

2022

DRINKING WATER
NEEDS ASSESSMENT
AFFORDABILITY ASSESSMENT



Full report:

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2022needsassessment.pdf



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DEFINITION OF TERMS

This report includes the following defined terms.

“Affordability Threshold” means the level, point, or value that delineates if a water system’s residential customer charges, designed to ensure the water systems can provide drinking water that meets state and federal standards, are unaffordable. For the purposes of the 2022 Affordability Assessment, the State Water Board employed affordability thresholds for the following indicators: Percent Median Household Income; Extreme Water Bill; Percent Residential Arrearages; and Residential Arrearage Burden. Learn more about current and future indicators and affordability thresholds in Appendix E.

“Adequate supply” means sufficient water to meet residents’ health and safety needs at all times. (Health & Saf. Code, § 116681, subd. (a).)

“Administrator” means 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 is competent to perform the administrative, technical, operational, legal, or managerial services required for purposes of 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” means the identification of any community water system that serves a disadvantaged community that must charge fees that exceed the affordability threshold established by the State Water Board in order to supply, treat, and distribute potable water that complies with federal and state drinking water standards. The Affordability Assessment evaluates several different affordability indicators to identify communities that may be experiencing affordability challenges. (Health & Saf. Code, § 116769, subd. (2)(B).)

“Arrearage” means debt accrued by a water system’s customers for failure to pay their water service bill(s) that are at least 60 days or more past due.

“At-Risk public water systems” or **“At-Risk PWS”** means community water systems with up to 30,000 service connections or 100,000 population served and K-12 schools that are 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.

“At-Risk state small water systems and domestic wells” or **“At-Risk SSWS and domestic wells”** means state small water systems and domestic wells that are located in areas where groundwater is at high-risk of containing contaminants that exceed safe drinking water standards. This definition may be expanded in future iterations of the Needs Assessment as more data on domestic wells and state small water systems becomes available.

“California Native American Tribe” means federally recognized California Native American Tribes, and non-federally recognized Native American Tribes 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.

“Capital costs” means the costs associated with the acquisition, construction, and development of water system infrastructure. These costs may include the cost of infrastructure (treatment solutions, consolidation, etc.), design and engineering costs, environmental compliance costs, construction management fees, general contractor fees, etc. Full details of the capital costs considered and utilized in the Needs Assessment are in Appendix C.

“Community water system” or CWS means 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” means a failure to provide an adequate supply of safe drinking water. (Health & Saf. Code, § 116681, subd. (c).)

“Consolidation” means joining 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 document, consolidations may include voluntary or mandatory consolidations. (Health & Saf. Code, § 116681, subd. (e).)

“Constituents of emerging concern” means synthetic or naturally occurring chemicals or material that have been detected in water bodies, that cause public health impacts, and are not regulated under current primary or secondary maximum contaminant level (MCL). For purposes of the 2022 Risk Assessment, three chemicals: hexavalent chromium, 1,4-dioxane, and per- and polyfluoroalkyl substances (PFAS), were incorporated.

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

“Cost Assessment” means 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, the Cost Assessment estimates the costs related to the implementation of interim and/or emergency measures and longer-term solutions for HR2W list systems and At-Risk public water systems, state small water systems, and domestic wells. The Cost Assessment also includes 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” or “DAC” means 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” means 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 that has no more than four service connections. (Health & Saf. Code, § 116681, subd. (g).)

“Drinking Water Needs Assessment” or **“Needs Assessment”** means the comprehensive identification of California drinking water needs. The Needs Assessment consist of three core components: the Affordability Assessment, Risk Assessment, and Cost Assessment. The results of the Needs Assessment inform the State Water Board’s annual Fund Expenditure Plan for the Safe and Affordable Drinking Water Fund and the broader activities of the SAFER Program. (Health & Saf. Code, § 116769.)

“Electronic Annual Report” or **“EAR”** means is a survey of public water systems, currently required annually, to collect critical water system information intended to assess the status of compliance with specific regulatory requirements, provides updated contact and inventory information (such as population and number of service connections), and provides information that is used to assess the financial capacity of water systems, among other information reported.

“Fire flow” it is the amount of water designated to be used for firefighting purposes.

“Fund Expenditure Plan” or **“FEP”** means the plan that the State Water Board develops 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” means 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” or **“HR2W”** means 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).)

“Human Right to Water list” or **“Failing: HR2W list”** means the list 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 HR2W list criteria include Community Water Systems and Non-Community Water Systems that serve K-12 schools and daycares. The HR2W 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).)

“Intertie” means an interconnection allowing the passage of water between two or more water systems.

“Local Primacy Agency” or **“LPA”** means a 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. LPA is authorized by means of a local primacy delegation agreement if the local health officer demonstrates that it has 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).)

“Maximum Contaminant Level” or “MCL” means the maximum permissible level of a contaminant in water. (Health & Saf. Code, § 116275, subd. (f).)

“Median household income” or “MHI” means the household income that represents the median or middle value for the community. The methods utilized for calculating median household income are included in Appendix A and Appendix E. Median household incomes in this document are estimated values for the purposes of this statewide assessment. Median household income for determination of funding eligibility is completed on a system-by-system basis by the State Water Board’s Division of Financial Assistance.

“Medium Community Water Systems” means water systems that served up to 30,000 service connections or 100,000 population served.

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

“Non-transient Non-Community Water System” means a public water system that is not a community water system and that 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).)

“Operations and maintenance” or “O&M” means the functions, duties and labor associated with the daily operations and normal repairs, replacement of parts and structural components, and other activities needed by a water system to preserve its capital assets so that they can continue to provide safe drinking water.

“Point-of-use” or “POU” means a water treatment device that treats water at the location of the back-end customer.

“Point-of-entry” or “POE” means a water treatment device that is located at the inlet to an entire building or facility.

“Potentially At-Risk” means community water systems with 30,000 service connections or less, or population served up to 100,000 and K-12 schools that are 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.

“Primary drinking water standard” means: (1) Maximum levels of contaminants that, in the judgment of the state board, 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) The 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” or “PWS” means a system for the provision to the public of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year. A PWS 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” means 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” means the identification of public water systems, with a focus on community water systems and K-12 schools, that may be at risk of failing to provide an adequate supply of safe drinking water. It also includes an estimate of the number of households that are served by domestic wells or state small water systems in areas that are at high risk for groundwater contamination. Different Risk Assessment methodologies have been developed for different system types: (1) public water systems; (2) state small water systems and domestic wells; and (3) tribal water systems. (Health & Saf. Code, § 116769)

“Risk indicator” means the quantifiable measurements of key data points that allow the State Water Board to assess the potential for a community water system or a 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” means 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.

“Sanitary survey” means a comprehensive inspection to evaluate water system potency to provide safe drinking water to their customers and to ensure compliance with the federal Safe Drinking Water Act (SDWA).

“Sounder” means a tool used to measure groundwater depth in a well.

“Significant Deficiencies” means identified deficiencies by State Water Board staff or LPA staff during a Sanitary Survey and other water system inspections. Significant Deficiencies include, but are not limited to, defects in the design, operation, or maintenance, or a failure or malfunction of the sources, treatment, storage, or distribution system that U.S. EPA determines to be causing or have the potential for causing the introduction of contamination into the water delivered to consumers.

“Safe and Affordable Drinking Water Fund” or **“SADWF”** means 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 terms. SB 200 requires the annual transfer of 5 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” or **“SAFER Program”** means a set of State Water Board tools, funding sources, and regulatory authorities designed

to meet the goals of ensuring safe, accessible, and affordable drinking water for all Californians.

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

“Safe drinking water” means water that meets all primary and secondary drinking water standards, as defined in Health and Safety Code section 116275.

“Score” means a standardized numerical value that is scaled between 0 and 1 for risk points across risk indicators. Standardized scores enable the evaluation and comparison of risk indicators.

“Secondary drinking water standards” means standards that specify maximum contaminant levels that, in the judgment of the State Water Board, are necessary to protect the public welfare. Secondary drinking water standards may apply to any contaminant in drinking water that may adversely affect the 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, and potable water. (Health & Saf. Code, § 116275, subd. (d).)

“Service connection” means the point of connection between the customer’s piping or constructed conveyance, and the water 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” means a legislative law that enabled the State Water Board to establish the Safe and Affordable Funding for Equity and Resilience (SAFER) Program to advance the goals of the Human Right to Water. (Senate Bill No. 200, CHAPTER 120)

“Senate Bill No. 552” means a legislative law 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)

“Severely disadvantaged community” or **“SDAC”** means the entire service area of a community water system in which the MHI is less than 60% of the statewide median household income. (See Water Code § 13476, subd. (j))

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

“Small community water system” means a CWS that serves no more than 3,300 service connections or a yearlong population of no more than 10,000 persons. (Health & Saf. Code, § 116275, subd. (z).)

“Small disadvantaged community” or **“small DAC”** or **“SDAC”** means the entire service area, or a community therein, of a community water system that serves no more than 3,300 service connections or a year-round population of no more than 10,000 in which the median household income is less than 80% of the statewide annual median household income.

“State small water system” or **“SSWS”** means 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” means the State Water Resources Control Board.

“Static well level” means the resting state of the water level in a well under normal, no pumping conditions.

“Technical, Managerial and Financial capacity” or **“TMF capacity”** means the ability of a water system 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.

“Waterworks Standards” means 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” means the application of a multiplying value or weight to each risk indicator and risk category within the Risk Assessment, as certain risk indicators and categories may be deemed more critical than others.



AFFORDABILITY ASSESSMENT RESULTS

OVERVIEW

Ensuring drinking water is affordable is key to meeting California’s Human Right to Water mandate.¹ The COVID-related economic crisis has served to further highlight the need to address affordability, both to ensure that households can afford the water that they drink as well as to support drinking water systems in maintaining enough financial viability to provide safe reliable drinking water.²

The purpose of the Affordability Assessment is to identify disadvantaged community water systems that have instituted customer charges that exceed the “Affordability Threshold” established by the State Water Board in order to provide drinking water that meets state and federal standards.³ Legislation does not define what the Affordability Threshold should be. Nor is there specific guidance on the perspective in which the State Water Board should be assessing the Affordability Threshold. Figure 1 illustrates the nexus of affordability definitions that exist.

Figure 1: Nexus of Affordability Definitions



¹ [State Water Board Resolution No. 2016-0010](https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2016/rs2016_0010.pdf)

https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2016/rs2016_0010.pdf

² [Drinking Water COVID-19 Financial Impacts Survey | California State Water Resources Control Board](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/covid-19watersystemssurvey.html)

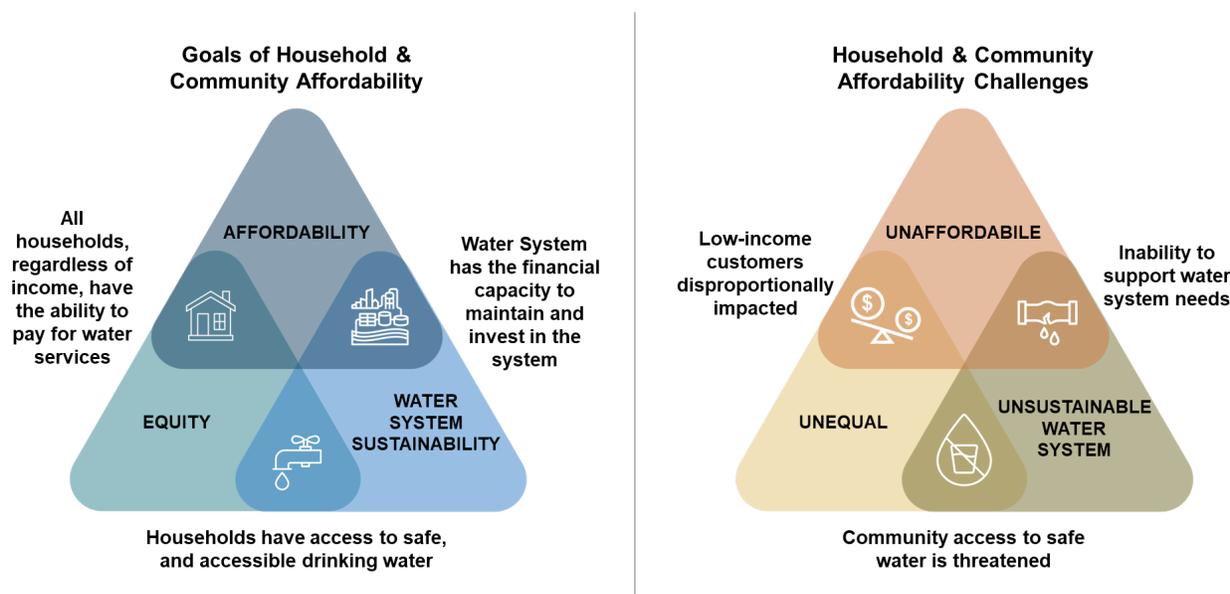
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/covid-19watersystemssurvey.html

³ California Health and Safety Code, section 116769, subd. (a)(2)(B)

- 1) **Household Affordability:** The ability of individual households to pay for an adequate supply of water.
- 2) **Community Affordability:** The ability of households within a community to pay for water services to financially support a resilient water system.
- 3) **& (4) Water System Financial Capacity:** The ability of the water system to financially meet current and future operation and infrastructure needs to deliver safe drinking water. The financial capacity of water systems affects future rate impacts on households. The inability to provide adequate services may lead households served by the system to rely on expensive alternatives such as bottled water.

Affordability of drinking water services is an important challenge to assess because issues surrounding equity and water system sustainability overlap in numerous aspects of addressing affordability challenges and ensuring that all Californians have safe drinking water. Figure 2 illustrates this relationship and the potential consequences of inaction.

Figure 2: The Relationship Between Affordability, Equity and Water System Sustainability



AFFORDABILITY ASSESSMENT METHODOLOGY

The Affordability Assessment is conducted annually for all California community water systems. It is worth noting that, while there is some overlap, the systems included in the Affordability Assessment differ from the list of water systems analyzed in the Risk Assessment for public water systems. The Affordability Assessment includes all large and small community water systems (including above 30,000 service connections) and excludes non-transient, non-community water systems, like schools. The Risk Assessment, on the other hand, analyzed small and medium-size public water systems with less than 30,000 service connections or those that serve a population of less than 100,000 people and non-transient, non-community

K-12 schools were included. Table 1 provides an overview of the systems included in the Affordability Assessment.

Table 1: Systems Included in the Affordability Assessment

SAFER Program Status	Risk Assessment	Affordability Assessment
Failing: HR2W List Systems	346	295
At-Risk Systems	508	459
Potentially At-Risk and Not At-Risk Systems	2,212	1,946
Not Assessed	N/A	168
TOTAL:	3,066	2,868

Affordability Indicators

In 2020, the State Water Board conducted an Affordability Assessment for community water systems, which analyzed one affordability indicator, water charges as a percent of median household income (%MHI), for the fiscal year (FY) 2020-21 Safe and Affordable Drinking Water Fund Expenditure Plan.⁴ In the 2021 Needs Assessment, the State Water Board incorporated two new affordability indicators, ‘Extreme Water Bill’ and ‘% Shut-offs,’ to identify disadvantaged communities (DAC)⁵ and Severely Disadvantaged Communities (SDAC)⁶ that may be experiencing affordability challenges.⁷

For the 2022 Needs Assessment, the State Water Board had to remove ‘% Shut-offs’ from the Affordability Assessment. In 2020 Governor Newsom issued an Executive Order that prohibited water shut-offs beginning March 4, 2020 through December 31, 2021.⁸ This

⁴ The Fund Expenditure Plan used an affordability threshold of 1.5% MHI to identify DAC water systems that may have customer charges that are unaffordable: [FY 2020-21 Fund Expenditure Plan](https://www.waterboards.ca.gov/water_issues/programs/grants_loans/sustainable_water_solutions/docs/sadwfep_2020_07_07.pdf)
https://www.waterboards.ca.gov/water_issues/programs/grants_loans/sustainable_water_solutions/docs/sadwfep_2020_07_07.pdf

⁵ Disadvantaged Community or DAC means the entire service area of a community water system, or a community therein, in which the median household income is less than 80 percent of the statewide annual median household income level.

⁶ Severely Disadvantaged Community or SDAC means the entire service area of a community water system in which the median household income is less than sixty percent of the statewide median household income.

⁷ The identification of additional affordability indicators was undertaken in conjunction with the identification of possible affordability risk indicators for the Risk Assessment. A full list of potential affordability indicators considered can be found in the white paper *Evaluation of Potential Indicators & Recommendations for Risk Assessment 2.0 for Public Water Systems*: October 7, 2020 White Paper: [Evaluation of Potential Indicators & 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)
https://www.waterboards.ca.gov/safer/docs/e_p_i_recommendations_risk_assessment_2_public_water_systems.pdf

⁸ 2020 [Governor Newsom Executive Order](https://www.gov.ca.gov/2020/04/02/governor-newsom-issues-executive-order-protecting-homes-small-businesses-from-water-shutoffs/): <https://www.gov.ca.gov/2020/04/02/governor-newsom-issues-executive-order-protecting-homes-small-businesses-from-water-shutoffs/>

information was therefore unavailable for the majority of 2020 and was not collected from water systems in the 2020 Electronic Annual Report (EAR). The State Water Board has replaced ‘% Shut-offs’ with two new affordability indicators: ‘Percentage of Residential Arrearages’ and ‘Residential Arrearage Burden.’ These new risk indicators are meant to identify water systems that have a community that is experiencing household affordability challenges and are a direct measure of household drinking water affordability.

Table 2: Affordability Indicators 2020 - 2022

2020	2021	2022
Percent of Median Household Income (%MHI)	Percent of Median Household Income (%MHI)	Percent of Median Household Income (%MHI)
	Extreme Water Bill	Extreme Water Bill
	% Shut-Offs (Removed 2022)	NEW: Percentage of Residential Arrearages
		NEW: Residential Arrearage Burden

The following are brief descriptions of the affordability indicators utilized in the 2022 Affordability Assessment. Additional details on data sources, calculation methodologies, thresholds, and scoring approach are detailed in Appendix D.

% Median Household Income

This indicator measures annual system-wide average residential customer charges for six Hundred Cubic Feet (HCF) per month relative to the annual Median Household Income (MHI) within a water system’s service area. Six HCF indoor water usage per month is roughly equivalent to 50 gallons per person per day for a three-person household for 30 days.

Percent median household income (%MHI) is commonly used by state and federal regulatory agencies and by water industry stakeholders for assessing community-wide water charges affordability for decades. The State Water Board uses MHI to determine DAC status⁹ and has for some time used the 1.5% MHI threshold in the Drinking Water State Revolving Fund (DWSRF) program as a metric for determining whether a small DAC will receive repayable (loan) or non-repayable (e.g., grant or non-repayable) funding.

Extreme Water Bill

This indicator measures drinking water customer charges that meet or exceed 150% and 200% of statewide average drinking water customer charges at the six HCF level of

⁹ It is important to note that the estimated designation of community economic status is for the purposes of the Affordability Assessment only and will not be used by the State Water Board’s Division of Financial Assistance (DFA) to make funding decisions. Further MHI analysis on a per system basis will be conducted by DFA when a system seeks State Water Board assistance.

[AB 401 Final Report:](#)

https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/assistance/docs/ab401_report.pdf

consumption. The State Water Board's AB 401 report¹⁰ recommended statewide low-income rate assistance program elements which utilize the two recommended tiered indicator thresholds of 150% and 200% of the state average drinking water bill for six HCF.

NEW: Percent of Residential Arrearages

This risk indicator identifies water systems that have a high percentage of their residential customers that have not paid their water bill and are at least 60 days or more past due.

NEW: Residential Arrearage Burden

This risk indicator identifies water systems that would have a high residential arrearage burden if they were to distribute their residential arrearages accrued during the COVID-19 pandemic period (March 4, 2020 through June 15, 2021) across their total residential rate base. This indicator measures how large of a burden non-payment is across the water system's full residential customer base.

2021 Drinking Water Arrearage Payment Program¹¹

The initial data used for the two new arrearage affordability indicators comes from the State Water Board's 2021 Drinking Water Arrearage Payment Program. The State Water Board received \$985 million to address community water system residential and commercial customer water debt that accrued during the COVID-19 pandemic (March 4, 2020 through June 15, 2021). The State Water Board collected residential arrearage information from an initial survey on outstanding debt and during the Program's application period. This data was utilized to calculate the new arrearage affordability indicators. It is important to note that some community water systems chose not to participate in the initial survey or Program. Therefore, this dataset may not represent the total amount of outstanding arrearages statewide. Moving forward, additional State assistance programs and datasets may be used to supplement this dataset as they become available.

Drinking Water Customer Charges

The Affordability Assessment relies on four affordability indicators that are either directly or indirectly related to drinking water customer charges for drinking water services. Therefore, it is important to consider the average monthly customer charges for 6 HCF across the different water systems analyzed in the Affordability Assessment. Table 3 and Table 4 summarize the 2020 average customer charges collected from water systems in the 2020 EAR. The 2020 EAR was the first reporting year that required community water systems to report their water rates and other customer charges.

¹⁰ [AB 401 Final Report:](https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/assistance/docs/ab401_report.pdf)

https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/assistance/docs/ab401_report.pdf

¹¹ [California Water and Wastewater Arrearage Payment Program:](https://www.waterboards.ca.gov/arrearage_payment_program/)

https://www.waterboards.ca.gov/arrearage_payment_program/

Table 3: Average Monthly Residential Customer Charges for 6 HCF by DAC/SDAC Status

Community Status	Total Systems	Average Customer Charges for 6 HCF
DAC/SDAC	836	\$59.43
Non-DAC	917	\$68.63
Missing DAC Status¹²	61	\$64.98
TOTAL:	1,814	\$64.27
<i>Systems that Do Not Charge for Water or Missing Charge Data</i>	<i>1,054</i>	

Table 4: Average Monthly Residential Customer Charges for 6 HCF by SAFER Status

SAFER Program Status¹³	Total Systems	Average Customer Charges for 6 HCF
Failing: HR2W Systems	181	\$67.98
HR2W DAC/SDAC	116	\$58.64
At-Risk Systems	258	\$83.62
At-Risk DAC/SDAC	152	\$79.08
Potentially At-Risk Systems	252	\$75.14
Potentially At-Risk DAC/SDAC	132	\$69.07
Not At-Risk System	1,123	\$51.36
DAC/SDAC	436	\$49.89
TOTAL:	1,814	\$64.27
<i>Systems that Do Not Charge for Water or Missing Charge Data</i>	<i>1,054</i>	

AFFORDABILITY INDICATOR ANALYSIS

The State Water Board analyzed all four affordability indicators for the 2022 Affordability Assessment and applied the same thresholds as utilized in the Risk Assessment for public

¹² 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.

¹³ Water systems that are not DAC/SDAC or are missing DAC status designations are excluded from sub-categories within this table.

water systems. The prevalence of community water systems that meet these thresholds, and are DAC or SDAC systems, are summarized below.

Additional analysis was conducted to identify the DAC and SDAC water systems that met more than one affordability indicator threshold. Scores of 0 (no threshold met), 1 (lower “minimum” threshold met), and 1.5 (higher “maximum” threshold met) were applied to each affordability indicator threshold and tallied across the four indicators for each system to identify which systems may be facing the greatest affordability challenges.

AGGREGATED AFFORDABILITY ASSESSMENT RESULTS

AFFORDABILITY RESULTS BY COMMUNITY ECONOMIC STATUS

For the 2022 Affordability Assessment, State Water Board staff analyzed 2,868 community water systems, of which, approximately 32 water systems lacked the data necessary to calculate any of the four affordability indicators. Water systems that had partial data for some, but not all, of the affordability indicators were included in the analysis and are summarized in Table 5.

Overall, comparing the four indicators in cases where data was available, more community water systems exceed the affordability threshold for ‘Residential Arrearage Burden’ (22%) than the affordability threshold for ‘%MHI’ (17%). However, more DAC and SDAC community water systems exceeded the ‘%MHI’ affordability threshold (27%) than ‘Residential Arrearage Burden’ affordability threshold (21%). Table 5 summarizes the number of water systems, by their community economic status, that exceeded the minimum affordability threshold for each indicator assessed.

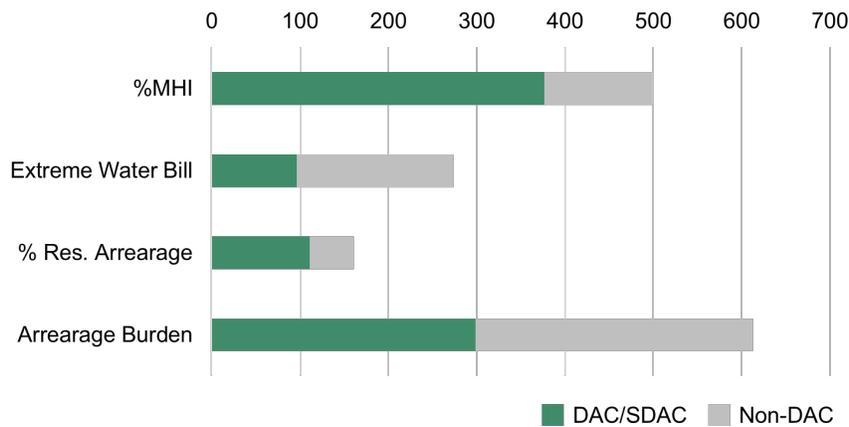
Table 5: Total Number of Systems that Exceed a Minimum Risk Indicator Affordability Threshold

Community Status	Total Systems	% MHI	Extreme Water Bill	% Res. Arrearages	Res. Arrearage Burden
DAC/SDAC	1,408	377 (27%)	96 (7%)	111 (8%)	299 (21%)
Non-DAC	1,287	122 (9%)	178 (14%)	50 (4%)	314 (24%)
Missing DAC Status¹⁴	173	0 (0%)	0 (0%)	6 (3%)	13 (8%)
TOTAL:	2,868	499 (17%)	274 (10%)	167 (6%)	626 (22%)

¹⁴ 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.

Community Status	Total Systems	% MHI	Extreme Water Bill	% Res. Arreages	Res. Arrearage Burden
Missing Data¹⁵		263 (9%)	524 (18%)	442 (15%)	442 (15%)
Not Applicable¹⁶		869 (30%)	608 (21%)	879 (31%)	879 (31%)

Figure 3: Number of Water Systems, by Community Economic Status, that Exceeded Each Minimum Affordability Indicator Threshold



To assess which systems may be facing the greatest affordability burden, State Water Board further analyzed how many water systems exceeded thresholds for multiple affordability indicators. Affordability burden is ranked from low (only one affordability indicator threshold exceeded), medium, (two affordability indicator thresholds exceeded), or high (three or four affordability indicator thresholds exceeded) (Table 6). Of the 2,868 community water systems analyzed, most resulted in a low affordability burden (21%) followed by a medium affordability burden (11%) and a high affordability burden (3%). It is worth noting, there are no clear trends across community economic status and affordability burdens.

The State Water Board identified 69 (5%) DAC/SDAC water systems that had a high affordability burden, 175 (12%) with a medium affordability burden, and 311 (22%) with a low affordability burden.

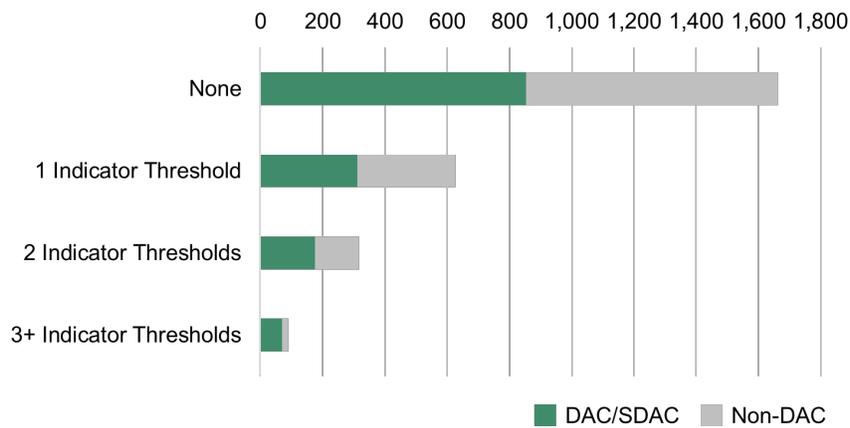
¹⁵ Missing data: %MHI; lacked water rates data, lacked data to calculate MHI; Extreme Water Rates, lacked data on water rate charges, water rate was outside of \$5-\$500 range; Percent of Residential Arreages/Residential Arrearage Burden, no arrearage survey data was submitted.

¹⁶ Not applicable refers to systems who did not qualify to meet an indicator threshold: % MHI, systems who did not charge for water; Extreme Water Bill, systems that did not charge for water; % Residential Arreages/Residential Arrearage Burden, systems that did not charge for water, claimed no arreages, or did not have residential arreages.

Table 6: Affordability Assessment Results

Community Status	Total Systems Assessed	High Affordability Burden ¹⁷	Medium Affordability Burden ¹⁸	Low Affordability Burden ¹⁹
DAC/SDAC	1,408	69 (5%)	175 (12%)	311 (22%)
Non-DAC	1,287	20 (2%)	142 (11%)	315 (23%)
Missing DAC Status	173	0 (0%)	6 (3%)	7 (10%)
TOTAL:	2,868	89 (3%)	323 (11%)	633 (21%)

Figure 4: Total Number of Systems, by Community Economic Status, that Exceeded an Affordability Indicator Threshold



¹⁷ Community water system met the minimum threshold for 3 or 4 of the affordability indicators.

¹⁸ Community water system met the minimum threshold for 2 of the affordability indicators.

¹⁹ Community water system met the minimum threshold for 1 of the affordability indicators.

Figure 5: All Water Systems that Exceeded an Affordability Indicator Threshold (n=2,868)

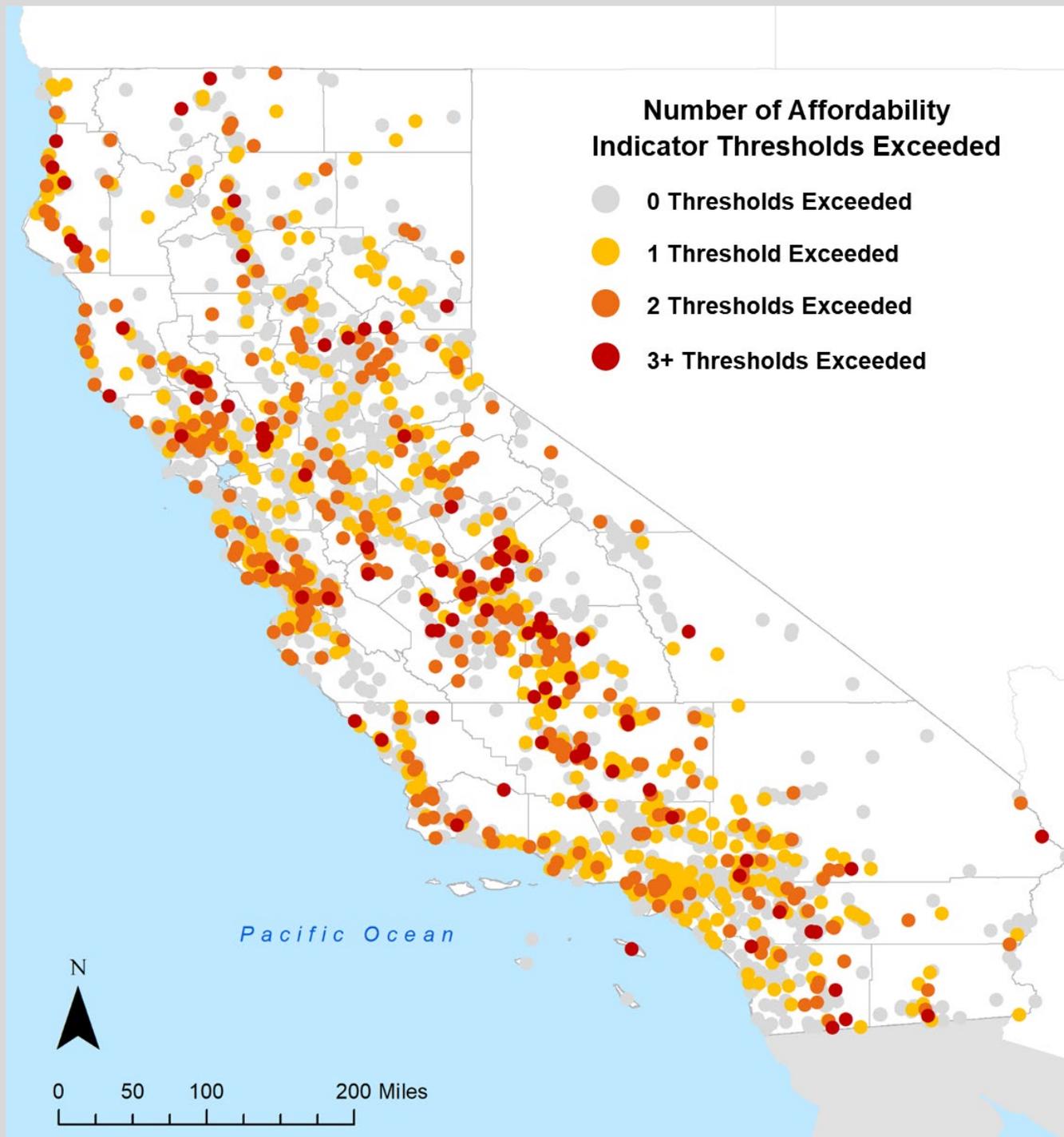
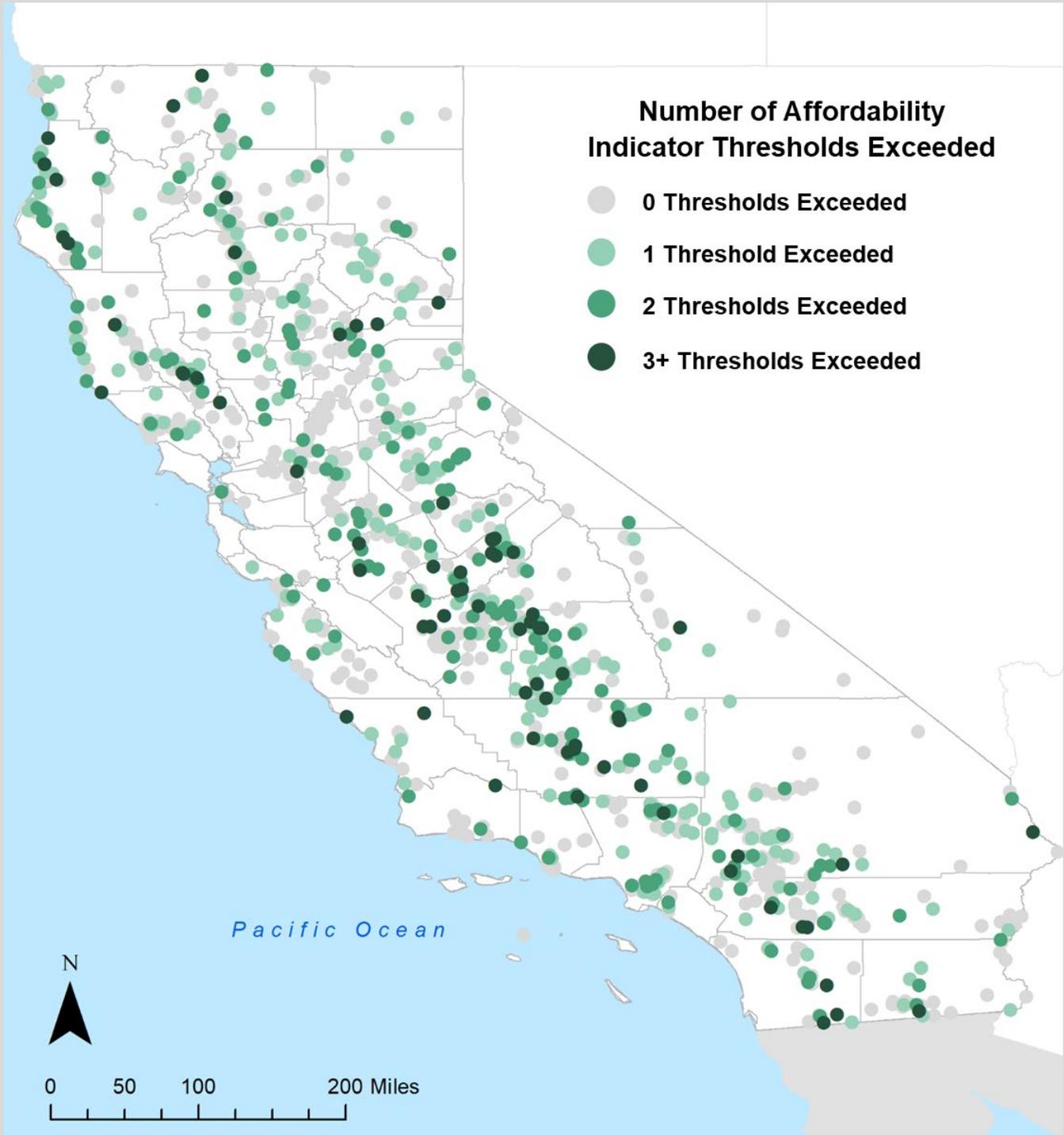


Figure 6: DAC and SDAC Water Systems that Exceeded an Affordability Indicator Threshold (n=1,367)



AFFORDABILITY RESULTS BY WATER SYSTEM SAFER PROGRAM STATUS

While SB 200 only mandates the identification of DAC/SDAC water systems that have customer charges that exceed affordability thresholds, the 2022 Affordability Assessment also identified the number of Failing: HR2W list and At-Risk public water systems exceeding affordability thresholds as well. Table 7 and the section below summarizes the number of Failing: HR2W list and At-Risk water systems, by their community economic status, that exceeded the minimum affordability threshold for each affordability indicator assessed.

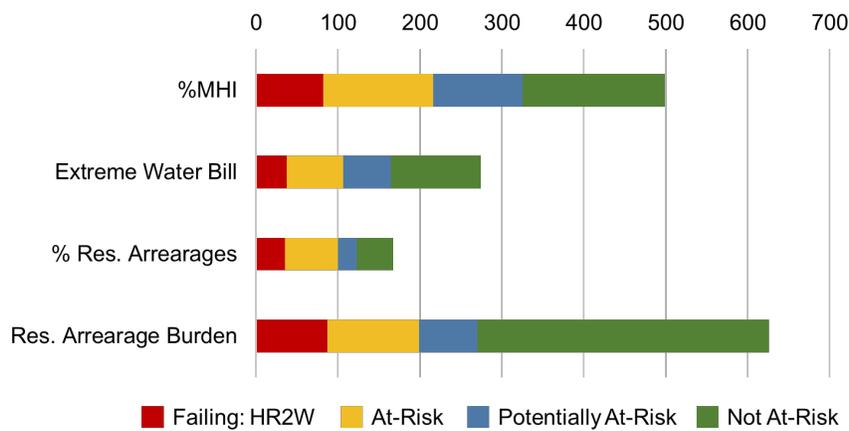
According to the analysis, Failing: HR2W list systems and At-Risk systems exceeded the affordability thresholds for more affordability indicators when compared to Potentially At-Risk and Not At-Risk systems. The full results of this analysis, by affordability indicator, are detailed in Appendix D.

Table 7: Aggregated Affordability Assessment Results by Water System SAFER Program Status

SAFER Program Status ²⁰	Total Systems	% MHI Min. Threshold Met	Extreme Water Bill Min. Threshold Met	% Res. Arrearages	Res. Arrearage Burden
Failing: HR2W Systems	295	82 (28%)	37 (13%)	35 (10%)	87 (29%)
HR2W DAC/SDAC	184	66 (36%)	15 (8%)	29 (16%)	65 (35%)
At-Risk Systems	459	134 (29%)	69 (15%)	65 (14%)	112 (24%)
At-Risk DAC/SDAC	276	102 (37%)	33 (12%)	45 (16%)	73 (26%)
Potentially At-Risk Systems	418	109 (26%)	58 (14%)	23 (6%)	71 (17%)
Potentially At-Risk DAC/SDAC	234	81 (35%)	23 (10%)	13 (6%)	39 (17%)
Not At-Risk System	1,696	174 (10%)	110 (6%)	44 (3%)	356 (21%)
DAC/SDAC	714	128 (18%)	25 (4%)	24 (3%)	122 (17%)
TOTAL:	2,868	499 (17%)	274 (10%)	167 (6%)	626 (22%)
Missing Data		263 (13%)	524 (18%)	442 (15%)	429 (15%)
Not Applicable	168 (6%)	869 (30%)	608 (21%)	879 (31%)	788 (27%)

²⁰ Water systems that are not DAC/SDAC or are missing DAC status designations are excluded from sub-categories within this table.

Figure 7: Total Number of Failing: HR2W List and At-Risk Water Systems that Exceeded Each Minimum Affordability Indicator Threshold



To assess which systems may be facing the greatest affordability burden, State Water Board further analyzed how water systems, by SAFER status, exceeded thresholds for multiple affordability indicators. Affordability burden is ranked from low (only one affordability indicator threshold exceeded), medium, (two affordability indicator thresholds exceeded), or high (three or four affordability indicator thresholds exceeded). As summarized in Table 8, a relatively higher percentage of Failing: HR2W list systems and At-Risk water systems had Higher Affordability Burden when compared to Potentially At-Risk and Not At-Risk water systems.

Table 8: Affordability Assessment Results by SAFER Program Status

SAFER Program Status	Total Systems Assessed	High Affordability Burden ²¹	Medium Affordability Burden ²²	Low Affordability Burden ²³
Failing: HR2W Systems	295	21 (7%)	52 (17%)	70 (24%)
HR2W DAC/SDAC	184	19 (10%)	34 (18%)	48 (26%)
At-Risk Systems	459	40 (9%)	87 (19%)	74 (16%)
At-Risk DAC/SDAC	276	32 (12%)	46 (17%)	55 (20%)
Potentially At-Risk Systems	418	12 (3%)	67 (16%)	89 (21%)

²¹ Community water system met the minimum threshold for 3 or 4 of the affordability indicators.

²² Community water system met the minimum threshold for 2 of the affordability indicators.

²³ Community water system met the minimum threshold for 1 of the affordability indicators.

SAFER Program Status	Total Systems Assessed	High Affordability Burden ²¹	Medium Affordability Burden ²²	Low Affordability Burden ²³
Potentially At-Risk DAC/SDAC	234	8 (3%)	36 (15%)	59 (25%)
Not At-Risk System DAC/SDAC	1,696	16 (1%)	117 (7%)	400 (23%)
TOTAL:	2,868	89 (3%)	323 (11%)	633 (22%)

Figure 8: Total Number of Failing: HR2W List and At-Risk Systems that Exceeded an Affordability Indicator Threshold

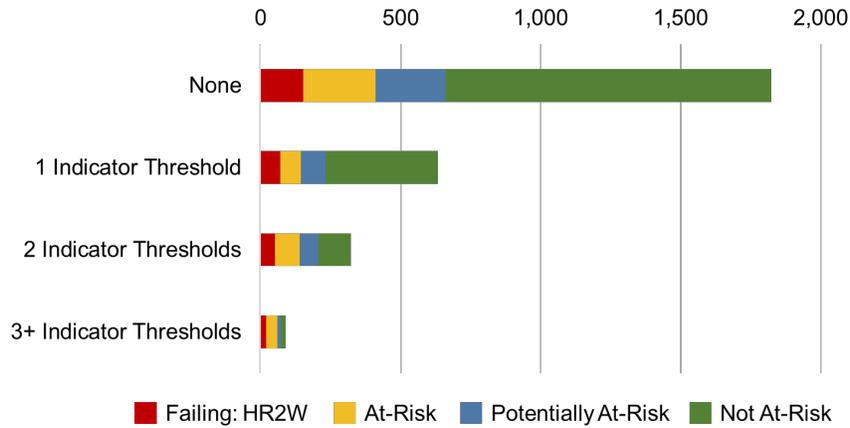
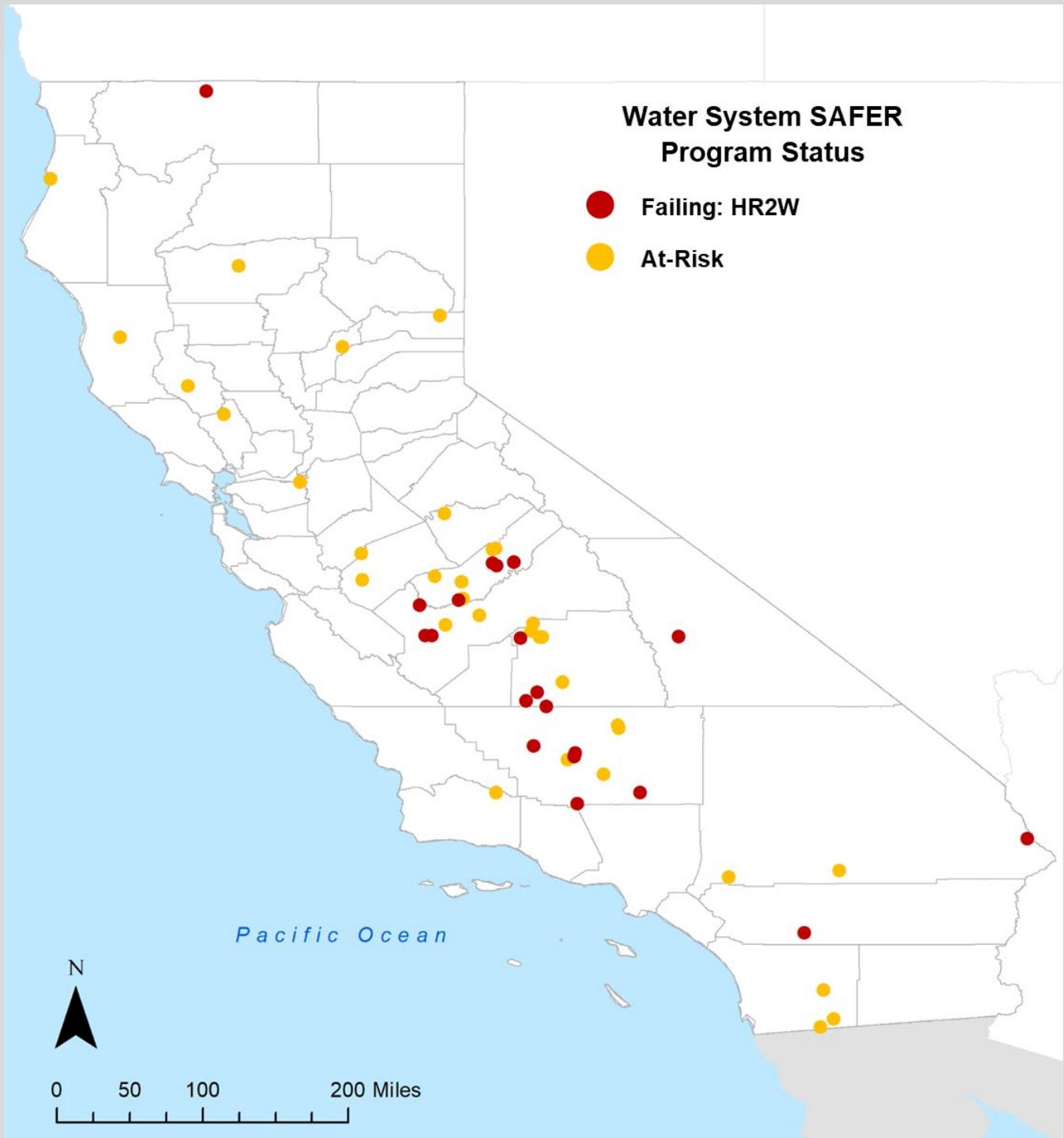


Figure 9: High Affordability Burden DAC/SDAC Failing: HR2W List and At-Risk Systems



SOCIOECONOMIC ANALYSIS OF COMMUNITY WATER SYSTEMS

Results for the 2022 Affordability Assessment for community water systems 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 block group or census tract level, and current census surveys do not indicate household drinking water source type. Therefore, the demographic information presented in the tables below may not represent the actual population served by public water systems. Any interpretation of these results should keep in mind the limitations of the analysis.

Demographic data (household size, linguistic isolation, poverty, median household income, and race/ethnicity) was taken from the 2019 American Community Survey. CalEnviroScreen 4.0 data is from OEHHA.²⁴ The CalEnviroScreen 4.0 data is 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. The socioeconomic analysis was calculated using water service area boundaries, area-weighted census tract data where appropriate, and calculating weighted averages. This methodology means that there may be a bias towards demographic data from larger, rural tracts/block groups as these areas are often larger than smaller, urban tracts/block groups.

When compared with Non-DAC/SDAC water systems, DAC/SDAC water system service areas tend to have higher CalEnviroScreen scores, a higher percentage of households in poverty, a higher percentage of limited English-speaking households, non-white communities. Systems with high affordability burden have higher CalEnviroScreen scores, percentages of households that are less than two times the federal poverty level, and greater linguistic isolation than medium and low affordability burden systems (Table 9).

²⁴ [OEHA CalEnviroScreen](https://oehha.ca.gov/calenviroscreen)
<https://oehha.ca.gov/calenviroscreen>

Table 9: Socioeconomic Analysis for Community Water Systems (CWSs)

	Statewide (all CWS)	Non- DAC/SDAC CWSs	DAC/SDAC CWSs	No Afford. Burden CWSs	Low Afford. Burden CWSs	Medium Afford. Burden CWSs	High Afford. Burden CWSs
Total Count of Systems	2,868	1,186	1,367	1,823	633	323	89
Average CalEnviroScreen 4.0 Percentile	42.8	32.3	50.8	41.6	44.6	43.2	50.1
Average CalEnviroScreen 4.0 Population Characteristics Percentile	44.3	30.6	55	42.9	46.3	44.9	51.9
Average CalEnviroScreen 4.0 Pollution Burden Percentile	42.5	40.1	43.9	41.7	43.7	42.8	46.7
Average percentage of households 2x below federal poverty	31.6%	21.4%	39.8%	30.9%	32%	32.5%	38.2%
Average percentage of households with limited English speaking	6.29%	4.36%	7.6%	5.8%	7.1%	6.3%	9.0%
Average household size	2.82	2.85	2.8	2.8	2.9	2.8	2.8
Percent of non-white customers served	43.1%	39.8%	44.6%	41.7%	46.3%	43.9%	42%

AFFORDABILITY ASSESSMENT LIMITATIONS

The 2022 Affordability Assessment makes progress in identifying communities that may be struggling with water affordability challenges; however, the State Water Board has identified the following limitations that are worth noting:

Affordability Assessment Scope

As described above, there are multiple lenses through which to assess water “affordability.” SB 200 does not define how the State Water Board should measure affordability. Nor does it specify if the “Affordability Threshold” is meant to assess household affordability, community affordability, and/or a water system’s financial capacity. All three aspects of affordability are interrelated, but metrics or indicators that measure each can differ greatly. More engagement with the public, water systems, and stakeholders is needed to better define the scope of the Affordability Assessment and how its results will be utilized.

Affordability Indicator Data

The State Water Board acknowledges that there are some data coverage issues and data quality uncertainties for all the affordability indicators utilized in the Affordability Assessment. Customer charges, MHI, and/or residential arrearage data are not available for some water systems included in this assessment. Water system customer charge and residential arrearage data is self-reported and is difficult to verify its quality. Finally, water system boundaries, which are used to calculate MHI, may not be accurate. In some cases, they reflect a water system’s jurisdiction boundary rather than their service area boundary.

An additional consideration that may be impacting the results of the Affordability Assessment is that water system customer charges may not reflect the full cost water systems face in order to meet current and future operations and infrastructure needs to deliver safe drinking water. For example, many small water systems lack asset management plans, capital improvement plans, and financial plans to assist them in setting customer charges appropriately. This may result in customer charges that are lower than what is needed to support resilient water systems. If more systems were to implement full-cost pricing of their customer charges, the Affordability Assessment results may be different.

Affordability Indicators

There has been criticism of %MHI by academics, water system associations, and the broader water sector mostly around its accuracy in measuring household affordability for those truly in need and the setting of arbitrary %MHI thresholds, limitations which the U.S. EPA has recently acknowledged. Furthermore, some affordability indicators may be more applicable to some governance types of systems than others. For instance, some of the feedback received on the affordability indicators from the Risk Assessment public engagement was that using rates-based indicators, like %MHI and Extreme Water Bill, does not capture the ways in which some systems’ finance the full cost of service provision. Another point raised was that some individual water systems are connected to larger utility structures that help mitigate affordability challenges in ways that are not currently in the Affordability Assessment.

It is worth noting that water systems that do not charge customers directly for water are essentially excluded from the Affordability Assessment since all four indicators rely on data related to billing customers. For example, mobile home parks that include water services in

their rental charges, are not captured in the Assessment. The State Water Board is exploring new affordability indicators to better assess community water systems like these.

Currently, many other state agencies are developing and utilizing affordability indicators in similar complementary efforts. The selection of affordability indicators for the Needs Assessment fully considered affordability indicators used by the Office of Environmental Health Hazard Assessment (OEHHA), the Department of Water Resources (DWR), and the California Public Utilities Commission (CPUC). However, many of the indicators selected for the Needs Assessment differ from those used by these other efforts. The use of different indicators, and corresponding thresholds, across state and federal agencies can lead to some confusion for water systems and communities. The State Water Board will continue to collaborate with other state agencies and work towards better alignment.

AFFORDABILITY ASSESSMENT REFINEMENT OPPORTUNITIES

The State Water Board will be conducting the Affordability Assessment on an annual basis as part of the Needs Assessment. To begin addressing the limitations highlighted above, the State Water Board will begin exploring new opportunities to refine the next iteration of the Affordability Assessment:

Better Define Affordability Scope

The State Water Board will begin conducting targeted stakeholder engagement to better define the scope of the Affordability Assessment.

Improved Data Collection Efforts

The State Water Board has already begun taking necessary steps to improve data coverage and accuracy for the Affordability Assessment. Improvements to the 2020 reporting year EAR include new requirements for completing survey questions focused on customer charges and affordability.²⁵ EAR functionality has been developed that will help auto-calculate average customer charges for six HCF, which will help reduce data errors. Furthermore, the EAR will be able to better distinguish between water systems that do not charge for water compared to those that do. The 2021 EAR includes enhancements to customer charges validations to ensure better data quality.

Refinement of Affordability Indicators and Thresholds

During the initial 2021 Needs Assessment methodology development process, three additional Affordability indicators were recommended for inclusion in future iterations of the Risk and Affordability Assessment:²⁶ 'Household Burden Indicator,' 'Poverty Prevalence Indicator,' and

²⁵ [Electronic Annual Report \(EAR\) | California State Water Resources Control Board](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/ear.html)

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

²⁶ 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)

https://www.waterboards.ca.gov/safer/docs/e_p_i_recommendations_risk_assessment_2_public_water_systems.pdf

'Housing Burden.'²⁷ New affordability indicators that do not rely on customer charges data will better assess affordability burdens for water systems that do not charge customers directly for water services, i.e., mobile home parks. The State Water Board will begin conducting the proper research and stakeholder engagement needed to develop new affordability indicators and the appropriate affordability thresholds necessary for inclusion in the Risk and Affordability Assessment.

Improved Aggregated Assessment

Moving forward, the State Water Board will explore the possibility of developing a singular Affordability Threshold that can then be applied to a combined assessment of the identified affordability indicators.

Further consideration will also be given to how systems that have extremely low customer charges or have not raised their rates within a certain time period should be assessed for affordability and more broadly for risk. These systems may be more at-risk for falling out of water quality compliance or may be imposing affordability burdens on their customers through other means other than customer charges.

²⁷ *Household Burden Indicator*: This indicator measures the economic burden that relatively low-income households face in paying their water service costs by focusing on the percent of these costs to the 20th percentile income (i.e., the Lowest Quintile of Income (LQI) for the service area). This indicator is calculated by adding the average drinking water customer charges, dividing them by the 20th Percentile income in a community water system, and multiplying this by one hundred.

Poverty Prevalence Indicator: This indicator measures the percentage of population served by a community water system that lives at or below 200% the Federal Poverty Level. This measurement indicates the degree to which relative poverty is prevalent in the community.

Housing Burden: This indicator measures the percent of households in a water system's service area that are both low-income and severely burdened by housing costs (paying greater than 50% of their income for housing costs). This metric is intended to serve as an indicator of the affordability challenges low-income households face with respect to other non-discretionary expenses, which may impact their ability to pay for drinking water services.

APPENDIX D: AFFORDABILITY ASSESSMENT METHODOLOGY

INTRODUCTION

The purpose of the Affordability Assessment is to identify disadvantaged community (DAC) and severely disadvantaged community (SDAC) water systems, that have instituted customer charges that exceed the “Affordability Threshold” established by the State Water Board in order to provide drinking water that meets state and federal standards.²⁸

The Affordability Assessment is conducted annually for all California community water systems. It is worth noting that, while there is some overlap, the systems included in the Affordability Assessment differ from the list of water systems analyzed in the Risk Assessment for public water systems. The Affordability Assessment includes large and small community water systems but excludes non-transient, non-community water systems, like schools. The Risk Assessment, on the other hand, analyzed smaller public water systems with less than 30,000 service connections or that served a population of less than 100,000 people and non-transient non-community K-12 schools were included. Both assessments exclude all community water system wholesalers, transient water systems, state small water systems and domestic wells. Table D1 provides an overview of the systems included in the Affordability Assessment.

Table D1: Systems Included in the Affordability Assessment

SAFER Program Status	Risk Assessment	Affordability Assessment
HR2W List Systems	346	295
At-Risk Systems	785	459
Not HR2W or At-Risk System	2,212	1,946
Not Assessed	N/A	168
TOTAL:	3,066	2,868

The difference in the number of Failing: HR2W list systems and At-Risk systems between the Risk Assessment and Affordability Assessment in Table D1 can be attributed to the exclusion of K-12 schools in the Affordability Assessment. K-12 schools do not typically charge customers for water. Since all four of the affordability indicators utilized in the Affordability

²⁸ California Health and Safety Code, section 116769, subd. (a)(2)(B).

Assessment as associated with customer charges data, they needed to be excluded.

AFFORDABILITY INDICATORS

In 2020, the State Water Board conducted an Affordability Assessment for community water systems, which analyzed one affordability indicator, water charges as a percent of median household income (%MHI), for the FY 2020-21 Safe and Affordable Drinking Water Fund Expenditure Plan.²⁹ From April through October 2020, the State Water Board and UCLA conducted extensive research and public engagement to identify potential affordability indicators that could be used to identify disadvantaged communities (DAC)³⁰ and Severely Disadvantaged Communities (SDAC)³¹ that may be experiencing affordability challenges.³² This effort identified 23 potential affordability indicators (white paper, Table 10).³³ In 2021, the State Water Board selected two new affordability indicators from the list of 23 to incorporate into the 2021 Risk Assessment and 2021 Affordability Assessment. These two indicators were: 'Extreme Water Bill' and '% Shut-offs.'

In 2020 Governor Newsom issued an Executive Order that prohibited water shut-offs beginning March 4, 2020 through December 31, 2021.³⁴ Therefore, data for '% Shut-offs' was unavailable for the majority of 2020 and was not collected from water systems in the 2020 Electronic Annual Report (EAR). Thus, the State Water Board has removed this affordability indicator from the 2022 Needs Assessment.

The State Water Board has replaced '% Shut-offs' with two new affordability indicators: 'Percentage of Residential Arrearages' and 'Residential Arrearage Burden.' These new risk indicators are meant to identify water systems that have a community that is experiencing

²⁹ The Fund Expenditure Plan used an affordability threshold of 1.5% MHI to identify DAC water systems that may have customer charges that are unaffordable: [FY 2020-21 Fund Expenditure Plan](https://www.waterboards.ca.gov/water_issues/programs/grants_loans/sustainable_water_solutions/docs/sadwfep_2020_07_07.pdf)
https://www.waterboards.ca.gov/water_issues/programs/grants_loans/sustainable_water_solutions/docs/sadwfep_2020_07_07.pdf

³⁰ Disadvantaged Community or DAC mean the entire service area of a community water system, or a community therein, in which the median household income is less than 80 percent of the statewide annual median household income level.

³¹ Severely Disadvantaged Community or SDAC means the entire service area of a community water system in which the median household income is less than sixty percent of the statewide median household income.

³² The identification of additional affordability indicators was undertaken in conjunction with the identification of possible affordability risk indicators for the Risk Assessment. A full list of potential affordability indicators considered can be found in the white paper *Evaluation of Potential Indicators & Recommendations for Risk Assessment 2.0 for Public Water Systems*: October 7, 2020 White Paper: [Evaluation of Potential Indicators & 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)
https://www.waterboards.ca.gov/safer/docs/e_p_i_recommendations_risk_assessment_2_public_water_systems.pdf

³³ 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)
https://www.waterboards.ca.gov/safer/docs/e_p_i_recommendations_risk_assessment_2_public_water_systems.pdf

³⁴ [Governor Newsom Executive Order](https://www.gov.ca.gov/2020/04/02/governor-newsom-issues-executive-order-protecting-homes-small-businesses-from-water-shutoffs/): <https://www.gov.ca.gov/2020/04/02/governor-newsom-issues-executive-order-protecting-homes-small-businesses-from-water-shutoffs/>

household affordability challenges and are a direct measure of household drinking water affordability.

Table D2: Recommended Affordability Indicators

Affordability Indicator	Affordability Assessment
Percent of Median Household Income (%MHI)	2020, 2021, 2022
Extreme Water Bill	2021, 2022
% Shut-Offs	2021, removed for 2022
% of Residential Arrearages	2022
Residential Arrearage Burden	2022
Household Burden Indicator (HBI)	<i>Future</i>
Poverty Prevalence Indicator (PPI)	<i>Future</i>

AFFORDABILITY ASSESSMENT METHODOLOGY

DAC & SDAC DETERMINATION

SB 200 requires the identification of DAC and SDAC systems that meet the Affordability Threshold. For the purposes of the Affordability Assessment, the State Water Board determined DAC and SDAC economic status for water systems using available data.

Disadvantaged Community or DAC means the entire service area of a community water system, or a community therein, in which the MHI is less than 80% of the statewide annual MHI level.

Severely Disadvantaged Community or SDAC means the entire service area of a community water system in which the MHI is less than 60% of the statewide MHI.

The State Water Board used the methodology detailed below to estimate MHI. **It is important to note that the estimated designation of community economic status is for the purposes of the Affordability Assessment only and will not be used by the State Water Board’s Division of Financial Assistance (DFA) to make funding decisions.** Further MHI analysis on a per system basis will be conducted by DFA when a system seeks State Water Board assistance.

Table D3: Water System Community Economic Status for the Affordability Assessment

Community Economic Status	Total Systems	HR2W List Systems	At-Risk Systems
DAC	565	54	101
SDAC	843	130	175

Community Economic Status	Total Systems	HR2W List Systems	At-Risk Systems
Non-DAC	1,287	94	154
Missing DAC Status	173	17	29
TOTAL:	2,868	295	459

AFFORDABILITY INDICATOR CALCULATIONS

PERCENT OF MEDIAN HOUSEHOLD INCOME (%MHI)

This indicator measures the annual system-wide average residential water bill for six hundred cubic feet (HCF) per month relative to the annual Median Household Income (MHI) within a water system's service area.

Calculation Methodology

Required Risk Indicator Data Points & Sources:

- Water system service area boundaries: SABL
- Block group-Income in the Past 12 Months: 2019 U.S. Census Bureau's American Community Survey
- Drinking Water Customer Charges: 2020 Electronic Annual Report (EAR)
- Other Customer Charges: 2020 EAR

Average monthly drinking water customer charges is collected through the EAR. Historically this data has not been required for reporting leading to poor data coverage and accuracy issues. Extensive changes have been made to the 2020 Electronic Annual Report making reporting customer charges mandatory with checks in place to improve the data quality. In addition to the changes made to the EAR, over 600 water systems' customer charges were reviewed and edited manually by State Water Board staff.

Risk Indicator Calculation Methodology:

Median household income (MHI) is determined for a water system using American Community Survey data for household income. Community water system boundaries typically do not align with census boundaries where per capita income data is regularly collected. To assign an average median household income to a community water system spatially weighted income data is aggregated by census block group within the water system service area.

The methodology for this indicator was based on the Division of Financial Assistance (DFA) MHI methodology. While the MHI calculation methodology for the Affordability Assessment generally aligns with the Division of Financial Assistance's (DFA) MHI determination methodologies, there are slight differences. The differences found in the calculation of MHI's for cities and census designated places and in the application of the Margin of Error (MOE).

The DFA methodology dictates that when it is determined that a system boundary exactly matches city boundaries or closely matches a census designated place boundary, the MHI for the entire city or census designated place should be directly applied to the system rather than using areally-interpolated block group data. This likely leads to more accurate MHI estimation in these cases. However, this method was not used in the Needs Assessment given that a case-by-case determination of matching of cities and census designated places to system boundaries was not feasible for the entire state. The MHI for each water system is a population weighted MHI, using census block group area and population data. A population factor is generated based on the area of each census block group that falls within the water system boundary. The water system MHI is then calculated using population adjusted MHIs for each census block group that falls within the water system boundary using the formula below:

Equation D1: MHI Calculation

$$\sum \frac{(Block\ Group\ MHI) \times (Adjusted\ Block\ Group\ Population)}{(Total\ Adjusted\ Block\ Groups\ Population)}$$

MOE for MHI American Community Survey data is also included in the MHI calculation. A population adjusted MOE is found using the same methodology described for MHI. The lower range of the MOE will be applied to a community’s estimated MHI up to a maximum MOE value of \$7,500 for communities with more than 500 people and \$15,000 for communities with 500 or fewer people. The MOE will be subtracted from the estimated MHI.

The DFA methodology uses a lower bound MHI by subtracting the block group MOE from the block group MHI, with limits based on community size prior to applying the population factor to MHI and MOE. The methodology applied in the Needs Assessment set margin of error limits and then applied them to population adjusted MHI figures, resulting in slightly different community water system MHI calculations than the DFA methodology.

As a result of these slight variations and the changing nature of household income, all funding related financial assessments must be completed by the DFA as their assessments are water system specific as opposed to the aggregated analysis done for the purposes of the Needs Assessment.

Average monthly drinking water customer charges are calculated using:

- Drinking water service costs estimated at six HCF Feet per month. This level of consumption is in line with statewide conservation goals of 55 gallons per capita per day, in an average 3-person household.
- When data becomes available, additional approximated customer charges (not collected through a customer’s bill) will be added to this figure to calculate Total Drinking Water Customer Charges.

$$\%MHI = [Average\ Monthly\ Drinking\ Water\ Changes] / [MHI]$$

Threshold Determination

%MHI is commonly used by state and federal regulatory agencies and by water industry

stakeholders for assessing community-wide water charges affordability for decades. %MHI is utilized by the State Water Board (at 1.5% threshold) and the U.S. EPA (at 2.5% threshold) for assessing affordability. The State Water Board and DWR use %MHI to determine Disadvantaged Community (DAC) status, among other income-related metrics. DAC status is often used to inform funding eligibilities for different financial programs offered by the State and other agencies. OEHHA’s Human Right to Water (HR2W) Tool also utilizes³⁵ the thresholds determined by the State Water Board for this indicator.³⁶ Other states, including North Carolina,³⁷ presently or have recently used 1.5% of MHI spent on water and sewer costs as a threshold for water system funding decisions.

Indicator Scoring & Weighting

To enable the evaluation and comparison of affordability indicators, a standardized scale between 0 and 1.5 for affordability scores has been applied to each affordability indicator threshold. Table D4 summarizes the thresholds and scores for this affordability indicator.

Table D4: %MHI Affordability Thresholds & Scores

Threshold Number	Threshold	Score
0	Below 1.5% MHI	0
1	1.5% to 2.49% MHI	1
2	2.5% MHI or greater	1.5

Indicator Analysis

State Water Board staff analyzed 2,868 community water systems, of which approximately 263 systems lacked the data necessary to calculate %MHI. Of the 2,605 water systems with sufficient data, 285 (10%) water systems exceeded the minimum 1.5% MHI affordability threshold, 214 (7%) of which exceeded the maximum 2.5% threshold. Of those, 377 systems were identified that serve DAC/SDACs. Table D5 and Table D6Table D6 summarize the full results of this indicator analysis. The full results from the affordability threshold calculations are included in Attachment D1.³⁸

³⁵ There has been criticism of this metric by academics, water system associations, and the broader water sector mostly around its accuracy in measuring household affordability for those truly in need and the setting of arbitrary %MHI thresholds, limitations which the U.S. EPA has recently acknowledged.

³⁶ Arkansas Natural Resources Commission (2020). [Safe Drinking Water Fund Intended Use Plan SFY 2019: https://www.agriculture.arkansas.gov/wp-content/uploads/2020/05/0_-_2019_DWSRF_IUP_-_AMENDED_January_2019_01082019_1156hrs.pdf](https://www.agriculture.arkansas.gov/wp-content/uploads/2020/05/0_-_2019_DWSRF_IUP_-_AMENDED_January_2019_01082019_1156hrs.pdf)

³⁷ North Carolina Department of Environmental Quality, [Joint Legislative Economic Development and Global Engagement Oversight Committee \(March 17, 2016\) https://www.ncleg.gov/DocumentSites/Committees/JLEDGEOC/2015-2016/Meeting%20Documents/3%20-%20March%2017,%202016/2%20%20DEQ_Kim%20Colson%20Water%20Infrastructure%20JLOC%20EDGE%2020160317.pdf](https://www.ncleg.gov/DocumentSites/Committees/JLEDGEOC/2015-2016/Meeting%20Documents/3%20-%20March%2017,%202016/2%20%20DEQ_Kim%20Colson%20Water%20Infrastructure%20JLOC%20EDGE%2020160317.pdf)

³⁸ 2022 Affordability Assessment Data and Results: [Attachment D1](#)

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2022affordability.xlsx

Table D5: % MHI Assessment Results by Community Status

Community Status	Total Systems	Missing	N/A	Threshold Not Met	Threshold 1 Met (1.5%)	Threshold 2 Met (2.5%)
DAC/SDAC	1,408	62 (4%)	523 (37%)	446 (32%)	201 (14%)	176 (13%)
Non-DAC	1,287	28 (2%)	346 (27%)	791 (61%)	84 (7%)	38 (3%)
TOTAL:	2,868	263 (9%)	869 (47%)	1,237 (43%)	285 (10%)	214 (7%)
Missing DAC Status	173					

Table D6: %MHI Assessment Results by Water System SAFER Program Status

SAFER Program Status	Total Systems	Missing	N/A	Threshold Not Met	Threshold 1 Met (1.5%)	Threshold 2 Met (2.5%)
Failing: HR2W Systems	295	25 (8%)	97 (33%)	91 (24%)	43 (10%)	39 (25%)
HR2W DAC/SDAC	184	6	65	47	32	34
At-Risk Systems	459	52 (11%)	163 (36%)	110 (24%)	64 (14%)	70 (15%)
At-Risk DAC/SDAC	276	16	110	48	44	58
Not HR2W or At-Risk System	1,946	159 (8%)	567 (29%)	941 (48%)	176 (9%)	103 (5%)
DAC/SDAC	907	39	334	329	123	82
TOTAL:	2,868	263 (9%)	869 (30%)	1,237 (43%)	285 (10%)	214 (7%)
Missing SAFER Status:	168					

EXTREME WATER BILL

This indicator measures drinking water customer charges that meet or exceed 150% of statewide average drinking water customer charges at the six hundred cubic feet (HCF) level of consumption.

Calculation Methodology

Required Indicator Data Points & Sources:

- Drinking Water Customer Charges: 2020 EAR
- Other Customer Charges: 2020 EAR

Indicator Calculation Methodology:

Extreme Water Bill for a water system is determined using Average Monthly six HCF Drinking Water Customer Charges and Other Customer Charges divided by the State's Monthly Average Drinking Water Charges. The Risk Assessment is applied to water systems with less than 3,300 service connections; however, this methodology utilizes the statewide average customer charges to calculate extreme water bill, which includes systems with greater than 3,300 service connections. Due to data quality concerns, water systems that reported less than \$5 or greater than \$500 in monthly customer charges for six HCF were excluded from the analysis and the calculated statewide average.

Threshold Determination

The State Water Board's AB 401 report³⁹ recommended statewide low-income rate assistance program elements utilize the two recommended tiered indicator thresholds of 150% and 200% of the state average drinking water bill for six HCF.

Indicator Scoring & Weighting

To enable the evaluation and comparison of affordability indicators, a standardized scale between 0 and 1.5 for affordability scores has been applied to each affordability indicator threshold. Table D7 summarizes the thresholds and scores for this affordability indicator.

Table D7: Extreme Water Bill Affordability Thresholds & Scores

Threshold Number	Threshold	Score
0	Below 150% of the statewide average.	0
1	Greater than 150% of the statewide average.	1
2	Greater than 200% of the statewide average.	1.5

Indicator Analysis

State Water Board staff analyzed 2,868 community water systems, of which approximately 524 water systems lacked the data necessary to estimate water rates. Of the 2,344 water systems with sufficient data, 127 (4%) systems exceeded the minimum 150% extreme water bill

³⁹ [AB 401 Final Report:](#)

https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/assistance/docs/ab401_report.pdf

affordability threshold and 147 (5%) exceeded the maximum 200% threshold. Of those that exceeded the 150% extreme water bill affordability threshold, 96 systems serve DAC/SDACs. Table D8 and Table D9 summarize the full results of this indicator analysis. The tables of the full results from the affordability threshold calculations are included in Attachment D1.⁴⁰

Table D8: Extreme Water Bill Assessment Results by Community Status

Community Status	Total Systems	Missing	N/A	Threshold Not Met	Threshold 1 Met (150%)	Threshold 2 Met (200%)
DAC/SDAC	1,408	191 (14%)	394 (28%)	727 (51%)	44 (3%)	52(4%)
Non-DAC	1,287	160 (12%)	214 (17%)	735 (57%)	83 (6%)	95 (7%)
TOTAL:	2,868	524 (18%)	608 (21%)	1,462 (51%)	127 (4%)	147 (5%)
Missing DAC Status	173					

Table D9: Extreme Water Bill Assessment Results by Water System SAFER Program Status

SAFER Program Status	Total Systems	N/A	Missing	Threshold Not Met	Threshold 1 Met (150%)	Threshold 2 Met (200%)
Failing: HR2W Systems	295	73 (25%)	49 (17%)	136 (46%)	19 (6%)	18 (6%)
HR2W DAC/SDAC	184	52	19	98	8	7
At-Risk Systems	459	126 (27%)	89 (19%)	175 (38%)	28 (6%)	41 (9%)
At-Risk DAC/SDAC	276	86	40	117	15	18
Not HR2W or At-Risk System	1,946	389 (20%)	337 (17%)	1,054 (54%)	80 (4%)	86 (4%)
DAC/SDAC	907	250	123	488	21	25
TOTAL:	2,868	608 (21%)	524 (18%)	1,462 (51%)	127 (4%)	147 (5%)
Missing SAFER Status:	168					

⁴⁰ 2022 Affordability Assessment Results and Data: [Attachment D1](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2022affordability.xlsx)
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2022affordability.xlsx

PERCENTAGE OF RESIDENTIAL ARREARAGES

The purpose of this indicator is to identify water systems that have high percentage of their residential customers that have not paid their water bill and are at least 60 days or more past due. The higher the percentage of residential customers, the more vulnerable the community is to affordability challenges.

Calculation Methodology

Required Indicator Data Points & Sources:

- Total number of residential accounts in arrears: Drinking Water Arrearage Payment Program applicants (October through December 2021).
- Total number of residential accounts: SDWIS

Indicator Calculation Methodology:

Equation D2: Percentage of Residential Arrearages

$$\frac{\textit{Total Number of Residential Accounts in Arrears}}{\textit{Total Number of Residential Accounts}}$$

Water systems that were included in an aggregated application for the Drinking Water Arrearage Payment Program, for example investor-owned utilities with multiple water systems, were excluded from the calculation of this affordability indicator because the State Water Board is unable to disaggregate the number of residential accounts in arrears by individual public water system ID (PWSID).

Threshold Determination

An indicator threshold for the percent of residential arrearages, as defined here or a similar measure, has not to the State Water Board's knowledge been assessed in other previous studies as related to water system failure. However, the State Water Board utilized a 10% threshold for the risk indicator "% Shut-offs for Non-Payment" in the 2021 Risk Assessment.⁴¹ This risk indicator is similar in that it measured residential customers that were unable to pay their water bills and had their water shut-off. Therefore, the State Water Board has developed a tiered threshold for this indicator, drawing upon the threshold developed for "% Shut-offs for Non-Payment."

Indicator Scoring & Weighting

To enable the evaluation and comparison of affordability indicators, a standardized scale

⁴¹ The State Water Board is recommending the removal of the risk indicator "% Shut-Offs for Non-Payment" because there was an Executive Order that prohibited water shut-offs beginning March 4, 2020 through December 31, 2021. This information was therefore unavailable for the majority of 2020 and will not be collected by the State Water Board for 2021 annual reporting.

between 0 and 1 for affordability scores has been applied to each affordability indicator threshold. Table D10 summarizes the thresholds and scores for this affordability indicator.

Table D10: Percentage of Residential Arrearages Thresholds & Scores

Threshold Number	Threshold	Score
0	0% to 9% residential arrearages.	0
1	10% to 29% residential arrearages.	0.5
2	30% to 100% residential arrearages.	1

Indicator Analysis

State Water Board staff analyzed 2,868 community water systems, of which approximately 442 water systems lacked necessary data. Of the 2,426 water systems with sufficient data, 129 (4%) systems exceeded the Percentage of Residential Arrearages 10% to 29% affordability threshold and 38 (0.1%) systems exceeded the maximum 30% to 100% threshold. Of those that exceeded the minimum threshold, 83 are DAC/SDAC systems. Table D11 and Table D12 summarize the full results of this indicator analysis. The tables of the full results from the affordability threshold calculations are included in Attachment D1.⁴²

Table D11: Percentage of Residential Arrearages Assessment Results by Community Status

Community Status	Total Systems	Missing	N/A	Threshold Not Met	Threshold 1 Met (10%-29%)	Threshold 2 Met (30%-100%)
DAC/SDAC	1,408	215 (15%)	491 (35%)	591 (42%)	83 (6%)	28 (2%)
Non-DAC	1,287	208 (16%)	292 (23%)	737 (57%)	41 (3%)	9 (0.6%)
TOTAL:	2,868	442 (15%)	879 (31%)	1,380 (48%)	129 (4%)	38 (0.1%)
<i>Missing DAC Status</i>	173					

⁴² 2022 Affordability Assessment Data and Results: [Attachment D1](#)

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2022affordability.xlsx

Table D12: Percentage of Residential Arrearages Results by Water System SAFER Program Status

SAFER Program Status	Total Systems	Missing	N/A	Threshold Not Met	Threshold 1 Met (10%-29%)	Threshold 2 Met (30%-100%)
Failing: HR2W Systems	295	39 (13%)	87 (29%)	134 (45%)	20 (7%)	15 (5%)
HR2W DAC/SDAC	184	27	54	74	16	13
At-Risk Systems	459	87 (19%)	159 (35%)	148 (32%)	51 (11%)	14 (3%)
At-Risk DAC/SDAC	276	48	101	82	34	11
Not HR2W or At-Risk System	1,946	303 (16%)	542 (28%)	1,038 (53%)	54 (3%)	9 (0.04%)
DAC/SDAC	907	137	307	426	33	4
TOTAL:	2,868	442 (15%)	879 (31%)	1,380 (48%)	129 (5%)	38 (1%)
Missing SAFER Status:	168					

RESIDENTIAL ARREARAGE BURDEN

The purpose of this indicator is to identify water systems that would have a high residential arrearage burden if they were to distribute their residential arrearages accrued during the COVID-19 pandemic period (March 4, 2020 through June 15, 2021) across their total residential rate base. This indicator measures how large of a burden non-payment is across the water system’s residential customers.

Calculation Methodology

Required Indicator Data Points & Sources:

- Total outstanding residential arrears: Drinking Water Arrearage Payment Program applicants (October through December 2021).
- Total number of residential accounts: SDWIS

Indicator Calculation Methodology:

Equation D3: Residential Arrearage Burden

$$\frac{\text{Total Residential Arrearages (\$)}}{\text{Total Number of Residential Accounts}}$$

Water systems that were included in an aggregated application for the Drinking Water Arrearage Payment Program were excluded from the calculation of this affordability indicator because the State Water Board is unable to disaggregate total residential arrearages by individual PWSID.

Threshold Determination

An indicator threshold for residential arrearage burden, as defined here or a similar measure, has not to the State Water Board’s knowledge been assessed in other previous studies as related to water system failure. However, the State Water Board adopted a similar tiered threshold utilized for the “Extreme Water Bill” affordability risk indicator, which utilizes an approach that compares how individual water systems are scoring to their peers, where data is available.

Indicator Scoring & Weighting

To enable the evaluation and comparison of affordability indicators, a standardized scale between 0 and 1 for affordability scores has been applied to each affordability indicator threshold. Table D13 summarizes the thresholds and scores for this affordability indicator.

Table D13: Residential Arrearage Burden Thresholds & Scores

Threshold Number	Threshold	Score
0	Below top 40% of systems with residential arrearage burden.	0
1	Top 40% of systems with residential arrearage burden.	0.5
2	Top 20% of systems with residential arrearage burden.	1

Indicator Analysis

State Water Board staff analyzed 2,868 community water systems, of which approximately 442 water systems lacked the data necessary to estimate water rates. Of the 2,426 water systems with sufficient data, staff identified 316 (11%) systems exceeded the minimum Top 40% Residential Arrearage Burden affordability threshold and 310 (11%) exceeded the maximum Top 20% threshold. Of those that exceeded the minimum threshold, 299 systems were identified that serve DAC/SDACs. Table D14 and Table D15 summarize the full results of this indicator analysis. The tables of the full results from the affordability threshold calculations are included in Attachment E1.⁴³

⁴³ 2021 Affordability Assessment Data: [Attachment E1](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/e1.xlsx)
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/e1.xlsx

Table D14: Residential Arrearage Burden Assessment Results by Community Status

Community Status	Total Systems	Missing	N/A	Threshold Not Met	Threshold 1 Met (Top 40%)	Threshold 2 Met (Top 20%)
DAC/SDAC	1,408	215 (15%)	491 (35%)	403 (29%)	137 (10%)	162 (12%)
Non-DAC	1,287	208 (16%)	292 (23%)	473 (37%)	176 (14%)	138 (11%)
TOTAL:	2,868	442 (15%)	879 (31%)	921 (32%)	316 (11%)	310 (11%)
<i>Missing DAC Status</i>	173					

Table D15: Residential Arrearage Burden Results by Water System SAFER Program Status

SAFER Program Status	Total Systems	Missing	N/A	Threshold Not Met	Threshold 1 Met (Top 40%)	Threshold 2 Met (Top 20%)
Failing: HR2W Systems	295	39 (13%)	87 (29%)	82 (28%)	29 (10%)	58 (20%)
HR2W DAC/SDAC	184	27	54	38	21	44
At-Risk Systems	459	87 (19%)	159 (35%)	101 (22%)	34 (7%)	78 (17%)
At-Risk DAC/SDAC	276	48	101	54	26	47
Not HR2W or At-Risk System	1,946	303 (16%)	542 (28%)	730 (38%)	225 (12%)	146 (8%)
DAC/SDAC	907	137	307	307	89	67
TOTAL:	2,868	442 (15%)	879 (31%)	921 (32%)	316 (11%)	310 (11%)
<i>Missing SAFER Status:</i>	168					