

2021 DRINKING WATER NEEDS ASSESSMENT PREVIEW

State Water Resources Control Board

SAFER Advisory Group Meeting #1 is being held in two parts:

- **Part A on April 8-** State Water Board staff will present results of the 2021 Needs Assessment and you will have an opportunity to ask clarifying questions.
- **Part B on April 22-** We will have a deeper discussion of the results of the Needs Assessment after you have time to process the information you receive.

ALL INFORMATION IN THIS DOCUMENT IS IN DRAFT FORM AND MAY CHANGE.

INSTRUCTIONS

Please read this document prior to our meeting on April 22 and be prepared to ask clarifying questions and discuss the following topics:

1. Based on the Needs Assessment, which types of systems (disadvantaged community systems, state smalls, domestic wells, etc.) and solution types (emergency funding, technical assistance, interim measures, consolidations, etc.) should be prioritized for SAFER funding in 2021?
2. Based on last year's Fund Expenditure Plan, how should funding categories be increased or decreased?
3. Given the high level of need for capital infrastructure, how should the State Water Board prioritize operation and maintenance (O&M) funding?

OVERVIEW

In 2019, California enacted Senate Bill 200, establishing the \$130 million per year Safe and Affordable Drinking Water Fund. To advance the Human Right to Water (HR2W) and in conjunction with SB 200, the State Water Board created the Safe and Affordable for Equity and Resilience (SAFER) Program. The SAFER program encompasses regulatory, funding, and public engagement strategies to work toward long-term solutions for Californians without access to safe drinking water. SB 200 also requires an annual Fund Expenditure Plan, which prioritizes projects for funding and documents past and planned expenditures.

The drinking water Needs Assessment, which was originally created through the 2018 Budget Act, focuses on smaller water systems and domestic wells, includes data to inform how the Water Board prioritizes SAFER funds and resources and leverages other sources of funding and resources. The Needs Assessment does three things: (1) identifies California water systems that are failing or at risk of failing to provide access to safe drinking water; (2) estimates the cost of interim and long-term solutions for these systems; and (3) determines the statewide funding gap and affordability challenges that may be barriers to implementing these solutions.

The first Needs Assessment is scheduled for full release on April 9, 2021. After consideration and incorporation of the Needs Assessment, the draft SAFER Fund Expenditure Plan will be released in late Spring to early Summer 2021. Several elements of the Needs Assessment,

including the Risk Assessment, Cost Assessment and the Affordability Assessment will inform critical and required pieces of the Fund Expenditure Plan. The Needs Assessment also demonstrates where additional funding (such as federal stimulus and infrastructure funding) may be needed to address water system needs. In the future, elements of the Needs Assessment will be re-evaluated on a regular basis by Water Boards staff. Potential future improvements in data and analysis are detailed in the full Needs Assessment report.

FAILING WATER SYSTEMS

The State Water Board maintains a list and map of water systems that fail to meet the goals of the HR2W. Water systems that are on the HR2W list are out of compliance with, or consistently fail to meet, primary drinking water standards. The HR2W criteria have been expanded as of April 2021 to include unresolved E. Coli violations, treatment technique violations, and extensive monitoring and reporting violations. This list and map are housed on the State Water Board website and informed this Needs Assessment.

RISK ASSESSMENT

Each year, approximately 45 new water systems are added to the HR2W list, but the overall number of HR2W systems is fairly constant because as some come into compliance, others begin to fail. This demonstrates that to truly make statewide progress, it is critical to identify and support at-risk systems before they fail. The SAFER Program is designed to proactively meet the needs of water systems to reduce this number. The State Water Board and UCLA developed the Risk Assessment as a warning mechanism that helps the State Water Board identify water systems and domestic wells that may be at risk of failing to provide an adequate supply of safe drinking water, before they fail and end up on the HR2W list.

- To identify At-Risk **public water systems**, the Risk Assessment used a set of “risk indicators” that measure risk in the following categories: water quality, accessibility, affordability, and TMF (technical, managerial, and financial) capacity.
- To identify At-Risk **state small water systems** and **domestic wells**, the Risk Assessment includes an Aquifer Risk Map that uses well data to see where groundwater is at high risk of containing contaminants that exceed safe drinking water standards.

Draft 2021 Risk Assessment results are presented in the following table:

System Type	Total Systems Analyzed	# of At-Risk Systems
Public Water Systems	2,779	617
State Smalls Water Systems	1,463	611
Domestic Wells	325,749	77,973

Tribal Water Systems

Tribal water systems that are not federally recognized (i.e., those regulated by the state) are included in the analysis in the primary Risk Assessment. However, an alternative approach was used to assess federally recognized tribal water systems. This assessment identified 13 tribal water systems that failed to meet the goals of the HR2W and 22 At-Risk tribal water systems. It was necessary to approximate tribal equivalents for HR2W list and At-Risk water systems to ensure tribal systems are included in the prioritization of SAFER funding and technical assistance. Outreach to tribal water systems is planned for 2021, with a focus on informing tribal leaders of the purpose of the SAFER Program and providing information on the benefits of sharing data so that tribal water systems may be better integrated in future Risk Assessments.

COST ASSESSMENT

The purpose of the Cost Assessment is to estimate the costs of solutions for both HR2W and At-Risk drinking water systems. These estimated costs will then help inform spending proposals in that year's Fund Expenditure Plan. The Cost Assessment determines the costs of implementing interim/emergency measures and longer-term solutions for HR2W and At-Risk systems. The Cost Assessment evaluated potential solutions such as: physical consolidations, treatment facility additions or upgrades, distribution system repairs or replacement, and/or point-of-use/point-of-entry treatment. Draft estimated capital costs for current HR2W list and At-Risk systems (not including O&M costs) are presented in the following table:

System Type	# of Systems ¹	Total Capital Cost Range Total
HR2W	305	\$887 M - \$3,550 M
At-Risk PWS	630	\$819 M - \$3,280 M
At-Risk SSWS	445	\$27 M - \$106 M
At-Risk Domestic Wells	62,607	\$548 M - \$2,190 M
TOTAL:		\$2,280 M - \$9,120 M

The Cost Assessment assumes that a portion of the estimated costs would not be eligible for State Water Board grants and would be paid by water systems, their ratepayers, and/or domestic well owners. These costs are referred to as "local cost share" and include non-grant-eligible capital needs, interest payments, and long-term O&M. The Cost Assessment also identified possible funding sources that may exist to support these needs. A number of these potential funding sources are detailed in Appendix D of the Needs Assessment report. The gap analysis evaluated both the gap in available statewide grant dollars and the gap in statewide

¹ The total number of systems, by system type, differ from the list of systems included in the Risk Assessment and Affordability Assessment results sections because the Cost Assessment data was gathered on a slightly different timeframe.

financing dollars (e.g., loan dollars). The following two tables provide funding needs and gap results²:

Funding Programs	5-Year Estimate		
	Grant Funds Availability	Grant Eligible Needs	Grant Funding Gap
All Grant Funds for All Refined Cost Estimates	\$1,200 M ³	\$3,250 M ⁴	\$2,050 M

5-Year Estimate			
Local Cost Share Needs	Local Cost Share SWB Loan Eligible	SWB Loan Capacity	Financing Gap
\$5,040 M	\$4,050 M	\$1,500 M	\$2,550 M

Tribal Water System Cost Estimate

The Cost Assessment methodology for tribal water systems generally followed the statewide methodology, with some necessary modifications. Results are included in the following table:

System Type	Total Systems Analyzed	Estimated Costs
Tribal HR2W Equivalent	13	\$43.5M
Tribal At-Risk Equivalent	22	\$54.8M
TOTAL:		\$98.3M

Tribal costs were not included in the Cost Assessment’s gap analysis for the 2021 Needs Assessment because tribal water systems are eligible for federal funding sources that are not currently captured in the gap analysis.

AFFORDABILITY ASSESSMENT

The State Water Board recognizes the need to refine the affordability indicators used in the Affordability Assessment of the Fund Expenditure Plan. The Affordability Assessment identifies

² The 1-year and 5-year estimates are based on theoretical disbursements of funds. Given the complexities in funding agreements and funding disbursements, the yearly allocation and commitment estimates in the Gap Analysis will not exactly match actual project funding and financing patterns.

³ The Safe and Affordable Drinking Water Fund accounts for \$590 million of this total 5-yr state grant funding availability.

⁴ Estimated small DAC/SDAC grant funding needs alone account for \$2.77 billion of this funding need.

community water systems⁵ that have customer charges that exceed an “Affordability Threshold.” SB 200 did not define “affordability” nor what the Affordability Threshold should be. Therefore, in this inaugural version of the Needs Assessment, the State Water Board is developing models and definitions of what affordability means and how their interactions impact the sustainability of a household, a community, and the public water system. The following figure illustrates the definitions and interactions below:



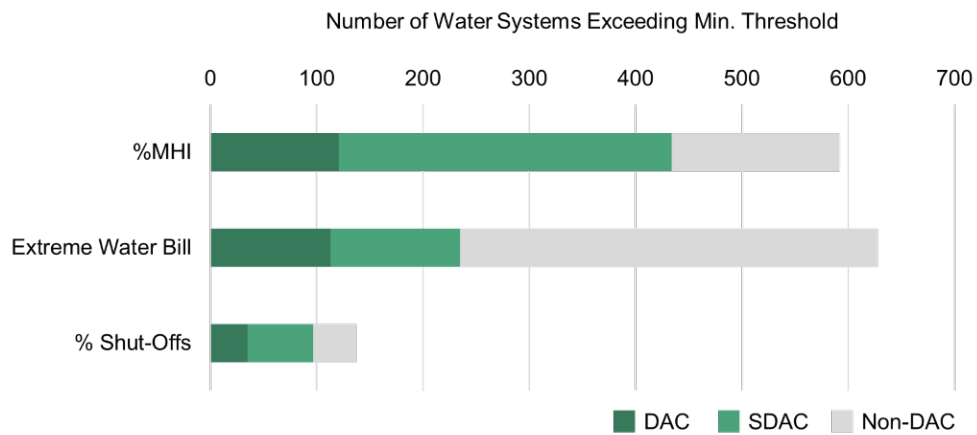
- (1) **Household Affordability** is the ability of individual households to pay for an adequate supply of safe water.
- (2) **Community Affordability** is the ability of households within a community to pay for water services at a level that supports their water system with being financially resilient.
- (3) & (4) **Water System Financial Capacity** is the ability of the water system to financially meet current and future operations 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.

This year, the State Water Board developed three initial affordability indicators from readily available data:

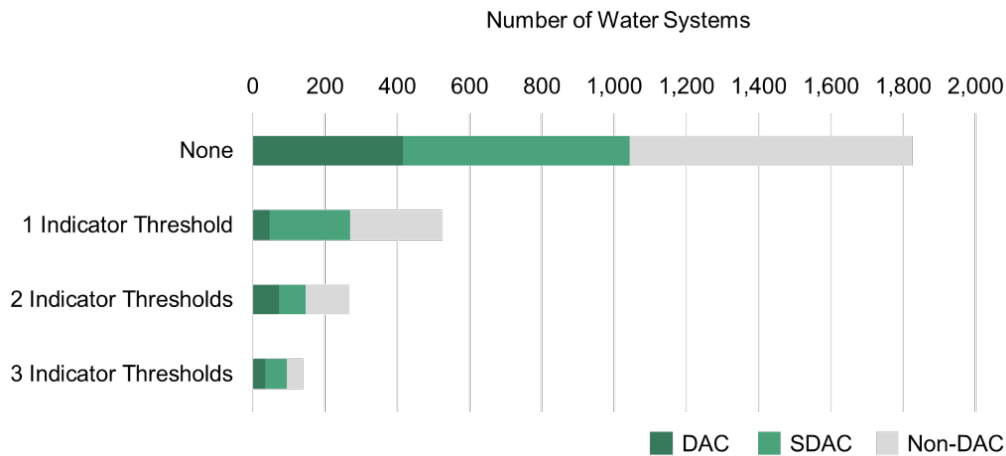
- **Percent (%) Median Household Income (MHI)** is the average residential customer charges for 600 cubic feet per month relative to the annual MHI within a water system’s service area.
- **Extreme Water Bill** is the customer charges that meet or exceed 150 percent and 200 percent of statewide average drinking water customer charges at the 600 cubic feet level.
- **Percent (%) Shut-offs** is the percentage of a water system’s residential customer base that experienced service shut-offs due to non-payment in a given year.

The following figure shows the number of systems exceeding each of the affordability indicators by disadvantaged community (DAC), severely disadvantaged community (SDAC), and non-disadvantaged community (Non-DAC):

⁵ Public Water Systems are comprised of community water systems and non-community water systems. Community water systems serve full-time residents.



The following figure shows the number of systems exceeding one to three affordability indicator thresholds:



The analysis indicated that 1,911 systems do not exceed any of the affordability indicator thresholds.

New affordability indicators will be included in future assessments, while others like percentage of shut-offs, may be removed. The State Water Board will begin research and stakeholder engagement to develop a more refined Affordability Assessment and appropriate affordability thresholds in mid-2021. Future refinements in affordability indicators will help to inform the affordability threshold required in each year's Fund Expenditure Plan.