income (< $57,800).

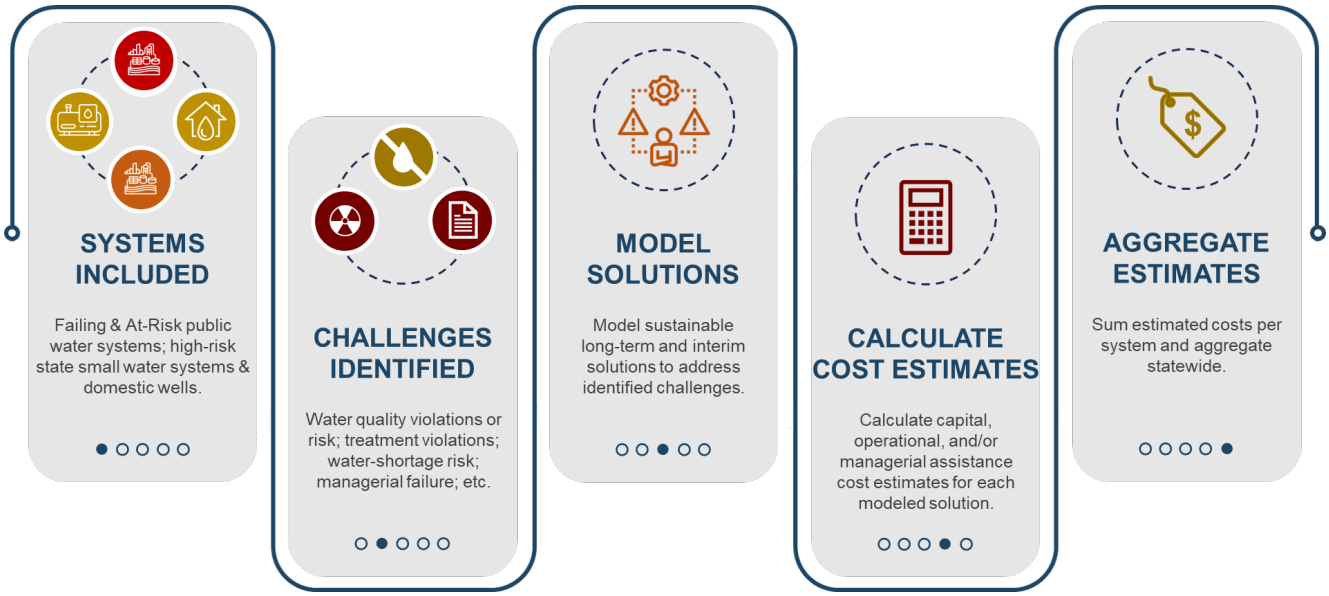
COST ASSESSMENT

OVERVIEW

The purpose of the Cost Assessment is to estimate the cost of achieving the Human Right to Water[169] in California. The Cost Assessment is a *model* comprised of decision criteria, cost assumptions, and calculation methodologies used to estimate a statewide cost for implementing long-term and interim solutions for Failing public water systems, At-Risk public water systems, high-risk state small water systems and domestic wells. The estimated costs and resulting Funding Gap Analysis are utilized to inform the broader demands of the SAFER program, including annual funding needs for the Safe and Affordable Drinking Water Fund.[170]

[169] State Water Resources Control Board Resolution No. 2016-0010
https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2016/rs2016_0010.pdf
[170] Safe and Affordable Drinking Water Fund
https://www.waterboards.ca.gov/water_issues/programs/grants_loans/sustainable_water_solutions/safer.html

Figure 39: Cost Assessment Model



The Cost Assessment results include the following:

- **Long-Term Solution Estimated Needs**: costs associated with installation of new infrastructure and managerial assistance.
- **Interim Assistance Estimated Needs**: costs associated with emergency assistance needs for disadvantaged communities.
- **Modeled Treatment Operations & Maintenance Needs:** costs related to ongoing needs associated with running modeled centralized and decentralized treatment.

PURPOSE OF THE COST ASSESSMENT

The purpose of the Cost Assessment is to estimate the cost of achieving the Human Right to Water, which is the cost of ensuring safe and affordable drinking water for all Californians. It is not a comprehensive assessment of statewide drinking water infrastructure needs. All drinking water systems require routine maintenance, infrastructure replacement and enhancements, *etc*. The Cost Assessment only includes a small proportion of drinking water systems in the state (*i.e.,* those necessary to achieve the Human right to Water) and should not be interpreted as representing the full extent of drinking water funding needs.

The embedded assumptions and cost estimates detailed in the Cost Assessment are purely for the purposes of the Needs Assessment. Local solutions and actual costs will vary from system to system and will depend on site-specific details. Therefore, **the Cost Assessment is not intended to be used by the State Water Board or any community to inform community-level decisions,** as it includes many assumptions about local needs and capacity. The purpose of the Cost Assessment is to provide an informative analysis of estimated needs statewide.

The Cost Assessment evaluates only a narrow range of possible interim and long-term solutions. Communities included in the analysis should be conducting a detailed evaluation of their unique drinking water challenges and identify a range of possible solutions to select the best path forward.

The Cost Assessment is not used by the State Water Board or any of its partners to inform local decisions. In particular, the Cost Assessment's output and underlying assumptions are not used by the State Water Board to make decisions regarding funding and assistance.

In 2021, the State Water Board conducted its first Cost Assessment in partnership with the University of California Los Angeles Luskin Center for Innovation, Corona Environmental Consulting, and Sacramento State University Office of Water Programs. The results of that analysis were published in the 2021 Needs Assessment.[171] At that time, the Cost Assessment estimated that the total capital costs of addressing the challenges faced by Failing and At-Risk systems was approximately $4.5 billion for modeled long-term solutions and $1.6 billion for the estimated duration of modeled interim solutions.

[171] 2021 Drinking Water Needs Assessment https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2021_needs_assessment.pdf

Due to minor changes to the number of Failing and At-Risk systems in 2022, the State Water Board did not update the Cost Assessment estimates in the 2022 Needs Assessment. However, in September 2021 the Governor approved Senate Bill (SB) 552,[172] which requires small water systems (15 – 2,999 connections) and schools to meet new drought infrastructure resiliency measures. In response to stakeholder feedback for better drought-related cost estimates and the need to support SB 552 planning, the State Water Board conducted a targeted Drought Infrastructure Cost Assessment for the 2022 Needs Assessment.[173] The 2022 Drought Infrastructure Cost Assessment estimated needs of approximately $2.4 billion for 2,634 small community water systems.

The 2023 Needs Assessment did not include an updated Cost Assessment. In 2023, the State Water Board embarked on a two-year Cost Assessment enhancement effort that included:

1. Updating how the Cost Assessment identifies and selects interim and long-term solutions for Failing and At-Risk systems.
2. Updating and enhancing the cost assumptions and formulas used in the Cost Assessment to estimate costs – both capital and non-capital.
3. Improving the analysis of the Cost Assessment results.
4. Improving transparency by making the underlying data, formulas, *etc.* more accessible.

The State Water Board hosted five public workshops to solicit stakeholder feedback on the 2024 Cost Assessment. More information about the Cost Assessment's enhancements can be found online.[174]

The 2024 Needs Assessment included an updated Cost Assessment results for Failing and At-Risk public water systems. The following points summarize the results:

1. Estimated long-term and interim cost needs for Failing and At-Risk public water systems in DACs only was approximately $3.7 billion (69%) of the total estimated need for Failing and At-Risk systems. The Cost Assessment estimated $1.75 billion for Failing DAC public systems and $1.97 billion for At-Risk DAC public water systems.
2. Total estimated cost for long-term solutions for all Failing and At-Risk public water systems was $4.9 billion, which was approximately $1.5 billion (44%) higher than the 2021 Cost Assessment results.
3. The total estimated cost for interim solutions for all Failing and At-Risk public water systems was $466 million. This was approximately $379 million (45%) lower than the 2021 Cost Assessment results.

The 2024 Cost Assessment also estimated the total long-term and interim cost needs for high-risk state small water systems and domestic wells to be approximately $4.9 billion.

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[172] Senate Bill No. 552, section 10609.62, Chapter 245
https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220SB552
[173] 2022 Drinking Water Needs Assessment
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2022needsassessment.pdf
[174] State Water Board I Drinking Water Needs Assessment
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/needs.html

Due to minor changes to the number of Failing and At-Risk systems, the State Water Board did not update the Cost Assessment estimates in the 2025 Needs Assessment.

FUNDING GAP ANALYSIS

OVERVIEW

In 2024, the State Water Board conducted a Cost Assessment to estimate the cost of implementing interim and long-term solutions for Failing or At-Risk public water systems, state small water systems, and domestic wells. The Funding Gap Analysis utilized the results of the 2024 Cost Assessment and estimated projected funding needs over the next 5-years within the 10-year appropriation of the Safe and Affordable Drinking Water Fund (SADWF). The results of the analysis informed the annual funding plan for the SADWF as well as the broader demands on the State Water Board's drinking water funding programs, more information about the Gap Analysis can be found online.[175] The following is a summary of the results from the 2024 Gap Analysis:

1. The total State Water Board estimated 5-year capital and managerial assistance needs was approximately $11.5 billion for Failing public water systems, At-Risk public water systems, high-risk state small water systems, and domestic wells.
2. The Funding Gap Analysis estimated a cumulative 5-year grant funding gap of $5.5 billion for estimated capital and managerial assistance needs.
3. The Funding Gap Analysis indicated no projected loan/financing funding gap. All estimated 5-year loan eligible estimated capital needs are met by projected available loan capacity. The analysis estimated $758 million in unused loan capacity.
4. Estimated additional new grant-eligible needs were expected to exceed the amount of grant funds available in perpetuity.
5. The Funding Gap Analysis estimated that the projected needs of local cost share required was $13.9 billion.

Due to minor changes to the number of Failing and At-Risk systems, the State Water Board did not update the Cost Assessment estimates in the 2025 Needs Assessment; therefore, no gap analysis has been conducted for this year. Updated funding information for the SAFER

[175] Appendix: Funding Gap Analysis Methodology https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2024/2024funding-gap-analysis-methodolgy.pdf

Program is presented in the FY 2025-26 Fund Expenditure Plan (expected Summer 2025). A new funding source that will be available starting fiscal year 2025–26, Proposition 4 was approved by California voters in November 2024 and authorizes $10 billion in bonds for environmental and climate resilience projects. Of this amount, approximately $1.9 billion is dedicated to improving drinking water quality and supply—particularly for underserved communities—through a multiyear allocation extending through fiscal year 2039–40.

AFFORDABILITY ASSESSMENT RESULTS

OVERVIEW

Ensuring that drinking water is affordable is crucial to meeting California's Human Right to Water mandate.[176] The COVID-related economic crisis magnified the need to address drinking water affordability for households and identify drinking water systems that require additional financial support to provide a safe and reliable drinking water supply.[177]

The purpose of the Affordability Assessment is to identify disadvantaged community (DAC) water systems and non-transient non-community water systems that serve K-12 schools that have instituted customer drinking water charges exceeding the "Affordability Threshold" established by the State Water Board. This assessment is required to ensure compliance with state and federal drinking water standards and helps inform the State Water Board's annual Fund Expenditure Plan.[178] However, the legislation does not define what the affordability threshold should be, nor is there specific guidance on how the State Water Board should evaluate affordability.

WHY MEASURING AFFORDABILITY MATTERS

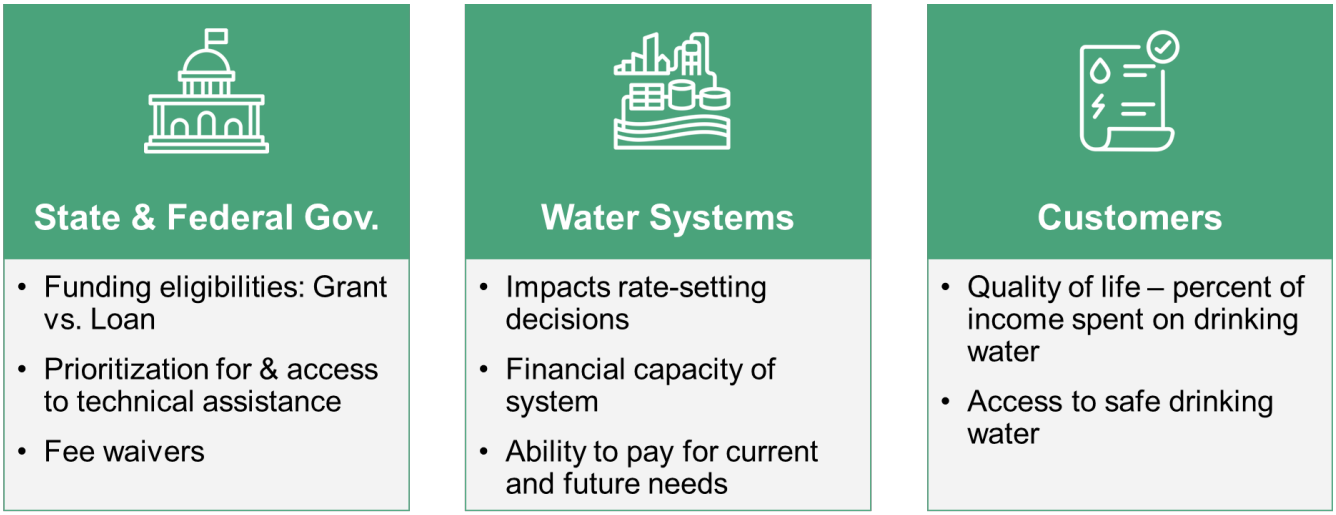
Drinking water affordability is difficult to measure. Different terms and metrics have been used to describe and measure affordability in the water sector and have been used to influence important decisions. For instance, affordability metrics are used to determine which water systems are eligible for state and federal assistance. Water systems meeting certain affordability thresholds qualify for more grants (as opposed to loan funding) for infrastructure projects and are frequently prioritized for state and federal technical assistance.

Affordability metrics are often used by water systems when exploring possible rate changes. Systems serving communities with affordability challenges often struggle to raise their rates,

[176] State Water Board Resolution No. 2016-0010
https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2016/rs2016_0010.pdf
[177] Drinking Water COVID-19 Financial Impacts Survey | California State Water Resources Control Board
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/covid-19watersystemsurvey.html
[178] California Health and Safety Code, section 116769, subd. (a)(2)(B)

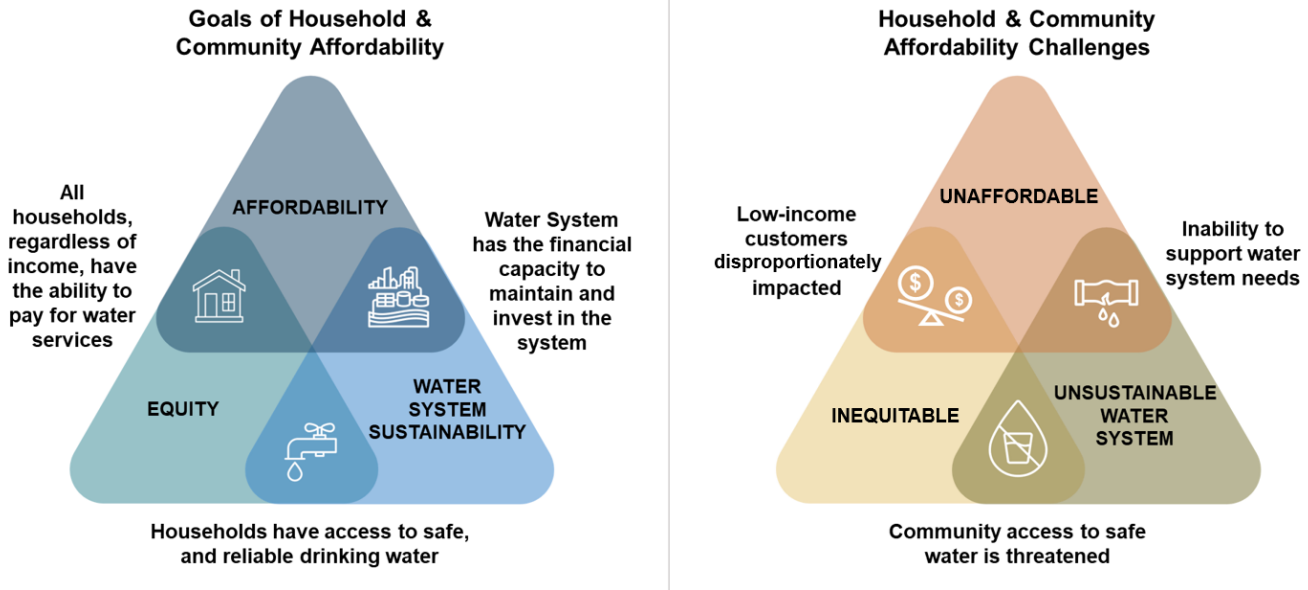
affecting their long-term financial capacity. Customers unable to pay for water services may experience challenges in accessing a reliable source of safe drinking water.

Figure 40: Why Measuring Affordability Matters



Assessing the affordability of drinking water services is essential because it sits at the intersection of equity and water system sustainability. Addressing affordability challenges is a critical step toward ensuring that all Californians have access to safe and reliable drinking water. Figure 41 illustrates this relationship and the potential consequences of inaction.

Figure 41: The Relationship Between Affordability, Equity and Water System Sustainability



DEFINING AFFORDABILITY

To better navigate the different metrics and approaches used to measure affordability, Figure 42 illustrates the nexus between types of affordability.

Figure 42: Nexus of Affordability Definitions

(1) Household Affordability: The ability of individual households to pay for an adequate supply of water. Metrics to measure household affordability are not included in either the Affordability Assessment or the Risk Assessment due to limited data availability.

(2) Community Affordability: The ability of households within a community to pay for water services with the effect of financially supporting a resilient water system. Metrics to measure community affordability are included in both the Affordability Assessment and Risk Assessment.

(3) & (4) Water System Financial Capacity: The ability of a water system to financially meet current and future operational and infrastructure needs in order to deliver safe drinking water. The financial capacity of water systems affects future rate increases, impacting households. A water system's inability to provide adequate services may require households served by the system to rely on expensive alternatives such as bottled water. Metrics measuring the financial capacity of water systems are included in the Risk Assessment only.

DISADVANTAGED COMMUNITIES & THE AFFORDABILITY ASSESSMENT

The purpose of the Affordability Assessment is to identify **disadvantaged community** water systems that have instituted customer charges exceeding the affordability threshold. The State Water Board distinguishes two types of disadvantaged communities:

> **Disadvantaged Community (DAC):** the entire service area of a community water system, or a community therein, in which the median household income is less than 80% ($77,067) of the statewide annual median household income level.[179]

[179] Health & Saf. Code, § 116275, subd. (aa)

Severely Disadvantaged Community (**SDAC):** the categorization of an entire water system- service area where the median household income is less than 60% ($57,800) of the statewide median household income.[180]

DAC status is determined by comparing a system's median household income (MHI) to California's statewide median income, as summarized in Table 42.[181] The methodology for deriving a system's MHI from American Community Survey data is described in Appendix: Median Household Income (MHI) and Economic Status Determination Methodology.[182]

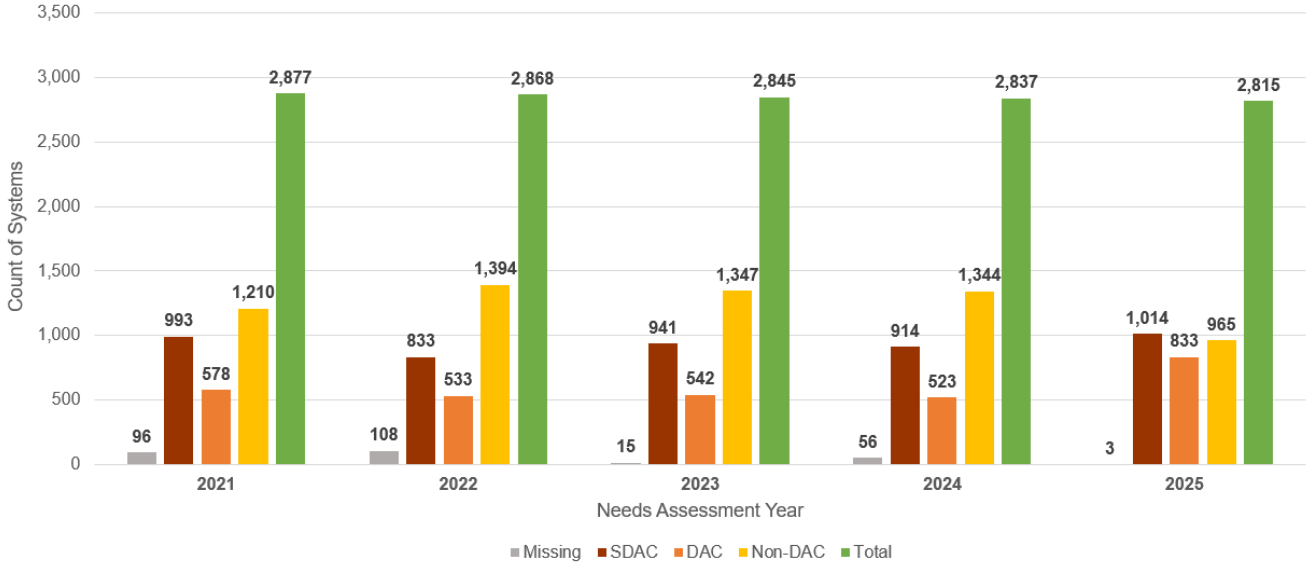
Table 42: Median Household Income & Disadvantaged Community Status (using ACS 5-Year Estimates 2019-2023)

MHI of Service Area (in 2023 dollars)	Disadvantaged Community Status
Less than $57,800 *(< 60% of statewide MHI)*	Severely Disadvantaged Community (SDAC)
$57,800 - $77,067 *(60-80% of statewide MHI)*	Disadvantaged Community (DAC)
Greater than $77,067 *(> 80% of statewide MHI)*	Non-Disadvantaged Community (Non-DAC)
California Statewide MHI = **$96,334**	

Through previous iterations of the Needs Assessment (2021, 2022, 2023, 2024), the relative number of systems serving disadvantaged and severely disadvantaged communities has remained fairly consistent, with roughly 50% of community water systems serving DAC or SDAC communities (Figure 43). However, in the 2025 Needs Assessment, the proportion of disadvantaged and severely disadvantaged community water systems increased to 66%. This is because new methodology was used to determine median household income and disadvantaged community status. This resulted in better data availability and a drop in the number of systems missing DAC status (from 56 systems in 2024 to just 3 in 2025). In addition, median household income is now estimated using the lowest value across three sources of American Community Survey data – block group, census tract, and place – to more accurately reflect the income levels of residents in vulnerable communities. This helps account for places where income is unevenly distributed, such as rural or coastal areas where high-income households or vacation homes may skew the average income distribution. By choosing the lowest of the three MHI estimates, the methodology avoids overestimating income and better captures the economic realities of people living within the water system's service area.

[180] Water Code § 13476, subd. (j)
[181] $96,334 (in 2023 dollars) based on 2019-2023 ACS data, U.S. Census Bureau Quick Facts: California https://www.census.gov/quickfacts/fact/table/CA/INC110222
[182] Appendix: Median Household Income (MHI) and Economic Status Determination Methodology https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025mhi-calculation.pdf

Figure 43: Count of Community Water Systems by DAC Status (2021 – 2025) [183]



For the purposes of the Affordability Assessment, the analysis in this section highlights and compares affordability challenges for disadvantaged community water systems and non-disadvantaged community systems.

DRINKING WATER CUSTOMER CHARGES

Measuring affordability includes an analysis of the ability of households and communities to pay for current and future water service charges. Because water systems can differ in how they bill customers (for example, using different units, rate structures, or billing cycles), it is important to establish a standard basis for comparison. To ensure a consistent comparison of drinking water affordability, water rate charges are standardized to calculate the average monthly customer charge for the same volume of water use, 6 hundred cubic feet (HCF), across all systems.

The State Water Board began requiring the submission of average monthly residential customer charges for 6 HCF of water used in the 2019 electronic Annual Report (eAR).[184] Figure 44 illustrates the trends in customer charges since this requirement went into effect for small, medium, and large community water systems compared to the statewide average. It is important to note that many water systems struggled to submit customer charges data for the

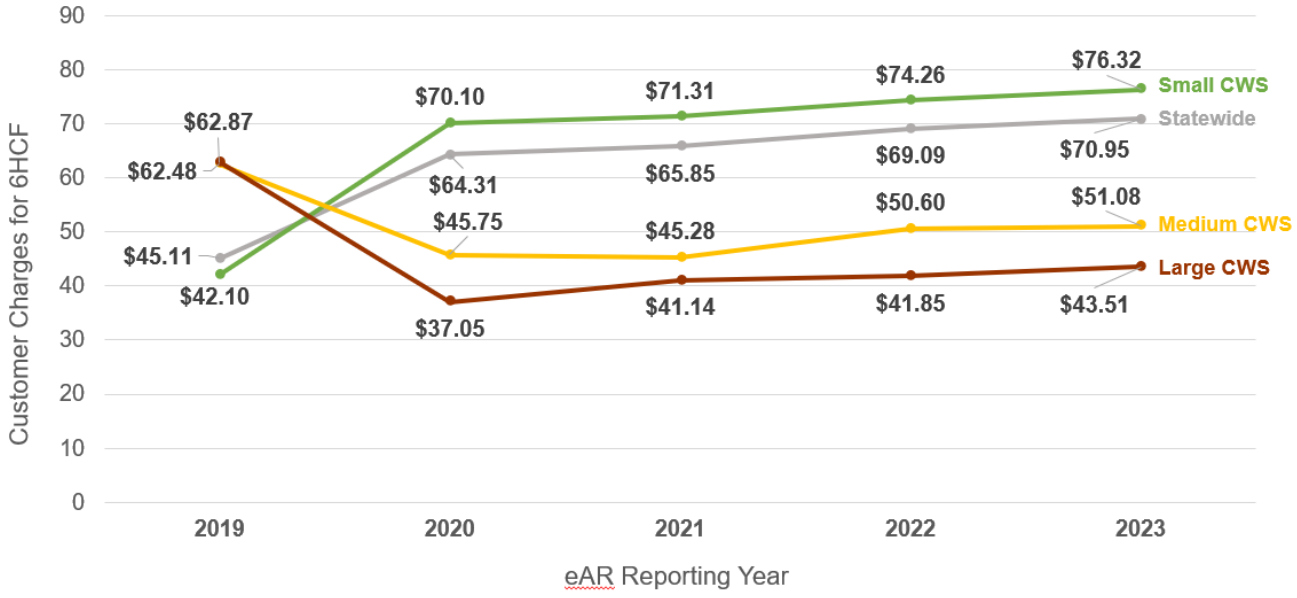
[183] DAC status is based on median household income (MHI) from the American Community Survey (ACS). Each year of the Needs Assessment utilized the most up to date ACS data set at the time: 2021 DAC determinations were based on 2019 5-Year Estimate MHI ACS data, 2022 was based on 2020 5-Year Estimates, 2023 was based on 2021 5-Year Estimates, 2024 is based on 2022 5-Year Estimates, and 2025 is based on 2023 5-Year Estimates.

[184] Electronic Annual Report I State Water Board
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/ear.html

2019 reporting year, which may have contributed to the difference between average charges data from 2019 to 2020.[185]

Table 43 summarizes the unweighted average residential customer charges by system size as reported in 2023 eAR. These averages reflect an equal weighting across water systems, regardless of system size or population served. On average, small community water systems charge more for the same volume of water when compared to medium and large community water systems, and when compared to the unweighted statewide average (Figure 44). Small community water systems charge on average $33 more a month for 6 HCF of water compared to large water systems. In general, there was a steady increase in drinking water customer charges for all system sizes between 2020 and 2023. Although small systems consistently charge more for water, large water systems have seen the largest percentage increase in water charges since 2020, with charges for 6 HCF increasing 17% (compared to a 9% increase for small and 12% increase for medium systems). Statewide, the unweighted average drinking water customer charges across water systems has increased 10% since 2020, with an average increase of $2.21 per year.[186]

Figure 44: Average Monthly Residential Customer Charges for 6 HCF of Water Over Time by System Size (for Water Systems with Finalized Data in 2019 – 2023 eAR)



[185] For the 2019 eAR reporting year, many water systems had average 6 HCF charges of 0. Future iterations of the Needs Assessment considered only average monthly charges between $5 and $500 as valid and charges outside of this range were considered "Missing".

[186] Between 2020 and 2021, the statewide average rate increased $1.54. Between 2021 and 2022, the average rate increased $3.24. Between 2022 and 2023, the average rate increased $1.86, for an average rate increase of $2.21 per year since 2020. Alternatively, over 3 years the rate increased by $6.64 for an average rate increase per year of $2.21.

Table 43: Average Monthly Residential Customer Charges for 6 HCF of Water by System Size (for Water Systems with Finalized Data in 2023 eAR)

System Size	Total Systems	Average Customer Charges for 6 HCF
Large Community Water Systems (including 2 Wholesalers)	**91**	
With customer charges	84	$43.51
Do not charge for water	1	--
Missing charge data	6	--
Medium Community Water Systems	**318**	
With customer charges	303	$51.08
Do not charge for water	0	--
Missing charge data	13	--
Military installation	2	*Confidential*
Small Community Water Systems (including 50 Wholesalers)	**2,406**	
With customer charges	1,550	$76.32
Do not charge for water	611	--
Missing charge data	227	--
Military installation	18	*Confidential*
Non-transient Non-Community K-12 Schools	363	*Do not charge for water*
STATEWIDE (all systems)	**3,178**	
Systems with charge data	**1,937 (61% of total)**	**$70.95**

Table 44 and Table 45 summarizes average residential customer charges by disadvantaged community status as reported in 2023 eAR (please note that not all water systems have finalized data).[187] Since 2020, drinking water customer charges have been increasing annually (Figure 45). On average, non-DAC systems have higher drinking water customer charges than statewide average, and then that of DAC/SDAC systems. Non-DAC water systems have experienced the most significant increase in average monthly charges since 2020, with the charge for 6 HCF increasing by $12.71 (a 19% increase). Statewide, the average drinking water customer charges have increased by $6.64 (10%) since 2020.

[187] Collected in the 2023 reporting year eAR.

Figure 45: Average Monthly Residential Customer Charges for 6 HCF of Water Over Time by Disadvantaged Community Status (2019 – 2023)

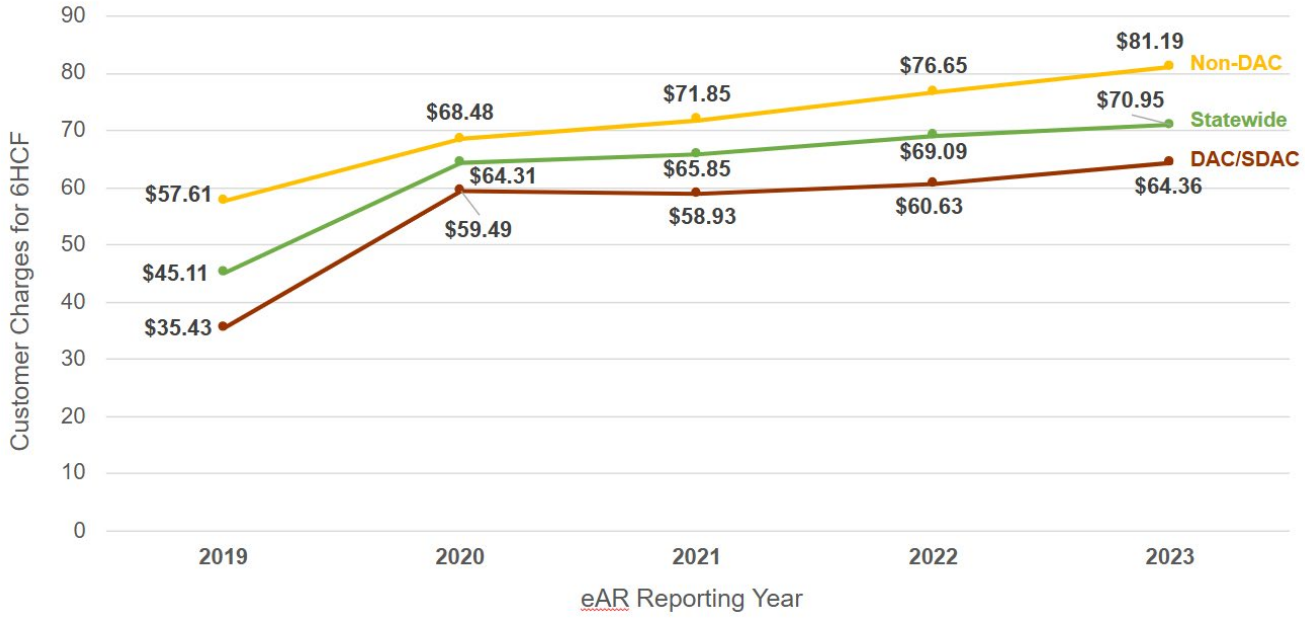


Table 44: Average Monthly Residential Customer Charges for 6 HCF of Water by Disadvantaged Community Status (for Water Systems with Finalized Data in 2023 eAR)

Community Status	Total Systems	Average Customer Charges for 6 HCF
DAC/SDAC	**2,115**	
With customer charges	1,178	$64.36
Non-DAC	**1,060**	
With customer charges	759	$81.19
Missing DAC Status	**3**	
With customer charges	0	--
STATEWIDE (all systems):	**3,178**	
Systems with charge data:	**1,937 (61% of total)**	**$70.95**

Table 45: Average Monthly Residential Customer Charges for 6 HCF of Water by SAFER Status (for Water Systems with Finalized Data in 2023 eAR)

SAFER Program Status[188]	Total Systems	Average Customer Charges for 6 HCF
Failing Systems	**390**	
With customer charges	**230**	**$74.51**

[188] Water systems that are not DAC/SDAC or are missing DAC status designations are excluded from sub-categories within this table.

SAFER Program Status	Total Systems	Average Customer Charges for 6 HCF
Failing DAC/SDAC	308	
With customer charges	174	$65.57
At-Risk Systems	**589**	
With customer charges	**297**	**$88.31**
At-Risk DAC/SDAC	461	
With customer charges	220	$83.31
Potentially At-Risk Systems	**449**	
With customer charges	**257**	**$84.86**
Potentially At-Risk DAC/SDAC	340	
With customer charges	182	$72.70
Not At-Risk System	**1,609**	
With customer charges	**1,060**	**$64.34**
Not At-Risk System DAC/SDAC	958	
With customer charges	574	$55.24
Not Assessed	**141**	
With customer charges	**93**	**$43.63**
Not Assessed System DAC/SDAC	48	
With customer charges	28	$40.63
STATEWIDE (all systems):	**3,178**	
Systems with charge data:	**1,937 (61% of total)**	**$70.95**

AFFORDABILITY ASSESSMENT METHODOLOGY

WATER SYSTEMS ASSESSED

The Affordability Assessment is conducted annually for all community water systems and non-transient non-community water systems serving K-12 schools in California. Although there is some overlap, the Affordability Assessment includes some water systems that are not analyzed in the Risk Assessment. The Risk Assessment does not evaluate large community water systems with more than 30,000 service connections or serving a population greater than 100,000, and it does not include wholesalers that supply water to other water systems.

The Affordability Assessment compares drinking water affordability across all 2,815 community water systems and 363 non-transient non-community water systems that serve K-12 schools. Among community water systems, there are 2,406 small (2,356 if wholesalers are excluded),

318 medium, and 91 large (89 if wholesalers are excluded) community water systems analyzed by the Affordability Assessment. Table 46 provides an overview of the systems included in the Affordability Assessment compared to the Risk Assessment. The Affordability Assessment's inventory only differs from the Risk Assessment inventory in that it does not exclude large community water systems and wholesalers.

Table 46: Comparison of Water Systems included in Risk and Affordability Assessment

Water System Type	Risk Assessment	Affordability Assessment	DAC/SDAC Systems in the Affordability Assessment
Small Community Water Systems (excluding wholesalers)	2,356	2,356[189]	1,671
Medium Community Water Systems (excluding 50 wholesalers)	318	318	128
Large Community Water Systems (excluding 2 wholesalers)	0	89[190]	24
Wholesalers	0	52	24
Non-Transient, Non-Community K-12 Schools	363	363	268
TOTAL:	**3,037**	**3,178**	**2,115**[191]

AFFORDABILITY ASSESSMENT METHODOLOGY

The Affordability Assessment methodology has developed through a phased public process since January 2019. Public workshops have been hosted to solicit public feedback to help refine the Assessment over time. The Affordability Assessment methodology relies on two core elements which are utilized to identify water systems serving communities that may be experiencing drinking water affordability challenges:

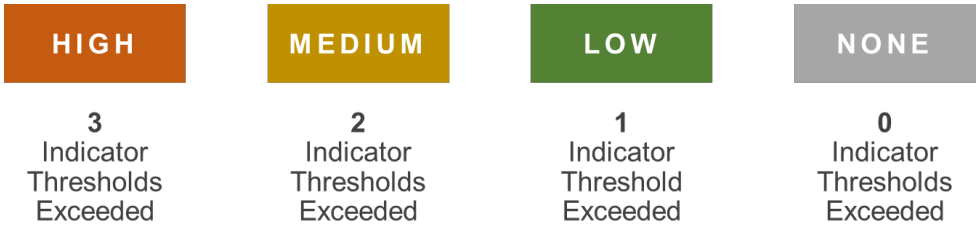
> **Affordability Indicators**: quantifiable measurements of key data points that allow the State Water Board to assess drinking water affordability challenges.

[189] Although there are 2,406 water systems classified as small community that are analyzed by the Affordability Assessment, 50 of these are wholesalers that do not directly charge customers for water, for a total of 2,356 small community water systems excluding wholesalers.
[190] Although there are 91 water systems classified as large community that are analyzed by the Affordability Assessment, 2 of these are wholesalers that do not directly charge customers for water, for a total of 89 large community water systems excluding wholesalers.
[191] 1,060 water systems in the Affordability Assessment inventory were not determined to be serving disadvantaged communities, and 3 water systems lacked census data necessary to calculate median household income and disadvantaged community status.

Affordability Indicator Thresholds: the levels, points, or values associated with an individual affordability indicator that delineate when a water system's customers may be experiencing affordability challenges.

The Affordability Assessment identifies "High," "Medium," and "Low" Affordability Burden communities, and water systems with no Affordability Burden ("None"). The designation is based on the number of affordability indicator thresholds met by each water system. The higher the count, the higher the affordability burden designation. See Appendix: Affordability Assessment Methodology[192] for more information.

Figure 46: Illustration of the Affordability Assessment Methodology



No changes have been made to the Affordability Assessment methodology since 2023. The underlying data used to conduct the Affordability Assessment has been refreshed with the most recent and available data. For the 2025 Needs Assessment, efforts were undertaken to improve data availability and consistency and enhance the transparency of methodology used to calculate the Affordability Indicators. For more details on the data and methods used to calculate, see Appendix: Affordability Assessment Methodology.[193]

AFFORDABILITY INDICATORS

In 2020, 23 potential affordability indicators were identified and evaluated through public workshops for inclusion in both the Affordability Assessment and Risk Assessment.[194] Through multiple public workshops, stakeholders identified a series of indicators that could be incorporated into the Affordability Assessment immediately and some that needed to be further developed and refined. Since 2020, the State Water Board and its partners have hosted workshops to further refine and update the indicators used in the Affordability Assessment as data availability changes. Affordability indicators can be categorized based on the following attributes:

[192] Appendix: Affordability Assessment Methodology https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025affordabilityassessment-methodology.pdf
[193] Appendix: Affordability Assessment Methodology https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025affordabilityassessment-methodology.pdf
[194] Supplemental Appendix: Potential Affordability Risk Indicator Evaluations https://www.waterboards.ca.gov/safer/docs/safer_supp_appxd3_101320.pdf

Household vs. Community Affordability Indicators:

Household Affordability Indicators measure the ability of individual households to pay for an adequate supply of water. Indicators measuring affordability at this scale often include a count or measurement of the number of customers within a service area of a water system that may be struggling now or in the future to pay for water services. *Currently, the Affordability Assessment has no household Affordability Indicators.*

Community Affordability Indicators measure the ability of a water system's entire service area to pay for water services to financially support a resilient water system. Metrics measuring community level affordability often include data that spans all customers served by the water system.

Although there may be some households struggling to pay for water services, overall community level affordability may not be a challenge if the community on average is not struggling. The State Water Board recognizes the importance of considering household and community affordability together, however, there is currently insufficient statewide data to include household affordability indicators in the Affordability Assessment.

Rates-Based vs. Non-Rates-Based Affordability Indicators:

Rates-based Affordability Indicators rely on data that is either directly or indirectly related to a water system charging customers for water. Rates-based indicators typically assess the proportion of a customer's income spent on water services or non-payment of water bills.

Non-rates-based Affordability Indicators do not rely on a water system directly charging their customers for water services. These indicators may include income-based data or other data points that can assess the ability to access drinking water services. These types of indicators are important for measuring affordability challenges for customers who do not receive a water bill. Examples include mobile home park residents who pay for water services in their rent.

Table 47: Affordability Indicators (2021 – 2025)

Affordability Indicator	Household / Community	Rates-Based?	2021	2022	2023-25
Percentage of Median Household Income (%MHI)	Community	Yes	✓	✓	✓
Extreme Water Bill	Community	Yes	✓	✓	✓
% Shut-Offs (Removed 2022)[195]	Household	Yes	✓		
Percentage of Residential Arrearages (Removed 2023)[196]	Household	Yes		✓	
Residential Arrearage Burden (Removed 2023)[197]	Community	Yes		✓	
Household Socioeconomic Burden	Community	No			✓

The following are brief descriptions of the affordability indicators utilized in the 2025 Affordability Assessment. Additional details on data sources, calculation methodologies, and thresholds are detailed in Appendix: Affordability Assessment Methodology.[198]

Percent of Median Household Income (%MHI):
This indicator measures the annual average residential customer charges for 6 Hundred Cubic Feet (HCF) per month for each water system relative to the annual median household income of the service area. 6 HCF (4,488 gallons) of indoor water usage per month is roughly equivalent to 50 gallons per person per day for a three-person household for 30 days. In other words, this indicator compares the average customer's yearly expenses for water with their estimated yearly median household income.

%MHI is commonly used by state and federal regulatory agencies and by water industry stakeholders for assessing community-wide water charge affordability for decades. The State Water Board uses median household income to determine disadvantaged community status[199] and has for some time used the 1.5% MHI threshold by the Drinking Water State Revolving Fund (DWSRF) program as a metric for determining whether a small DAC water system will receive repayable (*e.g.* loan) or non-repayable (*e.g.*, grant) funding.

[195] Data no longer collected since 2020.
[196] Data was previously collected during a one-time survey; no updated data has been available since 2022.
[197] Data was previously collected during a one-time survey; no updated data has been available since 2022.
[198] Appendix: Affordability Assessment Methodology
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025affordabilityassessment-methodology.pdf
[199] It is important to note that the estimated designation of community economic status is intended solely for the purposes of the Affordability Assessment and will not be used by the State Water Board's DFA to make funding decisions. A further MHI analysis on a per system basis will be conducted by DFA when a system applies for State Water Board assistance.

Extreme Water Bill:
This indicator identifies water systems with drinking water customer charges that meet or exceed 150% ($106.43) and 200% ($141.90) of statewide average drinking water customer charges ($70.95) for 6 HCF of water consumption per month.

Household Socioeconomic Burden:
This indicator identifies water systems that serve communities experiencing both high poverty rates and high housing costs for low-income households. These communities may already struggle to afford their current water bills with limited disposable income constrained by high housing costs and could face additional hardship if customer charge increases in the future. This indicator is a composite indicator of two data points: Poverty Prevalence and Housing Burden.

> **Poverty Prevalence** measures the percentage of the population with incomes less than two times the federal poverty level.[200] The data used to calculate this indicator come from the American Community Survey 2017-2023 5-Year Block Group-Level estimates.[201]
>
> **Housing Burden Indicator** measures the percentage of households in a census tract that are both low income (making less than 80% of the Housing and Urban Development (HUD) Area Median Family Income) and severely burdened by housing costs (paying greater than 50% of their income to housing costs). The data used to calculate this indicator come from the HUD Comprehensive Housing Affordability Strategy (CHAS) 2017-2021 5-Year Estimates.[202]

AFFORDABILITY ASSESSMENT RESULTS

AFFORDABILITY RESULTS BY COMMUNITY ECONOMIC STATUS

For the 2025 Affordability Assessment, State Water Board staff analyzed 2,815 community water systems and 363 non-transient non-community K-12 schools. Four water systems lacked the data necessary to calculate any of the three affordability indicators.[203]

Overall, comparing the three indicators in cases where data was available, more water systems exceed the affordability threshold for Household Socioeconomic Burden (51%) than the thresholds for %MHI (17%) or Extreme Water Bill (9%). The majority (68%) of water systems that exceeded the Household Socioeconomic Burden affordability threshold are

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[200] The federal poverty level used to assess poverty varies by family size and composition, and in some cases age (How the Census Bureau Measures Poverty, https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html).
[201] Census Bureau data table C17002 (Block Group-level): Ratio of Income to Poverty Level in the Past 12 Months, from 2019-2023 American Community Survey 5-Year Estimates, downloaded March 11, 2025 from https://data.census.gov/table/ACSDT5Y2023.C17002?t=Income+and+Poverty&g=040XX00US06$1500000&y=2023
[202] HUD Office of Policy Development and Research Comprehensive Housing Affordability Strategy (CHAS) data (Census Tract-level), based on 2017-2021 ACS 5-year estimates, downloaded January 27, 2025 from https://www.huduser.gov/portal/datasets/cp.html#data_2006-2021
[203] Attachment: Affordability Assessment Results Spreadsheet https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025affordability.xlsx

disadvantaged or severely disadvantaged communities. Table 48 summarizes the number of water systems, by their community economic status, that exceeded the minimum affordability threshold for each indicator assessed.

Table 48: Total Number of Water Systems Exceeding Affordability Indicator Threshold

Community Status	Total Systems	%MHI	Extreme Water Bill	Household Socioeconomic Burden
DAC/SDAC	2,115	427 (20%)	124 (6%)	1,445 (68%)
Non-DAC	1,060	102 (10%)	171 (16%)	182 (17%)
Missing DAC Status[204]	3	0 (0%)	0 (0%)	1 (33%)
TOTAL:	**3,178**	**529 (17%)**	**295 (9%)**	**1,628 (51%)**
Missing Data[205]		*246 (8%)*	246 (8%)	0 (0%)
Not Applicable[206]		995 (31%)	995 (31%)	4 (0%)

To assess which systems may be facing the greatest affordability challenges, the State Water Board further analyzed how many water systems exceeded thresholds for multiple affordability indicators. Affordability burden is ranked as low (only one affordability indicator threshold exceeded), medium (two affordability indicator thresholds exceeded), or high (three affordability indicator thresholds exceeded) (Table 49). A water system may also exceed none of the three thresholds and have no affordability burden (none). Of the 3,178 community water systems and non-transient non-community K-12 schools that were analyzed, most resulted in a low affordability burden (45%). 12% of systems have a medium affordability burden and 3% (90 systems) are facing a high affordability burden. 75 (83%) of the water systems with high affordability burden serve disadvantaged or severely disadvantaged communities. Comparatively, only 1% of non-disadvantaged communities have high affordability burden. Most non-DAC water systems are facing no or low affordability burden.

Figure 47 shows the Affordability Assessment results for disadvantaged and severely disadvantaged communities since 2021. In 2023, the State Water Board added Household Socioeconomic Burden to the Affordability Assessment. The inclusion of this new affordability indicator helped measure affordability for systems that had no data in previous years because

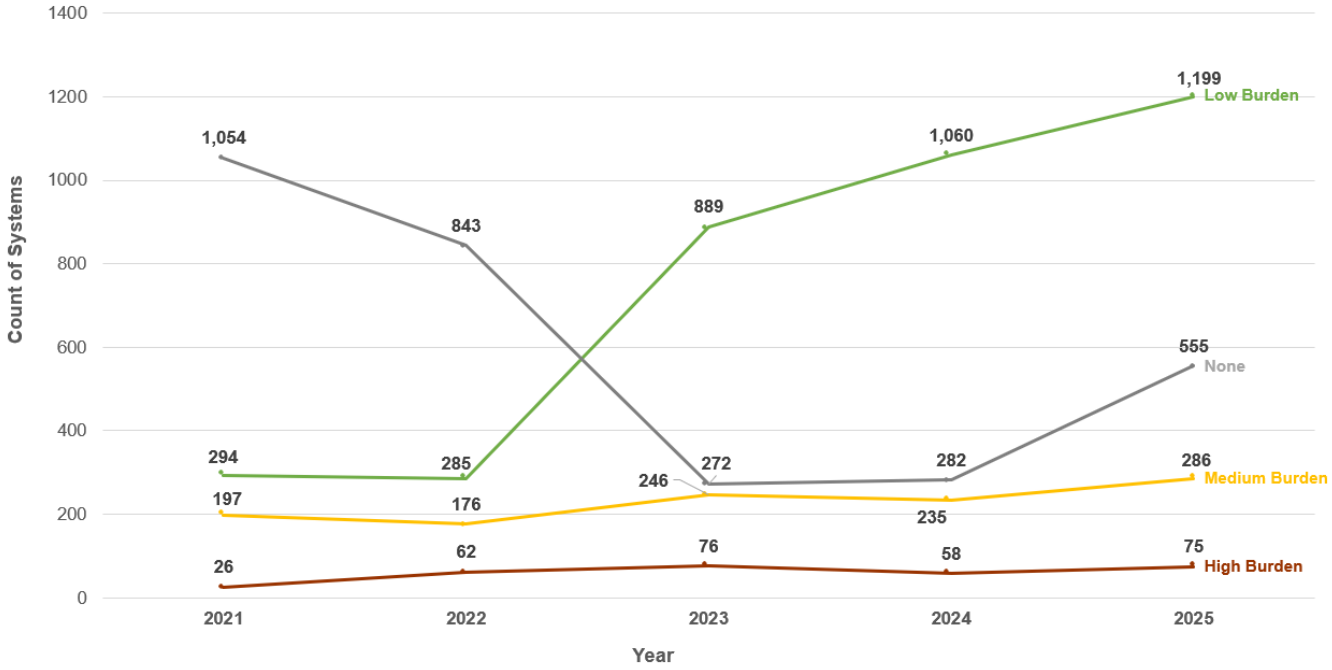
[204] Missing DAC status refers to the list of systems that were included in the Affordability Assessment but lacked data necessary to calculate their MHI to determine their DAC status.
[205] Missing data: %MHI, lacked water rates data or lacked data to calculate MHI; Extreme Water Rates, lacked water rates data or reported water rate was outside of $5-$500 range. For more information on Missing data, see Appendix: Affordability Assessment Methodology https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025affordabilityassessment-methodology.pdf
[206] Not applicable refers to systems who did not qualify to meet a particular indicator threshold, either because they did not charge for water (for %MHI and Extreme Water Bill) or because sociodemographic data was missing (for Household Socioeconomic Burden). For more information on Not Applicable data, see Appendix: Affordability Assessment Methodology https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2025/2025affordabilityassessment-methodology.pdf

they do not charge customers directly for water. Therefore, many systems went from “None” to “Low Burden.” The proportion of DAC/SDAC systems facing a high affordability burden has been relatively constant since 2022, between 3.5 – 5%. 83% of DAC/SDAC systems have no or low affordability burden.

Table 49: 2025 Affordability Assessment Results

Community Status	Total Systems Assessed	High Affordability Burden	Medium Affordability Burden	Low Affordability Burden	None
Number of Affordability Indicator Thresholds Exceeded		*3*	*2*	*1*	*0*
DAC/SDAC	2,115	75 (4%)	286 (14%)	1,199 (57%)	555 (26%)
Non-DAC	1,060	15 (1%)	89 (8%)	232 (22%)	724 (68%)
Missing DAC Status	3	0 (0%)	0 (0%)	1 (33%)	2 (67%)
TOTAL:	**3,178**	**90 (3%)**	**375 (12%)**	**1,432 (45%)**	**1,281 (40%)**

Figure 47: Affordability Assessment Results for DAC Systems (2021 – 2025 Assessment)[207]



[207] In 2023, the State Water Board added Household Socioeconomic Burden to the Affordability Assessment. The inclusion of this new affordability indicator helped measure affordability for systems that had no data in previous years because they do not charge customers directly for water. Therefore, many systems went from “None” to “Low Burden.”

AFFORDABILITY RESULTS BY COUNTY

Figure 48: Top Twelve Counties with the Most "High Affordability Burden" DAC/SDAC Systems

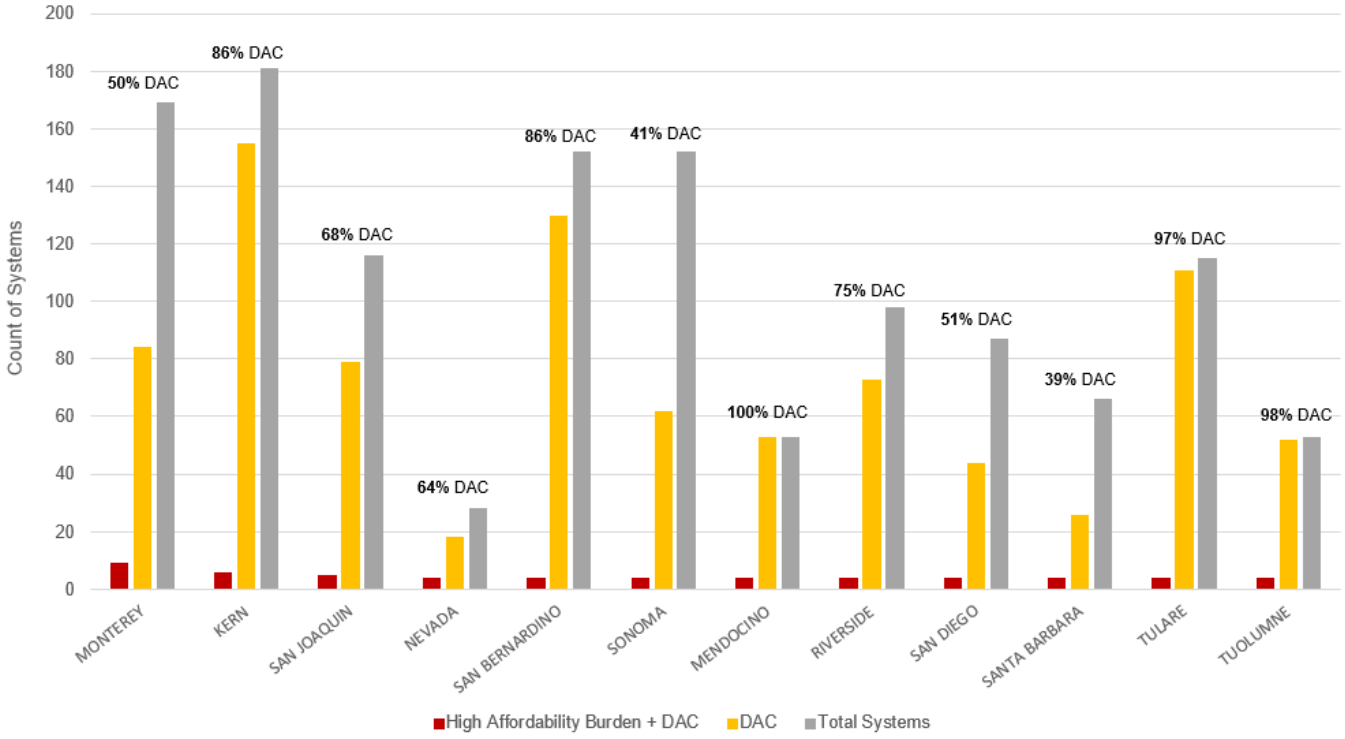


Table 50: Affordability Assessment Results for Top Twelve Counties with High Affordability DAC/SDAC Systems

County	Total Systems Assessed	Total DAC Systems Assessed	High Affordability Burden	Medium Affordability Burden	Low Affordability Burden	None
# of Affordability Indicator Thresholds Exceeded			*3*	*2*	*1*	*0*
Monterey	169	84 (50%)	9	7	58	10
Kern	181	155 (86%)	6	62	65	22
San Joaquin	116	79 (68%)	5	8	37	29
Nevada	28	18 (64%)	4	2	12	0
San Bernardino	152	130 (86%)	4	15	82	29
Sonoma	152	62 (41%)	4	9	35	14
Mendocino	53	53 (100%)	3	14	24	12
Riverside	98	73 (75%)	3	6	42	22

County	Total Systems Assessed	Total DAC Systems Assessed	High Affordability Burden	Medium Affordability Burden	Low Affordability Burden	None
San Diego	87	44 (51%)	3	4	23	14
Santa Barbara	66	26 (39%)	3	2	16	5
Tulare	115	111 (97%)	3	14	74	20
Tuolumne	53	52 (98%)	3	9	20	20

AFFORDABILITY RESULTS BY WATER SYSTEM SAFER PROGRAM STATUS

While SB 200 only mandates the identification of disadvantaged community water systems that have customer charges exceeding the affordability threshold, the 2025 Affordability Assessment also identified the number of Failing and At-Risk public water systems exceeding the affordability threshold.

As shown in Table 51, the majority of the Failing, At-Risk, and Potentially At-Risk systems exceeded the affordability threshold for the Household Socioeconomic Burden indicator. Disadvantaged community systems, regardless of SAFER Status, were also very likely to meet the Household Socioeconomic Burden affordability threshold. Compared to Not At-Risk and Not Assessed systems, Failing, At-Risk and Potentially At-Risk water systems were more likely to exceed each of the three affordability indicator thresholds.

Table 51: Counting of Water Systems exceeding Affordability Indicator Thresholds (Grouped by SAFER Program Status and DAC Status)

SAFER Program Status[208]	Total Systems	%MHI	Extreme Water Bill	Household Socioeconomic Burden
Failing Systems	**390**	**86 (22%)**	**36 (9%)**	**238 (61%)**
DAC/SDAC	308	75 (24%)	17 (6%)	224 (73%)
At-Risk Systems	**589**	**165 (28%)**	**78 (13%)**	**402 (68%)**
DAC/SDAC	461	138 (30%)	45 (10%)	370 (80%)
Potentially At-Risk Systems	**449**	**121 (27%)**	**61 (14%)**	**280 (62%)**
DAC/SDAC	340	95 (28%)	32 (9%)	255 (75%)
Not At-Risk System	**1,609**	**157 (10%)**	**119 (7%)**	**637 (40%)**
DAC/SDAC	958	119 (12%)	30 (3%)	559 (58%)

[208] Water systems that are not DAC/SDAC or are missing DAC status designations are excluded from sub-categories within this table.

SAFER Program Status	Total Systems	%MHI	Extreme Water Bill	Household Socioeconomic Burden
Not Assessed	**141**	**0 (0%)**	**1 (1%)**	**71 (50%)**
DAC/SDAC	48	0 (0%)	0 (0%)	37 (77%)
TOTAL:	**3,178**	**529 (17%)**	**295 (9%)**	**1,628 (51%)**
Missing Data		*246 (8%)*	*246 (8%)*	*0 (0%)*
Not Applicable		*995 (31%)*	*995 (31%)*	*4 (0%)*

To assess which systems may be facing the greatest affordability challenges, the State Water Board further analyzed the number of water systems in the four different levels of affordability burden by SAFER and DAC status. As summarized in Table 52, Not At-Risk and Not Assessed systems were most likely to be experiencing no affordability burden. Most water systems that were Failing, At-Risk, or Potentially At-Risk had low or medium affordability burden.

Table 52: Counting of Water Systems in the Four Levels of Affordability Burden (Grouped by SAFER Program Status and DAC Status)

SAFER Program Status	Total Systems Assessed	High Affordability Burden	Medium Affordability Burden	Low Affordability Burden	None
Number of Affordability Indicator Thresholds Exceeded		*3*	*2*	*1*	*0*
Failing Systems	**390**	**12 (3%)**	**66 (17%)**	**192 (49%)**	**120 (31%)**
DAC/SDAC	308	11 (4%)	56 (18%)	171 (56%)	70 (23%)
At-Risk Systems	**589**	**37 (6%)**	**112 (19%)**	**310 (53%)**	**130 (22%)**
DAC/SDAC	461	31 (7%)	91 (20%)	278 (60%)	61 (13%)
Potentially At-Risk Systems	**449**	**22 (5%)**	**89 (20%)**	**218 (49%)**	**120 (27%)**
DAC/SDAC	340	18 (5%)	67 (20%)	194 (57%)	61 (18%)
Not At-Risk System	**1,609**	**19 (1%)**	**108 (7%)**	**640 (40%)**	**842 (52%)**
DAC/SDAC	958	15 (2%)	72 (8%)	519 (54%)	352 (37%)
Not Assessed System	**141**	**0 (0%)**	**0 (0%)**	**72 (51%)**	**69 (49%)**

SAFER Program Status	Total Systems Assessed	High Affordability Burden	Medium Affordability Burden	Low Affordability Burden	None
DAC/SDAC	48	0 (0%)	0 (0%)	37 (77%)	11 (23%)
TOTAL:	**3,178**	**90 (3%)**	**375 (12%)**	**1,432 (45%)**	**1,281 (40%)**

WATER SYSTEM FINANCIAL CAPACITY & COMMUNITY AFFORDABILITY DASHBOARD

In 2023, the State Water Board released a new Water System Financial Capacity & Community Affordability Dashboard. The purpose of this dashboard is to allow users to explore the relationships between water system financial capacity and affordability. The dashboard displays and auto-calculates averages of the financial capacity and affordability risk indicators for community water systems used in the Risk Assessment and Affordability Assessment. Users can filter the water systems and data displayed in the dashboard to better understand how water system characteristics, customer affordability challenges, and water system financial capacity are related. Due to resource limitations, the dashboard has not been updated since 2023; however, the State Water Board plans to resume regular updates and maintenance soon.

DEMOGRAPHIC ANALYSIS OF WATER SYSTEMS WITH HIGH AFFORDABILITY BURDEN

Results for the 2025 Affordability Assessment for community water systems and non-transient non-community systems serving K-12 schools can be combined with demographic data to better understand the populations most at-risk. However, there are several limitations to this demographic analysis. Demographic data is collected at the census tract or block group-level, and current census surveys do not indicate household drinking water source information. Therefore, the demographic information presented in the tables below may not represent the actual population served by water systems. Any interpretation of these results should keep in mind the limitations of the analysis.

Demographic data come from CalEnviroScreen 4.0 and the American Community Survey. CalEnviroScreen 4.0 identifies California communities facing socioeconomic and health-related challenges and a high environmental burden. CalEnviroScreen combines a Population Characteristics Score, which captures social and health vulnerability, and a Pollution Burden Score, which captures exposure to environmental hazards and pollutants to assign each census tract in California. The Population Characteristics and Pollution Burden Scores both range from 0 to 10, with scores of 10 indicating the highest vulnerability to environmental hazards and socioeconomic or health challenges, respectively.[209] The overall score is

[209] OEHHA CalEnviroScreen
https://oehha.ca.gov/calenviroscreen

calculated by multiplying the Population Characteristics and Pollution Burden Scores, where 100 indicates the most vulnerable. Data for poverty, linguistic isolation (percentage of limited English-speaking households), household size, and race/ethnicity, as well as data used to calculated median household income and disadvantaged community status was taken from 2023 5-Year American Community Survey estimates.[210] The socioeconomic analysis was calculated using water service area boundaries and census tract or block group boundaries to determine area-weighted averages. This methodology means that there may be a bias towards demographic data from larger census tracts and block groups that are less populated and more rural.

Table 53 summarizes the findings of the demographic analysis for water systems assessed by the Affordability Assessment. When compared with non-disadvantaged community water systems, DAC/SDAC water system service areas tend to have higher CalEnviroScreen scores, a higher percentage of the population in poverty, and a higher percentage of limited English-speaking households. Systems that serve disadvantaged and severely disadvantaged communities are also more likely to be majority communities of color. Water systems with high or medium affordability burden do not have higher CalEnviroScreen scores, poverty levels, linguistic isolation, average household size, or serve relatively more communities of color when compared to low affordability burden systems, but this is partially because there are many more systems experiencing low burden (compared to medium or high). However, compared to systems with no burden, those with high affordability burden do tend to have higher CalEnviroScreen scores, a higher percentage of population in poverty, a higher percentage of limited English-speaking households and larger household sizes. Systems with high affordability burden are also 64% more likely to be serving the majority communities of color than systems exceeding none of the affordability indicator thresholds.

[210] American Community Survey Data
https://www.census.gov/programs-surveys/acs/data.html

Table 53: Demographic Analysis for Water Systems with Different Levels of Affordability Burden and DAC Status[211]

	Statewide (all CWS + K-12)	Non-DAC/SDAC	DAC/SDAC	No Afford. Burden	Low Afford. Burden	Medium Afford. Burden	High Afford. Burden
Total Count of Systems	**3,178[212]**	**1,060**	**2,115**	**1,281**	**1,432**	**375**	**90**
Average CalEnviroScreen 4.0 Score (Out of 100, w/ 100 being most impacted by pollution burden)	24.3	17.5	27.7	19.2	29.0	23.9	23.3
Average CalEnviroScreen 4.0 Population Characteristics Score[213] (Out of 10, w/ 10 being most vulnerable)	4.75	3.48	5.38	3.95	5.42	4.96	4.62
Average CalEnviroScreen 4.0 Pollution Burden Score[214]	4.87	4.75	4.93	4.67	5.12	4.61	4.73

[211] CalEnviroScreen 4.0 data is available at the 2019 census tract-level. The other demographic data is available at the block group-level from the 2023 5-Year American Community Survey estimates. To determine the average demographic estimates for each water system, the water service area boundaries are used to calculate area-weighted census tract-level estimates for the CalEnviroScreen 4.0 data, and block group-level estimates for the American Community Survey data. More information on the area-weighed methodology can be found in the Appendix: GIS Methodology for Calculating Data (https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/2025-needs/general-gis-methodology.pdf).

[212] 3 systems lacked enough data to determine DAC status.

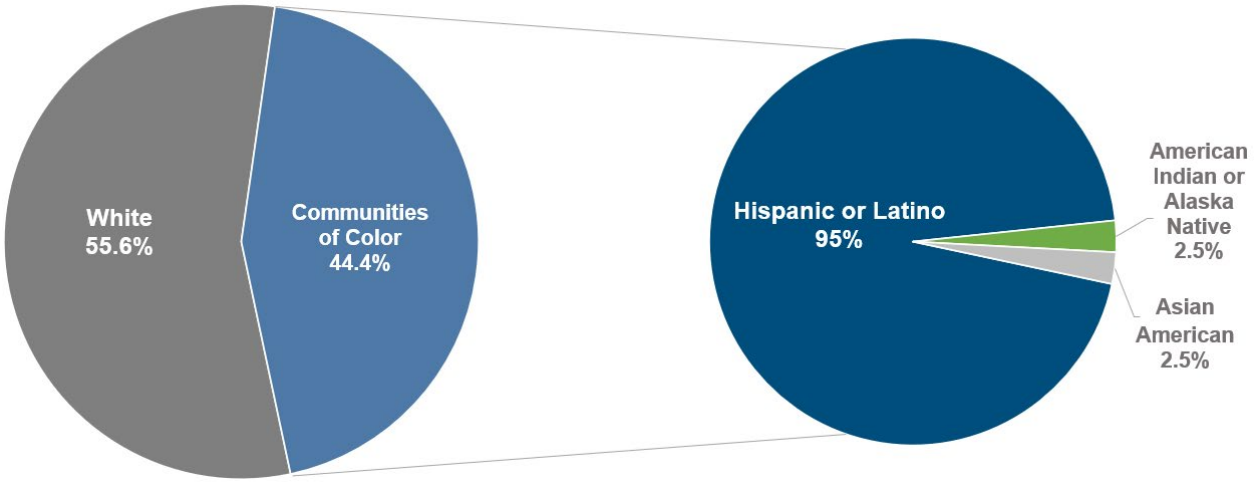
[213] Population Characteristics for each census tract are derived from the average percentiles for 3 sensitive populations indicators (asthma, cardiovascular disease, and low birth weight) and 5 socioeconomic factors indicators (educational attainment, housing-burdened low-income households, linguistic isolation, poverty, and unemployment). For more information, see the CalEnviroScreen 4.0 Report (https://oehha.ca.gov/media/downloads/calenviroscreen/report/calenviroscreen40reportf2021.pdf).

[214] The Pollution Burden score for each census tract combines 7 pollution exposure indicators (ozone/PM2.5 concentrations, diesel particulate matter emissions, drinking water contaminants, children's lead risk from housing, pesticide use, toxic releases from facilities, and traffic density) and 5 environmental effects indicators (cleanup sites, impaired water bodies, groundwater threats, hazardous waste facilities and generators, and solid waste sites and facilities). The score ranges from 0.1-10 with 10 being the most pollution burden. For more information, see the CalEnviroScreen 4.0 Report (https://oehha.ca.gov/media/downloads/calenviroscreen/report/calenviroscreen40reportf2021.pdf). The average pollution burden score for each water system is calculated as the area-weighted average of census tract-level scores. More information on the area-weighed methodology can be found in the Appendix: GIS Methodology for Calculating Data (https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/2025-needs/general-gis-methodology.pdf).

	Statewide (all CWS + K-12)	Non-DAC/SDAC	DAC/SDAC	No Afford. Burden	Low Afford. Burden	Medium Afford. Burden	High Afford. Burden
(Out of 10, with 10 being most pollution burden)							
Average percentage of the population living below twice the federal poverty level	29.6	16.2	36.3	17.3%	38.9%	34.4%	37.6%
Average percentage of households with limited English speaking (linguistically isolated)	5.3%	3.5%	6.2%	2.9%	7.6%	4.7%	4.7%
Average household size[215]	2.8	2.8	2.8	2.7	2.9	2.6	2.8
Percentage serving majority communities of color	38.7%	34.6%	40.7%	27.2%	51.7%	26.7%	44.4%

[215] Block groups that had 0 households (154 out of 25,607 total block groups) were not included in the average.

Figure 49: Distribution of High Affordability Burden Community Water Systems and K-12 Schools by Majority Race/Ethnicity Census Tract



TRIBAL NEEDS ASSESSMENT

Meaningful engagement with California Native American Tribes is fundamental to the mission of the State Water Board. The State Water Board recognizes the sovereignty of California Native American Tribes and understands that tribes face unique challenges to providing safe and affordable drinking water to their communities.

Although tribal water systems located on tribal land are regulated by United States Environmental Protection Agency (U.S. EPA) and not by the State Water Board, there are federal funding gaps that the SAFER program can support. For the last several years, the State Water Board has convened a multi-agency working group with the U.S. EPA, Indian Health Services, Bureau of Reclamation, Department of Water Resources, and Bureau of Indian Affairs to advance tribal water projects. Through this partnership the State Water Board has been able to better understand the landscape of state and federal funding availability, identify opportunities for co-funding agreements, and provide collaborative technical assistance to advance tribal water infrastructure projects. Through this collaboration, it has been identified how the SAFER program's unique funding tools could be used to fill funding gaps that impede progress. As federal agencies experience financial and staff uncertainties, it is anticipated there may be more reliance on state resources to fill in those gaps.

The State Water Board is currently involved in over 25 drinking water projects impacting tribes and tribal communities, including technical assistance, planning, construction, emergency services, and operations and maintenance projects. The uncertainty in federal funding highlights the importance of cross-jurisdictional collaboration to advance mutual priorities of ensuring the Human Right to Water for tribal communities. The State Water Board remains committed to working alongside tribal, state, and federal partners to ensure tribal communities have access to safe and reliable drinking water and sustainable wastewater solutions.

BACKGROUND

U.S. EPA, Region 9 and Navajo Nation Environmental Protection Agency, which together encompass multiple southwestern states, collectively regulate approximately 365 tribal community water systems and 115 non-community water systems. According to the 2024 data managed by U.S. EPA of federally recognized tribes, in California, there are approximately 148 tribal water systems, comprised of 112 tribal community water systems, 23 non-transient non-community water systems, and 13 transient water systems that are regulated by U.S. EPA. These water systems may be owned and operated by the tribe or managed by non-tribal members or the federal government. (*e.g.*, Bureau of Indian Affairs and U.S. Customs and Border Protection).

There are 49 federally recognized tribes in California that do not have water systems regulated by U.S. EPA because they do not meet the federal definition of a public water system. For these 49 tribes, drinking water may be accessed through 1) domestic wells that serve fewer than 15 service connections or 25 people, 2) decentralized surface water diversions, or 3) through public water systems that are located outside of tribal land and are thus regulated by the State Water Board.

Tribal communities that rely on domestic wells that serve fewer than 15 connections or 25 people are faced with similar challenges experienced by well owners throughout California including drought related supply issues, lack of regular water quality testing, water quality health impacts, and operation and maintenance issues. There is very limited federal technical assistance funding available to support solutions for domestic wells on or off tribal land. More information is required to better understand the unique needs of these 49 tribes. Engagement with these tribes is a top priority for SAFER program staff.

Tribal communities may also be served by public or privately-owned water systems over which they have limited or no influence or management. These water systems, not located on federal lands, are regulated by entities other than U.S. EPA, such as the State Water Board or California Public Utilities Commission. At times, tribal members may serve on the boards of these water systems. Oftentimes, these public water systems provide drinking water to predominantly tribal households but are not governed by the local tribal government and whose board does not include direct representation of tribal members.

FAILING EQUIVALENT TRIBAL WATER SYSTEMS

State Water Board staff worked with U.S. EPA to apply the Needs Assessment's Failing public water system criteria to the 148 tribal water systems that U.S. EPA regulates to develop a Failing-equivalent list of those tribal water systems. It is important to note that in comparison to the federal government, California has stricter criteria for maximum contaminant levels and an expanded list of contaminants that are monitored, such as 1,2,3-trichloropropane (1,2,3-TCP). For the purposes of this assessment, the results of U.S. EPA's assessment below utilize the federal government's list of contaminants and maximum contaminant levels (MCL). Therefore, it is expected that there may also be tribal water systems that are not currently meeting California-specific maximum contaminant levels that are not captured in this list. Additionally,

due to the lack of available data, the scope of this Failing-equivalent analysis is limited to only tribal water systems U.S. EPA regulates and that are located on federal lands.

Table 54: Criteria for Failing Public Water Systems

Criteria
Primary MCL Violation with an open Enforcement Action
Secondary MCL Violation with an open Enforcement Action
***E. coli* Violation with an open Enforcement Action**
Treatment Technique Violations: • One or more Treatment Technique violations (in lieu of an MCL), related to a primary contaminant, with an open enforcement action; and/or • Three or more Treatment Technique violations (in lieu of an MCL), related to a primary contaminant, within the last three years.
Monitoring and Reporting Violations: • Three Monitoring and Reporting violations (related to an MCL) within the last three years where at least one violation has been open for 15 months or greater.

Results of tribal drinking water assessment were:

Of the 148 tribal water systems, 16 tribal community water systems met the criteria for a Failing-equivalent water system (Table 55).

Table 55: Tribal Failing-Equivalent Water Systems Results

Tribal Water System	No. of Connections	Primary MCL Violation	E. coli Violation	Treatment Technique Violation	Funding/Solution
System 1	59	Yes – Uranium	No	No	Water Board funding provided for feasibility study to drill two test wells and prepare necessary documents for the construction project.
System 2	774	Yes – Nitrate	No	No	Currently being considered for Water Board technical assistance
System 3	224	Yes – TTHM	No	Yes	Grant applications and inter-agency support currently being considered

Tribal Water System	No. of Connections	Primary MCL Violation	E. coli Violation	Treatment Technique Violation	Funding/Solution
System 4	7	No	No	Yes	No information available
System 5	58	No	Yes	Yes	No information available
System 6	20	No	No	Yes	No information available
System 7	25	No	No	Yes	No information available
System 8	33	No	No	Yes	No information available
System 9	12	Yes – Arsenic	No	No	Large scale consolidation w/ nearby public water system
System 10	13	No	No	Yes	Large scale consolidation w/ nearby public water system
System 11	15	No	No	Yes	Large scale consolidation w/ nearby public water system
System 12	76	Yes – Arsenic	No	Yes	Large scale consolidation w/ nearby public water system
System 13	352	No	No	Yes	Large scale consolidation w/ nearby public water system
System 14	36	Yes – Arsenic	No	Yes	Interagency agreement w/ Indian Health Service in 2024 to address arsenic
System 15	23	No	No	Yes	No information available
System 16	157	No	No	Yes	No information available
TOTAL	**1,914**	**6**	**1**	**13**	9 systems receiving support, 7 systems with no current solution in progress

AT-RISK EQUIVALENT TRIBAL WATER SYSTEMS

Currently not enough data is available to identify At-Risk tribal water systems.

TRIBAL WATER COST ASSESSMENT

Currently not enough data is available to identify tribal water systems with drinking water affordability challenges.

FINANCIAL ASSISTANCE AVAILABLE FOR TRIBES

In addition to the SAFER program, there are several state and federal sources available to California Native American Tribes to address their water infrastructure and drinking water needs.

U.S. EPA Region 9 funds drinking water and sanitation infrastructure projects through its Drinking Water Tribal Set Aside (DWTSA) and Clean Water Indian Set Aside (CWISA) programs. DWTSA eligibility is limited to projects that address health deficiencies at community water systems and non-profit, non-community water systems that serve tribal communities. Eligibility for CWISA funding is linked to projects that are included in Indian Health Service's sanitation deficiency systems (SDS) list. U.S. EPA also provides onsite Safe Drinking Water Act technical assistance through its contractor, Rural Community Assistance Corporation, to public water systems on tribal land in U.S. EPA Region 9.

Indian Health Service (IHS) is a federal agency dedicated to raising the health status of the American Indian and Alaska Native people to the highest possible level. IHS is divided into 12 regional areas throughout the country, one being the California Area. The IHS Division of Sanitation Facilities Construction works with tribal communities through Public Law 86-121, legislation that authorizes the creation of the Sanitation Facilities Construction Program within the IHS. The Sanitation Facilities Construction Program provides technical assistance and funding for American Indian and Alaska Native homes and communities to plan, design and construct essential water supply, sewage disposal, and solid waste disposal facilities. IHS funds are prioritized for existing deficiencies and homes must meet certain eligibility requirements. Tribal commercial enterprises are ineligible for IHS funding. The Infrastructure Investment and Jobs Act (IIJA), signed by the President on November 15, 2021, provides $3.5 billion to the IHS, with $700 million being allocated a year over 5 years beginning in fiscal year 2022. This is an unprecedented infusion of funds into the Sanitation Facilities Construction program and presents many challenges in managing existing resources, expanding the capacity of internal and external resources, and partnering with other Federal and State agencies to ensure successful completion of the IIJA funded projects. On an annual basis, IHS conducts a tribal infrastructure needs survey to understand drinking water and sanitation needs, as well as the project funding required to address those needs. The results for the 2024 fiscal year can be found on their website.

Department of Water Resources (DWR) is a state agency that provides financial and technical assistance to communities across California to build water and climate resilience and administers grant programs that have designated targets/set asides for Tribes and underrepresented communities. Eligible tribes include federally recognized California Native American Tribes and non-federally recognized Native American Tribes on the contact list

maintained by the Native American Heritage Commission (NAHC) for the purposes of Chapter 905 of the Statutes of 2004. DWR offers government-to- government consultation as needed through the Office of Tribal Policy Advisor in the Executive Division, to address issues such as sovereign immunity and confidentiality.

FUNDING CHALLENGES

Through the State Water Boards' on-going collaboration with tribal, state, and federal partners, several areas of challenges and opportunities have been identified. These identified areas are needs that the SAFER program could prioritize to address funding gaps and support safe and affordable drinking water for tribal communities.

Funding Uncertainty: Ongoing negotiations may affect the availability of funding for critical programs such as tribal water infrastructure.

Funding shortfall: Due to the rising cost of construction, IHS has a number of approved tribal water projects that will suffer a funding gap between what was budgeted and approved for a project and the actual cost of construction.

Funding projects that serve communities with both tribal and non-tribal households: IHS can only fund projects for tribal homes. If a proposed project serves a community with both tribal and non-tribal households, IHS funding can only fund the percentage that is proportionate to the number of tribal households. In addition, U.S. EPA regulates several water systems on tribal land that do not serve tribal communities and could benefit from SAFER assistance. By collaborating with IHS and U.S. EPA on these projects, the State Water Board can support funding the remaining project costs that are proportionate to the percentage of non-tribal households to jointly fund a comprehensive drinking water solution for these communities.

Emergency/urgent needs: The SAFER program is uniquely poised to address emergency drinking water needs affecting tribal communities. Federal agencies do not have funding available to provide bottled or hauled water for emergency needs and do not have established programs to deploy these resources in an expedited manner required to address public health concerns. The SAFER program will continue to evaluate urgent drinking water requests from tribes for bottled and hauled water.

Operations and maintenance needs: Currently, there do not exist any federal funding sources that are able to fund costs associated with operations and maintenance. Most tribal water systems that meet the criteria of a Failing water system have less than 500 connections. These small systems often lack the economies of scale to address operations and maintenance costs. In addition, some tribal water systems have unique funding structures that do not rely on individual rate payers to support the financial needs of the system.

Staffing: Tribal water systems, similar to small public water systems, often struggle with limited or part-time staff and limited funding to address repairs or treatment costs. High staff turnover rates, lack of certified water operators, and technical, managerial and financial capacity issues are all challenges facing these water systems. In addition, many tribes do not

have dedicated staff or the capacity to pursue and manage grant funding. The State Water Board's Safe and Affordable Drinking Water Fund is the only funding source currently available to address these unique needs that also include technical assistance to support the planning and application processes.

TRIBAL ENGAGEMENT MOVING FORWARD

Ensuring access to safe and reliable drinking water is a fundamental priority for all communities, including California Native American tribes. However, many tribes face unique challenges in managing and maintaining their water systems, particularly those not regulated by U.S. EPA. To address these challenges, the State Water Board has intensified its efforts to provide targeted outreach, technical assistance, and funding support to tribal communities. This chapter highlights ongoing initiatives and the commitment to raising awareness about SAFER funding opportunities available to tribes. Through these efforts, the State Water Board aims to partner with tribes, providing resources and information needed to improve their water infrastructure, all while upholding the principles of tribal sovereignty and fostering meaningful collaboration.

The State Water Board's Office of Public Engagement, Equity, and Tribal Affairs (OPEETA) is committed to conducting outreach to tribes and tribal communities that operate water systems not regulated by the U.S. EPA. Recognizing the unique challenges these communities face, OPEETA prioritizes efforts to engage with these communities through a variety of communication methods, including written correspondence, emails, and phone calls. These outreach efforts are designed to identify and address drinking water concerns, with a focus on providing technical assistance to tribes that do not own or operate water systems regulated by the U.S. EPA.

To strengthen these initiatives, OPEETA continues to lead monthly coordination calls with key state and federal partners, including the Indian Health Service (IHS), the Department of Water Resources (DWR), and the U.S. EPA. These culturally informed and guided collaborative discussions ensure that all stakeholders are aligned in their efforts to best understand and support tribal water systems and their unique needs. Through outreach efforts, OPEETA aims to bridge these gaps by providing tailored support, fostering partnerships, and ensuring that tribal voices are heard in discussions about their water systems. By addressing these challenges, OPEETA strives to empower tribes and tribal communities to improve their water infrastructure and ensure access to safe, sustainable drinking water for their members.

These efforts focus on addressing the unique challenges faced by tribal communities, ensuring they receive the necessary resources and expertise to improve their water infrastructure and meet safety standards. By leveraging partnerships and targeted outreach, OPEETA strives to connect tribes with the appropriate technical assistance providers to enhance the sustainability and reliability of their water systems.

OPEETA has been actively working to update the Tribal consultation and information databases, which are essential tools for improving our tribal consultation processes and enhancing the monitoring and consistency of our engagement efforts. The focus for the State

Water Board will be to provide greater information on tribal water-specific projects and readily accessible education on tribal water systems. These updates are designed to foster connection, educate on the process of consultation and institutionalize tribal consultation as an agency wide priority, enabling better tracking, measuring, and reporting of outreach and engagement efforts. The databases will also serve as the foundation for a data and analytics dashboard on public-facing tribal affairs webpage.

The dashboard will provide real-time insights into tribal engagement, consultation activities and opportunities, as well as project information impacting California tribes and tribal communities. The updates to the databases and the development of the dashboard are part of a broader commitment to improving transparency, communication, and support for tribal communities. Once the updates are finalized, training sessions will be conducted for staff to ensure smooth implementation. OPEETA expects to launch the new dashboard in the second quarter of 2025, marking a significant step forward in efforts to empower tribes and address their unique water system needs.

Updates to the website will include a dedicated section focused on funding opportunities, offering tribes clear guidance on available programs, how to apply for funding, how to inquire about funding, and a summary of recent funding awards. By consolidating this information in one accessible location, OPEETA aims to make it easier for tribes to navigate funding processes and access critical State Water Board resources for their water systems.

As part of ongoing efforts to support tribal communities, OPEETA has prioritized educating and raising awareness about SAFER funding opportunities. Recognizing the critical need for accessible and sustainable water infrastructure in tribal communities, OPEETA is committed to ensuring that tribes are fully informed about available funding programs and how to access them. To achieve this, OPEETA is actively participating in conferences, meetings, and tribal-specific gatherings, where detailed information about SAFER funding is presented. These presentations are designed to provide clear guidance on eligibility, application processes, and the types of projects that can be supported through these funds. This approach is rooted in the utmost respect for tribal sovereignty, ensuring that all outreach and engagement efforts are collaborative, culturally informed, and aligned with the priorities of tribal leaders and communities.

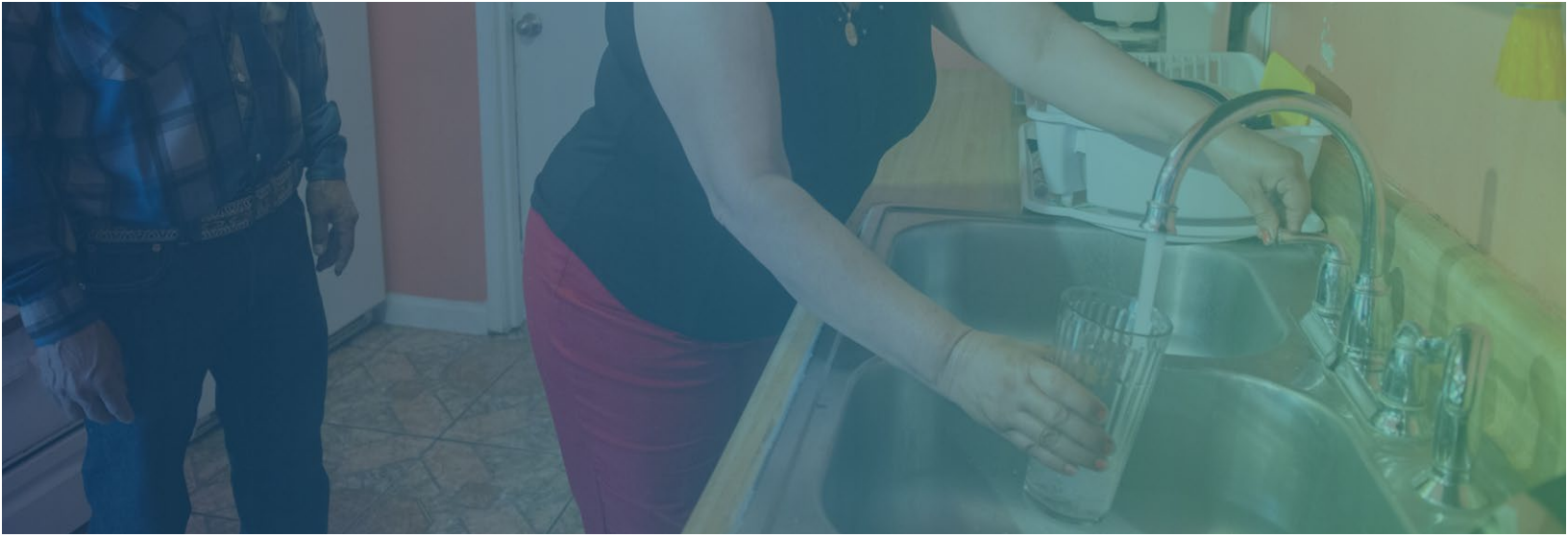
By leveraging these platforms, OPEETA aims to empower tribes with the knowledge and resources needed to pursue funding opportunities that address their unique water system challenges. This initiative not only supports the development of sustainable water infrastructure but also strengthens partnerships with tribes and tribal communities, fostering a spirit of mutual respect and cooperation.

PROJECT EXAMPLE

Yurok Tank Project

In November 2024, in collaboration with federal partners, the State Water Board committed more than $300,000 from the SAFER Drinking Water Program to address a federal funding gap and support a sustainable drinking water solution for the Yurok Tribe.

The SAFER funding will supplement an Indian Health Service grant to construct a 150,000-gallon storage tank, ensuring the Klamath Community Services District—a public water system primarily serving the tribal community—can meet daily water demands. The increased storage capacity will also enable the connection of water services to the Yurok Tribe's newly constructed emergency center. This investment ensures the Tribe's continued access to safe and reliable drinking water.



CONCLUSIONS

NEEDS ASSESSMENT NEXT STEPS

The State Water Board conducts the Needs Assessment annually to support implementation of the SAFER program. The results of the Needs Assessment will be used to:

- prioritize public water systems, tribal water systems, state small water systems, and domestic wells for funding in each year's Safe and Affordable Drinking Water Fund Expenditure Plan;
- inform State Water Board technical assistance;
- develop strategies for implementing interim and long-term solutions; and
- targeted outreach on engagement and partnership activities.

The Needs Assessment methodology will be refined over time to incorporate additional and better-quality data, experience gained from implementing the SAFER program, and further input from the public and SAFER Advisory Group.

WATER SYSTEM REQUESTS FOR DATA UPDATES

The State Water Board is accepting inquiries related to underlying data change requests for the 2025 Needs Assessment. The data used for both the Risk and Affordability Assessments are drawn from multiple sources and are detailed in the Appendices (see links at end of document). Water systems are encouraged to reach out via the online webform below:

Water System Data Change Request Webform: https://forms.office.com/g/eaJHipW8gF. As new data becomes available, the State Water Board will update the Risk Assessment results in the SAFER Dashboard.[216] Therefore, the list of water systems designated as Failing, At-Risk, Potentially At-Risk, Not At-Risk, and Not Assessed will evolve over time from the aggregated assessment results summarized in this report.

[216] SAFER Dashboard
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/saferdashboard.html

2025-26 SAFE AND AFFORDABLE DRINKING WATER FUND EXPENDITURE PLAN

The results of the 2025 Needs Assessment will be utilized by the State Water Board and SAFER Advisory Group[217] to inform the prioritization of funding and technical assistance within the Safe and Affordable Drinking Water Fund Expenditure Plan.[218] The SAFER Advisory Group is composed of up to 20 appointed members that represent public water systems, technical assistance providers, local agencies, nongovernmental organizations, California Native American tribes, the public and residents served by community water systems in disadvantaged communities, state small water systems, and domestic wells.

The SAFER Advisory Group meets at least four times a year to provide opportunities for public and community input, utilizing the Needs Assessment to inform the Fund Expenditure Plan.

[217] SAFER Advisory Group
https://www.waterboards.ca.gov/safer/advisory_group.html
[218] Safe and Affordable Drinking Water Fund
https://www.waterboards.ca.gov/water_issues/programs/grants_loans/sustainable_water_solutions/safer.html

APPENDICES & ATTACHMENTS

SAFER Program Progress & Updates

- Appendix: New Legislation Related to the SAFER Program and Capacity Development Strategy

Failing Water Systems

- Appendix: Failing Water System Criteria
- Attachment: Failing Systems (2017 – 2024)

Risk Assessment for Public Water Systems

- Appendix: Risk Assessment Methodology for Public Water Systems
- Attachment: Risk Assessment Results Spreadsheet

Risk Assessment for State Small Water Systems & Domestic Wells

- Appendix: Risk Assessment Methodology for State Small Water Systems & Domestic Wells
- Appendix: State Small Water Systems & Domestic Wells Risk Assessment Dashboard User Guide
- Attachment: State Small Water Systems At-Risk List
- Attachment: Domestic Wells At-Risk List

Cost Assessment & Funding Gap Analysis

- Appendix: 2024 Cost Assessment Results
- Appendix: Cost Assessment Methodology
    - Supplemental Appendix: Cost Assessment Physical Consolidation Methodology
    - Supplemental Appendix: Cost Assessment Centralized Treatment Methodology
    - Supplemental Appendix: Cost Assessment Decentralized Treatment Methodology
    - Supplemental Appendix: Cost Assessment Additional Long-Term Solutions Methodology
    - Supplemental Appendix: Cost Assessment Interim Solutions Methodology
- Appendix: Funding Gap Analysis Methodology

Affordability Assessment

- Appendix: Affordability Assessment Methodology
- Appendix: Median Household Income (MHI) and Economic Status Determination Methodology
- Attachment: Affordability Assessment Results Spreadsheet

Additional Appendices

- Appendix: GIS Methodology for Calculating Data
- Appendix: New Public Water Systems 3-Years
- Appendix: SAFER Dashboard User Guide
- Appendix: Data Dictionary
- SAFER Data.ca.gov Published Data