SAFER: 2022 Drinking Water Needs Assessment Results

May 5, 2022 9:00 am *Remote participation only*





Meeting Logistics

Kristyn Abhold Needs Analysis Unit Division of Drinking Water State Water Resources Control Board





Water Boards' Mission Statement

Preserve, enhance, and restore the quality of California's water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use, for the benefit of present and future generations.

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Choose English of Spanish

We have an English and Spanish Channel:





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Ways to Participate-

1. Watch ONLY: Visit video.calepa.ca.gov

2. Email: Submit a comment or ask a question that will be read aloud, send an email to: <u>safer@waterboards.ca.gov</u>

3. Q&A: Submit a question using the Q&A feature at the bottom of your Zoom Screen. You can UPVOTE any question you would like answered.

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- Please wait for your name to be called.
- Public comments are 3 minutes each.



Agenda



SAFER PROGRAM & NEEDS ASSESSMNET

RISK ASSESSMENT FOR PUBLIC WATER SYSTEMS, SSWSs, & DOMESTIC WELLS

DROUGHT INFRASTRUCTURE COST ASSESSMENT



NEXT STEPS



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SAFER Program & Needs Assessment Overview



Audience Poll Question 1

Are you heard about the Drinking Water Needs Assessment?

- Yes
- No

2022 Drinking Water Needs Assessment: https://bit.ly/3uJSUFH

2021 Drinking Water Needs Assessment: <u>https://bit.ly/3mAz2yK</u>



2012 - Human Right to Water (HR2W)

Water Code Section 106.3, the State statutorily recognizes that:

"every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes."



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SB 200 and the SAFER Program

In 2019, to advance the goals of the Human Right to Water "HR2W", California passed Senate Bill 200, which enabled the State Water Board to establish the **Safe and Affordable Funding for Equity and Resilience** (SAFER) Program.



Safe and Affordable Drinking Water Fund Data Collection & Analysis

Consolidation & Regional Solutions

Administrators

Technical Assistance & Capacity Building

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Safe and Affordable Drinking Water Fund

Up to \$130 million per year through 2030.

The annual **Fund Expenditure Plan** prioritizes projects for funding, documents past and planned expenditures, and is "based on data and analysis drawn from the drinking water **Needs Assessment**" (Health and Safety Code §116769).



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Needs Assessment Components



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

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SAFER Program Priority Systems

FAILING WATER SYSTEMS

Community water systems and K-12 public schools that meet the Failing: Human Right to Water (HR2W) list criteria.

AT-RISK WATER SYSTEMS & DOMESTIC WELLS

Public water systems with up to 30,000 service connections or 100,000 population served, K-12 public schools, state small water systems and domestic wells that are at-risk of failing.

POTENTIALLY AT-RISK WATER SYSTEMS & DOMESTIC WELLS

Public water systems with up to 30,000 service connections or 100,000 population served, K-12 public schools, state small water systems and domestic wells that are at-risk of failing.

NOT AT-RISK WATER SYSTEMS & DOMESTIC WELLS

Public water systems, K-12 public schools, state small water systems, and domestic wells that are not at-risk of failing.

Access the Full 2021 Needs Assessment Report



Access report here: https://bit.ly/3mAz2yK

Learn more about the Needs Assessment here: <u>https://bit.ly/3vfSvtA</u>

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Access the Full 2022 Needs Assessment Report



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Learn more about the Needs Assessment here: https://bit.ly/3vfSvtA

2021 SAFER Program Accomplishments & Activities

Activity	# of Communities & Households	Individuals Benefiting	
Short-Term Solutions Repairs, bottled and hauled water	426	27,731	
Long-Term Solutions Construction, consolidation, water is now safe	81	189,396	
Planning Help with funding applications and feasibility studies	171	135,887	
Total:		353,014	

SAFER Drinking Water Strategy for State Small Water Systems and Domestic Wells

Key Components:

- 1. Centralized domestic well and state small water system data
- 2. Funding for counties to develop programs to address local needs
- 3. Implementing a regionalization pilot
- 4. Implementing a Point-of-Use/Point-of-Entry pilot

More information will be available soon at <u>www.waterboards.ca.gov/safer</u>



Failing Water Systems: HR2W List



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SAFER Program Priority Systems: Failing: HR2W List Systems

FAILING WATER SYSTEMS

Community water systems and K-12 public schools that meet the Failing: Human Right to Water (HR2W) list criteria.

AT-RISK WATER SYSTEMS & DOMESTIC WELLS

Public water systems with up to 30,000 service connections or 100,000 population served, K-12 public schools, state small water systems and domestic wells that are at-risk of failing.

POTENTIALLY AT-RISK WATER SYSTEMS & DOMESTIC WELLS

Public water systems with up to 30,000 service connections or 100,000 population served, K-12 public schools, state small water systems and domestic wells that are at-risk of failing.

NOT AT-RISK WATER SYSTEMS & DOMESTIC WELLS

Public water systems, K-12 public schools, state small water systems, and domestic wells that are not at-risk of failing.

PRIORITY



Failing Water Systems: Human Right to Water (HR2W) List

State Water Board has been tracking failing water systems that meet Failing: HR2W criteria since 2017.

Failing: HR2W criteria was expanded in Spring 2021 beyond water quality violations.

Learn more: <u>https://bit.ly/3rr2mvv</u>

Expanded Criteria for Failing Water Systems: HR2W List

Criteria	Before 3.2021	After 4.2021
Primary MCL Violation with an open Enforcement Action	Yes	Yes
Secondary MCL Violation with an open Enforcement Action	Yes	Yes
E. Coli Violation with an open Enforcement Action	No	Yes
 Treatment Technique Violations (in lieu of an MCL): One or more Treatment Technique violations (in lieu of an MCL), related to a primary contaminant, with an open enforcement action; and/or Three or more Treatment Technique violations (in lieu of an MCL), related to a primary contaminant, within the last three years. 	Partially	Expanded
 Monitoring and Reporting Violations (related to an MCL and TTs): 3 Monitoring and Reporting violations (related to an MCL) within the last three years where at least one violation has been open for 15 months or greater. 	Νο	Yes

2021 Failing HR2W List Systems

In 2021 there were **416** unique water systems on the Failing: HR2W list.

Water Systems	Primary MCL Violation	Secondary MCL Violation	E.Coli Violation	Treatment Technique Violation	Monitoring & Reporting Violations
Small Water Systems	308	28	9	27	60
Medium Water Systems	20	1	0	3	1
TOTAL:	328	29	9	30	61

2021 Primary and Secondary Violation Contaminants



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Distribution of Failing: HR2W List Systems by Majority Race/Ethnicity of Census Tract



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Providing Assistance to Failing: HR2W List Systems

Approximately **90%** of the water systems on the Failing: HR2W list are progressing towards long-term solutions.

Reach out to the State Water Board if you're looking for financial or technical assistance:

Financial Assistance: <u>https://bit.ly/3a6yFHj</u>

Technical Assistance: https://bit.ly/3uL3ole



The Challenge



Approximately **70** unique water systems come on the **Failing: HR2W list** each year.

To be proactive, the State Water Board needed to develop an **early warning approach** to identify water systems that are **at-risk of failing**.

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Risk Assessment Results: Public Water Systems



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The Expanded Inventory: Public Water Systems **2021 Risk Assessment** was applied to CWSs with 3,300 connects or less and k-12 public schools. Wholesalers were excluded.

2022 Risk Assessment will be applied to CWSs with up 30,000 service connections and 100,000 populations served and K-12 schools. Wholesalers are excluded, and military bases are excluded from the financial risk indicators. Aligned with expanded grant eligibilities for medium-size systems.

Risk Assessment for Public Water Systems



RISK ASSESSMENT METHODOLOGY

RISK INDICATORS

Quantifiable measurements of key data used to assess a water system's risk of becoming noncompliant with water quality standards.



RISK INDICATOR THRESHOLDS

Values associated with a risk indicator that designates when a water system is more at-risk of becoming non-compliant with water quality standards.



WEIGHTS / SCORES

Application of weight to each risk indicator and indicator category – some are more critical than others in contributing to overall risk.

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2021 Risk Indicators

The State Water Board utilized 19 risk indicators for the 2021 Risk Assessment.

WATER QUALITY

E. Coli Presence

Increasing Presence of Water Quality Trends Towards MCL

Treatment Technique Violations

Past Presence on the HR2W List

Maximum Duration of High Potential Exposure (HPE)

Percentage of Sources Exceeding an MCL

ACCESSIBILITY

Number of Sources

Absence of Interties

Water Source Types

DWR – Drought & Water Shortage Risk Assessment Results

Critically Overdrafted Groundwater Basin

AFFORDABILITY

% Median Household Income

Extreme Water Bill

% Shut-Offs

TMF CAPACITY

of Service Connections

Operator Certification Violations

Monitoring and Reporting Violations

Significant Deficiencies

Extensive Treatment Installed

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2022 Risk Indicator Changes

The State Water Board removed 5 risk indicators and added 8 new indicators.

WATER QUALITY

E. Coli Presence

Increasing Presence of Water Quality Trends Towards MCL

Treatment Technique Violations

Past Presence on the HR2W List

Maximum Duration of High Potential Exposure (HPE)

Percentage of Sources Exceeding an MCL

Constituents of Emerging Concern

ACCESSIBILITY

Number of Sources

Absence of Interties

Water Source Types

DWR – Drought & Water Shortage Risk Assessment Results

Critically Overdrafted Groundwater Basin

Bottled or Hauled Water Reliance

Source Capacity Violations

AFFORDABILITY

% Median Household Income

Extreme Water Bill

% Shut-Offs

% of Residential Arrearages

Residential Arrearage Burden

TMF CAPACITY

of Service Connections

Operator Certification Violations

Monitoring and Reporting Violations

Significant Deficiencies

Extensive Treatment Installed

Income

Operating Ratio

Days Cash on Hand

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Risk Indicator Thresholds, Scores, and Weights

To enable the evaluation and comparison of risk indicators, a standardized **score** range between 0 and 1 was applied to each risk indicator threshold.

Weights between 1 and 3 were applied to each risk indicator to indicate which risk indicators are comparatively more critical.

Example:

Risk Indicator	Thresholds	Raw Score	Weight	Max Risk Score	Risk Level
Past Presence on the Failing: HR2W List	Threshold 0 = 0 occurrences over the last three years	0	N/A	0	None
	Threshold 1 = 1 occurrences over the last three years.	0.5	2	1	Medium
	Threshold 2 = 2 or more occurrences over the last three years	1	2	2	High

Aggregated Risk Assessment with Indicator & Category Weights



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Aggregated Risk Assessment Calculation Methodology Example





Adjusting for Missing Risk Indicator Data

A system may have failed to report necessary data or the system may not have data to report.

The Risk Assessment removed any value for a missing risk indicator and redistributed the scores/weights to risk indicators within the same category which did have valid values.

The same approach was used for risk indicator categories as well.

Risk Indicator Category With No Missing Indicator



Risk Indicator Category With Missing Indicator

$$1 + 1 + .5 + N/A + 0$$

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Risk Assessment: Aggregated Distribution of Weighted Scores



These thresholds were determined based on where the current and expanded HR2W systems started to cluster.

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Risk Assessment Results (n=3,066)



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Distribution of the Number of Risk Indicator Thresholds Exceeded



All At-Risk systems exceed a threshold of concern for **at least 4 risk indicators**.

The **average** At-Risk system exceeded more than **7 risk indicator** thresholds.

This means that systems were not designated as At-Risk based on a single or even a handful of risk indicators.

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Risk Assessment Results by County, Proportional to All Systems



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Population Served of Systems in the Risk Assessment*



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* The Risk Assessment excluded large water systems that serve the majority of Californians.

Socio-Economic Analysis of At-Risk Systems

	Statewide (all areas)	Not At-Risk	Potentially At-Risk	At-Risk	Failing: HR2W
Total Count of Systems	3,066	1,759	453	503	346
Average CalEnviroScreen					
4.0 Pollution Burden	42.7	37.9	43.9	50.8	53.7
Percentile					
Average percentage of					
households 2x below	31.9%	29.2%	33.1%	35.5%	38.4%
federal poverty					
Percent of non-white	12 5%	29 70/	11 204	19 20/	51 10/
customers served	42.3%	30.7 %	44.270	40.3%	51.170

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Additional socio-economic data in the Needs Assessment report.

Explore the Results in the NEW Dashboard



https://bit.ly/3vfSvtA

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Access the At-Risk List and Raw Data



Download the **Risk Assessment Results Spreadsheet** to view the list of At-Risk public water systems: <u>https://bit.ly/3JELNSU</u>

This spreadsheet will be updated periodically with data refreshes.

Water System Data Change Requests

See something that isn't right? Water systems can submit a data change request here:

https://forms.office.com/g/BtPunTA0Qh

Requests will be reviewed by State Water Board staff.



Needs Assessment Data Change

The purpose of this form is to provide California water systems the opportunity to request underlying data inges related to the 2021 Risk Assessment and Affordability Assessment.

Hi Kristyn, when you submit this form, the owner will be able to see your name and email address

Required

1. Please provide your PWSID

Enter your answer

2. Please provide your Water System Name

Enter your answer

3. First Name, Last Name Enter your answe

4. Job Title

Enter your answer

5. Email Address 1

6 Phone Number

Enter vour answer

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Discussion Topic 1: Risk Assessment for Public Water Systems

Do you have any questions or comments about the Risk Assessment for public water systems results?

Ways to Participate

1. Watch ONLY: Visit video.calepa.ca.gov

2. Email: Submit a comment or ask a question that will be read aloud, send an email to: safer@waterboards.ca.gov

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Risk Assessment Results: State Small Water Systems & Domestic Wells

Emily Houlihan

GAMA Unit, Division of Water Quality State Water Resources Control Board





2021: Risk Assessment for State Small Water Systems & Domestic Wells

The 2021 Risk Assessment was based on the State Water Board's Aquifer Risk Map:

- Identifies areas where groundwater is at high risk of containing contaminants that exceed safe drinking water standards; and
- where groundwater is used or likely to be used as a drinking water source.



2022: Risk Assessment for State Small Water Systems & Domestic Wells

The 2022 Risk Assessment was based on a **combined assessment** utilizing:

- State Water Board's Aquifer Risk Map; and
- Department of Water Resources: Water Shortage Risk Vulnerability Tool



Data Sources

- Water Quality Data (Aquifer Risk Map, SWRCB)
 - Estimated risk using water quality results from wells of similar depth
 - Risk is determined by comparing long-term average or recent results to the MCL
- Water Shortage Data (Water Shortage Risk Vulnerability Tool, DWR)
 - Risk calculated from multiple factors including exposure to hazard, climate change, current conditions, physical and socioeconomic vulnerability, and record of shortage
 - Risk is determined by comparing calculated score to all other areas (relative risk percentile)
- Domestic Well & State Small Water System Locations
 - Domestic well density is from the Online System of Well Completion Records, excluding domestic wells drilled prior to 1970 and destruction records
 - State small water system locations are from the Division of Drinking Water

Top Contaminants



2022 Methodology: Risk Assessment for State Small Water Systems & Domestic Wells (1/4)

The two variables of drought risk and water quality risk were combined following a similar methodology as the combined Risk Assessment for public water systems.

The normalized scores for water quality and drought risk for each PLSS section were added together and divided by the number of variables (two).



<u>2022</u> Methodology: Risk Assessment for State Small Water Systems & Domestic Wells (2/4)

Example of Combined Risk Scores for each PLSS section



<u>2022</u> Methodology: Risk Assessment for State Small Water Systems & Domestic Wells (3/4)

Example of Combined Risk Scores for each PLSS section



<u>2022</u> Methodology: Risk Assessment for State Small Water Systems & Domestic Wells (4/4)

Example of Combined Risk Scores for each PLSS section



Explore the Data: Combined Risk Assessment Map



Explore the Map: <u>https://bit.ly/3o2k7Qb</u>

Map Features:

- Mask/un-mask areas with known SSWSs & domestic wells.
- Add layer to see CalEnviroScreen
 data for each census track:
 - CalEnviroScreen 4.0 score percentile
 - Pollution burden percentile
 - Population characteristics percentile
 - Race/ethnicity population percentages
 - Percent of the population living two times below the federal poverty level.

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Explore the Data: Water Quality & Drought Risk Maps

Users can explore the results of the water quality and drought risk assessments separately.





2022 Results: Risk Assessment for State Small Water Systems

Assessment (SSWSs)	At-Risk	Potentially At-Risk	Not At-Risk	Not Assessed
Combined Risk Assessment	378 (30%)	438 (34%)	455 (36%)	2 (0%)
Water Quality Risk Only (all locations)	631 (50%)	75 (6%)	426 (33%)	141 (11%)
Drought Risk Only (all locations)	321 (25%)	411 (32%)	535 (42%)	6 (0%)

Most Vulnerable State Small Water Systems



Results by County, State Small Water Systems



Socio-Economic Analysis of At-Risk State Small Water Systems

	Statewide (all areas)	Statewide (SSWS areas only)	Not At-Risk	Potentially At-Risk	At-Risk
Total Count of Systems	1,273	1,273	455	438	378
Average CalEnviroScreen					
4.0 Pollution Burden	38.8	40.5	32.8	40.2	51.8
Percentile					
Average percentage of					
households 2x below	36.2%	31.5%	30.0%	32.0%	33.1%
federal poverty					
Percent of SSWS in	38%	38%	31%	34%	52%
majority non-white areas	(487)	(487)	(140)	(148)	(198)

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Additional socio-economic data in the Needs Assessment report.

Distribution of At-Risk State Small Water Systems by Majority Race/Ethnicity of Census Tract



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2022 Results: Risk Assessment for Domestic Wells

Assessment (Domestic Wells)	At-Risk	Potentially At-Risk	Not At-Risk	Not Assessed
Combined Risk Assessment	64,176 (21%)	90,840 (29%)	157,146 (50%)	25 (0%)
Water Quality Risk Only (all locations)	92,635 (30%)	17,078 (5%)	134,282 (43%)	68,192 (22%)
Drought Risk Only (all locations)	90,974 (29%)	88,340 (28%)	132,709 (43%)	164 (0%)

Most Vulnerable Domestic Wells

MOST VULNERABLE AT-RISK FOR BOTH



Results by County, Domestic Wells



Socio-Economic Analysis of At-Risk Domestic Well Areas

		Statewide			
	Statewide (all areas)	(domestic well areas only)	Not At-Risk	Potentially At-Risk	At-Risk
Total Count of Wells	312,187	312,187	157,146	90,840	64,176
Average CalEnviroScreen 4.0 Pollution Burden Percentile	38.8	40.7	33.0	43.3	56.7
Average percentage of households 2x below federal poverty	36.2%	32.7%	30.0%	34.3%	37.6%
Percent of DWs in majority non-white areas	20% (61,604)	20% (61,604)	11% (17,722)	21% (19,424)	38% (24,448)

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Additional socio-economic data in the Needs Assessment report.

Distribution of At-Risk Domestic Wells by Majority Race/Ethnicity of Census Tract



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Proposed <u>2023</u>: Risk Assessment for State Small Water Systems & Domestic Wells

The State Water Board is working with Office of Environmental Health Hazard Assessment (OEHHA) and the Department of Water Resources to develop a combined Risk Assessment for 2023 utilizing:

- State Water Board's Aquifer Risk Map; and
- Department of Water Resources: Drought Risk Vulnerability Tool
- OEHHA: Newly developed socio-economic risk indicators (workshops coming soon in Spring 2022)

WATER QUALITY RISK Aquifer Risk Map

DROUGHT RISK

Drought Risk Vulnerability Tool

SOCIO-ECONOMIC RISK OEHHA (2023)

Discussion Topic 2: Risk Assessment for SSWSs & Domestic Wells

Do you have any questions or comments about the Risk Assessment for state small water systems & domestic wells results?

Ways to Participate

1. Watch ONLY: Visit video.calepa.ca.gov

2. Email: Submit a comment or ask a question that will be read aloud, send an email to: safer@waterboards.ca.gov

3. Q&A: Submit a question using the Q&A feature at the bottom of your Zoom Screen. You can UPVOTE any question you would like answered.

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5 Minute Break



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Drought Infrastructure Cost Assessment Results

Mawj Khammas

Needs Analysis Unit, SAFER Section Division of Drinking Water

State Water Resources Control Board



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Drought Infrastructure Cost Assessment

In response to stakeholder feedback and the need to support SB 552 planning, the State Water Board has conducted a targeted Drought Infrastructure Cost Assessment.

SB 522 requires small water suppliers (15 to 2,999 connections) and K-12 schools to:

- Detect production well groundwater levels Jan 1, 2023
- Mutual aid organization membership Jan 1, 2023
- Continuous operation during power failures Jan 1, 2024
- Have a backup source of water supply or a water system intertie by Jan 1, 2027
- Meter each service connection and monitor water loss by Jan 1, 2032
- Meet fire flow requirements by Jan 1, 2032 (*excluded from Assessment*)

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	2021 Cost Assessment	2022 <u>Drought</u> Infrastructure Cost Assessment
Systems Included	 Failing: HR2W list systems At-Risk public water systems, state small water systems & domestic wells 	 Small community water systems (15 to 2,999) K-12 schools
Long-Term Cost Estimate Infrastructure/Activity	 Treatment, physical consolidation, or POU/POE Other Essential Infrastructure (OEI): storage tanks, new wells, well replacement, upgraded electrical, backup power, distribution replacement, additional meters, etc. Technical assistance 	 Monitor static well levels Backup electrical supply Back-up source: new well or intertie Meter all service connections
2021 vs. 2022 (2/2)

	2021 Cost Assessment	2022 <u>Drought</u> Cost Assessment
Interim Cost Estimate	POUPOEBottled Water	Excluded
20-Year Operation & Maintenance Costs	Included	Excluded



Estimated Number of Systems Not Meeting SB 552 Requirements



Breakdown by SAFER Status included in the Needs Assessment Report.

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Regional Cost Adjustment

The cost estimates were adjusted for regional cost variance using RSMeans City Cost Index (CCI).

Location	RSMeans CCI	Percent Adjustment
Rural	+3.0	0%
Urban	+3.97	+ 32%
Suburban	+3.89	+ 30%

California Counties Categorized by Generalized Location

Location	Counties
Rural	Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, Fresno, Glenn, Humboldt, Imperial, Inyo, Kern, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Mono, Nevada, Placer, Plumas, San Joaquin, Shasta, Sierra, Siskiyou, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, Yuba
Suburban	Alameda, Contra Costa, El Dorado, Marin, Monterey, Napa, Orange, San Benito, San Bernardino, San Luis Obispo, Santa Barbara, Santa Cruz, Solano, Sonoma
Urban	Los Angeles, Riverside, Sacramento, San Diego, San Francisco, San Mateo, Santa Clara, Ventura

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Inflation Cost Adjustment

- The increase in inflation can drive up construction project costs and should be considered when developing cost estimates.
- The State Water Board applied a 4.7% inflation multiplier to all costed requirements to conservatively adjust for rising inflation.
- The inflation percentage is based on consumer price index data provided by U.S. Department of Labor Bureau of Labor Statistic.

Methodology: Detect production well groundwater levels

Steps	Method	Result
1. Identification of Systems with Need (inventory):	Utilize system response to 2020 EAR question on whether they monitor their static water level. Systems that did not respond to this question or responded with "No" were assumed to lack equipment were included.	1,213 small CWSs and K-12 schools
2. Determine Cost Estimate Assumptions:	Sounder cost (does not require well modifications): \$1,700	
3. Finalize Calculations:	\$1,700 x Inventory + Regional Multiplier + 4.7% Total Cost Inflation	\$2,450,000

Methodology: Mutual aid organization membership

Steps	Method	Result
1. Identification of Systems with Need (inventory):	All CWSs	N/A
2. Determine Cost Estimate Assumptions:	Membership in CalWARN is FREE	
3. Finalize Calculations:	\$0	\$0

Methodology: Continuous operation during power failures

Steps	Method	Result
1. Identification of Systems with Need (inventory):	Utilize system response to 2020 EAR question on whether they have back-up power for their sources. Systems responding with "None", "Blank," "Null", or "Some" are included.	1,872 small CWSs and K-12 schools
2. Determine Cost Estimate Assumptions:	 Estimate MDD; assume ADD = 150 gpd, PF = 2.25 (24 hours) Fixed Generator Cost: \$30,134 Generator MDD multiplier: \$341 Account for 5% permitting multiplier. 	
3. Finalize Calculations:	\$30,134 + (\$341 x MDD) + Regional Multiplier + 5% Total Cost Permitting + 4.7% Total Cost Inflation	\$244,940,000

Methodology: Have a backup well or intertie (1/2)

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Steps	Method	Result
1. Identification of Systems	 Using SDWIS data, identified systems with one source that is a well. <i>Excluded</i>: systems with one source = intertie or surface water. 	Intertie: 142 small CWSs and K-12 schools
with Need (inventory):	• The analysis first looked at the potential feasibility of an intertie. If an intertie is not potentially feasible, then a cost estimate for a new well was calculated.	Well: 753 small CWSs and K-12 schools
	Intertie	
	 Buffer for intersects (added pipeline) = 1,000 ft 	
	 Pipeline Cost per ft = \$155 	
2. Determine Cost Estimate	 Service line = \$5,000 	
Assumptions:	 Connection fee = \$6,600 	
	 Admin/Legal = \$200,000 	
	 Contingency 20%, Planning 25% 	

Methodology: Have a backup well or intertie (2/2)

Steps	Method	Result
2. Determine Cost Estimate Assumptions:	 Well Well drilling (1,000 ft) = \$1,200,000 Required well production MDD, which is calculated based on ADD of 150 gpm and PF of 2.25 \$85,000 for CEQA \$100,000 for SCADA Depping and construction 25% 	
	 Intertie Cost = Pipeline cost + Service line cost + Connection fees + Admin/legal fees + 20% Contingency+25% Planning and Construction + Regional Multiplier + 4.7% Total Cost inflation 	Intertie: \$259,970,000
3. Finalize Galculations:	Well Cost Estimate = Drilling cost + Development cost + Pump & Motor cost + SCADA cost + CEQA cost+25% Planning and Construction + Regional Multiplier +4.7% Total Cost Inflation	Well: \$1,651,620,000

Methodology: Meter each service connection

Steps	Method	Result
1. Identification of Systems with Need (inventory):	Utilize system response to 2020 EAR question on number of unmetered connection.	1,275 small CWSs and K-12 schools
2. Determine Cost Estimate Assumptions:	 Equipment = \$1,200 (Per un-metered connection) Software = \$29,000 (Per water system) 	
3. Finalize Calculations:	\$29,000 + (# Un-metered service connection x \$1,200)+Regional Multiplier+4.7%Total Cost Inflation	\$ 245,330,000

Drought Infrastructure Cost Assessment Results

Drought Requirement	# Small CWS and K-12 Schools	Total Small CWS and K-12 Schools Cost Estimate
Monitor Static Well Levels	1,213 (46%)	\$2,450,000
Membership CalWARN / Mutual Aid	2,634 (100%)	\$0
Backup electrical supply	1,872 (71%)	\$244,940,000
Back-up source: new well or intertie	895 (34%)	\$1,911,590,000
Meter all service connections	1,275 (48%)	\$245,330,000
TOTAL:	2,634	\$2,404,320,000

Explore the data utilized to identify CWSs not meeting SB 552 requirements: <u>https://bit.ly/3KIp5L8</u>

Discussion Topic 3: Drought Infrastructure Cost Assessment

Do you have any questions or comments about the methodology for Drought Infrastructure Cost Assessment?

Ways to Participate

1. Watch ONLY: Visit video.calepa.ca.gov

2. Email: Submit a comment or ask a question that will be read aloud, send an email to: <u>safer@waterboards.ca.gov</u>

3. Q&A: Submit a question using the Q&A feature at the bottom of your Zoom Screen. You can UPVOTE any question you would like answered.

4. Raise Hand: Attendees will be given the opportunity to provide verbal comment or ask questions, if you're interested in this option, please raise your virtual hand when the time is right.

- Please wait for your name to be called.
- Public comments are 3 minutes each.

Affordability Assessment Results

Kristyn Abhold Needs Analysis Unit, SAFER Section Division of Drinking Water State Water Resources Control Board



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Affordability Assessment Purpose

Identify **disadvantaged community water systems**, that have instituted customer charges that **exceed** the **"Affordability Threshold."**

Legislation does not define what the Affordability Threshold should be. The State Water Board is working with partners to develop an approach for defining what the Affordability Threshold should be.



Nexus of Affordability Definitions



- (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 operations and infrastructure needs to deliver safe drinking water. The financial capacity of water systems affects future rate impacts on households.

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Affordability Assessment

Changes to the Affordability Assessment indicators reflect changes in the Risk Assessment for public water systems

2021	2022
% Median Household Income	% Median Household Income
Extreme Water Bill	Extreme Water Bill
% Shut-Offs	% Shut-Offs
	<mark>% of Residential</mark> Arrearages
	Residential Arrearage Burden

% Shut-Offs: removed because there was a shut-off moratorium during the COVID-19 pandemic from March 2020 – January 2022. No data available.

Arrearage Data: new indicators utilizing 2021 Drinking Water Arrearage Payment Program data. One-time data use from funding program to supplement % Shut-Off data.

Affordability Indicators and Thresholds

- % Median Household Income: average residential customer charges for 6 hundred cubic feet per month meet or exceed 1.5% (min. thresholds) or 2.5% (max. threshold) of the annual Median Household Income within a water system's service area.
- Extreme Water Bill: customer charges that meet or exceed 150% (min. threshold) or 200% (max. threshold) of statewide average drinking water customer charges at the 6 hundred cubic feet level.
- % Residential Arrearages: high percentage of their residential customers that have not paid their water bill and are at least 60 days or more past due.
- Arrearage Burden: measures how high the residential arrearage is if it were distributed across the total residential rate base

Water Systems Assessed: Community Water Systems

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

State Small Water Systems and Domestic Wells were NOT included in the Affordability Assessment.

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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 Status		61	\$64.98
	TOTAL:	1,814	\$64.27
Systems that Do Not Charge for Water or Missing		1,054	

Average Monthly Residential Customer Charges for 6 HCF by SAFER Status

SAFER Program Status	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
Systems that Do Not Charge for Water or Missing	1,054	

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Results per Affordability Indicator, Exceeding Min. Affordability Threshold





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Results, Exceeding Multiple Affordability Thresholds



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Affordability Assessment Results by SAFER Status

High: 3 or more indicator thresholdsMedium: 2 of 4 indicator thresholds metLow: 1 of 4 indicator thresholds met

Community Status	Total Systems	High Affordability Burden	Medium Affordability Burden	Low Affordability Burden
HR2W Systems	295	21 (7%)	52 (17%)	70 (24%)
At-Risk Systems	459	40 (9%)	87 (19%)	74 (16%)
Potentially At-Risk Systems	418	12 (3%)	67 (16%)	89 (21%)
Not At-Risk System	1,696	16 (1%)	117 (7%)	400 (23%)
TOTAL:	2,868	89 (3%)	323 (11%)	633 (22%)

Affordability Assessment Results by DAC/SDAC SAFER Status

High: 3 or more indicator thresholdsMedium: 2 of 4 indicator thresholds metLow: 1 of 4 indicator thresholds met

Community Status	Total Systems	High Affordability Burden	Medium Affordability Burden	Low Affordability Burden
HR2W DAC/SDAC	184	19 (10%)	34 (18%)	48 (26%)
At-Risk DAC/SDAC	276	32 (12%)	46 (17%)	55 (20%)
Potentially At-Risk DAC/SDAC	234	8 (3%)	36 (15%)	59 (25%)
Not At-Risk DAC/SDAC	714	10 (1%)	59 (8%)	149 (21%)
TOTAL:	1,408	69 (5%)	175 (12%)	311 (22%)

Socio-Economic Analysis of Community Water Systems & Affordability Assessment Results

	Statewide (all CWSs)	No Afford. Burden CWSs	Low Afford. Burden CWSs	Medium Afford. Burden CWSs	High Afford. Burden CWSs
Total Count of Wells	2,868	1,823	633	323	89
Average CalEnviroScreen 4.0 Pollution Burden Percentile	42.5	41.7	43.7	42.8	46.7
Average percentage of households 2x below federal poverty	31.6%	30.9%	32%	32.5%	38.2%
Percent of non-white customers served	43.1%	41.7%	46.3%	43.9%	42%

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Additional socio-economic data in the Needs Assessment report.

Access the Affordability Assessment Results and Raw Data

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	ACILITIES AUTHORITY	(-JPA 72	Missing	Missing	Missing	Missing	Missing	Non HR
	HARBOR MARINA & R	70	Missing	Missing	Missing	Missing	Missing	Non HR
7 CA3310075 DISTRICT 20 - RIVERSIDE	WESTERN MWD (ARLINGTON)		Missing	Missing	Missing	Missing	Missing	Non HR
8 CA3310083 DISTRICT 20 - RIVERSIDE	CHINO BASIN DESALTER AUTH	DESALTER 2	Missing	Missing	Missing	Missing	Missing	Non HR
9 CA3500930 DISTRICT 05 - MONTEREY	BENITO VALLEY FARMS	11	Missing	Missing	Missing	Missing	Missing	Non HR
10 CA4200867 LPA72 - SANTA BARBARA COUN		15	Missing	Missing	Missing	Missing	Missing	At-Ris
12 CA4210028 DISTRICT 06 - SANTA BARBARA	CACHUMA PROJECT	40	Missing	Missing	Missing	Missing	Missing	Non HR
13 CA1800522 DISTRICT 02 - LASSEN	HONEY LAKE CAMPGROUND	11	Missing	Missing	Missing	Missing	Missing	Non HR
14 CA1710010 DISTRICT 03 - MENDOCINO	LOWER LAKE COUNTY WATER	776	Missing	Missing	Missing	Missing	SDAC	Non HR
15 CA2700624 LPA57 - MONTEREY COUNTY	LEAFWOOD COMMUNITY WA	23	Missing	Missing	Missing	Missing	Non-DAC	Non HR
16 CA2700629 LPAST - MONTERET COUNTY	LAS DELTAS MUTUAL WATER	107	Missing	Missing	Missing	Missing	SDAC	HP2V
18 CA1000585 DISTRICT 23 - FRESNO	MURRIETA/HERNANDEZ FARM	10	Missing	Missing	Missing	Missing	SDAC	At-Ris
19 CA0300011 DISTRICT 10 - STOCKTON	SUTTER PINES MHP	19	Missing	Missing	Missing	Missing	Non-DAC	At-Ris
20 CA0400020 LPA34 - BUTTE COUNTY	PLEASANT GROVE MHP	88	Missing	Missing	Missing	Missing	SDAC	Non HR
21 CA5200546 LPA82 - TEHAMA COUNTY	ANTELOPE-HOMEWOOD MHP	24	Missing	Missing	Missing	Missing	SDAC	At-Ris
23 CA4600056 DISTRICT 02 - LASSEN	SIERRA CITY WATER WORKS	89	Missing	Missing	Missing	Missing	Non-DAC	Non HR
24 CA5610056 DISTRICT 06 - SANTA BARBARA	VINEYARD AVE ESTATES MW	342	Missing	Missing	Missing	Missing	DAC	Non HR
25 CA2701687 LPA57 - MONTEREY COUNTY	VALLEY OAKS MHP WS	46	Missing	Missing	Missing	Missing	DAC	Non HR
26 CA2701701 LPA57 - MONTEREY COUNTY	BRADLEY-LOCKWOOD RD WS	16	Missing	Missing	Missing	Missing	DAC	Non HR
28 CA3701793 LPA57 - MONTERET COUNTY	TWIN LAKES RESORT	145	Missing	Missing	Missing	Missing	SDAC	HR2V HR2V
29 CA4600009 DISTRICT 02 - LASSEN	SIERRA CSA #5, SIERRA BROO	191	Missing	Missing	Missing	Missing	DAC	Non HR
30 CA4900508 DISTRICT 18 - SONOMA	CAZADERO WATER COMPANY	157	Missing	Missing	Missing	Missing	DAC	HR2V
31 CA4900720 DISTRICT 18 - SONOMA	MOBILE HOME ESTATES	151	Missing	Missing	Missing	Missing	SDAC	Non HR
32 CA1800516 DISTRICT 02 - LASSEN	LITTLE VALLEY CSD	44	Missing	Missing	Missing	Missing	DAC	Non HR
33 CA1605007 DISTRICT 02 - LASSEN	CITY OF SANTA PALILA	237	IVIISSING 1.5	rvissing	INISSING 1.5	I IVIISSING	DAC	Non HP
35 CA5610002 DISTRICT 06 - SANTA BARBARA	FILLMORE WATER DEPT	3917	1.5	1	1.5	4	DAC	Non HR
36 CA1910092 DISTRICT 07 - HOLLYWOOD	MONTEREY PARK-CITY, WATE	13631	1.5	1	1.5	4	DAC	Non HR
37 CA4810004 DISTRICT 04 - SAN FRANCISCO	CITY OF RIO VISTA	5389	1.5	1	1.5	4	Non-DAC	Non HR
38 CA3301491 LPA63 - RIVERSIDE COUNTY	ALPINE VILLAGE	60	1.5	1	1.5	4	DAC	HR2V
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Download the Affordability Assessment Results Spreadsheet:

https://bit.ly/3jEFI3T

This spreadsheet will be updated periodically with data refreshes.

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Water System Data Change Requests

See something that isn't right? Water systems can submit a **data change request** here:

https://forms.office.com/g/BtPunTA0Qh

Requests will be reviewed by State Water Board staff.



Needs Assessment Data Change Request Form

The purpose of this form is to provide California water systems the opportunity to request underlying data changes related to the 2021 Risk Assessment and Affordability Assessment.

Hi Kristyn, when you submit this form, the owner will be able to see your name and email address.

* Required

1. Please provide your PWSID *

Enter your answer

2. Please provide your Water System Name *

Enter your answer

3. First Name, Last Name

4. Job Title *

Enter your answer

5. Email Address *

Enter vour answer

6. Phone Number

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Proposed 2023: Affordability Assessment

The State Water Board is working with OEHHA to develop new affordability indicators and a combined affordability threshold.

Workshops coming soon in Spring 2022.

Poverty Prevalence Housing Cost Burden

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Conclusions

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Future Iterations of the Needs Assessment

The Needs Assessment is designed to be conducted annually. The methodologies will be further refined as the SAFER Program develops and additional data becomes available.



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Needs Assessment Refinement Opportunities

- Improved data
- Better alignment across Needs
 Assessment components
- Focused scope
- Alignment with other State efforts
- Refinement of Affordability
 Assessment
- Learning by doing and continued public engagement



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Next Steps and Announcements

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SAFER Timeline*

April - June

4/11 Funding Partner Application Q&A

4/15 Funding Partner Application Window Closes

4/26 Release of Needs Assessment

5/5 Needs Assessment Webinar

5/26 Advisory Group Mtg #2

6/TBD Release of POU Pilot white paper

6/TBD Tribal Workshop

6/TBD Select Funding Partners

July - September

7/5 Advisory Group Application Window Opens

8/5 Release of Draft FEP

8/TBD Advisory Group Application Workshop

8/TBD Advisory Group Mtg #3

8/31 Advisory Group Application Window Closes

October - December

10/TBD Tribal Workshop

11/1 Board Considers Adoption of FEP

11/TBD Advisory Group Mtg #4

12/TBD Advisory Group Members Selected

* Timeline does not include future Needs Assessment refinement workshops. Scheduling coming soon.

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Immediate Next Steps

- Water system data change requests:
 - <u>https://forms.office.com/g/BtPunTA0Qh</u>
- General feedback on the Needs Assessment results and methodologies:
 - 2022 Drinking Water Needs Assessment: <u>https://bit.ly/3uJSUFH</u>
 - Submit feedback to: <u>SAFER@waterboards.ca.gov</u>
 - Please submit feedback on the report by 06.06.2022

Audience Poll Question 3

Would you be interested in training sessions on how to navigate the Risk Assessment and Affordability Assessment spreadsheets?

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- Yes
- No
- Maybe

Risk Assessment Results Spreadsheet: https://bit.ly/3JELNSU

Affordability Assessment Results Spreadsheet: <u>https://bit.ly/3jEFI3T</u>

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Discussion Topic 3:

Do you have any questions or comments?

Ways to Participate

1. Watch ONLY: Visit video.calepa.ca.gov

2. Email: Submit a comment or ask a question that will be read aloud, send an email to: <u>safer@waterboards.ca.gov</u>

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4. Raise Hand: Attendees will be given the opportunity to provide verbal comment or ask questions, if you're interested in this option, please raise your virtual hand when the time is right.

- Please wait for your name to be called.
- Public comments are 3 minutes each.

THANK YOU

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