

## SAFER: 2023 Drinking Water Needs Assessment Preliminary Results

February 3, 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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## 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.

## Agenda



#### SAFER PROGRAM & NEEDS ASSESSMNET

RISK ASSESSMENT FOR PUBLIC WATER SYSTEMS

**RISK ASSESSMENT FOR SSWSs & DOMESTIC WELLS** 

AFFORDABILITY ASSESSMENT

NEXT STEPS



#### CALIFORNIA WATER BOARDS

# SAFER Program & Needs Assessment Overview



### **Audience Poll Question 1**

Are you familiar with the Drinking Water Needs Assessment?

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• Yes

7

• No

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

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

### **Audience Poll Question 2**

Have you read the recently released white paper: "Proposed Changes for the 2023 Drinking Water Needs Assessment & Preliminary Results"?

- Yes, I read the whole thing
- Yes, I skimmed it
- No, but I plan to
- No, I don't intend to read it

Access the white paper here: <u>https://bit.ly/3XQfulz</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

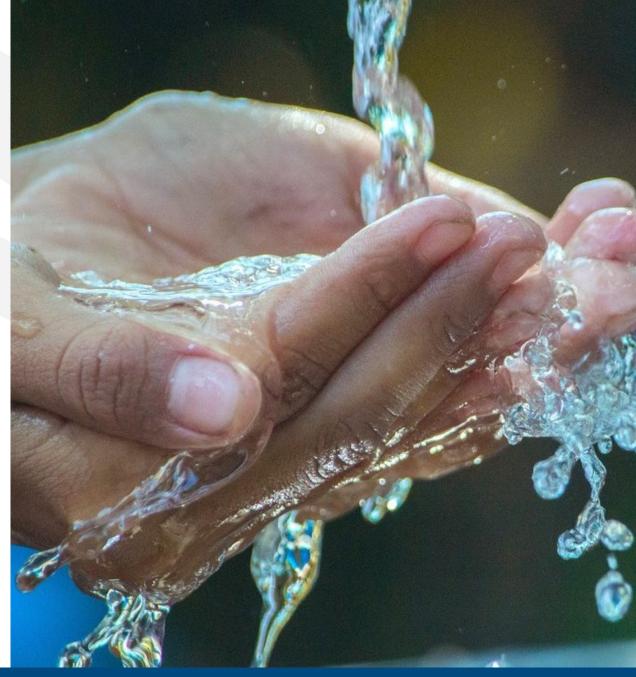
Technical Assistance & Capacity Building

#### 11

## 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.

PRIORITY

#### SAFER PROGRAM

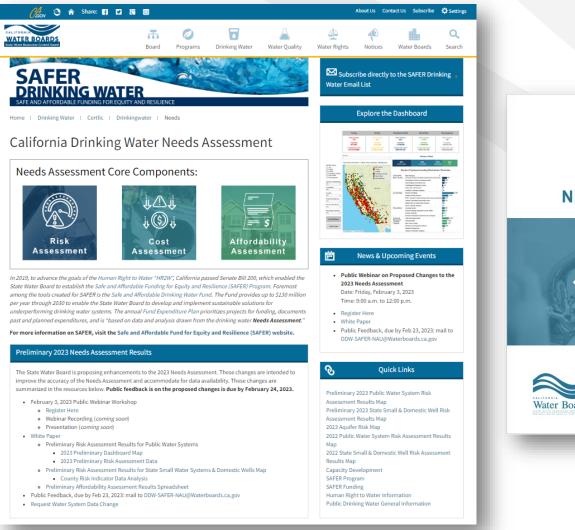
## **Past Workshops on Needs Assessment Methodologies**

The State Water Board has hosted workshops for public feedback on the methodologies utilized in the Needs Assessment since 2019.

I	NEEDS ASSESSMENT COMPONENTS	2019	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q3 2021	2022
	<b>Risk Assessment:</b> Public Water Systems							
	<b>Risk Assessment:</b> State Small Water Systems & Domestic Wells							
	Cost Assessment							
	Affordability Assessment							

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## Access the Full 2022 Needs Assessment Report



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Access **2022** report here: https://bit.ly/3uJSUFH

Access 2021 report here: https://bit.ly/3mAz2yK

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

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15

## Failing Water Systems



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## **SAFER Program Priority Systems: Failing Water 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.

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

## PRIORITY





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## 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.

There are currently **386** Failing systems.

Learn more: <u>https://bit.ly/3WQB7r4</u> Current list here: <u>https://bit.ly/3kKGJpg</u>

## **Expanded Criteria for Failing Water Systems**

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
<ul> <li>Treatment Technique Violations (in lieu of an MCL):</li> <li>One or more Treatment Technique violations (in lieu of an MCL), related to a primary contaminant, with an open enforcement action; and/or</li> <li>Three or more Treatment Technique violations (in lieu of an MCL), related to a primary contaminant, within the last three years.</li> </ul>	Partially	Expanded
<ul> <li>Monitoring and Reporting Violations (related to an MCL and TTs):</li> <li>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.</li> </ul>	Νο	Yes

## Proposed Changes to the Risk Assessment: Public Water Systems





## **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.

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#### **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.

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### The Inventory: Public Water Systems

#### Included:

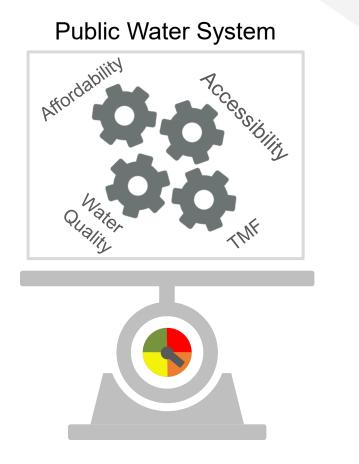
- Community water systems with up 30,000 service connections and 100,000 populations served.
- Non-transient, non-community water systems that are K-12 schools.

#### Excluded:

- Wholesalers
- Community water systems with more than 30,000 connections and 100,000 population served.
- Military bases are excluded from the <u>financial</u> risk indicators.

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### **Risk Assessment for Public Water Systems**



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#### 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.

## **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

#### CALIFORNIA WATER BOARDS

## **2023 Risk Indicator Changes**

The State Water Board removed 2 and added 1 affordability risk indicator.

#### WATER QUALITY

E. Coli Presence

Increasing Presence of Water Quality Trends Towards MCL

Treatment Technique Violations

Past Presence on the HR2W List

Percentage of Sources Exceeding an MCL

Constituents of Emerging Concern

#### ACCESSIBILITY

Number of Sources

Absence of Interties

DWR – Drought & Water Shortage Risk Assessment Results

Critically Overdrafted Groundwater Basin

Bottled or Hauled Water Reliance

Source Capacity Violations

#### AFFORDABILITY

% Median Household Income

Extreme Water Bill

NEW: Household Socioeconomic Burden

% of Residential

Arrearages

Residential Arrearage Burden

#### TMF CAPACITY

Operator Certification Violations

Monitoring and Reporting Violations

Significant Deficiencies

Income

**Operating Ratio** 

Days Cash on Hand

#### **CALIFORNIA WATER BOARDS**

## **Risk Indicator Thresholds, Scores, and Weights**

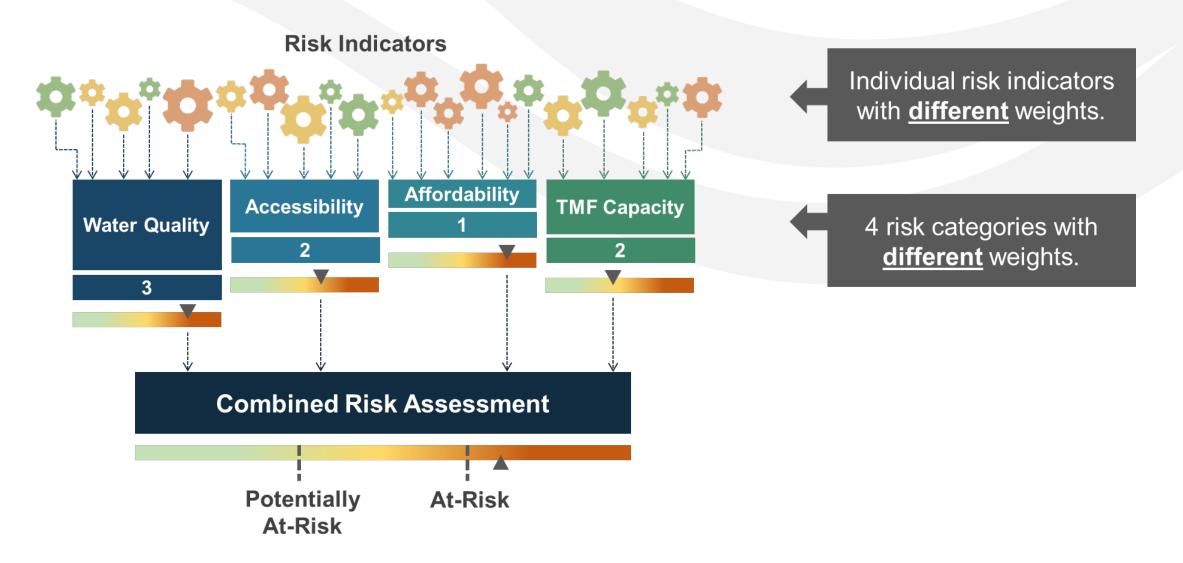
To enable the evaluation and comparison of risk indicators, a standardized **score** range between 0 and 1 was applied to each risk indicator threshold.

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

Example:

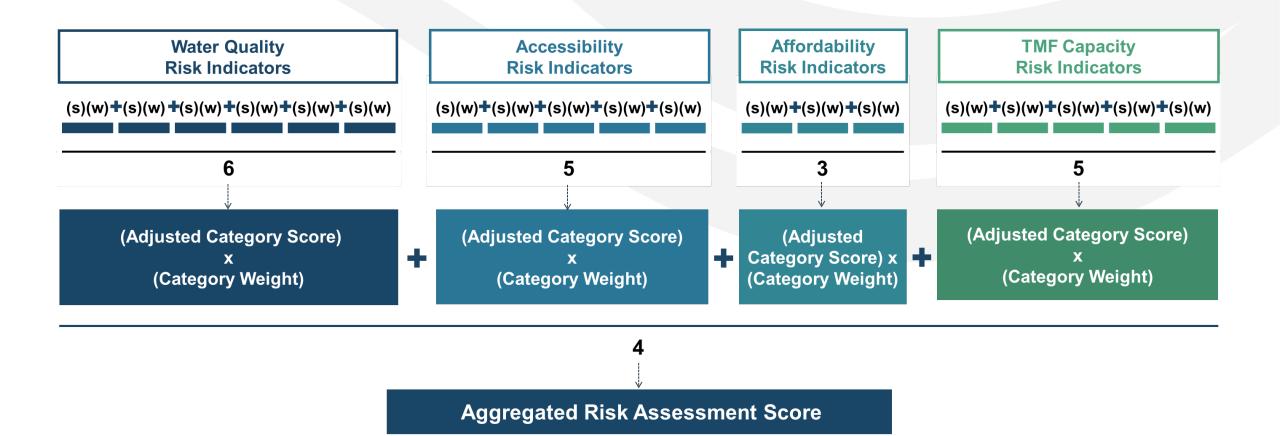
<b>Risk Indicator</b>	Thresholds	Raw Score	Weight	Max Risk Score	Risk Level
Past Presence on the Failing:	<b>Threshold 0</b> = 0 occurrences over the last three years	0	N/A	0	None
HR2W List	<b>Threshold 1</b> = 1 occurrences over the last three years.	0.5	2	1	Medium
	<b>Threshold 2</b> = 2 or more occurrences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





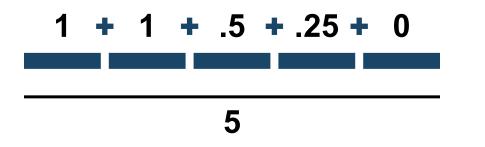
## **Adjusting for Missing Risk Indicator Data**

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.

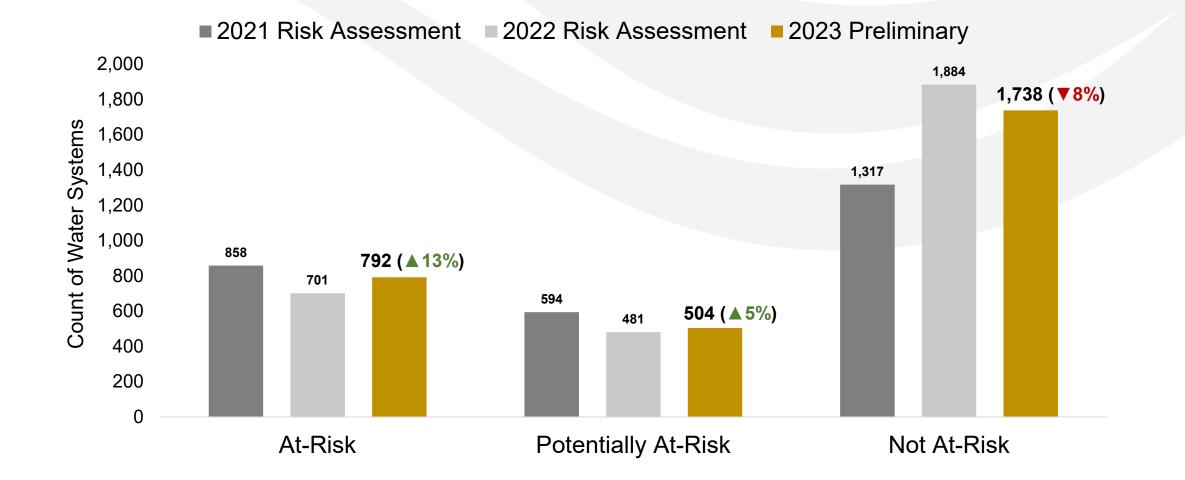
Risk Indicator Category With No Missing Indicator





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#### Preliminary Risk Assessment Results (n=3,034)

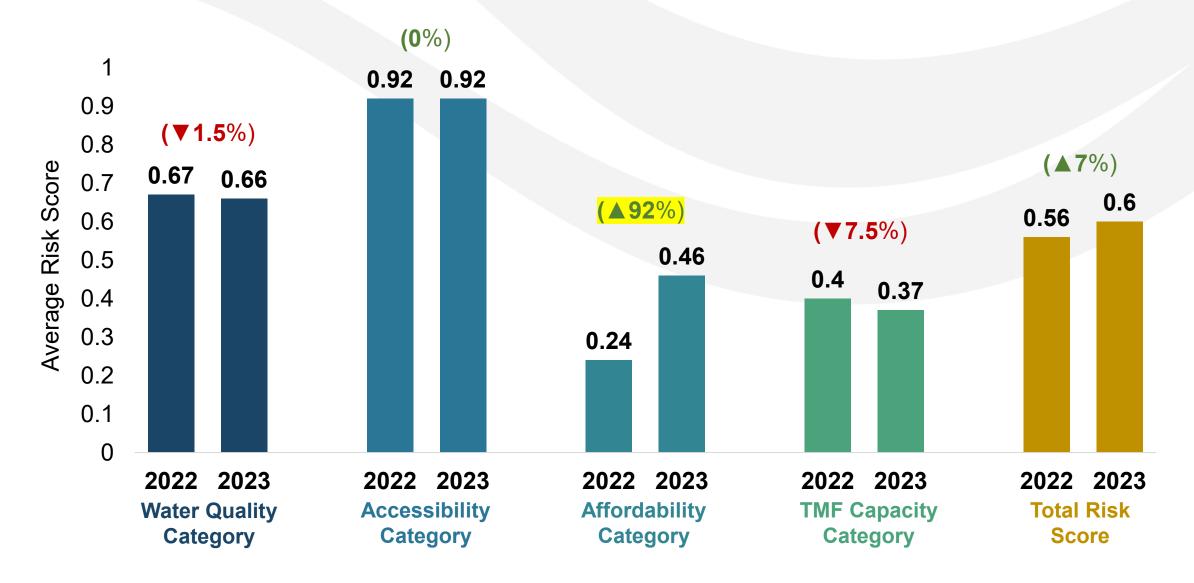


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30

#### **Change in Average Risk Score per Category**



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31

#### 2022 & 2023 Risk Assessment Weighted Score Comparison

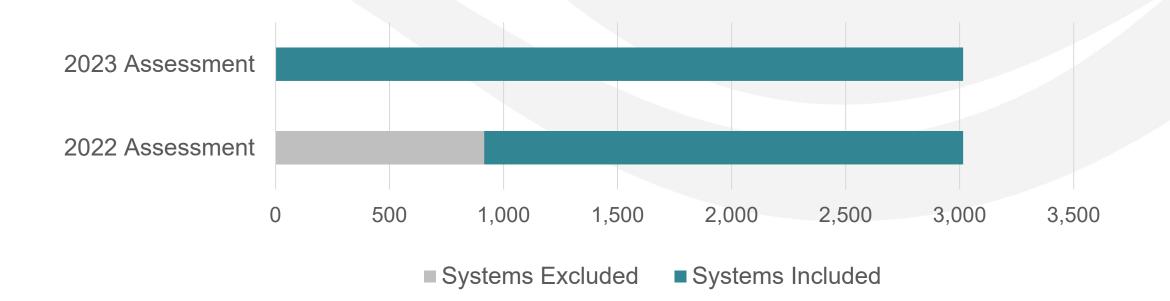
Weighted Score Difference	Water Quality Category	Accessibility Category	Affordability Category	TMF Capacity Category	Total Score of Risk Assessment
# Systems risk	2,351	2,245	908	1,479	389
score unchanged	(78%)	(74%)	(30%)	(49%)	(13%)
# Systems <b>risk</b>	329	387	1,518	699	1,618
score increased	(11%)	(13%)	<mark>(50%)</mark>	(23%)	(54%)
# Systems <b>risk</b>	335	383	589	837	1,008
score decreased	(11%)	(13%)	(20%)	(28%)	(33%)

We explored the drivers for the increase in the risk scores for the Affordability category.

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32

(1) Number of Water Systems included in the Affordability Risk Category

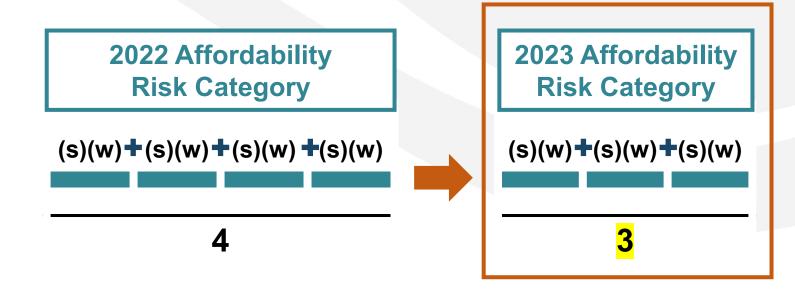


More water systems accruing risk points for the first time in the category.

Previously systems that don't charge for water were excluded.



(2) Affordability Category Calculation Method Changes from 2022 to 2023



Average scoring for category is adjusted, where the denominator is decreasing from four to three.

This results in a higher overall category risk score for systems accruing risk points.



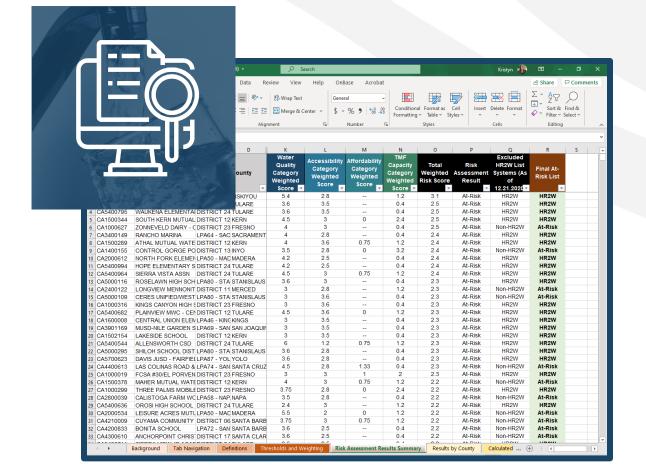
#### **Predictive Power of the Preliminary 2023 Risk Assessment**

Risk Assessment Result	Total Systems	Systems on the Failing List within Calendar Year	Predictive Power of Risk Assessment
<b>2022</b> based on 2021 data		2022 Failing	
At-Risk	701	297	72.62%
Potentially At-Risk	481	72	17.60%
Not At-Risk	1,884	40	9.78%
TOTAL:	3,066	409	100%

Preliminary 2023 based on 2022 data		2022 Failing	
At-Risk	792	316	77.26% (↑ <b>4.65%</b> )
Potentially At-Risk	504	52	12.71% (↓ <b>4.89%</b> )
Not At-Risk	1,738	41	10.02% (↑ <b>0.24%</b> )
ТО	TAL: 3,034	409	100%

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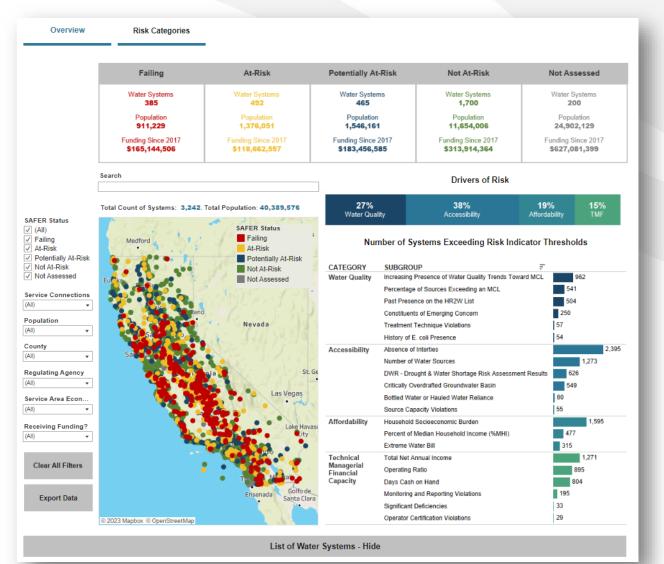
#### **Access the At-Risk List and Raw Data**



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

This spreadsheet will be updated periodically with data refreshes.

# **Explore the Preliminary 2023 Results: SAFER Dashboard**



The SAFER Dashboard displays Failing systems and the results of the Risk Assessment:

2023 Preliminary Results: https://bit.ly/3JrudoZ

2022 Dashboard: https://bit.ly/3kKGJpg

Data in the Dashboard updates more frequently than the static underlying data spreadsheet.

#### **CALIFORNIA WATER BOARDS**

# Water System Data Change Requests

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

https://bit.ly/3wDanj8

Requests will be reviewed by State Water Board staff.

	ristyn, when you submit this form, the owner will be able to see your name and email address. equired
1.1	Please provide your PWSID *
	Enter your answer
3. F	First Name, Last Name *
	Enter your answer
4. J	ob Title *
	Enter your answer
5.6	-mail Address *
5.E	Email Address *

# **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: <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.

# Proposed Changes to the Risk Assessment: State Small Water Systems & Domestic Wells

**Emily Houlihan** 

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

## **Komal Bangia**

Research Scientist 3 Office of Environmental Health Hazard Assessment

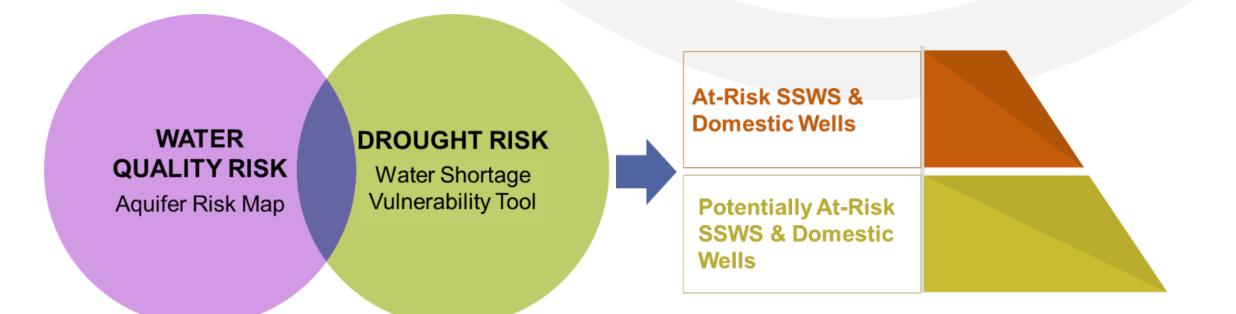


#### **CALIFORNIA WATER BOARDS**

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

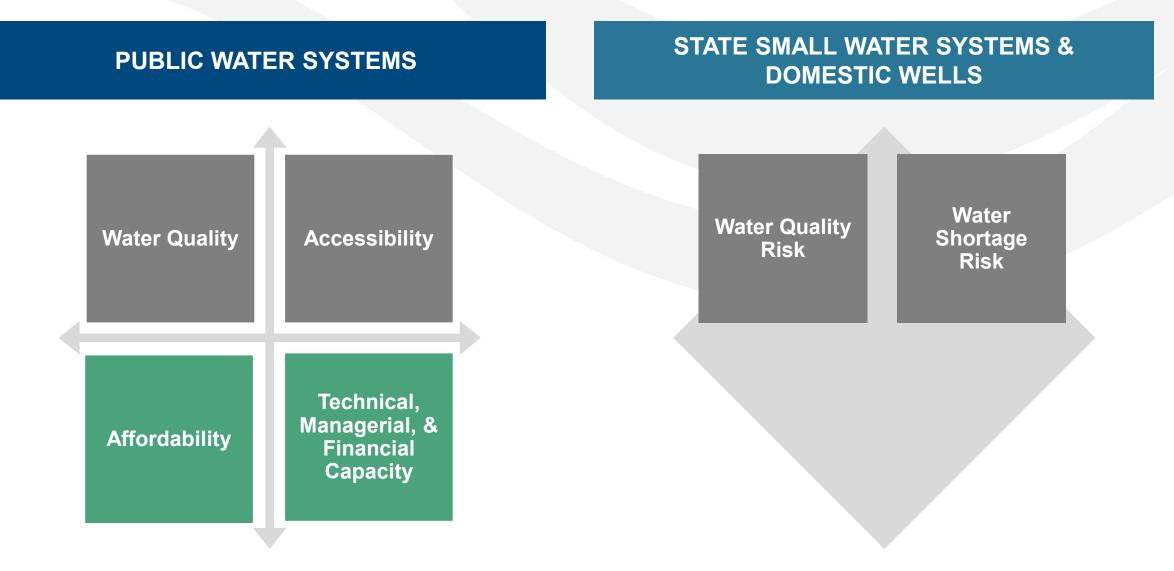
The 2022 Risk Assessment was based on a **combined assessment** utilizing:

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



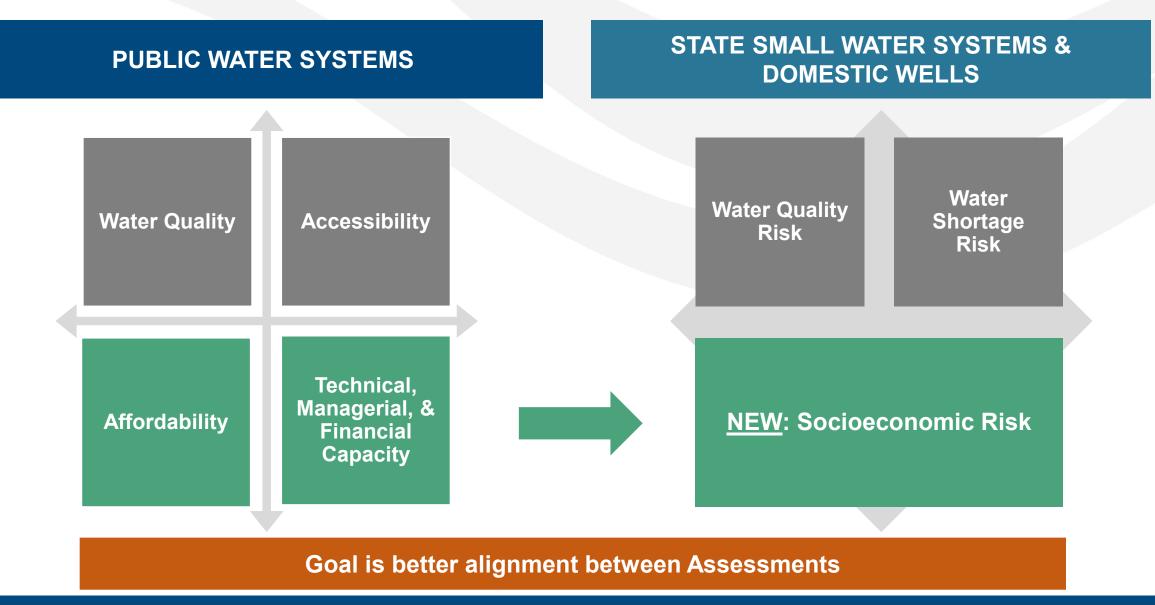
#### CALIFORNIA WATER BOARDS

# **Risk Assessment Categories: 2022**



#### **CALIFORNIA WATER BOARDS**

# **Risk Assessment Categories: 2023**



#### **CALIFORNIA WATER BOARDS**

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

The State Water Board (SWB) worked with Office of Environmental Health Hazard Assessment (OEHHA) to develop the new Socioeconomic Risk Layer

44

WATER QUALITY RISK SWB Aquifer Risk Map

#### WATER SHORTAGE RISK

DWR Water Shortage Vulnerability Tool

SOCIOECONOMIC RISK OEHHA & SWB (2023)

# **Proposed Socioeconomic Risk Layer**

County Water Quality Testing for Domestic Wells	County Level Services for Domestic Wells	Well Costs	Economic Characteristics	
Testing Requirements	Administrative Services	Replacement Well Permit	Household Socioeconomic Burden	
Testing Type	Website Quality	Cost		
		Average Number of Wells	Linguistic Isolation	
Testing Impacts on Permitting	Funding Resources Available to Domestic Well	Drilled Per Unique Driller in the Past Two Years	Unemployment	
Water Quality Monitoring	Owners		Transportation Limitations	

More details available in Appendix B of white paper: *https://bit.ly/3XQfulz* 

# CALIFORNIA WATER BOARDS

# **County Data: OEHHA Comprehensive Data Collection Effort**

In 2022, OEHHA and the State Water Board reviewed county-specific information about DWs for 58 California counties to develop 8 risk indicators. This effort included:

- 1. Evaluation of publicly available information related to DWs on each county's website, including attachments and links.
- 2. Review of DW ordinances, fee schedules, and drought assistance programs.
- 3. In cases where information was unavailable online, counties were contacted via phone.

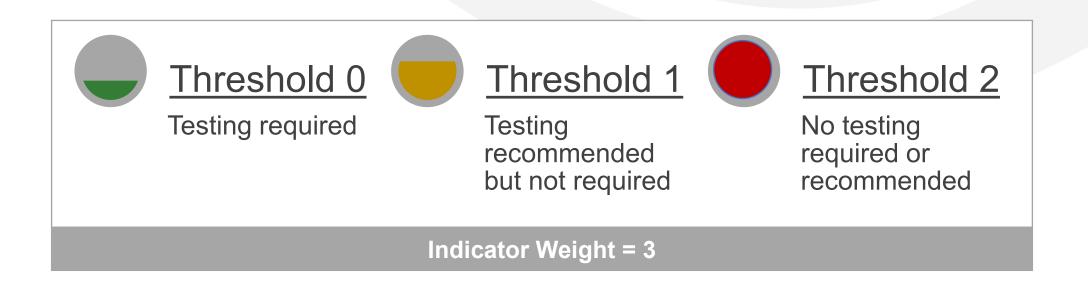
These indicators are used in the Risk Assessment to capture risk associated with resource availability and County managerial capacity to support communities served by SSWS and DWs.

County data available here: *https://bit.ly/3RhZ3SU* 

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# **County Data: Water Quality Test Requirements**

Many counties require that wells are tested for contaminants after being drilled. Are water quality tests required or recommended for new/replacement wells?



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# **County Data: Water Quality Test Type**

What water quality tests are required/recommended?

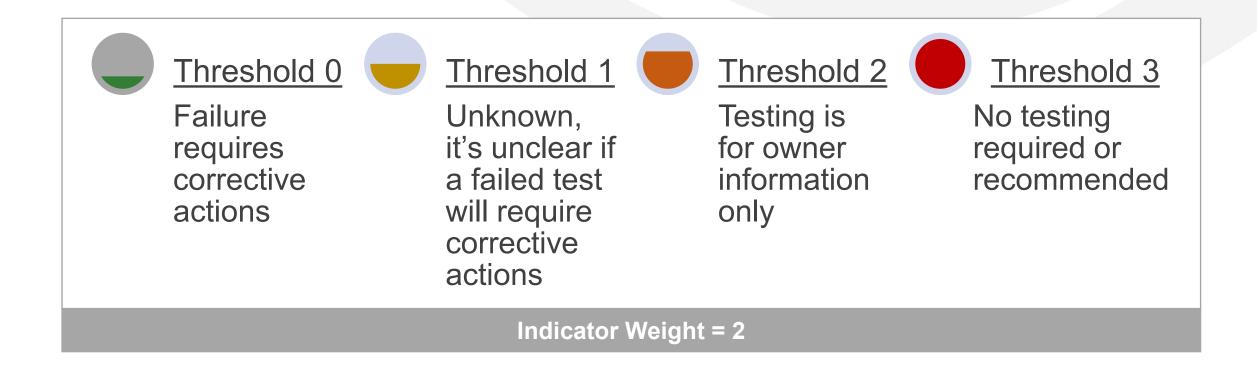
Bacteria, non-bacteria tests?



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# **County Data: Water Quality Test Result Impacts Well Permitting**

Do failed tests require corrective actions, such as treatment systems or chlorination?



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49

# **County Data: Water Quality Monitoring/Sampling Program**

Does the county have a program that can assist owners with well quality testing?

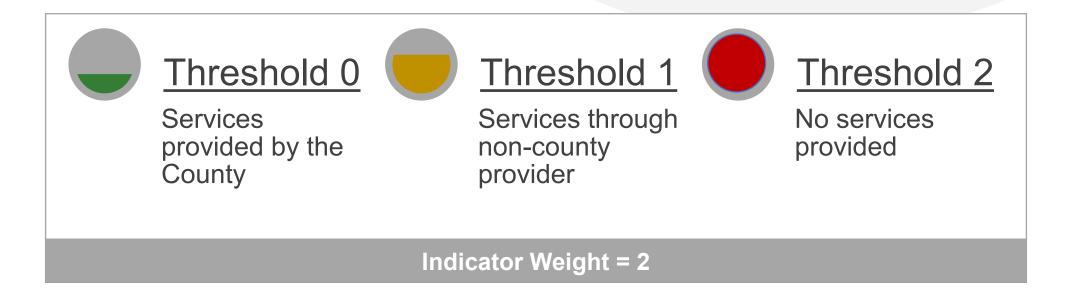


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# **County Data: Administrative Services**

Are administrative services provided by the County or through a non-county entity? Examples include:

- Advertised county assistance to well-owners
- Potable water pickup/drop-off
- Quality test interpretation and recommendations

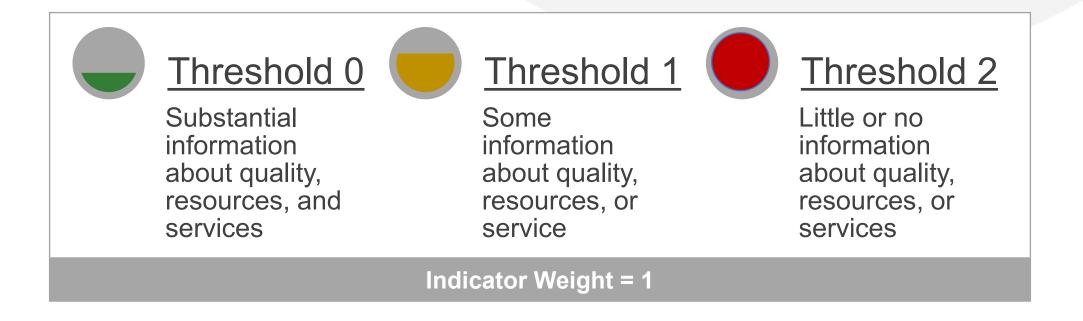


#### **CALIFORNIA WATER BOARDS**

# **County Data: Website Quality**

Level of information about quality, services, processes, and resources available on the website.

NOTE: We found large variation between counties

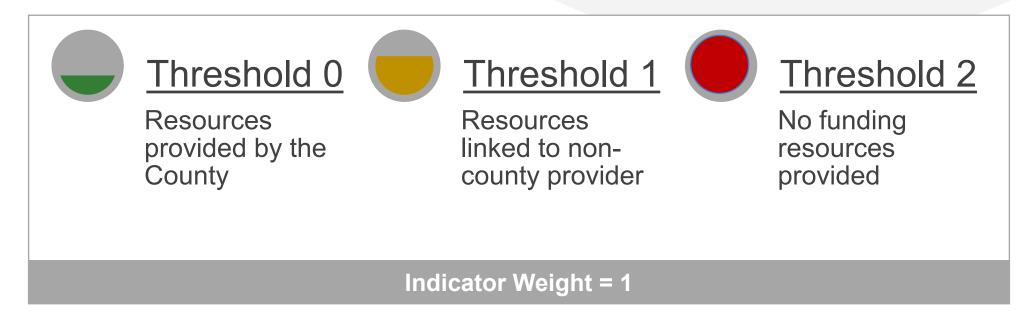


# **County Data: Funding Resources**

County provided financial resources for domestic well owners

- Loans
- Grants
- Direct assistance

NOTE: Only four counties had their own financial assistance programs available



#### **CALIFORNIA WATER BOARDS**

<b>Risk Indicator</b>	Thresholds	Score	Weight	Max Score	Risk Level			
Well Costs	Well Costs							
Average Number of Wells Drilled Per	<b>Threshold N/A =</b> Data missing for location.	N/A	N/A	Missing	Unknown			
Unique Driller in the	<b>Threshold 0</b> = Percentile less than 60.	0	N/A	0	None			
Past Two Years	<b>Threshold 1</b> = 60 to less than the 80 percentile.	0.5	2	2	Medium			
	<b>Threshold 2</b> = Percentile 80 to 100 (top 20% of counties.)	1	2	2	High			
	· •	· · ·						

Economic Characteristics						
Household Socio		N/A	N/A	Missing	Unknown	
	Threshold 0 = 0-0.125	0	N/A	0	None	
	Threshold 1 = 0.25-0.5	0.5	3	1.5	Medium	
	Threshold 2 = 0.625-1.0	1	3	3	High	

#### **CALIFORNIA WATER BOARDS**

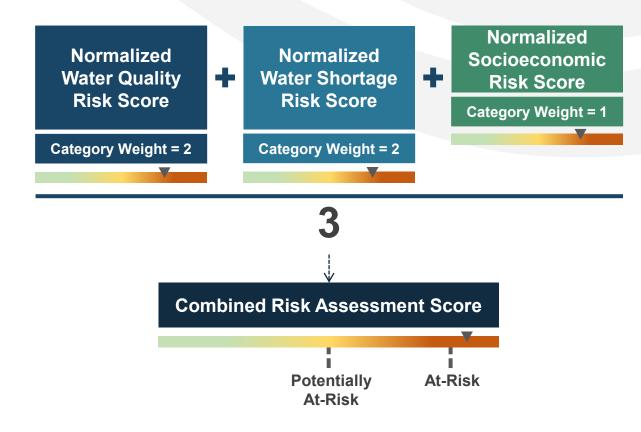
54

# **Socioeconomic Burden Indicators (2/2)**

<b>Risk Indicator</b>	Thresholds	Score	Weight	Max Score	Risk Level
Linguistic	<b>Threshold N/A =</b> Data missing for location.	N/A	N/A	Missing	Unknown
Isolation	<b>Threshold 0 =</b> Percentile less than 60.	0	N/A	0	None
	Threshold 1 = Percentile 60 to 80	0.5	1	0.5	Medium
	Threshold 2 = Percentile 80 to 100	1	1	1	High
Unemployment	<b>Threshold N/A =</b> Data missing for location.	N/A	N/A	Missing	Unknown
	Threshold 0 = Percentile less than 60	0	N/A	0	None
	Threshold 1 = Percentile 60 to 80	0.5	2	1	Medium
	Threshold 2 = Percentile 80 to 100	1	2	2	High
Transportation	<b>Threshold N/A =</b> Data missing for location.	N/A	N/A	Missing	Unknown
Limitations	Threshold 0 = Percentile less than 60	0	N/A	0	None
	Threshold 1 = Percentile 60 to 80	0.5	1	0.5	Medium
	Threshold 2 = Percentile 80 to 100	1	1	1	High

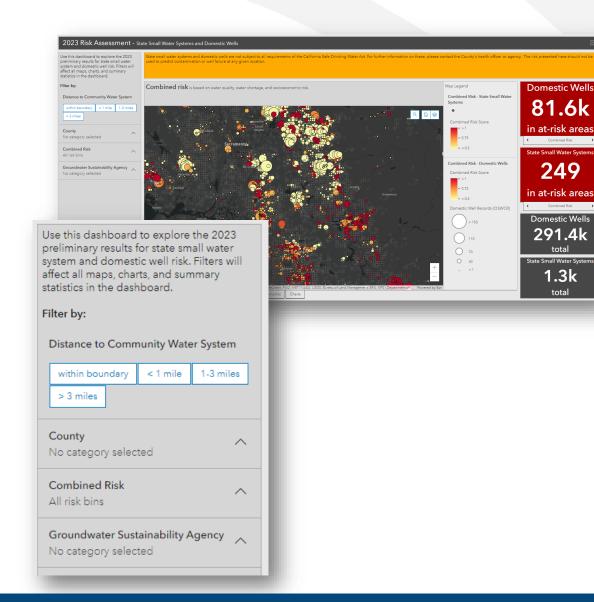
## Proposed 2023 Methodology: Risk Assessment for State Small Water Systems & Domestic Wells

The normalized scores for water quality, water shortage, and socioeconomic risk for each PLSS section were added together and divided by the number of variables (three).



CALIFORNIA WATER BOARDS

# **Explore the Data: Combined Risk Assessment Map**



#### Explore the Map: <a href="https://bit.ly/3jhA4m9">https://bit.ly/3jhA4m9</a>

# New Map Features:

- Well density bubble to better identify well locations
- New filters:
  - Distance to nearby community water system
  - County
  - Risk level
  - GSA
- Dashboard updates summary of At-Risk systems when filters are applied.
- User tabs to explore different risk categories

## SAFER PROGRAM

## Preliminary 2023 Risk Assessment Results for SSWSs & Domestic Wells

Systems	Total Systems Assessed	At-Risk	Potentially At-Risk	Not At-Risk	Not Assessed
2022 State Small Water Systems	1,271	378 (30%)	438 (34%)	455 (36%)	2 (0%)
2023 State Small Water Systems	1,329	249 (19%) (↓ <b>11%</b> )	636 (48%) (↑ <b>14%</b> )	444 (33%) (↓ <b>3%</b> )	0 (0%)
2022 Domestic Wells	312,187	64,176 (21%)	90,840 (29%)	157,146 (50%)	25 (0%)
2023 Domestic Wells	291,401	81,579 (28%) (↑ <b>7%</b> )	103,886 (36%) (↑ <b>7%</b> )	105,936 (36%) (↓ <b>14%</b> )	0 (0%)

# 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.

**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.

# 5 Minute Break



## **CALIFORNIA WATER BOARDS**

# Updates on Cost Assessment Enhancements



#### **CALIFORNIA WATER BOARDS**

# **Cost Assessment**



Failing & At-Risk Systems and Domestic Wells **2021:** Conducted a full **Cost Assessment** for Failing and At-Risk community water systems, SSWSs, and domestic wells working with contractors.

**2022:** Conducted a **Drought Infrastructure Cost Assessment** in response to stakeholder feedback and the need to support SB 552 planning.

**2023-24**: State Water Board is **re-building** the Cost Assessment Model to update cost assumptions, decision criteria & incorporate drought infrastructure needs.

Re-build will take 2 years, updated Cost Assessment results expected for <u>2024</u> Needs Assessment Report.

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# **Summary of Proposed Changes to Cost Model**



Physical consolidation is modeled first and selected by the model using funding eligibility criteria rather than comparing modeled costs to other modeled solutions.



If consolidation is not viable, the Model will evaluate other long-term solutions, prioritizing more sustainable solutions like treatment first over POU/POE.



The results of the Risk Assessment will be incorporated to better match long-term solutions to water systems and domestic wells.



The Model will incorporate system-level drought infrastructure cost estimates into the total estimated costs. Technical Assistance and Administrator costs will be separated.



The sustainability and resiliency assessment will be removed to allow for the new approach for identifying the best modeled solution per system – utilizing clear selection criteria.

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# Preliminary Affordability Assessment Results

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

# **Komal Bangia**

Research Scientist 3 Office of Environmental Health Hazard Assessment



## CALIFORNIA WATER BOARDS

# **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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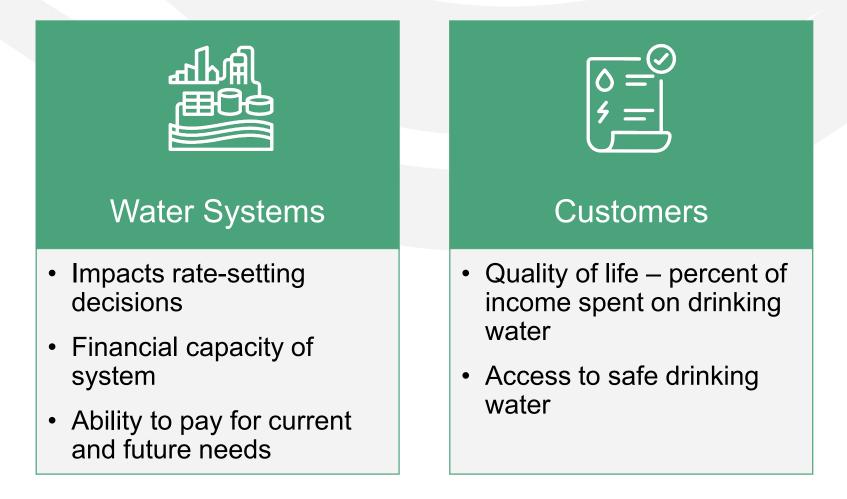
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# **Why Measuring Affordability Matters**



## State & Federal Gov.

- Funding eligibilities: Grant • vs. Loan
- Prioritization for & access to technical assistance
- Fee waivers



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# SB 200 Requirements: Annual Affordability Assessment: STEP 1

State Water Board must 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.

# Identifying Systems to Analyze

**STEP 1** 

# SB 200 Requirements: Annual Affordability Assessment: STEP 2

State Water Board must 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.



# STEP 2

Conduct Affordability Assessment

#### CALIFORNIA WATER BOARDS

# **2022 Affordability Assessment Workshops**

# Workshop 1: Overview of Drinking Water Affordability

Presentation: <u>https://bit.ly/3jsl4k8</u>

# **Workshop 2: Potential Affordability Indicators**

- Presentation: <u>https://bit.ly/3juZwEl</u>
- White Paper: <a href="https://bit.ly/3HXrliS">https://bit.ly/3HXrliS</a>

## Workshop 3: Affordability Assessment Methodology & Threshold Setting

- Presentation: <u>https://bit.ly/3CKoBIG</u>
- White Paper: <u>https://bit.ly/3HVIsll</u>



# STEP 1 DAC Determination

The State Water Board sought feedback on the current approach for identifying disadvantaged water systems



# **STEP 1: Identifying Systems Included in the Affordability Assessment**



STEP 1

Identify Systems Serving Disadvantaged Communities Disadvantaged (DAC) and Severely Disadvantaged (SDAC) communities are currently identified using U.S. Census **Median Household Income (MHI)** data within a system's service area.

Established thresholds in regulation:

• **DAC**: MHI is less than 80% statewide MHI.

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• **SDAC**: MHI is less than 60% statewide MHI.

## **STEP 1: 2022 Results for Public Water Systems**



#### **STEP 1**

Identify Systems Serving Disadvantaged Communities

### **2,868** Community Water Systems Assessed

**1,366 (48%)** DAC & SDAC Systems

This means that <u>52%</u> of community water systems do not get to Step 2.

## **Identify Systems Serving DACs** Our recommendation for STEP 1 is to update the criteria for DAC identification.

#### A water system is a DAC if:

#### Its MHI is below the county low-income level\*

OR

#### It's MHI is below statewide low-income level

\*US Department of Housing and Urban Development (HUD) and California Housing and Community Development (HCD) release annual county level median income levels (very low-income, low-income and moderate-income limits by county)

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## **Results of Recommended Method for Step 1**

Number of water systems that are DACs, SDACs or Non-DACs for each methodology.

Community Status	Current Approach Systems below Statewide 80% MHI	HCD Income Limits Only Systems below HCD Low-Income Levels	<u>Recommended</u> Statewide MHI o HCD Methodology	between current
DAC/SDAC Systems	1,366	1,576	1,687	+ 321
Non-DAC Systems	1,394	1,184	1,073	- 321
Missing DAC Status	108	108	108	
TOTAL:	2,868	2,868	2,868	321 additional systems ould be considered a D

321 additional systems would be considered a DAC using the recommended approach.

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## STEP 2 Affordability Assessment

The State Water Board sought feedback on existing and potential affordability indicators



## SB 200 Requirements: Annual Affordability Assessment: STEP 2

State Water Board must 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.

## STEP 1

## STEP 2

Conduct Affordability Assessment

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#### 78

## Public Water Systems | Affordability Assessment Indicators

2020	2021	2022	2023
% Median Household Income	% Median Household Income	% Median Household Income	% Median Household Income
	Extreme Water Bill	Extreme Water Bill	Extreme Water Bill
	% Shut-Offs	% Shut-Offs	% of Residential
		% of Residential	<ul> <li>Arrearages</li> </ul>
		Arrearages	Residential Arrearage
		Residential Arrearage	- Burden
		Burden	Poverty & Housing Burden = " <mark>Household</mark> <u>Socioeconomic Burden</u> "

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## **STEP 2: Affordability Indicators Over Time**

Affordability Indicators	2020	2021	2022	2023	2024	2025
% Median Household Income	X	X	x	х	Х	X
Extreme Water Bill		X	X	Х	Х	Х
% Shut-Offs		X				Х
% of Residential Arrearages			X			X
Residential Arrearage Burden			Х			Х
*NEW* Household Socioeconomic Burden				Х	Х	Х



## % Median Household Income

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.

Affordability Indicator	Thresholds	Risk Level = Affordability Burden
Percent of Median	Threshold 0 = Less than 1.49%	None
Household Income (%MHI)	Threshold 1 = 1.5% - 2.49%	Medium
	Threshold 2 = 2.5% or greater	High

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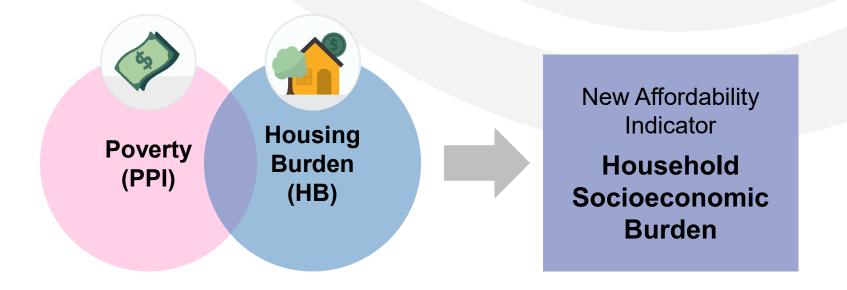
## **Extreme Water Bill**

Measures a system's residential customer charges for 6 HCF compared the state-wide average. Identifies communities that are paying much higher rates.

Affordability Indicator	Thresholds	Risk Level = Affordability Burden
Extreme Water	Threshold 0 = Below 149.99% of the statewide average.	None
Bill	Threshold 1 = 150% - 199.99% of the statewide average.	Medium
	<b>Threshold 2 = 200% or greater</b> of the statewide average.	High

## \*NEW\* Household Socioeconomic Burden

New indicator that is a combination of "Poverty Prevalence" and "Housing Burden"



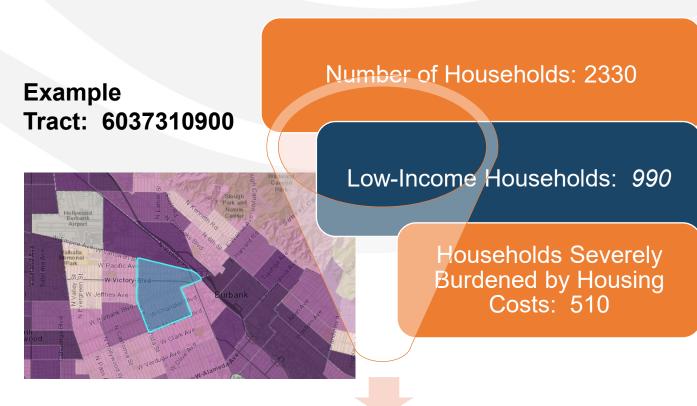
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## **\*NEW\*** Housing Burden

This indicator (Housing Burdened Low-Income Households) is calculated as the percent of households in a census tract that are both:

- Low income (making less than 80% of the HUD Adjusted Median Family Income)
- Severely burdened by housing costs (paying greater than 50% of their income to housing costs).

**Source:** 2014-2018 HUD Comprehensive Housing Affordability Strategy (CHAS)



Housing Burdened Low-Income Households

(510/2330) x 100 = 21.9%



## \*NEW\* Poverty Prevalence (PPI)



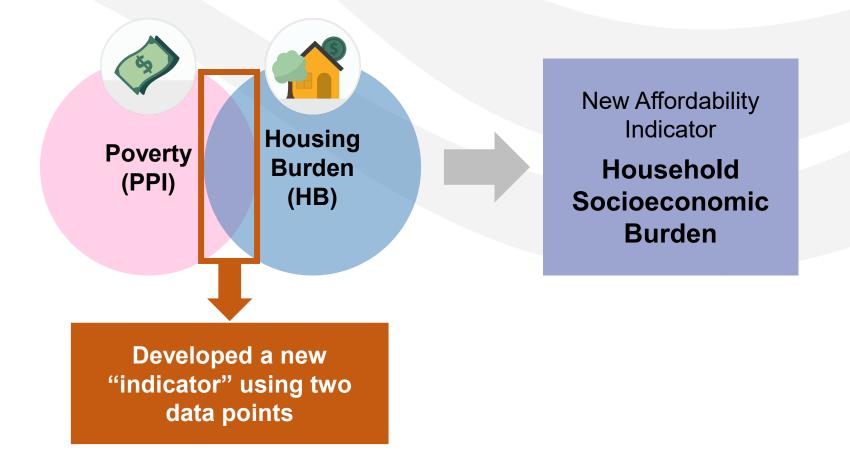
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This indicator measures the percentage of a population that lives at or below 200% the Federal Poverty Level (FPL). This measurement indicates the degree to which relative poverty is prevalent in the community.

Source: 2015-2019 US Census, American Community Survey (ACS)

	Federal Poverty Level (2019)	2x Federal Poverty Level (2019)
For a 4-person household	\$25,750	\$51,500

## **Combining Poverty & Housing Burden Together**



More details available in Appendix A of white paper: *https://bit.ly/3XQfulz* 

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## Household Socioeconomic Burden with Component Threshold Scores

Poverty (PPI)	High Risk ≥ 35%	Score = 1	N/A	0.5	0.625	1
	<mark>Med Risk</mark> 20% - 35%	Score = 0.25	N/A	0.125	0.25	0.625
	<b>None</b> < 20%	Score = 0	N/A	0	0.125	0.5
	Unknown	Score = N/A	N/A	N/A	N/A	N/A
	·	·	Score = N/A	Score = 0	Score = 0.25	Score = 1
			Unknown	<b>None</b> < 14%	<mark>Med Risk</mark> 14% - 21%	High Risk ≥ 21%
				Ηοι	ısing Burden (	HB)

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## \*NEW\* Household Seriocomic Burden Indicator Threshold Scores

Threshold Number	Threshold	Score	Weight	Max Score	Risk / Affordability Burden Level
0	Combined score of <b>0 – 0.125</b>	0	N/A	0	None
1	Combined score of 0.25 – 0.5	0.5	2	1	Medium
2	Combined score of 0.625 – 1.0	1	2	2	High

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## The 2022 "Affordability Threshold"

The 2022 Affordability Assessment methodology:

- 1. Applies thresholds to each affordability indicator.
- 2. Identifies systems exceeding multiple indicator thresholds. Systems are assigned an "Affordability Burden" of High, Medium, Low, or None.



"Affordability Threshold" Updated for 2023 Affordability Assessment

Updated to account for 3 affordability indicators rather than 4 from 2022.



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## **Total Number of Systems Exceeding Min. Thresholds**

Community Status	Total Systems	%MHI Thresh.	Extreme Water Bill Thresh.	Household Socioeconomic Burden Thresh.
DAC/SDAC Systems	1,709	364 (21%)	103 (6%)	1,322 (77%)
Non-DAC Systems	1,499	117 (8%)	214 (14%)	372 (25%)
Missing DAC Status	56	0 (0%)	2 (4%)	14 (25%)
TOTAL:	3,264	481 (15%)	319 (10%)	1,708 (52%)



## Preliminary 2023 Affordability Assessment Results by DAC/SDAC SAFER Status

	Community Status	Total Systems Assessed	High Affordability Burden	Medium Affordability Burden	Low Affordability Burden	None
	DAC/SDAC Systems	1,408	69 (5%)	175 (12%)	311 (22%)	853 (61%)
22	Non-DAC Systems	1,287	20 (2%)	142 (11%)	315 (23%)	810 (63%)
2022	Missing DAC Status	173	0 (0%)	6 (3%)	7 (10%)	160 (92%)
	TOTAL:	2,868	89 (3%)	323 (11%)	633 (21%)	1,823 (64%)
	DAC/SDAC Systems	1,709	76 (4%)	244 (14%)	1,073 (63%)	316 (18%)
2023	Non-DAC Systems	1,499	19 (1%)	107 (7%)	432 (29%)	941 (63%)
50	Missing DAC	56	0 (0%)	1 (2%)	14 (25%)	41 (73%)

95 (3%)

352 (11%)

3,264

TOTAL:

#### **CALIFORNIA WATER BOARDS**

Status

1,298 (40%)

1,519 (47%)

### Access the Preliminary Affordability Assessment Results & Raw Data

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1 - I	and the second		Number of	%MHI	%Shut-Offs	Extreme Waterbill			
11 Starter		/stem Name	Service	Affordability Assessment	Affordability Assessment	Affordability	Total Affordability	Disadvantaged Community Status	SAFEI Statu
X	Contraction of the Contraction		Connections	Score	Score	Assessment	Assessment Score		Statu
		S - RC FARMS WS	2	Missing	Missing	Score Missing	Missing	Missing	Non HR
		HILL WS #01	29	Missing	Missing	Missing	Missing	Non-DAC	Non HR
		ACILITIES AUTHORITY		Missing	Missing Missing	Missing	Missing	Missing DAC	Non HR
	ILPA02 - TENAWA COUNTY	HARBOR MARINA & R		Missing	Missing	Missing	Missing	Missing	Non HF
	DISTRICT 20 - RIVERSIDE	WESTERN MWD (ARLINGTON)		Missing	Missing	Missing	Missing	Missing	Non H
	DISTRICT 20 - RIVERSIDE	CHINO BASIN DESALTER AUTH BENITO VALLEY FARMS	1 DESALTER 2	Missing Missing	Missing	Missing	Missing	Missing	Non HF
10 CA4200867	LPA72 - SANTA BARBARA COUN	TRAY WATER COMPANY	13	Missing	Missing	Missing	Missing	Missing	At-Ri
	LPA72 - SANTA BARBARA COUN DISTRICT 06 - SANTA BARBARA	CHALK HILL ESTATES HOA	15 40	Missing Missing	Missing Missing	Missing	Missing Missing	Missing Missing	Non HF
	DISTRICT 02 - LASSEN	HONEY LAKE CAMPGROUND	11	Missing	Missing	Missing	Missing	Missing	Non HF
	DISTRICT 03 - MENDOCINO	LOWER LAKE COUNTY WATER	776	Missing	Missing	Missing	Missing	SDAC	Non HF
	LPA57 - MONTEREY COUNTY LPA57 - MONTEREY COUNTY	LEAFWOOD COMMUNITY WA MANZANITA HILLS WA	23	Missing Missing	Missing Missing	Missing Missing	Missing Missing	Non-DAC Non-DAC	Non HF
17 CA1000054	DISTRICT 23 - FRESNO	LAS DELTAS MUTUAL WATER	107	Missing	Missing	Missing	Missing	SDAC	HR2
	DISTRICT 23 - FRESNO DISTRICT 10 - STOCKTON	MURRIETA/HERNANDEZ FARM SUTTER PINES MHP	10	Missing Missing	Missing Missing	Missing Missing	Missing Missing	SDAC Non-DAC	At-Ri At-Ri
	LPA34 - BUTTE COUNTY	PLEASANT GROVE MHP	88	Missing	Missing	Missing	Missing	SDAC	Non HF
	LPA82 - TEHAMA COUNTY	ANTELOPE-HOMEWOOD MHP	24	Missing	Missing	Missing	Missing	SDAC	At-Ri
	LPA67 - SAN DIEGO COUNTY DISTRICT 02 - LASSEN	OAKVALE PARK SIERRA CITY WATER WORKS,	125 89	Missing Missing	Missing Missing	Missing Missing	Missing Missing	Non-DAC Non-DAC	At-Ri Non HF
24 CA5610056	DISTRICT 06 - SANTA BARBARA	VINEYARD AVE ESTATES MW	342	Missing	Missing	Missing	Missing	DAC	Non H
	LPA57 - MONTEREY COUNTY LPA57 - MONTEREY COUNTY	VALLEY OAKS MHP WS	46	Missing	Missing	Missing	Missing	DAC	Non HF
	LPAS7 - MONTEREY COUNTY	BRADLEY-LOCKWOOD RD WS RIVER RD WS #25	19	Missing Missing	Missing Missing	Missing	Missing Missing	DAC	Non HF HR2
28 CA3701793	LPA67 - SAN DIEGO COUNTY	TWIN LAKES RESORT	145	Missing	Missing	Missing	Missing	SDAC	HR2
	DISTRICT 02 - LASSEN DISTRICT 18 - SONOMA	SIERRA CSA #5, SIERRA BROO CAZADERO WATER COMPANY		Missing	Missing Missing	Missing	Missing	DAC	Non HF HR2\
31 CA4900720	DISTRICT 18 - SONOMA	MOBILE HOME ESTATES	151	Missing	Missing	Missing	Missing	SDAC	Non HF
	DISTRICT 02 - LASSEN	LITTLE VALLEY CSD	44	Missing	Missing	Missing	Missing	DAC	Non HF
	DISTRICT 02 - LASSEN DISTRICT 06 - SANTA BARBARA	HERLONG PUBLIC UTILITY DIS CITY OF SANTA PAULA	7508	Missing 1.5	Missing 1	Missing 1.5	Missing 4	SDAC DAC	Non HF
35 CA5610002	DISTRICT 06 - SANTA BARBARA	FILLMORE WATER DEPT	3917	1.5	1	1.5	4	DAC	Non HF
	DISTRICT 07 - HOLLYWOOD DISTRICT 04 - SAN FRANCISCO	MONTEREY PARK-CITY, WATE	13631 5389	1.5	1	1.5 1.5	4	DAC	Non HF
	LPA63 - RIVERSIDE COUNTY	CITY OF RIO VISTA ALPINE VILLAGE	5389	1.5	1	1.5	4	Non-DAC DAC	Non HF HR2\
	DISTRICT 13 - SAN BERNARDINO	ADELANTO, CITY OF	8301	1.5	1	1.5	4	SDAC	Non HR

Download the Preliminary Affordability Assessment Results Spreadsheet:

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https://bit.ly/3XPn4Dr

## Water System Data Change Requests

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

https://bit.ly/3wDanj8

Requests will be reviewed by State Water Board staff.

	ristyn, when you submit this form, the owner will be able to see your name and email address. equired
1.1	Please provide your PWSID *
	Enter your answer
3.1	First Name, Last Name *
	Enter your answer
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	Enter your answer
5.1	-mail Address *
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# Next Steps and Announcements



## **Immediate Next Steps**

- Water system data change requests:
  - https://bit.ly/3wDanj8
- General feedback on the Proposed Changes for the 2023 Needs Assessment:
  - 2023 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 02.24.2023

## **Discussion Topic 3: General Needs Assessment Questions**

Do you have any questions or comments about the Needs 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.

# THANK YOU

