

SAFER: 2021 Drinking Water Needs Assessment Results

April 13, 2021
9:00 am

Remote participation only



Meeting Logistics

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



Water Board's 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.

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.

Needs Assessment Overview

The background features a dark blue, textured surface resembling water. A large, wavy graphic element in shades of light blue and white curves across the middle of the slide, overlaid on a photograph of water splashing and bubbling.

Presentation Outline

- Overview of Needs Assessment
- Failing Water Systems: HR2W List
- Risk Assessment Methodology & Results
- Cost Assessment Methodology & Results
- Affordability Assessment Methodology & Results
- Conclusions and Next Steps

Audience Poll Question 1

Have you participated in any of the last 2020-2021 webinar workshops on the Risk Assessment or Cost Assessment?

- Yes
- No

View recordings and materials here:

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

Respond to survey here: <https://bit.ly/2OH58wm>

Audience Poll Question 2

Have you read the report: ***“2021 Drinking Water Needs Assessment”***?

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

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

Respond to survey here: <https://bit.ly/2OH58wm>

2012 - Human Right to Water (HR2W)

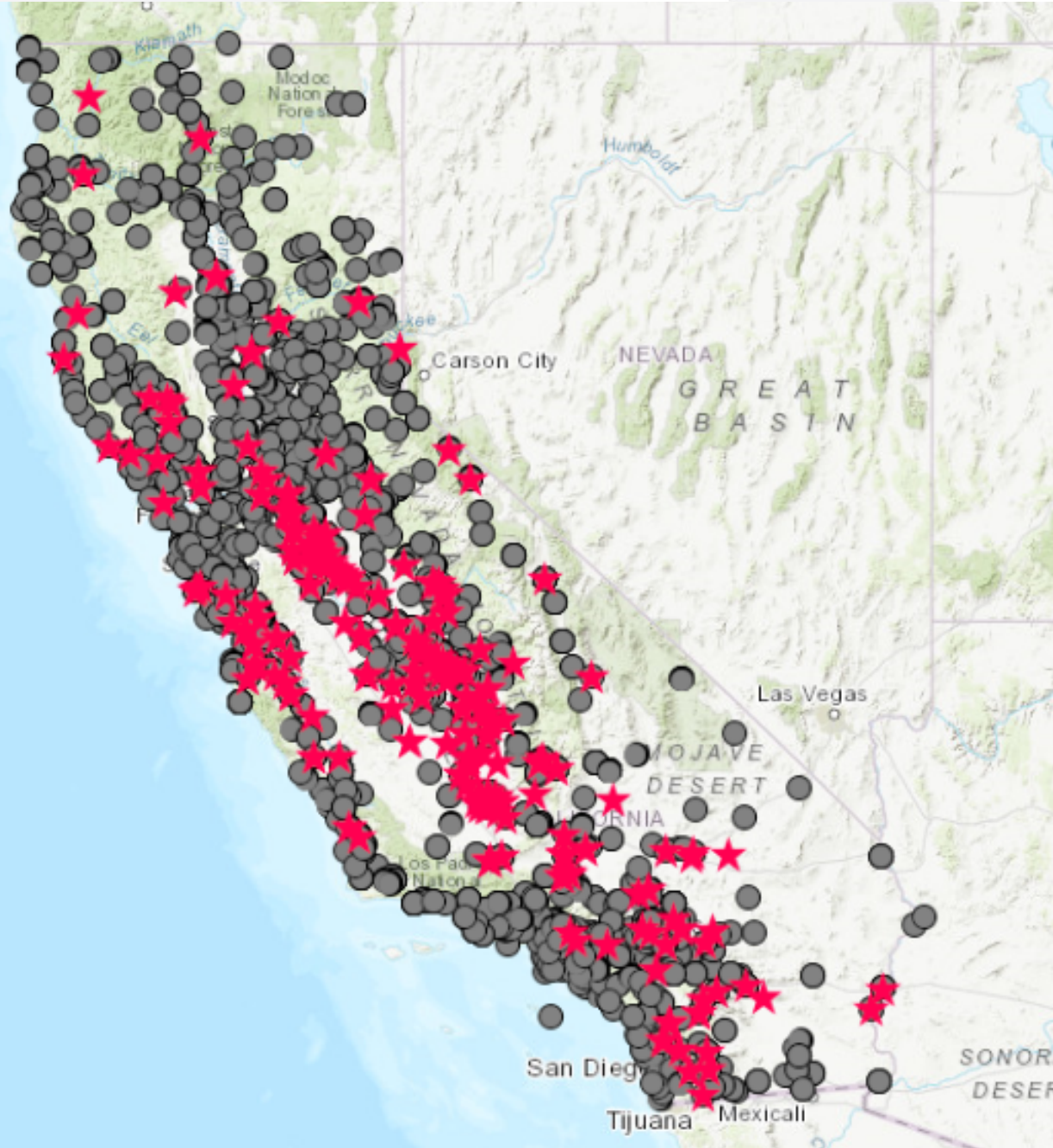
Water Code Section 106.3, the State statutorily recognizes that:

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



Failing Water Systems: HR2W List

- 7,800 Public Water Systems
- HR2W list is updated quarterly on State Water Board website.
- Currently there are 331 (as of today) failing water systems
- **On average, 90% of Violations Occur in Water Systems Serving Less than 500 connections**



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

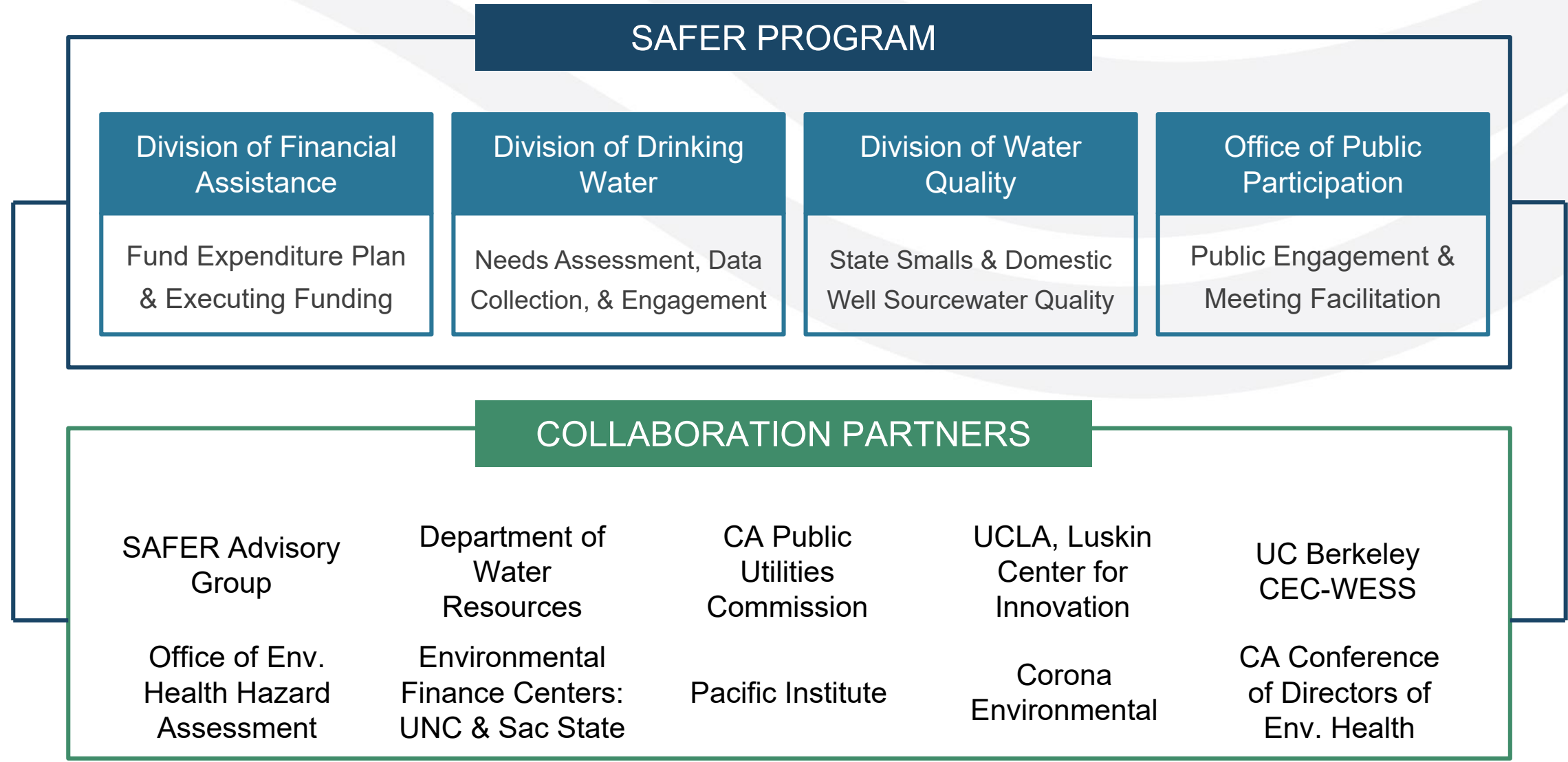


Administrators



Technical Assistance & Capacity Building

SAFER Program



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).



Needs Assessment Components



Risk Assessment

Systems ≤ 3,300 conn.; K-12 Schools; SSWS, & DWs



Cost Assessment

HR2W & At-Risk Systems and Domestic Wells



Affordability Assessment

DAC/SDAC Community Water Systems

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

SAFER Program Priority Systems

PRIORITY ORDER

FAILING WATER SYSTEMS

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

AT-RISK WATER SYSTEMS & DOMESTIC WELLS

Public water systems with 3,300 service connections or less, K-12 public schools, state small water systems, tribal water systems, and domestic wells that are at-risk of failing.

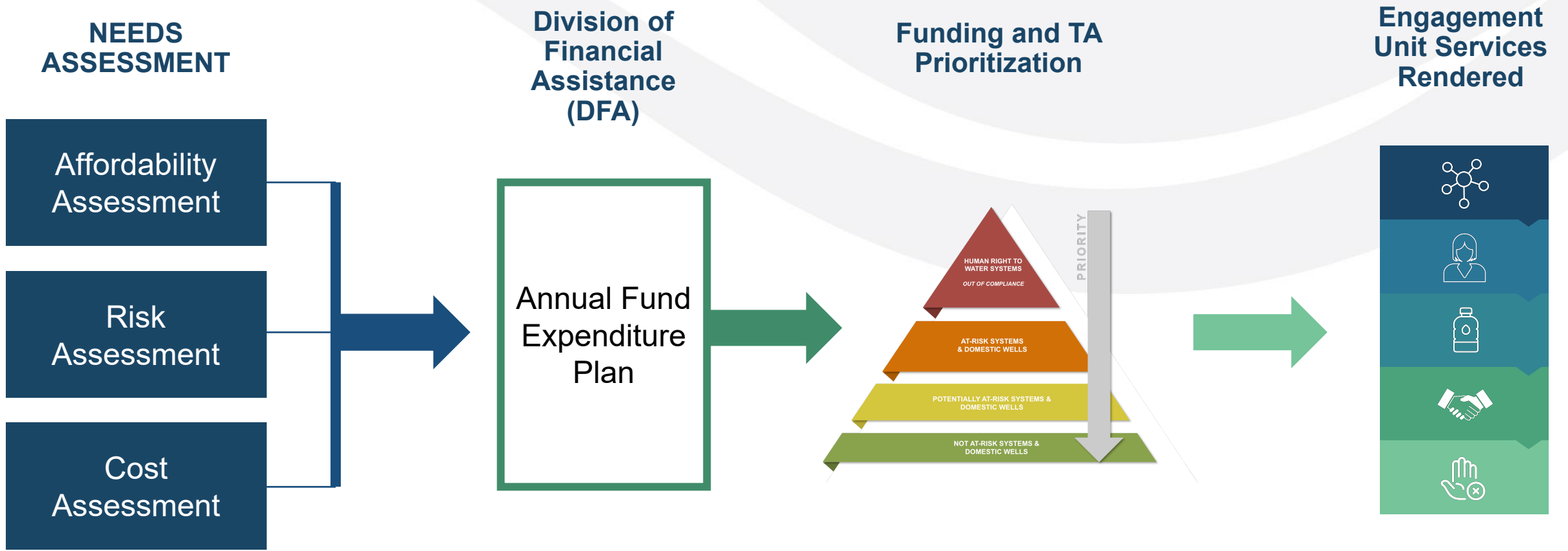
POTENTIALLY AT-RISK WATER SYSTEMS & DOMESTIC WELLS

Public water systems with 3,300 service connections or less, K-12 public schools, state small water systems, tribal water systems, and domestic wells that are potentially at-risk of failing.
























NOT AT-RISK WATER SYSTEMS & DOMESTIC WELLS

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

Needs Assessment Uses



Needs Assessment Development

NEEDS ASSESSMENT COMPONENTS	2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	2021	
Risk Assessment: Public Water Systems*	 1.11		 4.17	 7.22	 10.13	 12.14	 4.13
Risk Assessment: State Small Water Systems & Domestic Wells	 1.18		 4.17	 7.22	 10.09	 11.04	 4.13
Cost Assessment*	 1.11		 5.10	 8.28	 11.20	 2.26	 4.13
Affordability Assessment			 4.17	 7.22	 9.11	 10.30	 4.13

Access workshop recordings, white papers, and presentations here:
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/needs.html

Needs Assessment Numbers and Dates

- Different start dates, different data sets.
- You will see a different numbers of systems that are on the HR2W list or At-Risk list within different components of the Needs Assessment.
- This was due to the timing of the Needs Assessment in its inaugural year.

Failing Water Systems: HR2W List



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): <ul style="list-style-type: none"> • 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): <ul style="list-style-type: none"> • 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. 	No	Yes

*Approximately 29 water systems have been added to the HR2W list with the expanded criteria.

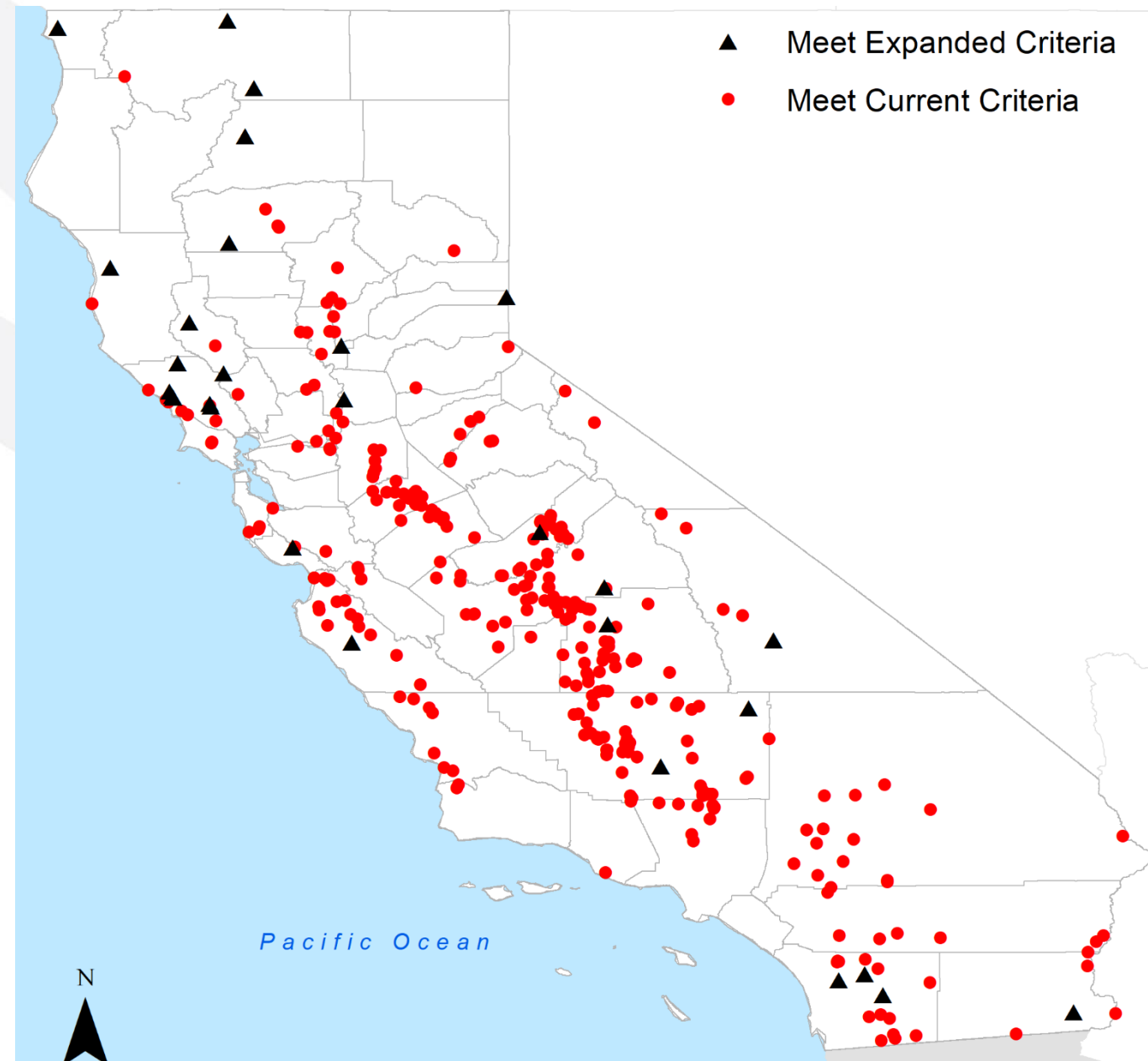
HR2W Map (4.12.2021)

331 water systems on the HR2W list.

29 of these systems meet the new expanded criteria.

The State Water Board maintains a SAFER Program map:
https://www.waterboards.ca.gov/safer/safer_data.html

HR2W map:
https://www.waterboards.ca.gov/water_issues/programs/hr2w/



Providing Assistance to HR2W List Systems

Approximately **90%** of the water systems on the 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: <https://bit.ly/3a6yFHj>
- Technical Assistance: <https://bit.ly/3uL3ole>

The Challenge

Approximately **47** unique water systems come on the **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**.

Risk Assessment Results: Public Water Systems

Greg Pierce

Luskin Center for Innovation
University of California, Los Angeles



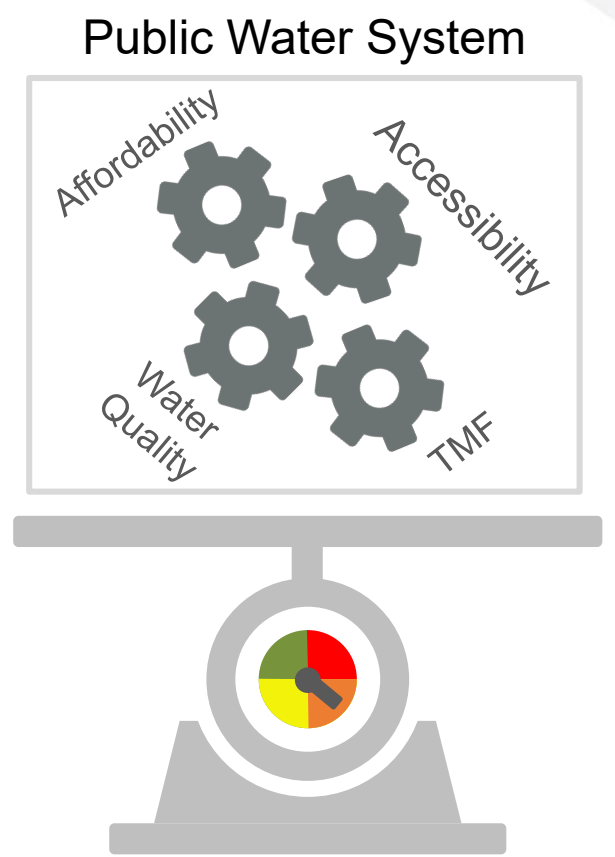
Public Water Systems Analyzed in the Risk Assessment

Water System Type	Number	Water Quality	Accessibility	Affordability	TMF Capacity
Public Water Systems* (≤ 3,300 connections)	2,241	Yes	Yes	Yes	Yes
K-12 Schools	383	Yes	Yes	No	Yes
Other Public Water Systems**	155	Yes	Yes	No	Yes
TOTAL ANALYZED:	2,779				

* Excluded Wholesalers.

** Included Transient Areas, Recreational Facilities, Hotels, Summer Camps, Prisons, Medical Facilities, Military Complexes

Risk Assessment for Public Water Systems



RISK ASSESSMENT METHODOLOGY



19 RISK INDICATORS

Quantifiable measurements of key data used to assess a water system’s risk of becoming non-compliant 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.

Risk Indicators

Final list of **19 risk indicators** selected from **129 proposed risk indicators** through a stakeholder driven process.

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

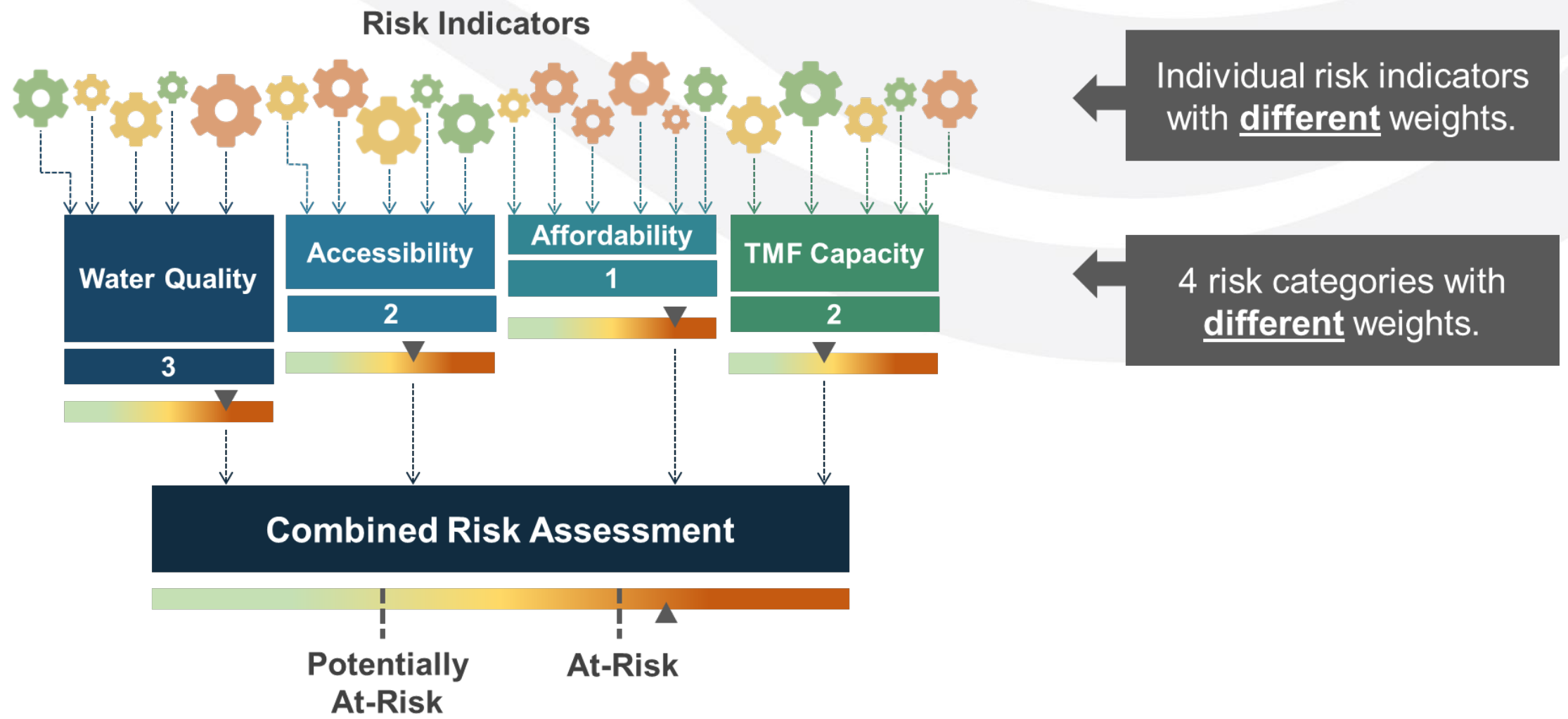
Operator Certification Violations

Monitoring and Reporting Violations

Significant Deficiencies

Extensive Treatment Installed

Aggregated Risk Assessment with Indicator & Category Weights



Risk Indicator Thresholds, Scores, and Weights (pg. 150)

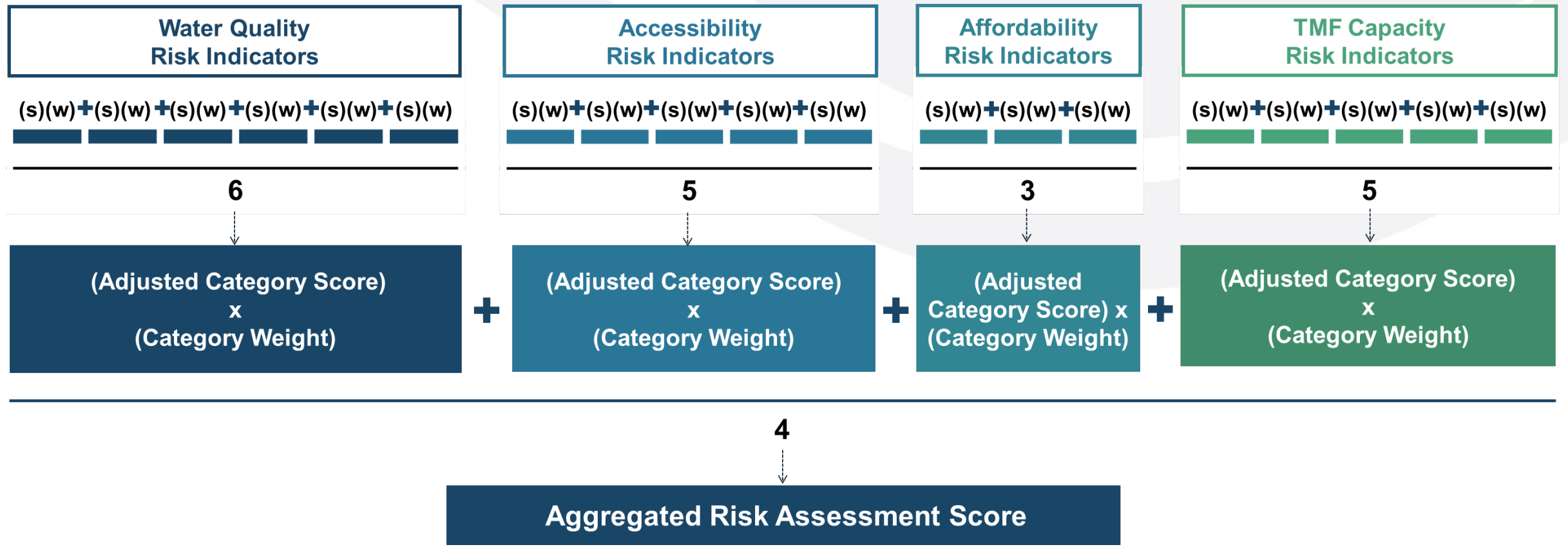
To enable the evaluation and comparison of risk indicators, a standardized **score range between 0 and 1** was applied to each risk indicator threshold.

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	Total Risk Indicator Score
Maximum Duration of High Potential Exposure (HPE)	Threshold 0 = 0 years	0	N/A	0
	Threshold 1 = 1 year	0.25	3	0.75
	Threshold 2 = 2 years	0.5	3	1.5
	Threshold 3 = 3 or more years	1	3	3

Aggregated Risk Assessment Calculation Methodology



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 re-distributed 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**

1 + 1 + .5 + .25 + 0



5

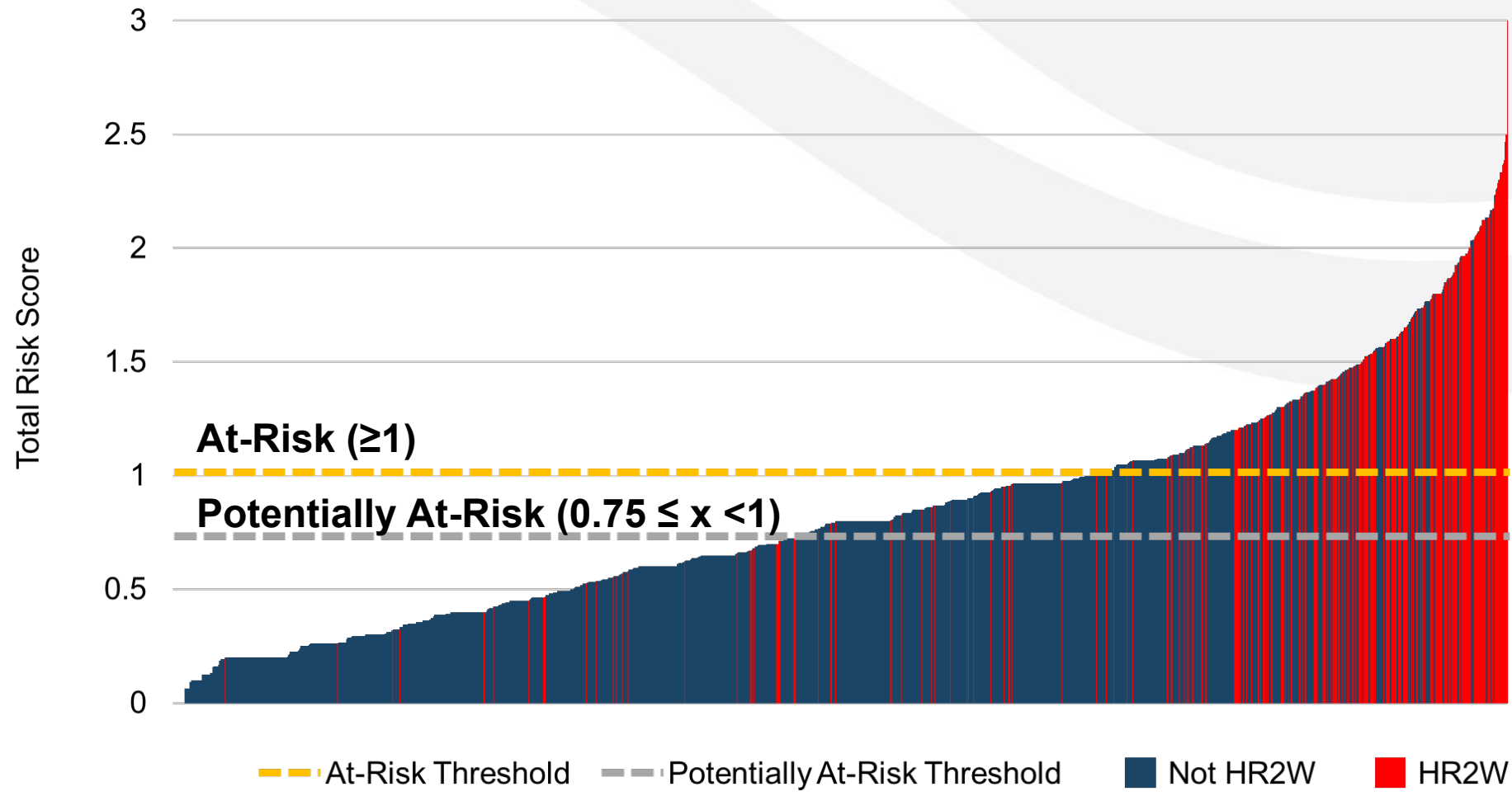
**Risk Indicator Category
With Missing Indicator**

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



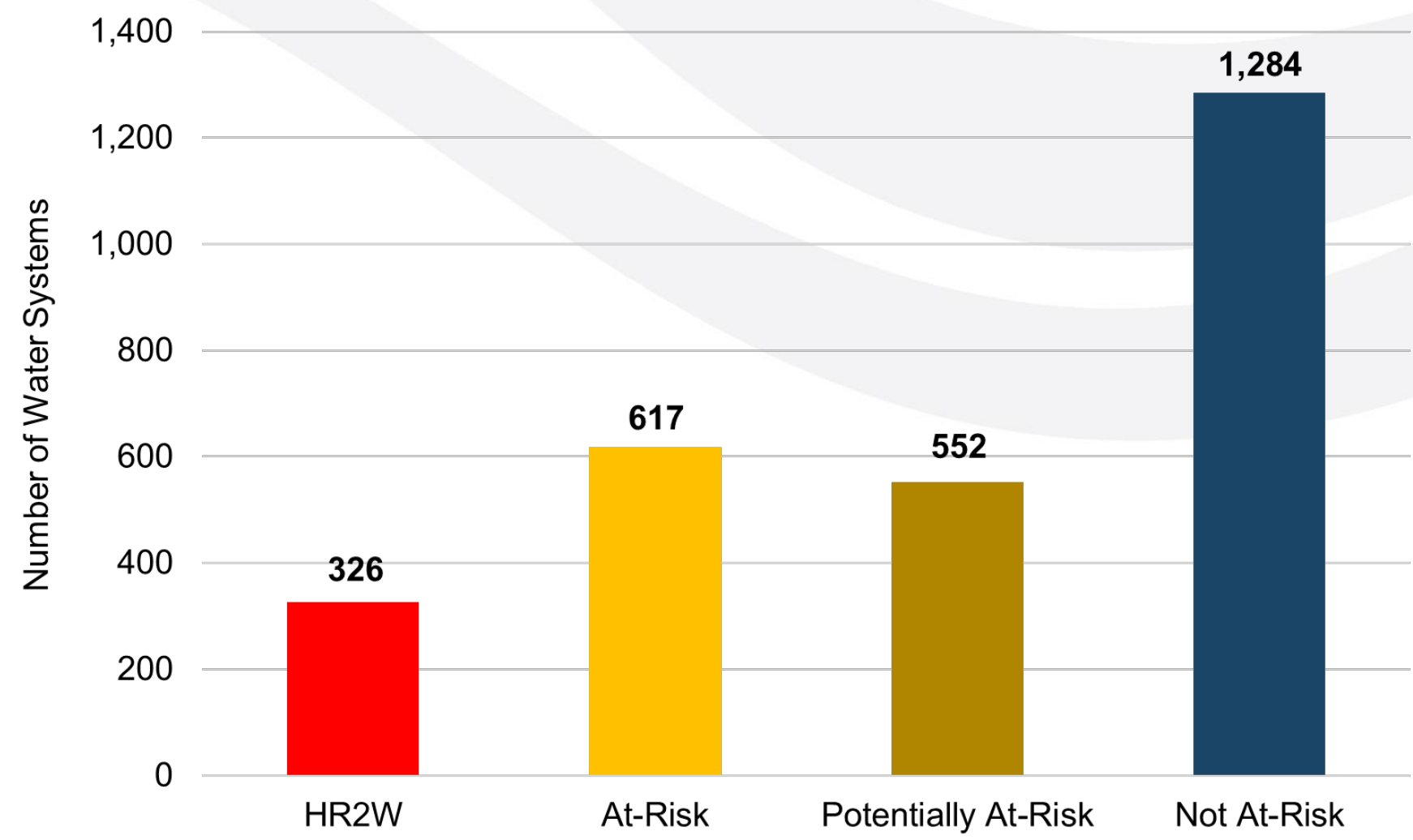
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Risk Assessment: Aggregated Distribution of Weighted Scores

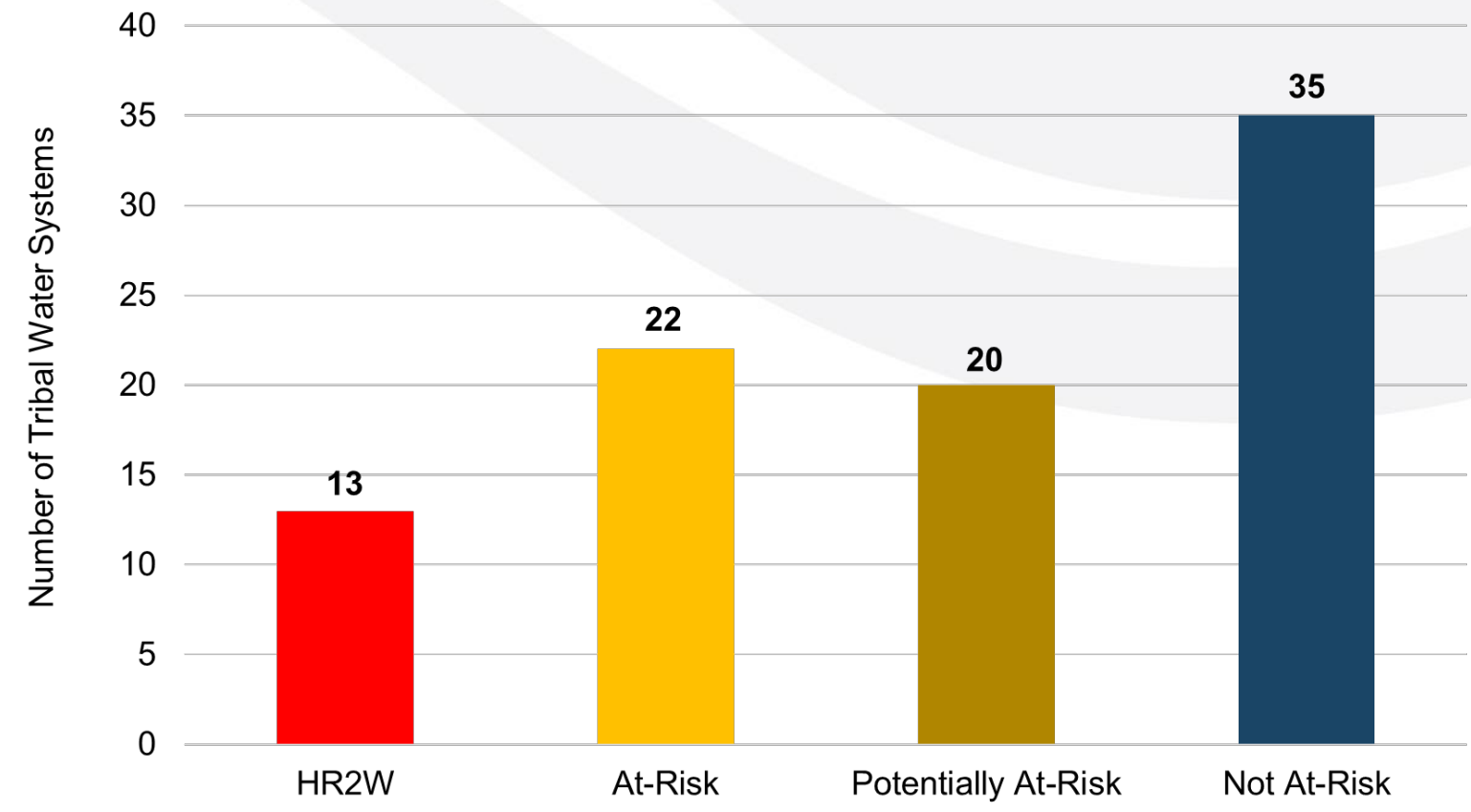


These thresholds were determined based on where the current and expanded HR2W systems started to cluster.

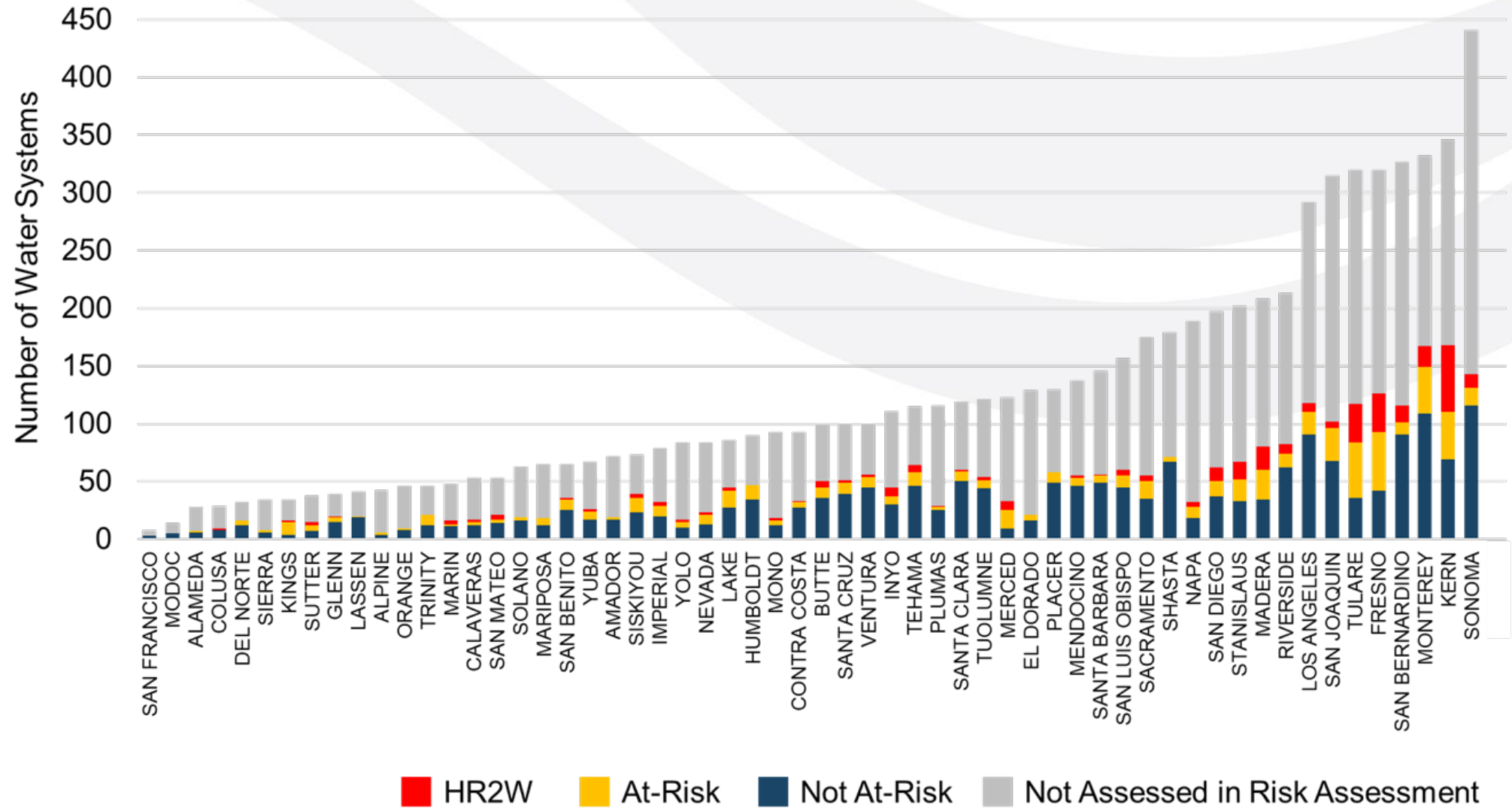
Risk Assessment Results (n=2,779)



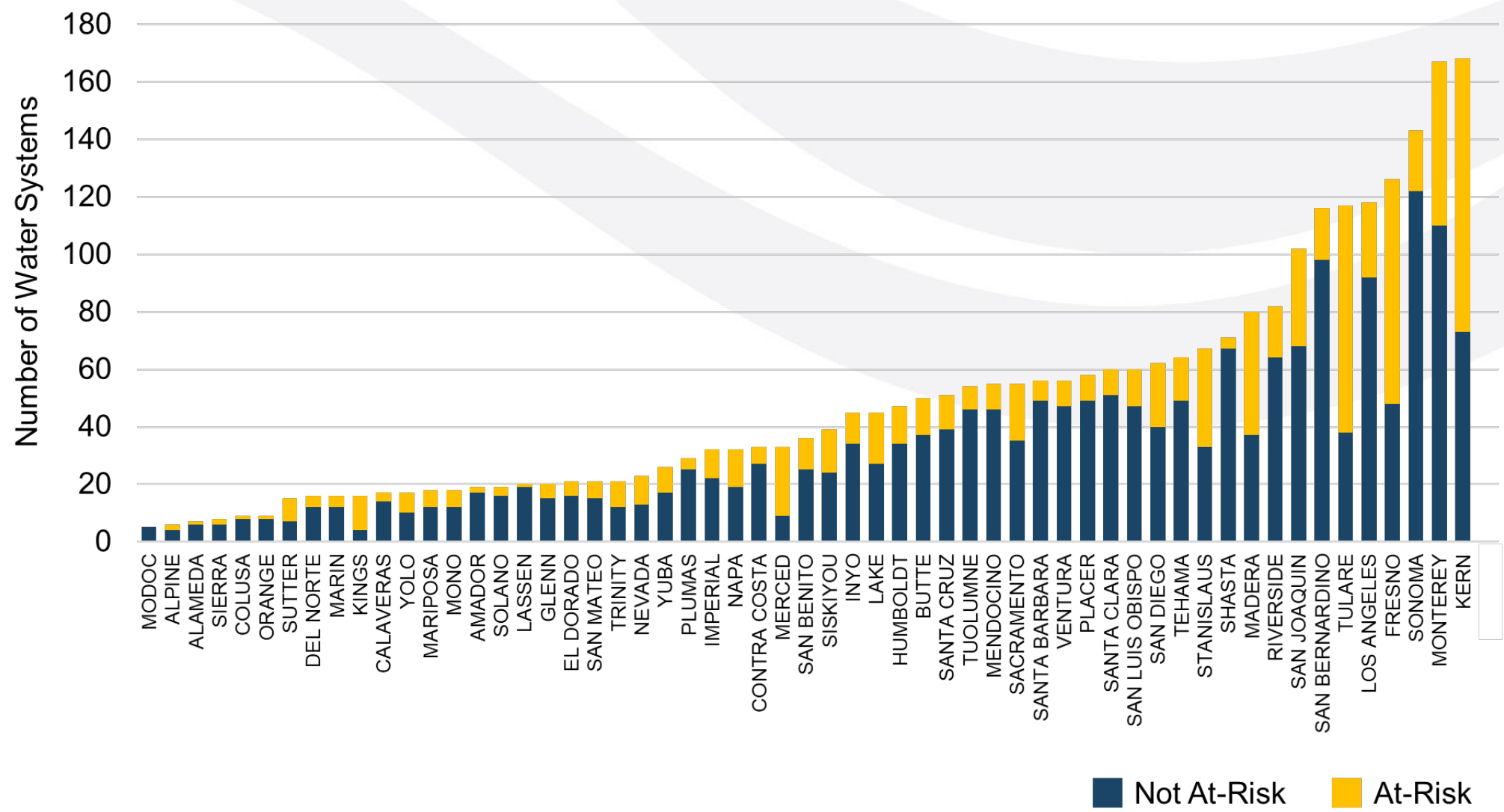
HR2W List & At-Risk Equivalent Tribal Water Systems



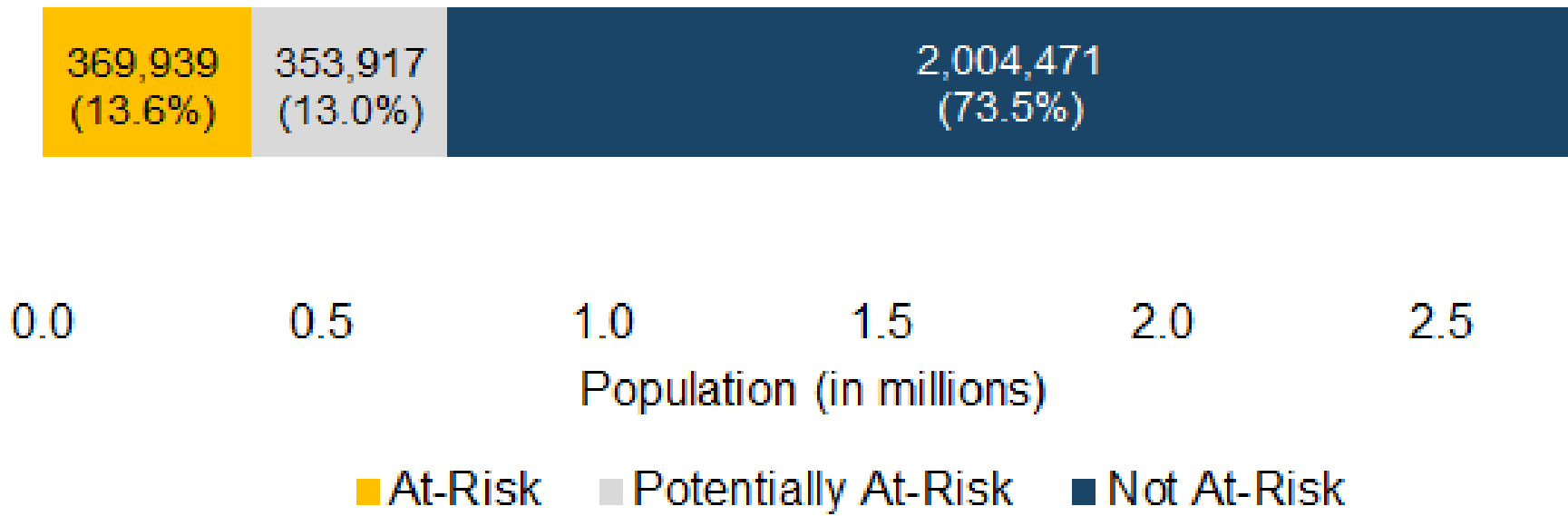
Risk Assessment Results by County, Proportional to All Systems



Risk Assessment Results by County

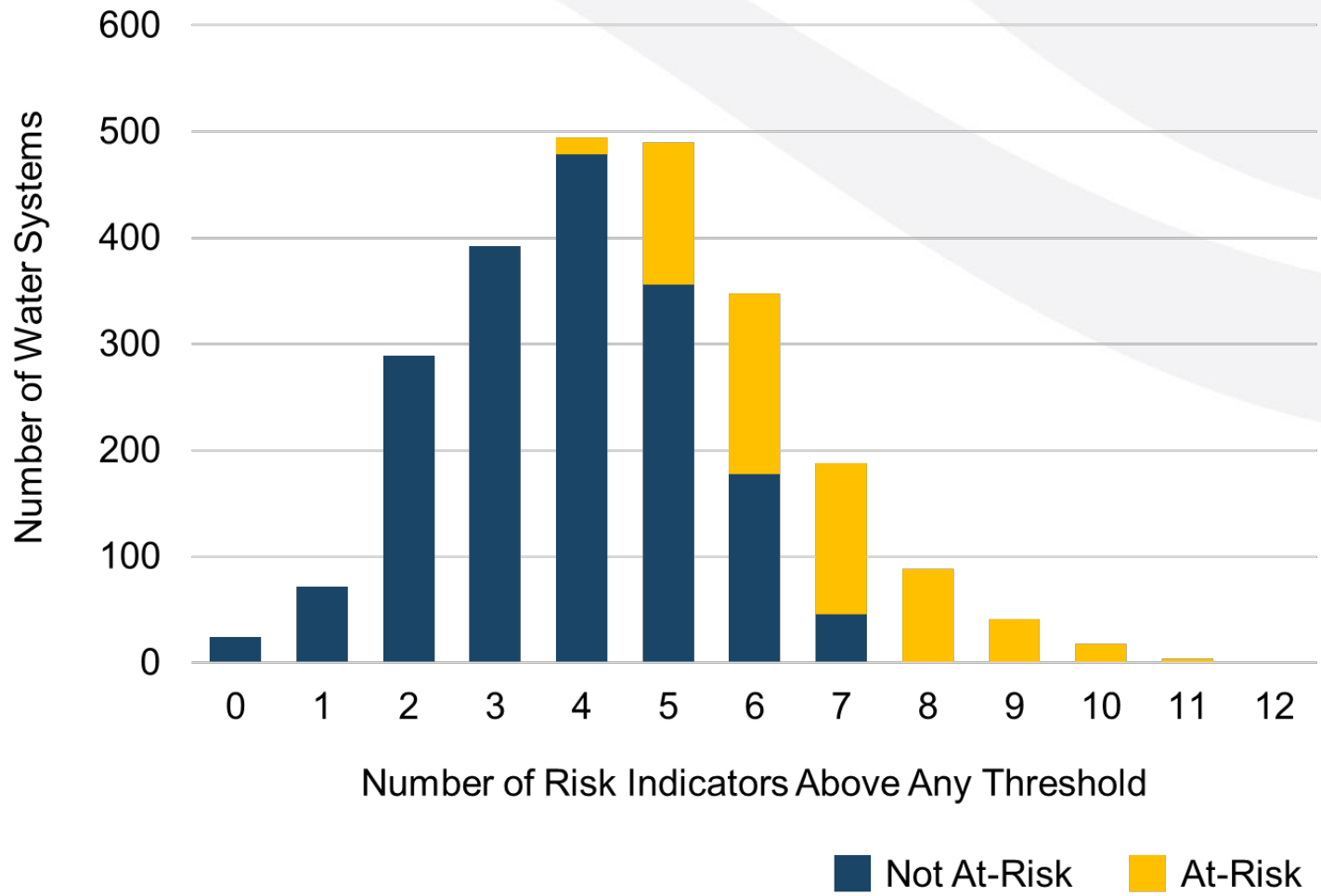


Population Served by At-Risk Water Systems (3,300 service connections or less)*



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

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 **6 risk indicator** thresholds.

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

Access the At-Risk List and Raw Data



County	Water Quality Category Weighted Score	Accessibility Category Weighted Score	Affordability Category Weighted Score	TMF Capacity Category Weighted Score	Total Weighted Risk Score	Risk Assessment Result	Excluded HR2W List Systems (As of 12.21.2020)	Final At-Risk List
ISKIYOU	5.4	2.8	--	1.2	3.1	At-Risk	HR2W	HR2W
TULARE	3.6	3.5	--	0.4	2.5	At-Risk	HR2W	HR2W
CA1500344	3.6	3.5	--	0.4	2.5	At-Risk	HR2W	HR2W
CA1000627	4.5	3	0	2.4	2.5	At-Risk	HR2W	HR2W
CA3400149	4	3	--	0.4	2.5	At-Risk	Non-HR2W	At-Risk
CA1500289	4	2.8	--	0.4	2.4	At-Risk	HR2W	HR2W
CA1500289	4	3.6	0.75	1.2	2.4	At-Risk	HR2W	HR2W
CA1400155	3.5	2.8	0	3.2	2.4	At-Risk	Non-HR2W	At-Risk
CA2000612	4.2	2.5	--	0.4	2.4	At-Risk	HR2W	HR2W
CA5400994	4.2	2.5	--	0.4	2.4	At-Risk	HR2W	HR2W
CA5400964	4.5	3	0.75	1.2	2.4	At-Risk	HR2W	HR2W
CA5000116	3.6	3	--	0.4	2.3	At-Risk	HR2W	HR2W
CA2400122	3	2.8	--	1.2	2.3	At-Risk	Non-HR2W	At-Risk
CA5000109	3	3.6	--	0.4	2.3	At-Risk	Non-HR2W	At-Risk
CA1000316	3	3.6	--	0.4	2.3	At-Risk	HR2W	HR2W
CA5400682	4.5	3.6	0	1.2	2.3	At-Risk	HR2W	HR2W
CA1600008	3	3.5	--	0.4	2.3	At-Risk	HR2W	HR2W
CA3901169	3	3.5	--	0.4	2.3	At-Risk	HR2W	HR2W
CA1502154	3	3.5	--	0.4	2.3	At-Risk	HR2W	HR2W
CA5400544	6	1.2	0.75	1.2	2.3	At-Risk	HR2W	HR2W
CA5000295	3.6	2.8	--	0.4	2.3	At-Risk	HR2W	HR2W
CA5700623	3.6	2.8	--	0.4	2.3	At-Risk	HR2W	HR2W
CA4400613	4.5	2.8	1.33	0.4	2.3	At-Risk	Non-HR2W	At-Risk
CA1000019	3	3	1	2	2.3	At-Risk	HR2W	HR2W
CA1500378	4	3	0.75	1.2	2.2	At-Risk	Non-HR2W	At-Risk
CA1000299	3.75	2.8	0	2.4	2.2	At-Risk	HR2W	HR2W
CA2800039	3.5	2.8	--	0.4	2.2	At-Risk	Non-HR2W	At-Risk
CA5400636	2.4	3	--	1.2	2.2	At-Risk	HR2W	HR2W
CA2000534	5.5	2	0	1.2	2.2	At-Risk	Non-HR2W	At-Risk
CA4210009	3.75	3	0.75	1.2	2.2	At-Risk	Non-HR2W	At-Risk
CA4200833	3.6	2.5	--	0.4	2.2	At-Risk	Non-HR2W	At-Risk
CA4300610	3.6	2.5	--	0.4	2.2	At-Risk	Non-HR2W	At-Risk

Download the **Risk Assessment Results Spreadsheet** to view the list of At-Risk public water systems:

<https://bit.ly/3d0XxSF>

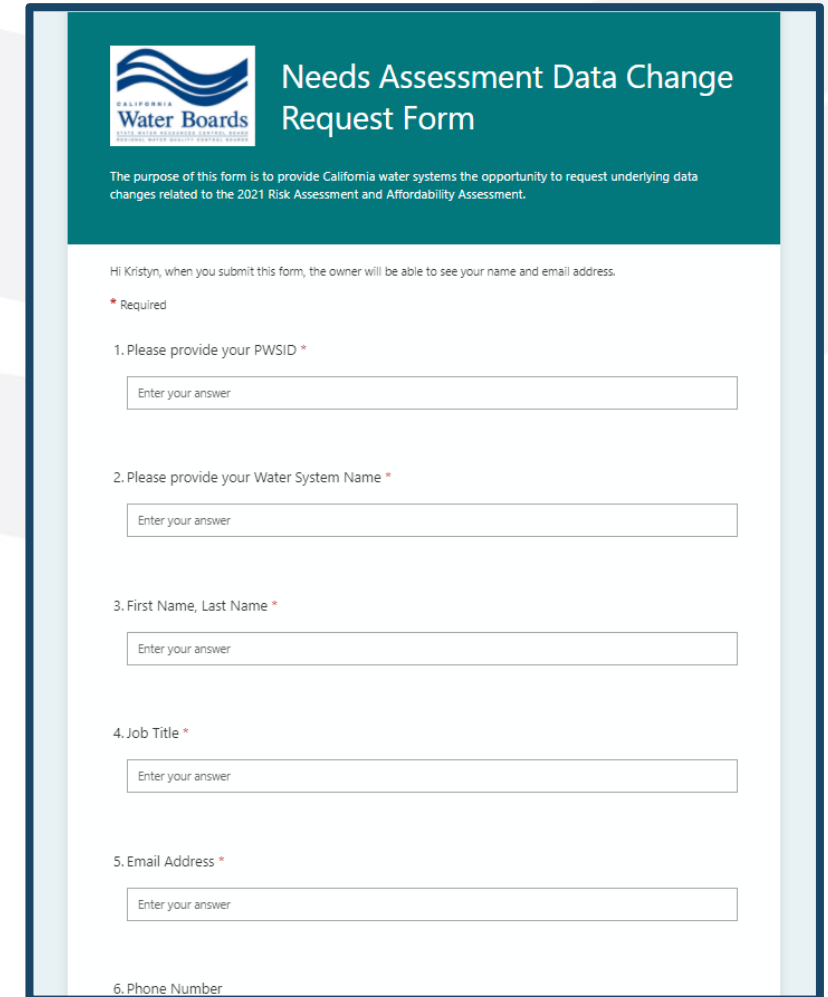
This spreadsheet will be updated periodically with data refreshes.

Water System Data Change Requests

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

<https://bit.ly/3t9XgTg>

Requests will be reviewed by State Water Board staff.



The screenshot shows a web form titled "Needs Assessment Data Change Request Form" with the California Water Boards logo. The form includes a header with the logo and title, a purpose statement, a greeting, and a list of required fields with input boxes. The fields are: 1. PWSID, 2. Water System Name, 3. First Name, Last Name, 4. Job Title, 5. Email Address, and 6. Phone Number.

California Water Boards
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 *

2. Please provide your Water System Name *

3. First Name, Last Name *

4. Job Title *

5. Email Address *

6. Phone Number

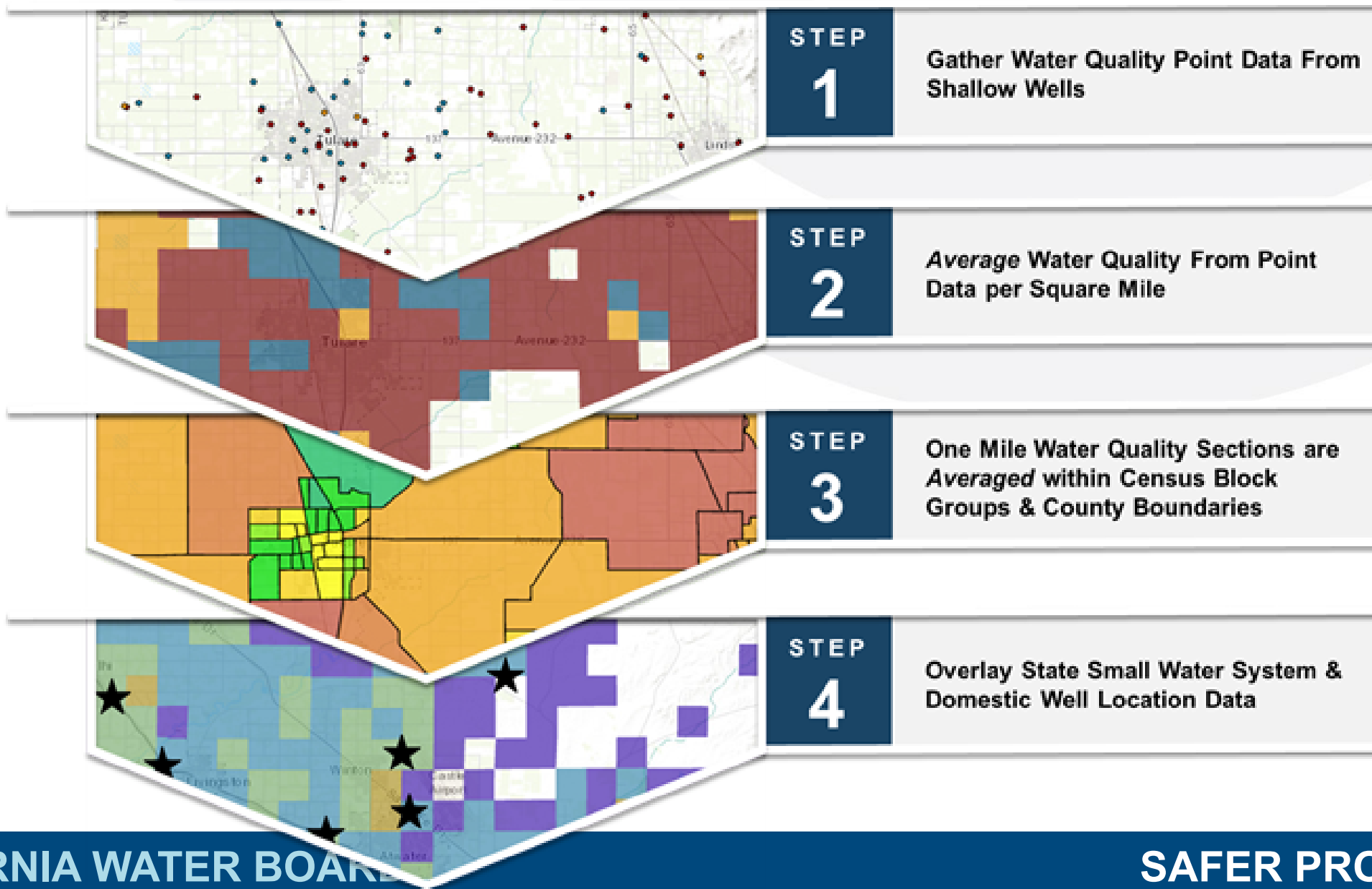
Risk Assessment Results: State Small Water Systems & Domestic Wells

Emily Houlihan

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



Summary of Risk Assessment Methodology for State Small Water Systems & Domestic Wells



Data Processing

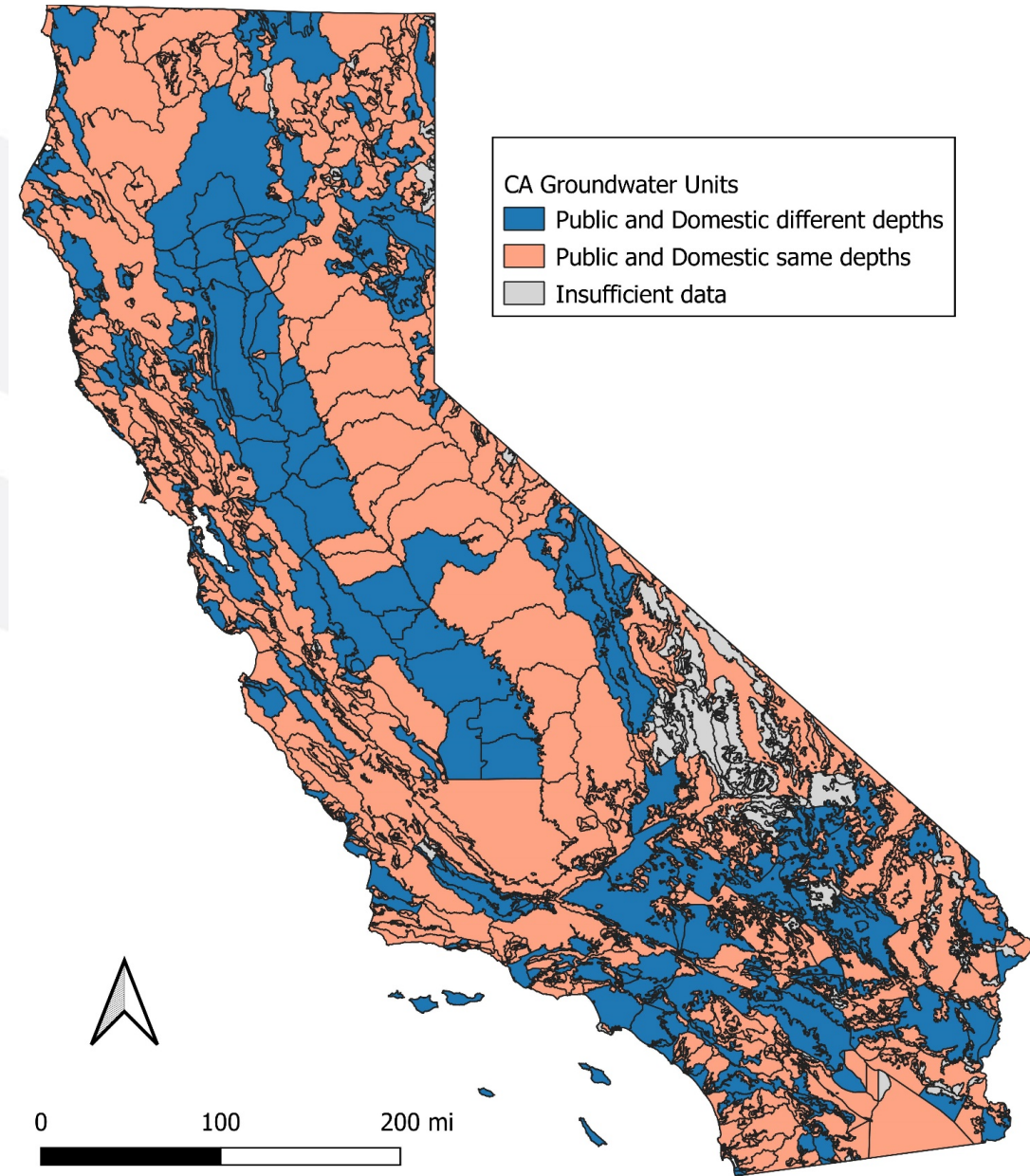
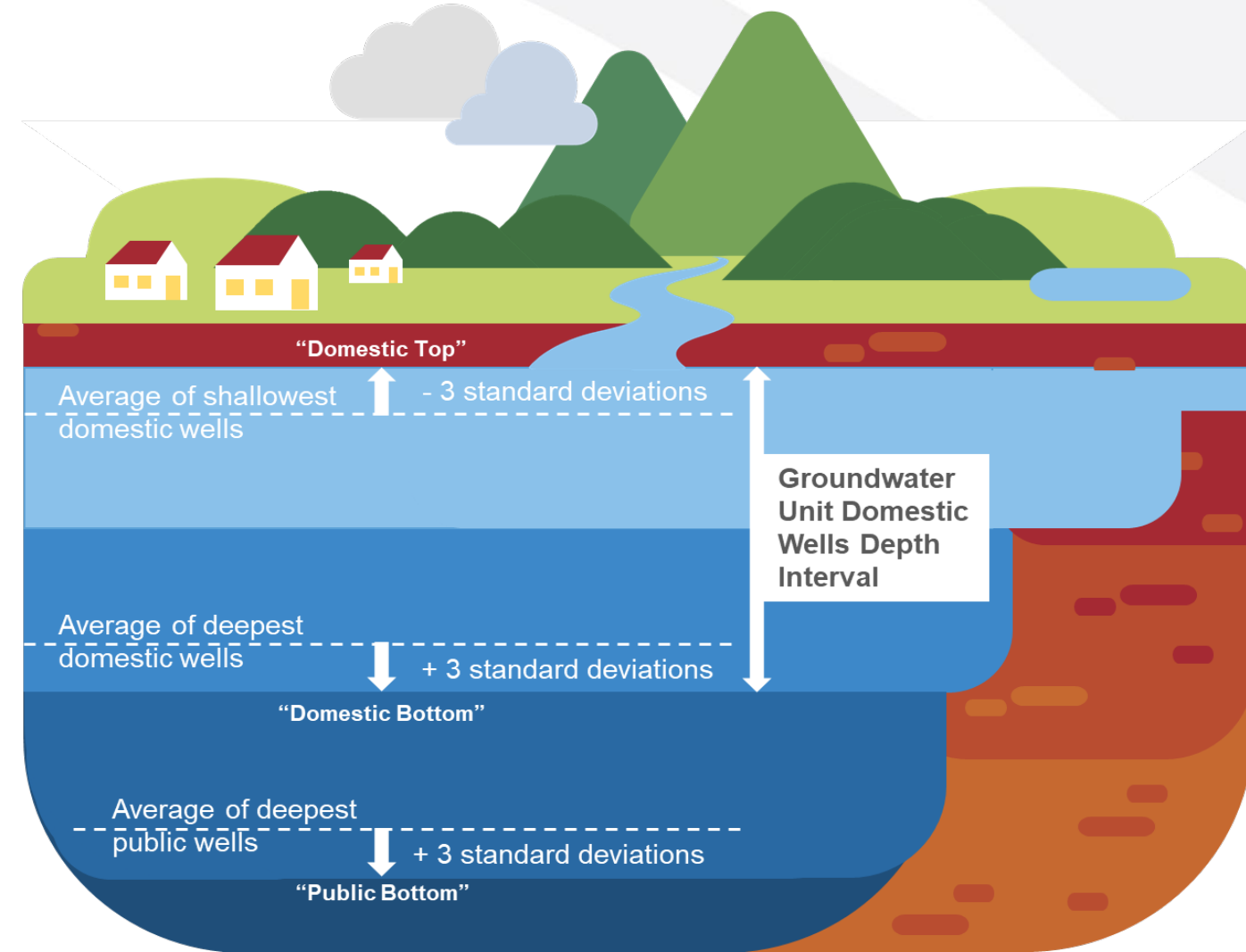
Water Quality Data

- Publicly-available data from both public and domestic wells
- Filter wells by depth
- Average results by year, well, and square mile section (de-clustering)
- Assess both long-term averages (20 year) and recent results
- Assess all constituents with an MCL, including Hexavalent Chromium

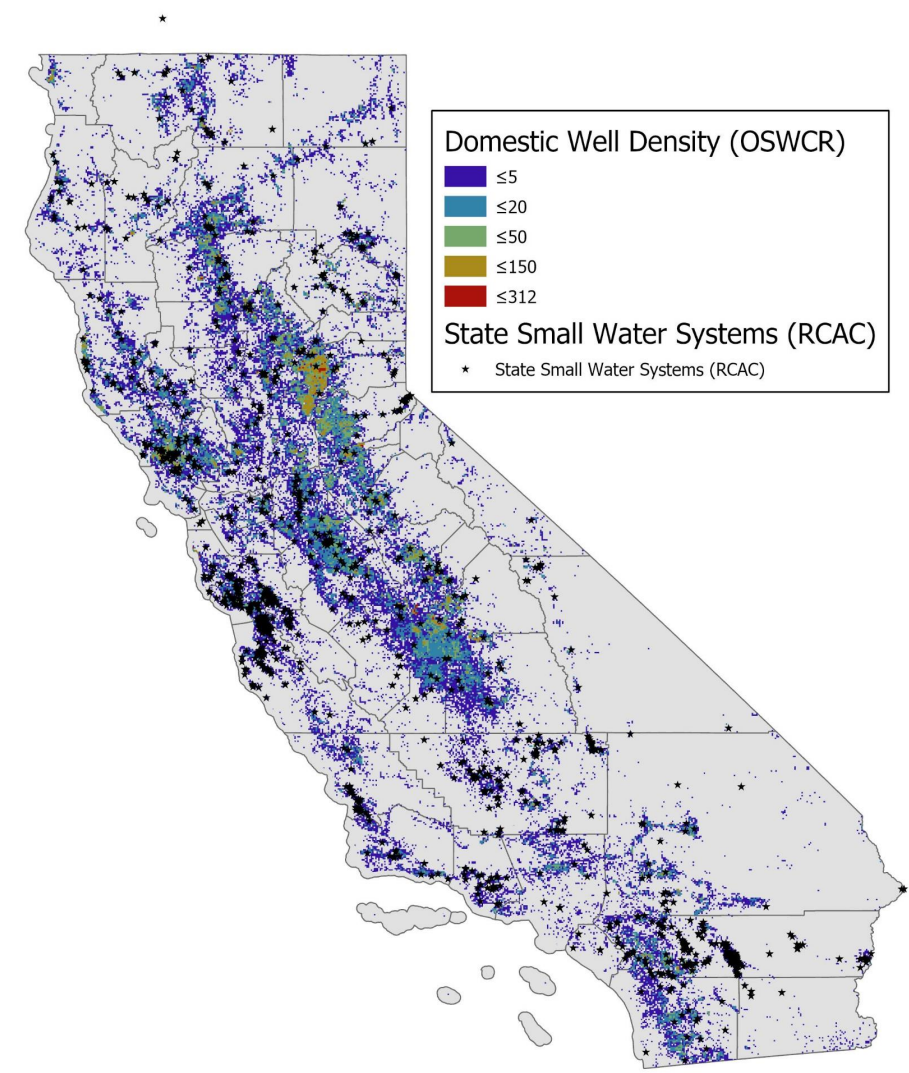
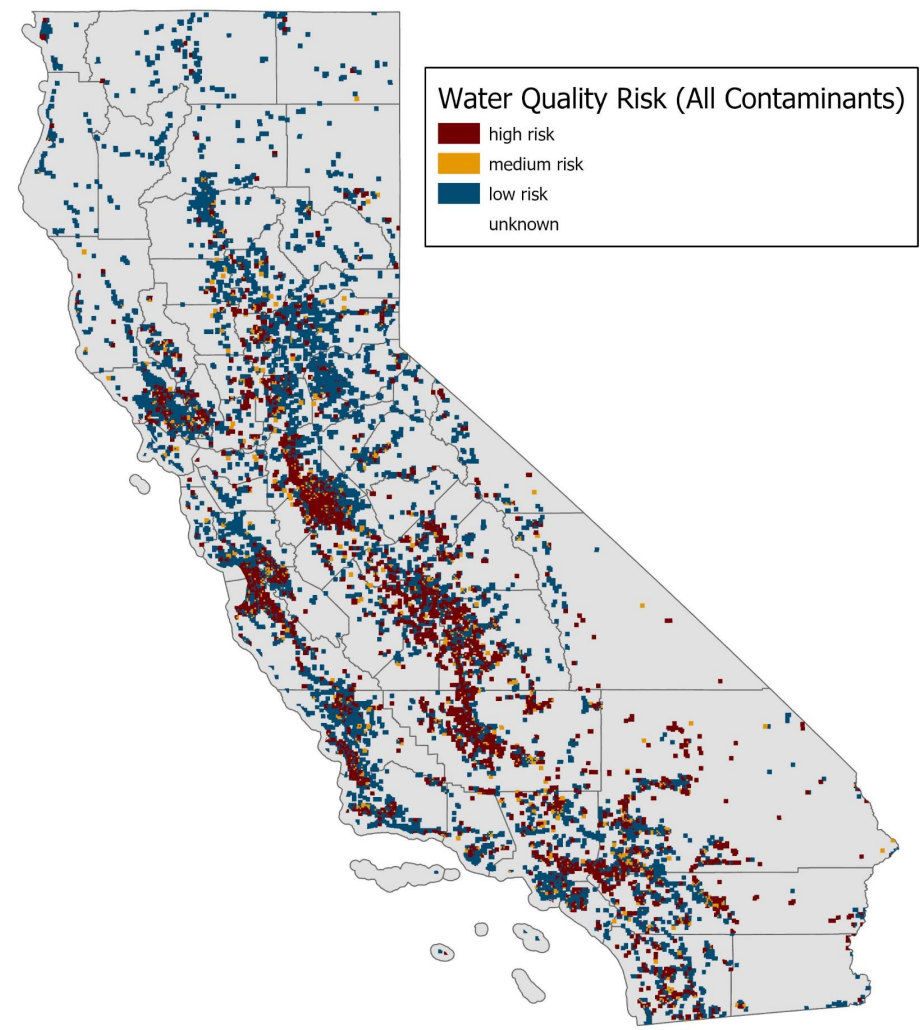
Domestic Well & State Small Water System Locations

- Domestic well density is from the Online System of Well Completion Records, excluding domestic wells drilled prior to 1970
- State small water system locations are from the Rural Community Assistance Corporation

Depth Filter

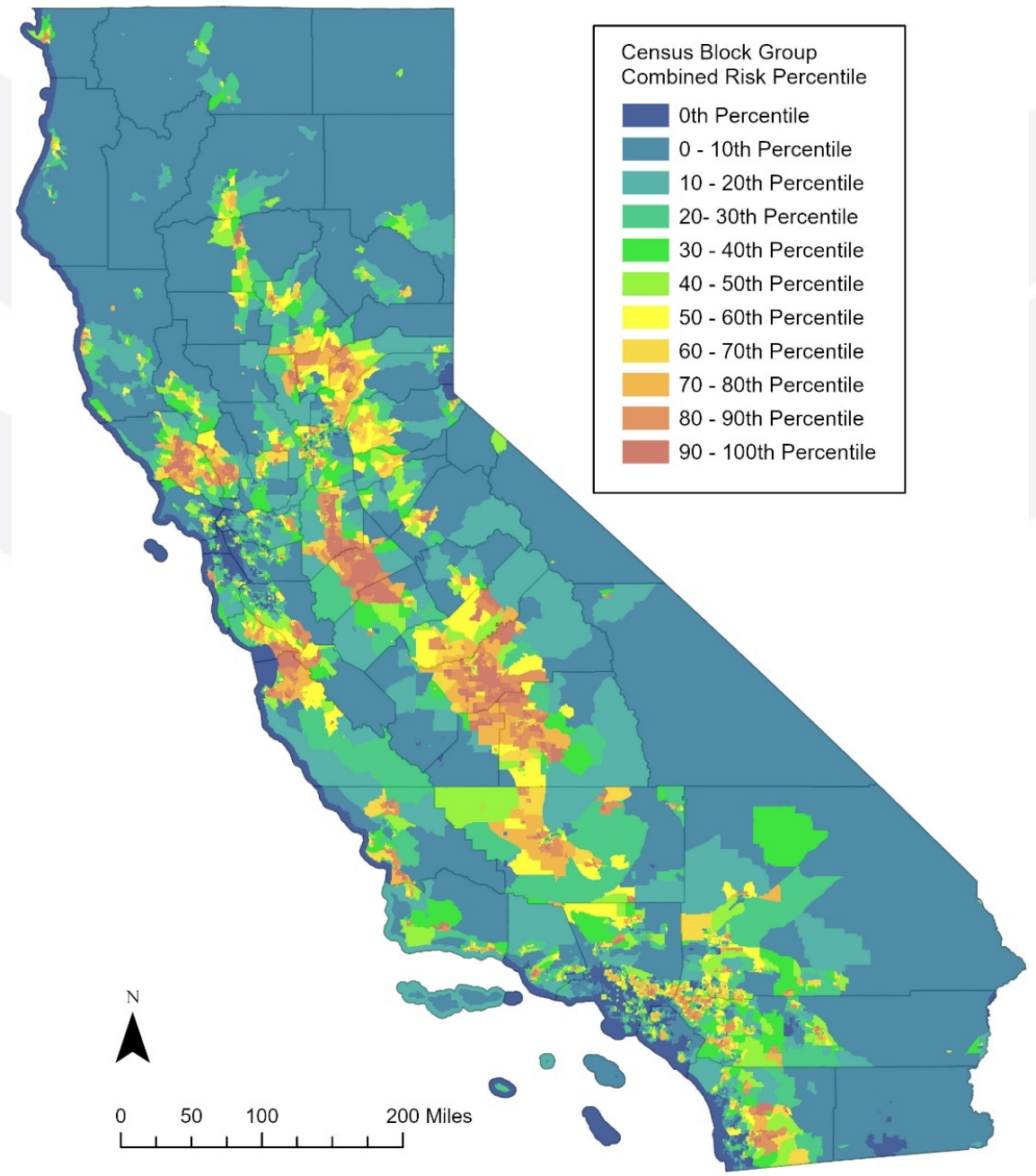


Risk Map Components – Water Quality and Domestic Well/State Small Water System Density

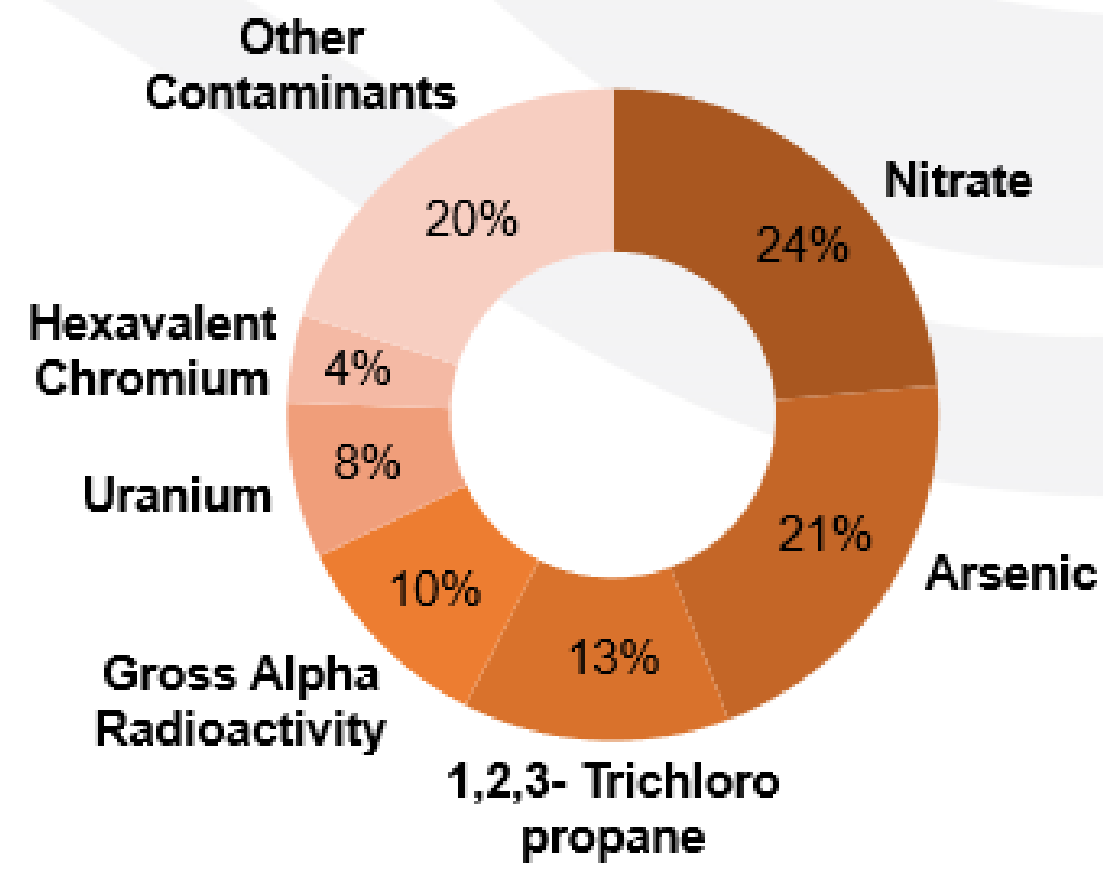


Risk Map for State Small Water Systems & Domestic Wells

Combines water quality results with density of state small water systems and domestic well users to estimate overall source water risk.



Top Contaminants



Risk Assessment Results for State Small Water Systems & Domestic Wells

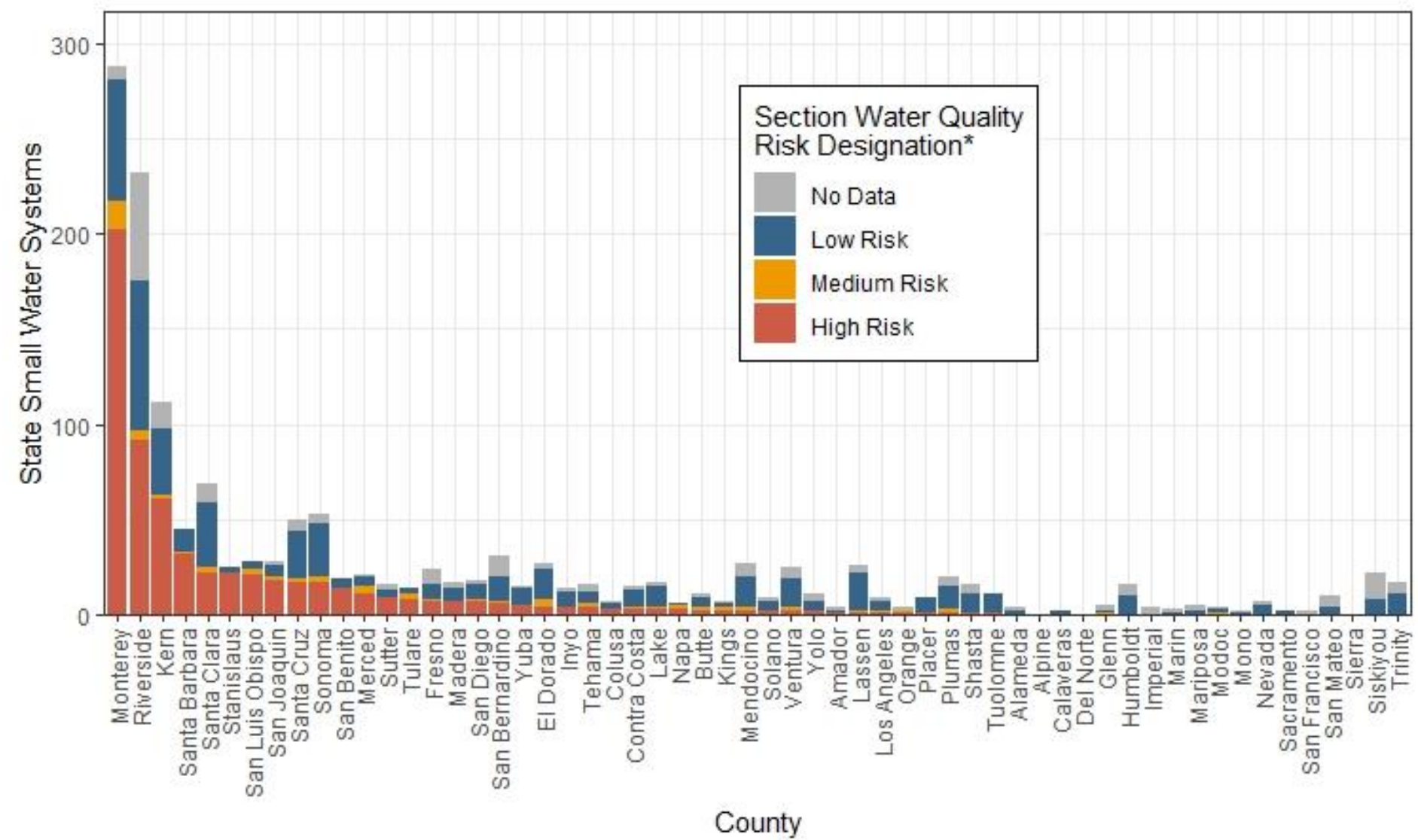
At-Risk = High Risk: Estimated water quality above Maximum Contaminant Level (MCL)

Medium Risk: Estimated water quality between 80 – 100% of MCL

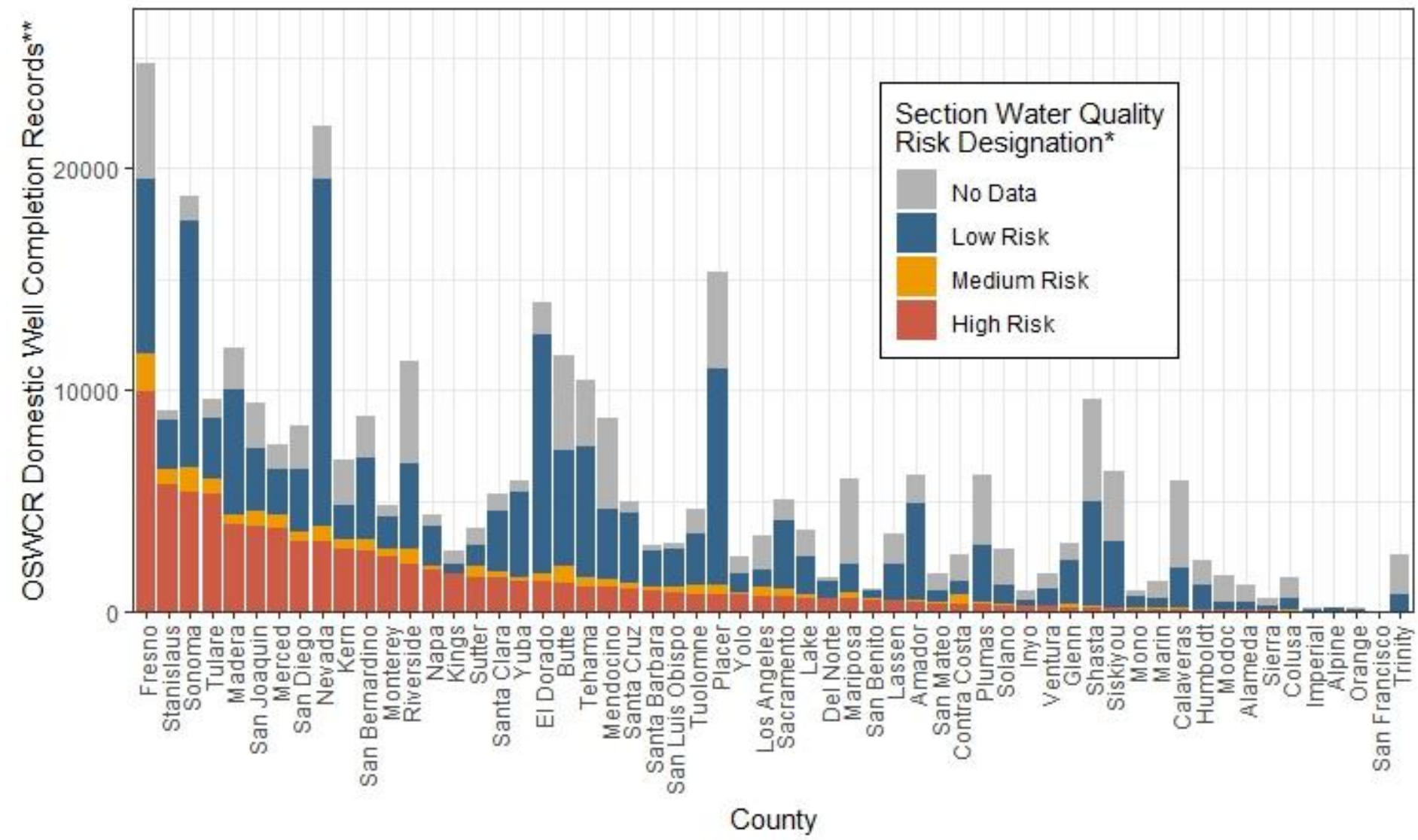
Low Risk: Estimated water quality below 80% of MCL

Section Water Quality Risk Designation	Domestic Wells	State Small Water Systems
At-Risk = High Risk	77,973	611
Medium Risk	15,791	71
Low Risk	147,185	554
No Data	84,800	227

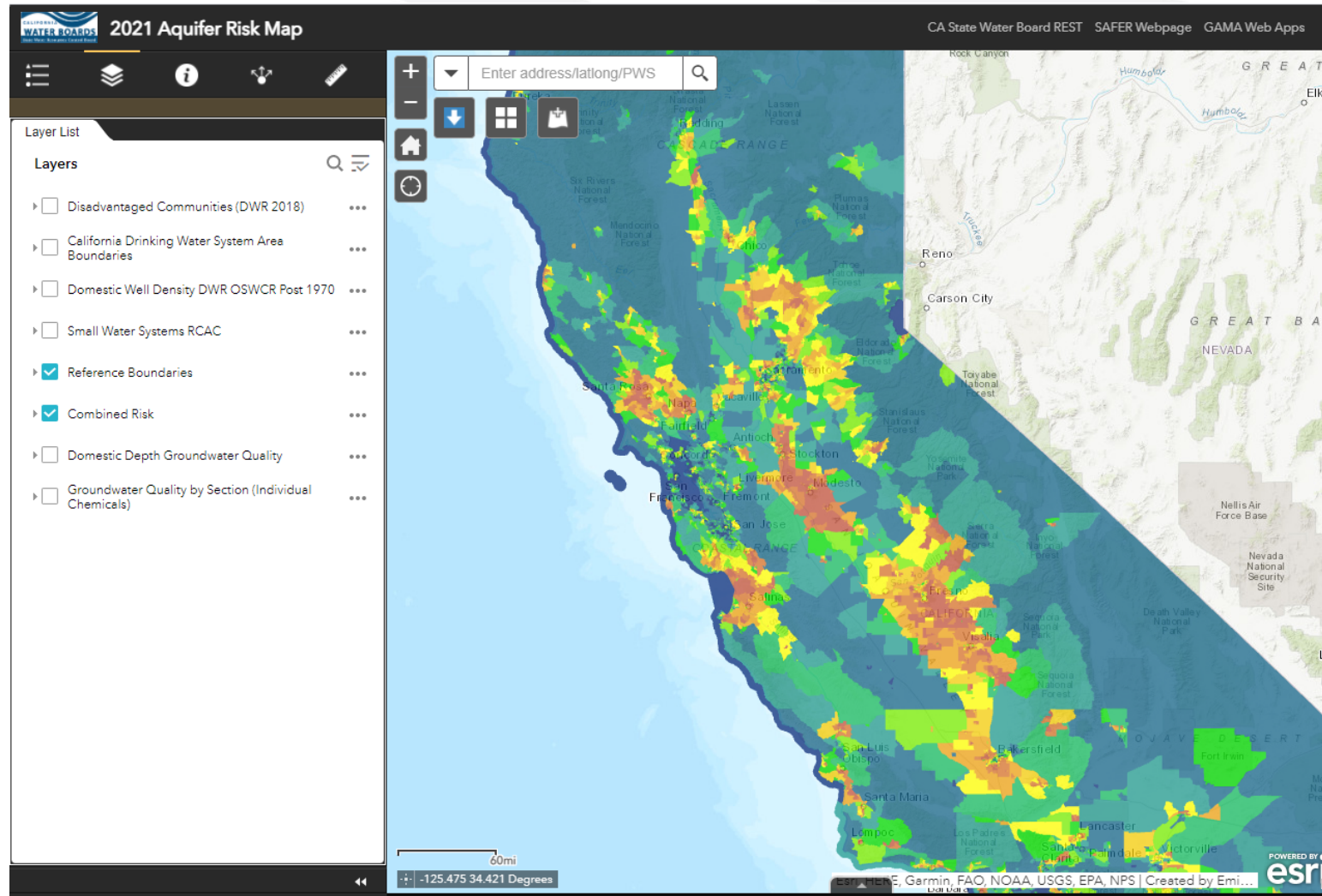
Results by County, State Small Water Systems



Results by County, Domestic Wells



Check out the Aquifer Risk Map Tool



Explore the **Aquifer Risk Map** online and access the raw data:

<https://bit.ly/323KFEZ>

Discussion Topic: Risk Assessment

Do you have any questions or comments about the Risk Assessment Methodology and/or 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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5 Minute Break



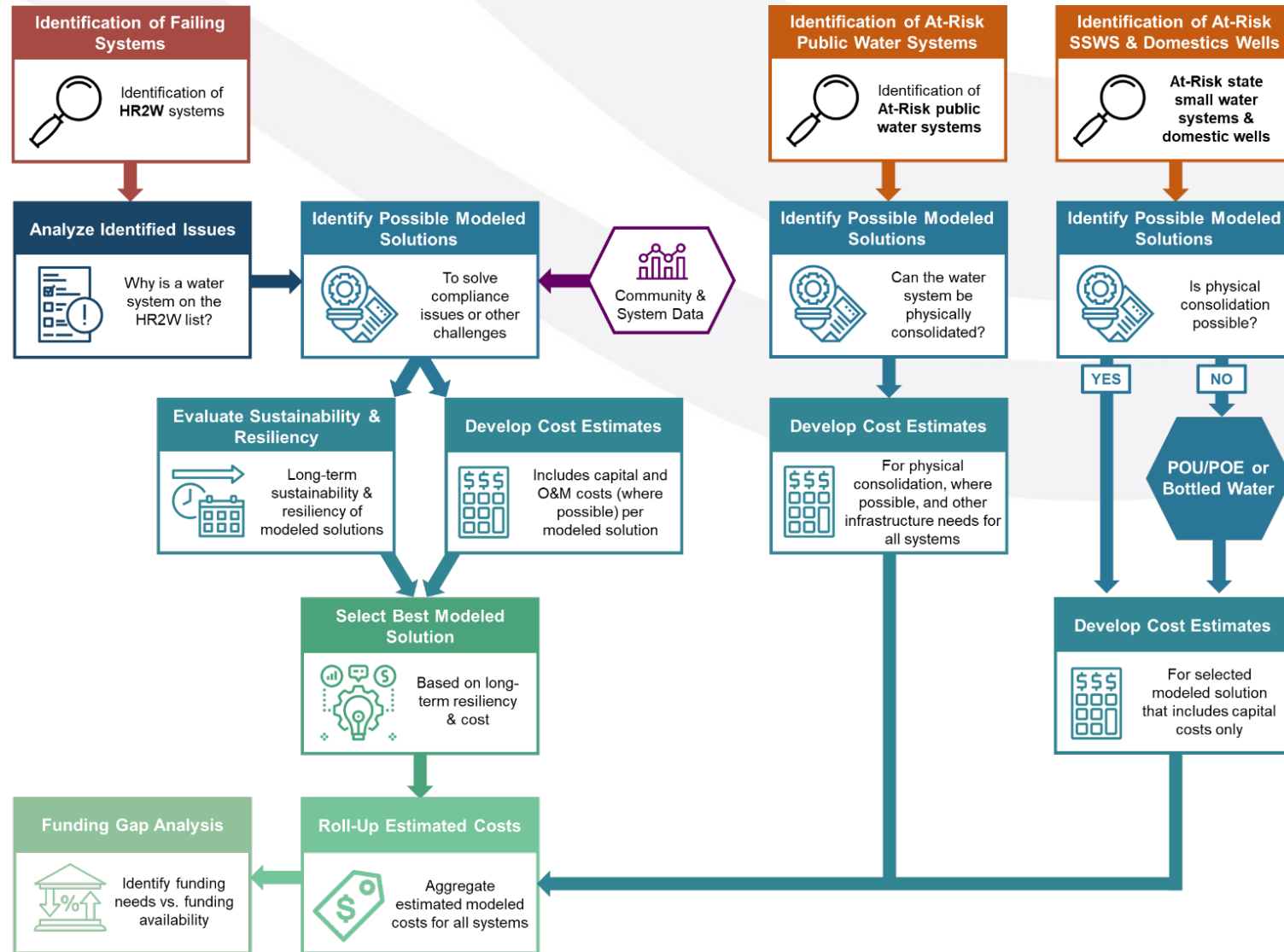
Cost Assessment Model Results

Tarrah Henrie

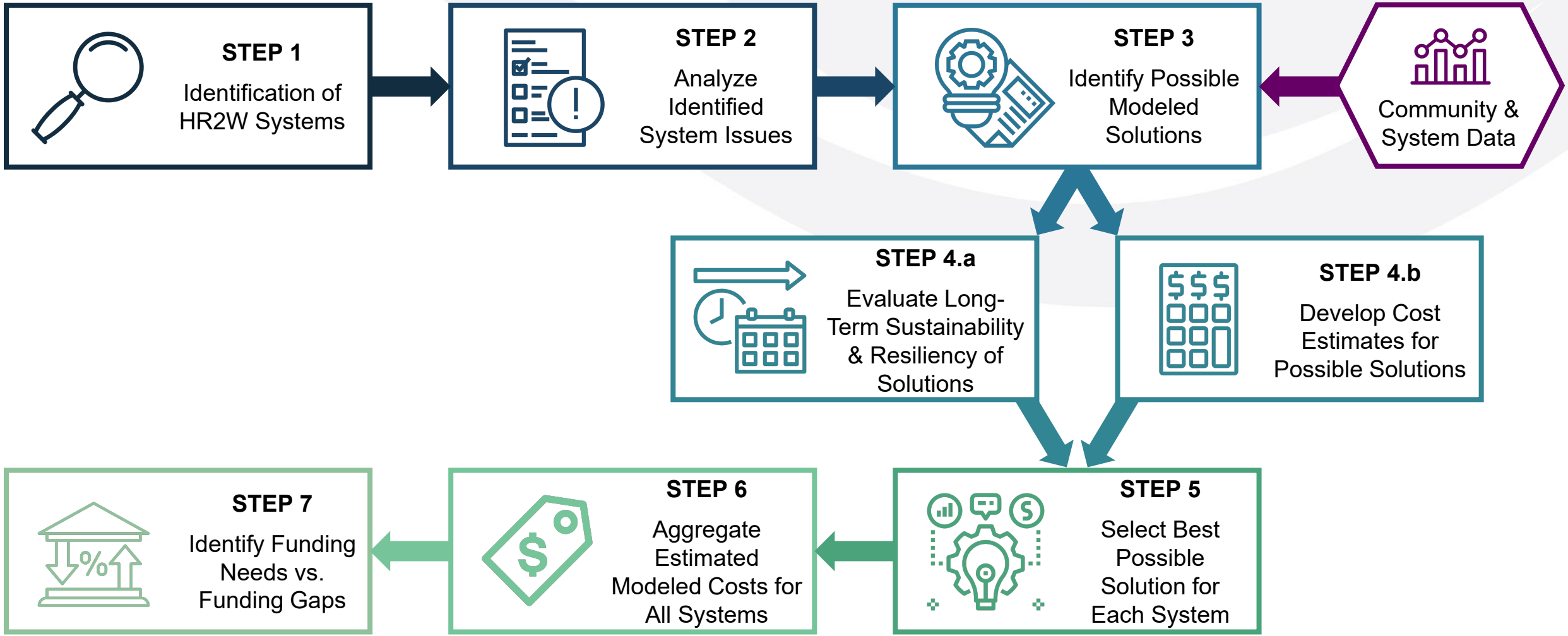
Corona Environmental Consulting



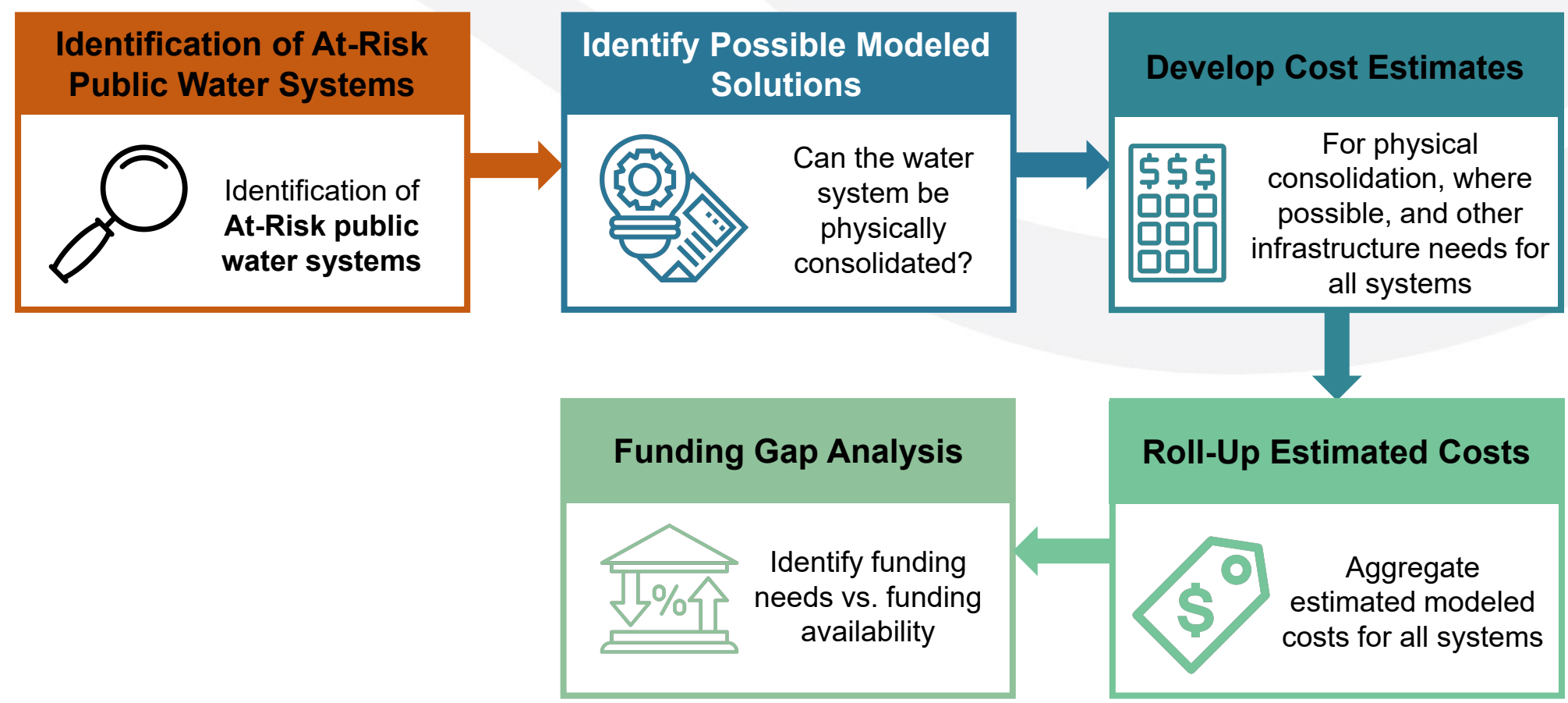
Cost Assessment Model Process Diagram (pg. 235)



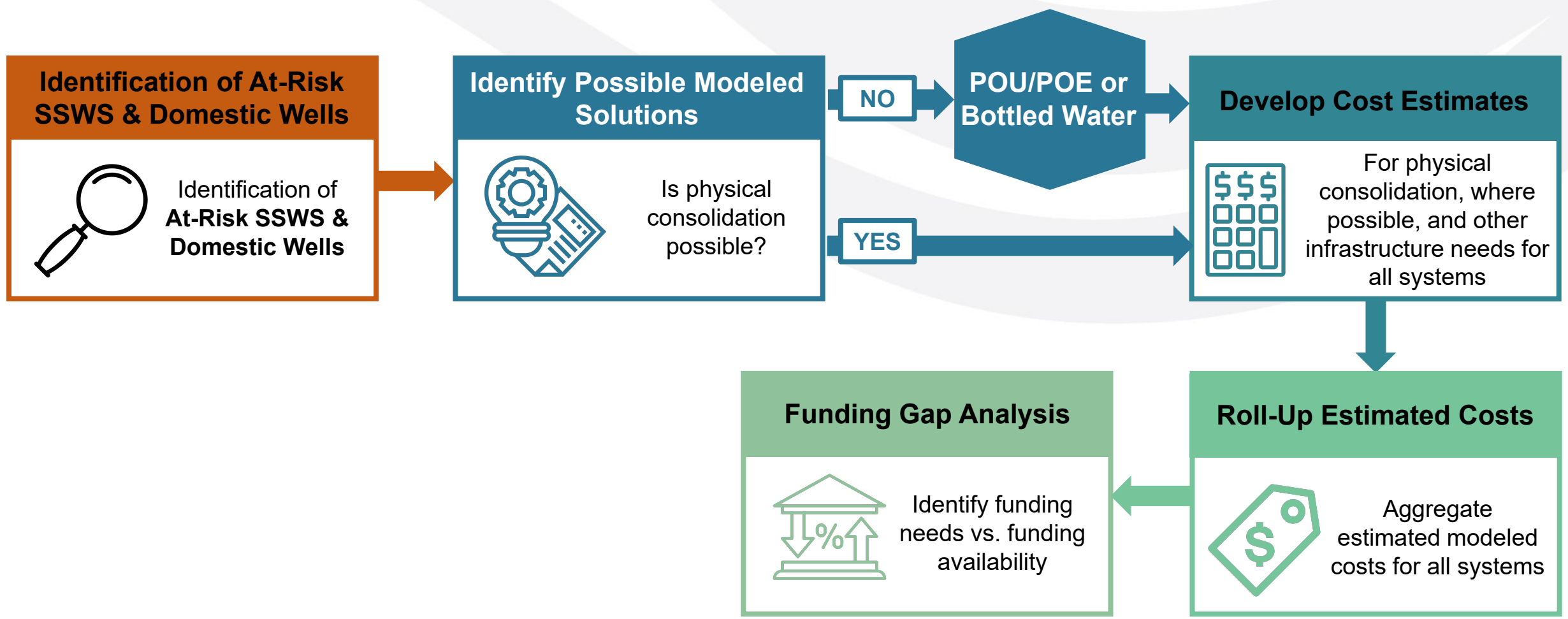
Cost Assessment Model Process for HR2W List Systems



Cost Assessment Model Process for At-Risk Public Water Systems



Cost Assessment Model Process for At-Risk State Small Water Systems (SSWS) and Domestic Wells

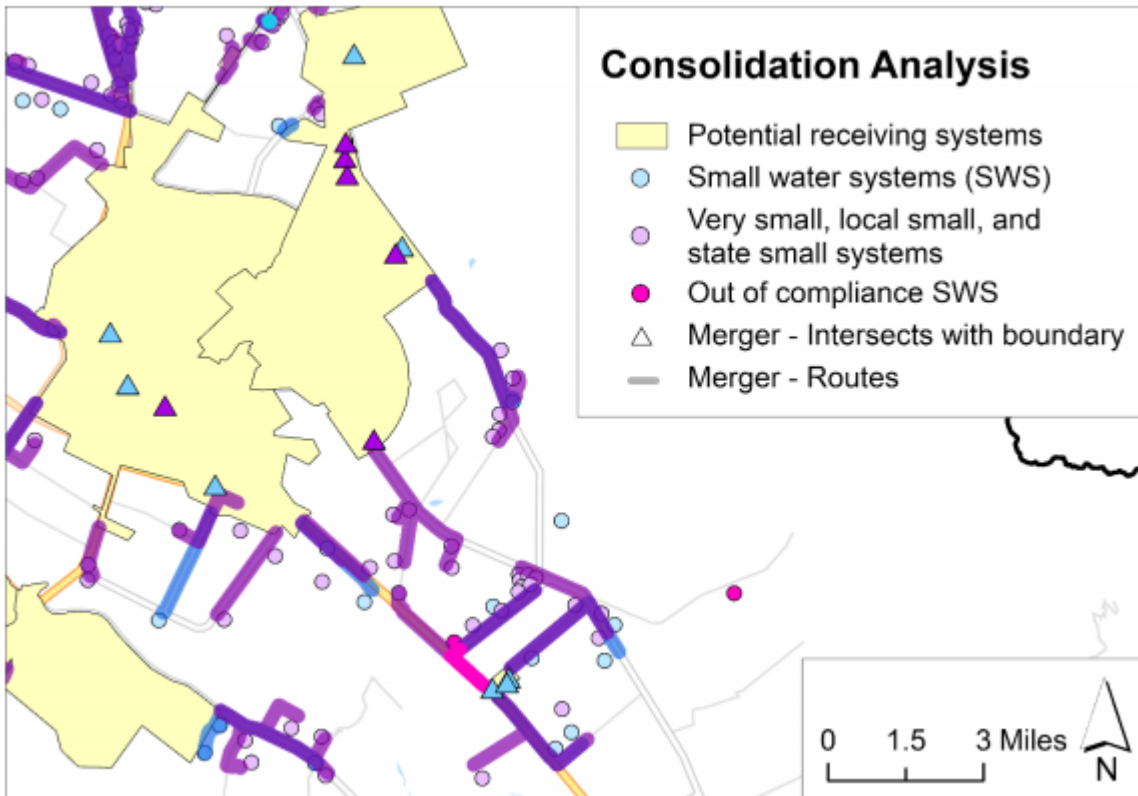


Potential Model Solutions Considered for HR2W List Systems

- Physical Consolidation
- Centralized Treatment
- Point of Use / Point of Entry
- Other Essential Infrastructure (i.e. storage tanks, new wells, upgraded electrical, distribution replacement, etc.)
- Operations & Maintenance (O&M)
- Interim or Emergency Solutions
- Technical Assistance



Physical Consolidation Modeling



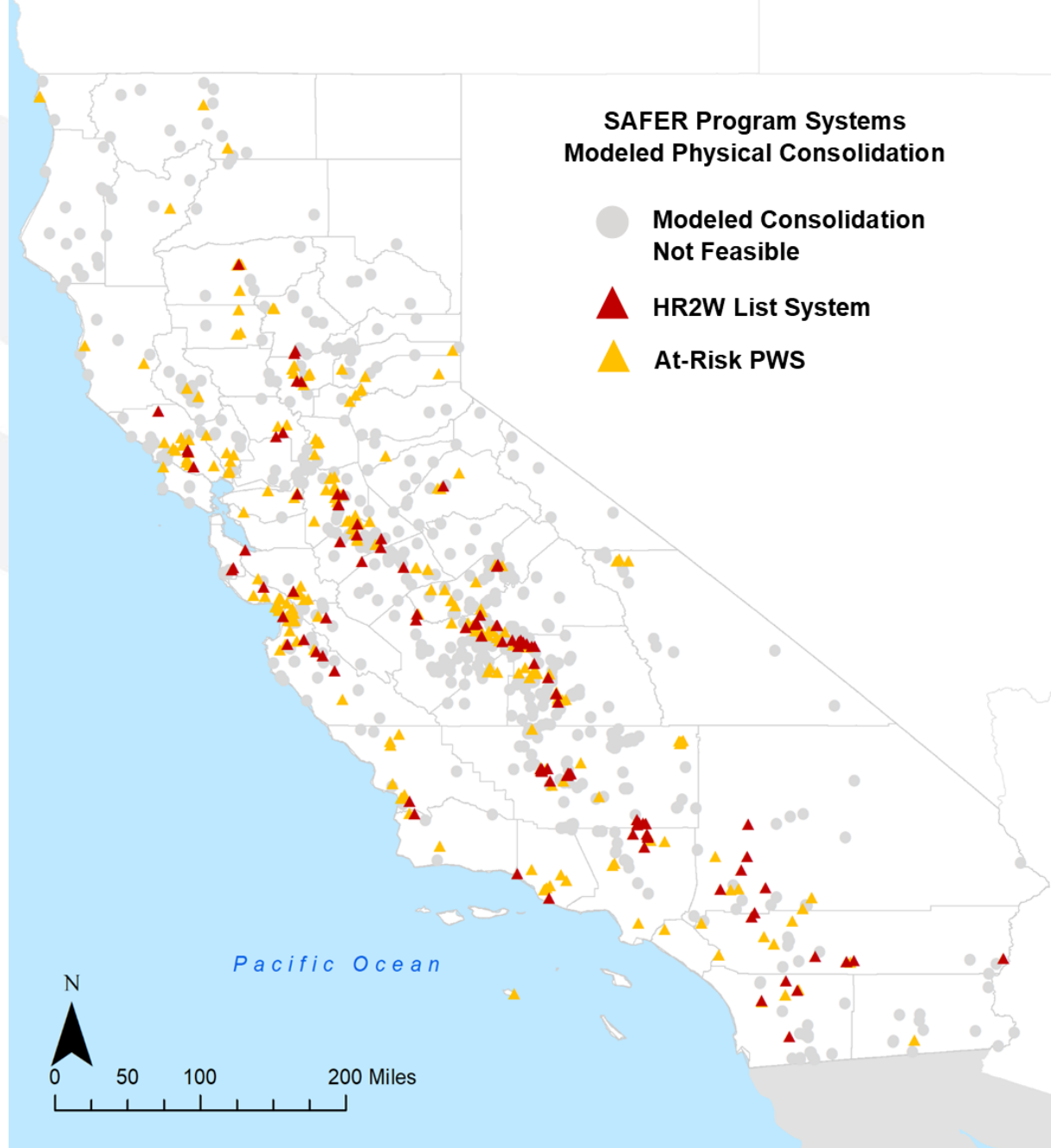
Feasibility of one-to-one physical consolidation was based on connection to a nearby larger non-HR2W public water system within a maximum of a **3-mile area along public access roads**.

SSWSs and **domestic wells** were analyzed for consolidation costs only if they were **along the pipeline path** of another HR2W list or an At-Risk consolidation.

Potential Consolidation Map

Physical consolidation (one-to-one) was considered as a *potential solution* for **107 HR2W** list systems and **234 At-Risk** public water systems.

Significant potential cost savings can occur with **regionalization** as opposed to one-to-one consolidations. However, this analysis was not included in the aggregated cost estimate due to unknowns about boundary challenges and community acceptance.



Number of Potential Solutions Considered by System Type

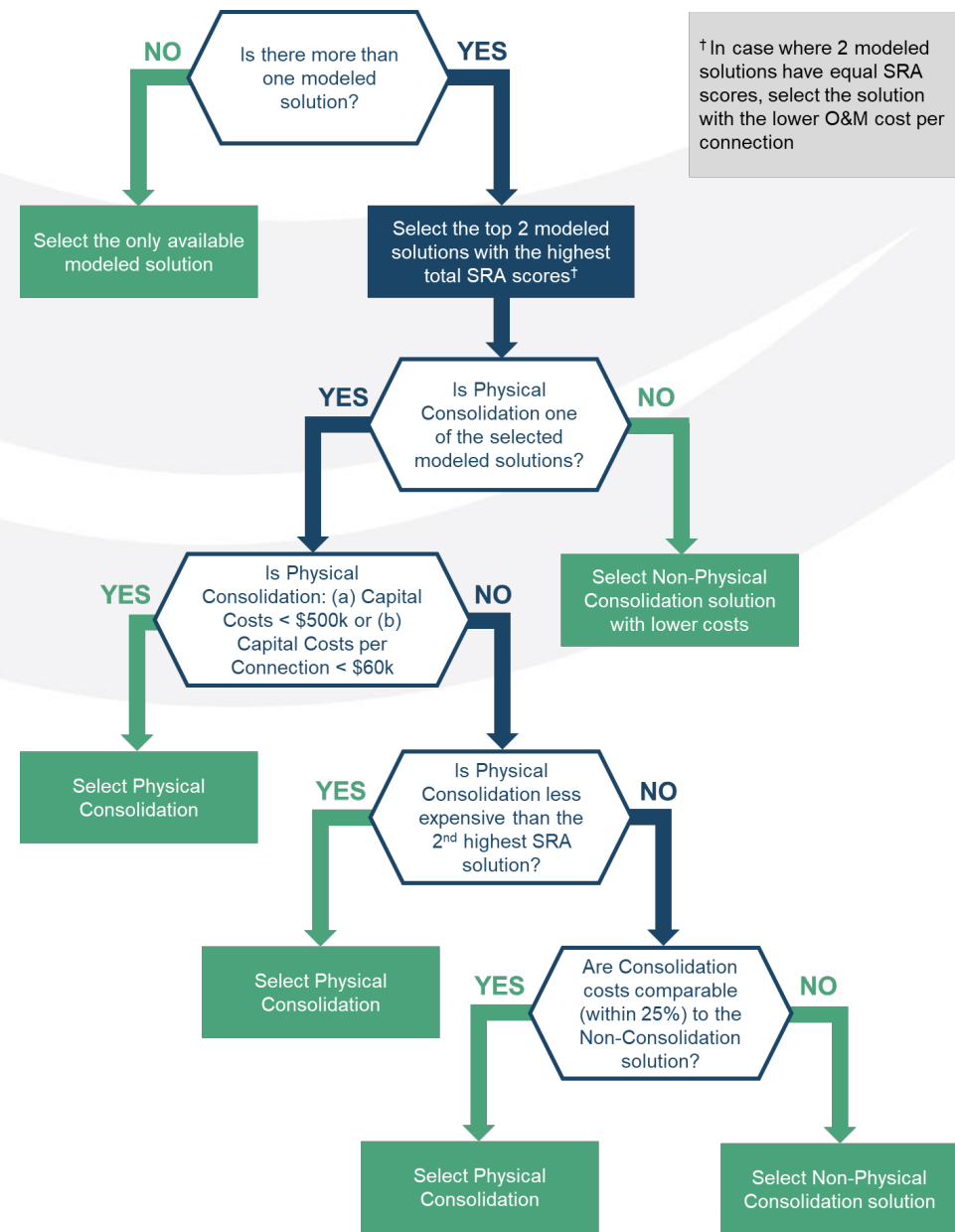
System Type	# of Systems	Treatment	Physical Consolidation	POU/POE	Other Essential Infrastructure & Technical Assistance
HR2W List	305	305 (100%)	107 (35%)	194 (64%)	305 (100%)
At-Risk PWS	630	N/A	234 (37%)	N/A	630 (100%)
At-Risk SSWS	455	N/A	262 (58%)	455 (100%)	N/A
At-Risk Domestic Wells	62,607	N/A	25,696 (41%)	62,607 (100%)	N/A

Selecting the Best Potential Model Solution for HR2W List Systems (pg. 270)

Model assessed **BOTH** the long-term **sustainability and resiliency** of each potential model solution per system and **estimated cost**.

Sustainability and Resiliency Assessment (SRA) analyzed:

- O&M Costs per Connection
- Relative Operational Difficulty
- Operator Training Requirements
- Waste Stream Generation



Number of Selected Model Solutions by System Type

System Type	# of Systems	Treatment	Physical Consolidation	POU/POE	Other Essential Infrastructure & Technical Assistance	No Solution
HR2W List	305	138 (45%)	61 (20%)	106 (35%)	305 (100%)	0
At-Risk PWS	630	N/A	145 (23%)	N/A	630 (100%)	0
At-Risk SSWS	455	N/A	142 (31%)	303 (67%)	N/A	10 (2%)
At-Risk Domestic Wells	62,607	N/A	25,696 (41%)	36,911 (59%)	N/A	0

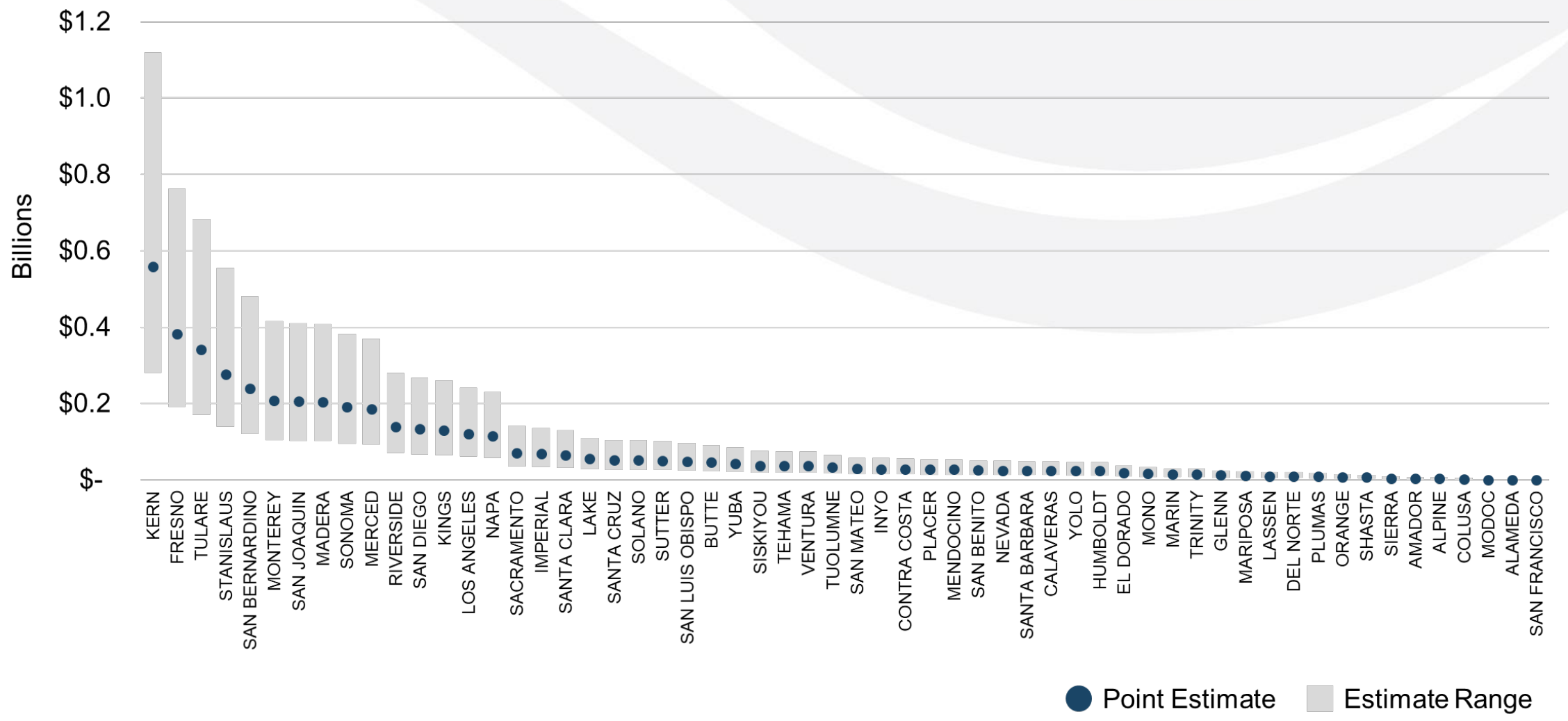
Estimated Capital Costs by System Type

System Type	# of Systems	Total Capital Cost Range
HR2W List	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

Estimated HR2W Capital Costs by System Size (number of service connections)

System Type	3,300+	3,300 – 1,001	1,000 – 501	500 – 101	100 or less
HR2W List	\$4,900	\$6,800	\$11,700	\$18,200	\$86,900
HR2W List Annual O&M	\$230	\$320	\$560	\$300	\$910

Total Long-Term Capital Costs by County



● Point Estimate ■ Estimate Range

Annual Long-Term O&M for HR2W List Systems

Cost Type	Treatment	POU/ POE	O&M Point Estimate Total	O&M Range Total
Total Cost	\$52.4 M	\$1.60 M	\$54.1 M	\$24.0 M - \$108 M
Average Cost Per Connection	\$780	\$1,500	\$2,280	\$1,140 - \$4,560

Estimated Interim Assistance Costs

System Type	Total Systems Analyzed	Total First Year Cost Estimate	NPW Cost of Duration* of Interim Solution
HR2W list	343	\$216 M	\$1,000 M
At-Risk SSWS	496	\$18 M	\$35 M
At-Risk Domestic Wells	59,370	\$280 M	\$547 M
TOTAL:		\$514 M	\$1,580 M

* 6 years for HR2W list systems and 9 years for At-Risk SSWS and domestic wells

Tribal Water System Cost Estimate

The total estimated **capital costs** to address both the tribal equivalent HR2W list and At-Risk is **\$98.3 million**.

The estimated **O&M cost** for the three tribal water systems associated with a treatment solution for equivalent HR2W list systems is **\$152,000 per year**, or \$10 million dollars for 20 years.

The total estimated 6-year tribal **emergency/interim** equivalent estimated costs were **\$6.7 million**.

These cost estimates were NOT included in the Funding and Financing Gap Analysis.

Funding & Financing Gap Analysis

Morgan Shimabuku

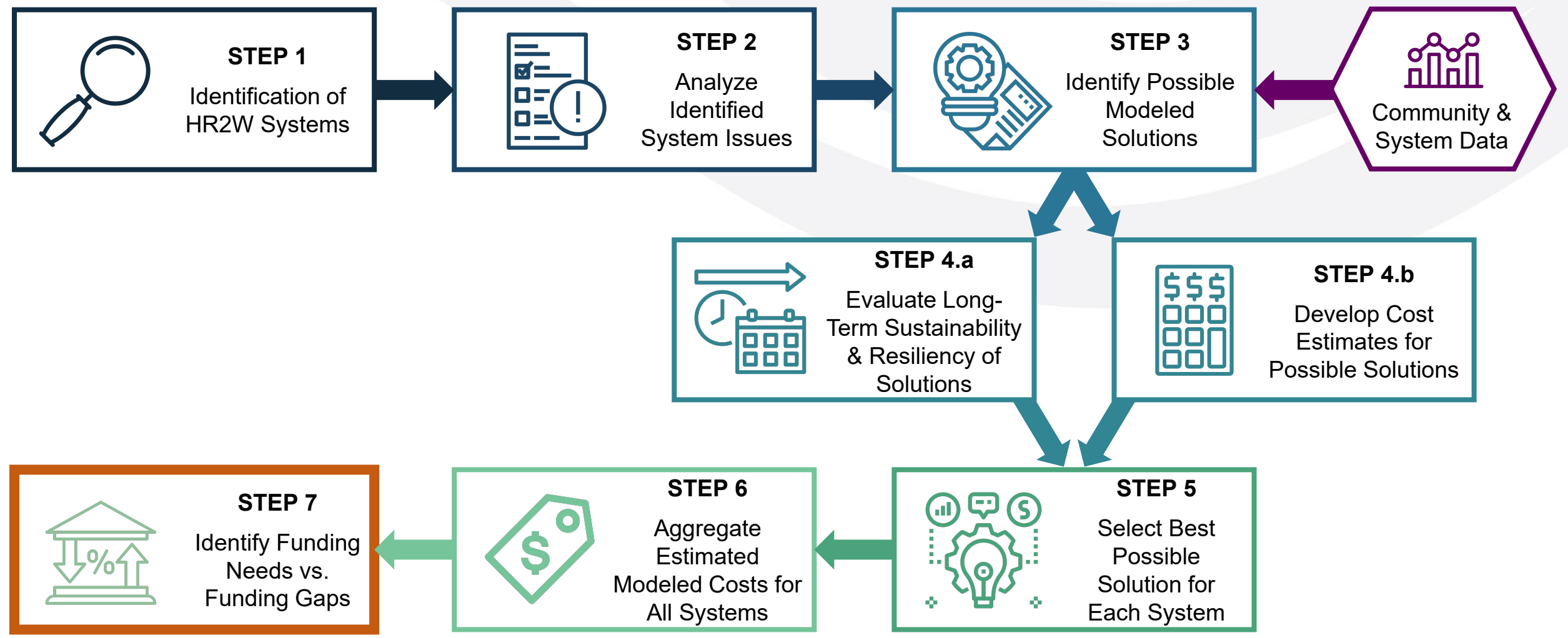
Pacific Institute



CALIFORNIA WATER BOARDS

SAFER PROGRAM

Cost Assessment Model Process for HR2W Systems: Step 7



Funding Gap Analysis Objectives



Refine the estimated funding needed for modeled solutions for HR2W and At-Risk systems; and

Estimate the gap between the estimated needs and funding/financing availability.

These results help the State Water Board inform the broader demands of the SAFER Program as well as the annual funding needs for the Safe and Affordable Drinking Water Fund.

Overview of the Funding Gap Analysis Methodology

STEP 1

Determine Estimated Funding Needs and Funding Availability

Estimated Funding Needs

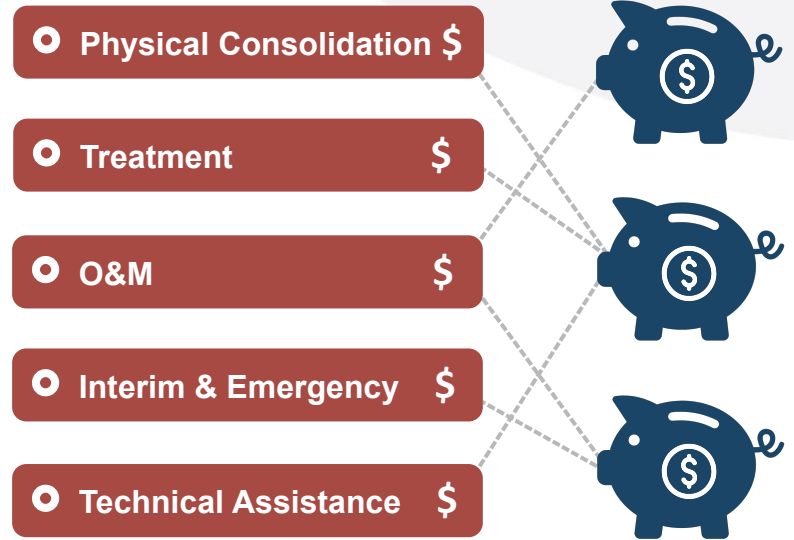


Estimated Funding Availability



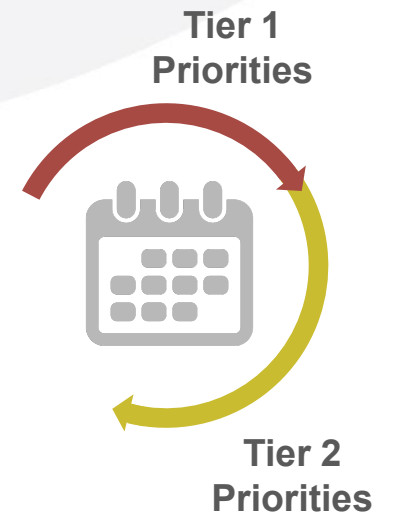
STEP 2

Match Estimated Funding Needs to Funding Programs



STEP 3

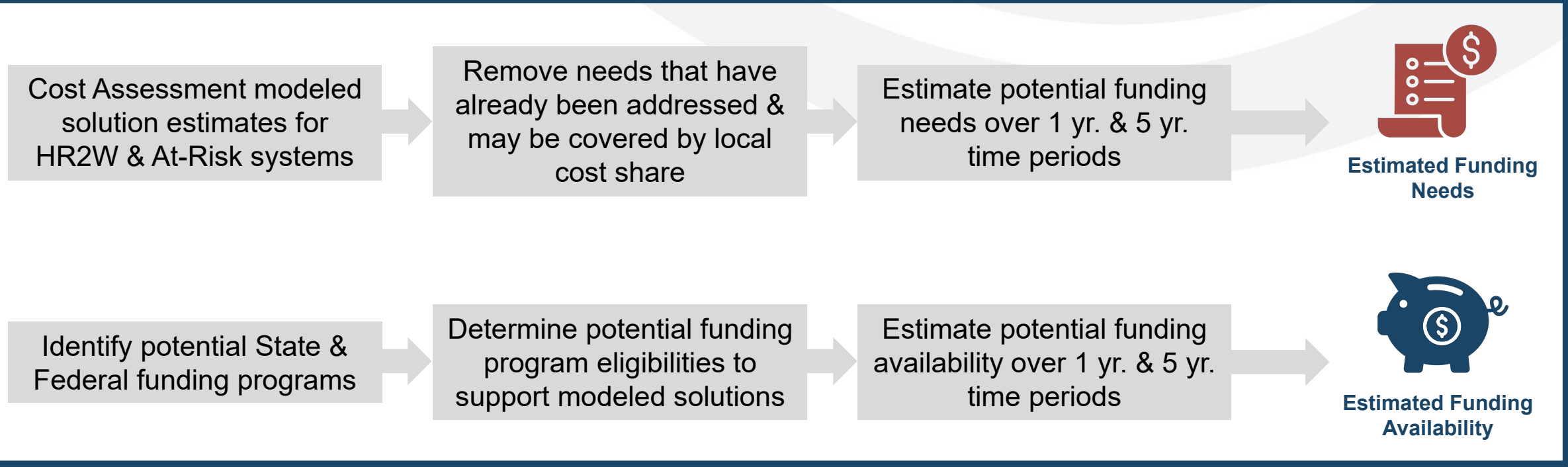
Determine Funding Gaps & Estimate Time to Meet Funding Needs



Funding Gap Analysis Methodology: Step 1

STEP 1

Determine Estimated Funding Needs & Funding Availability



Cumulative Projected Number of Systems

5-Year Inventory of Projected Projects

System Type	2021	Projected* 5-Year Total
HR2W list	326	540 (47 new/yr.)
At-Risk PWS	617	1,200 (95 new/yr.)
At-Risk SSWSs	611	611 (no change)
At-Risk domestic wells	78,000	78,000 (no change)

* Projected “new” HR2W list and At-Risk systems are assigned the same proportion of modeled cost needs and community economic status.

Developing Refined 5-Year Cost Estimates (1/4)



GRANT ELIGIBLE



NOT GRANT ELIGIBLE
(Local Cost Share)

Total Long-Term Solution Cost
(Capital and O&M)

Grant eligibilities are based on **established** State Water Board policies that examine project needs, community size, and community economic status (DAC/SDAC).

Developing Refined 5-Year Cost Estimates (2/4)



Total Long-Term Solution Costs
NOT GRANT ELIGIBLE
(Local Cost Share)



STATE WATER BOARD (SWB) LOAN ELIGIBLE



NOT SWB LOAN ELIGIBLE

Loan eligibilities are based on established State Water Board policies that examine project needs, community size, and community economic status (DAC/SDAC).

Developing Refined 5-Year Cost Estimates (3/4)

Additional Solution Implementation Costs:

- Capital costs met by a SWB or private loan will have **interest payment costs.**
- **O&M costs** (not covered by grant)



Total Long-Term Solution Costs
NOT GRANT ELIGIBLE

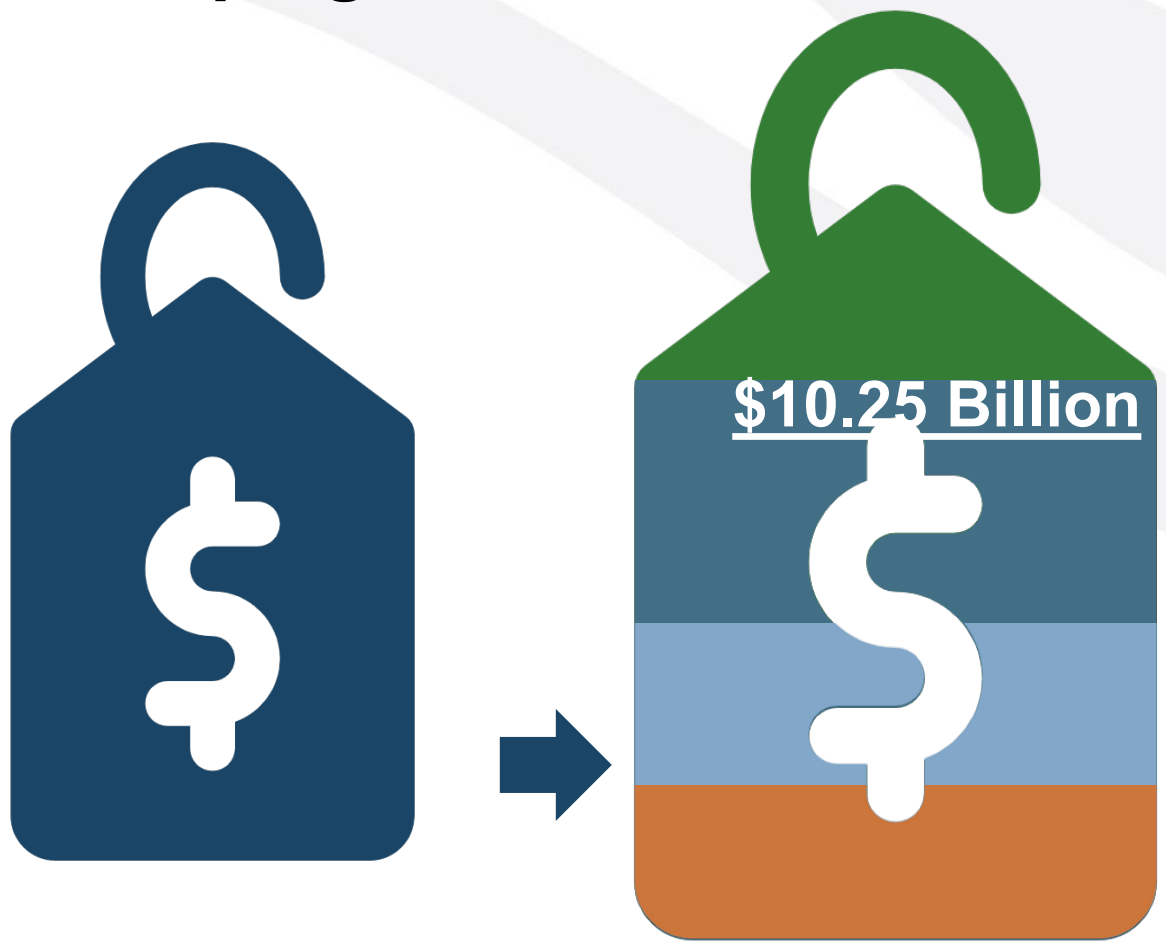


Local Cost Share



**Additional Solution
Implementation Costs
(Local Cost Share)**

Developing Refined 5-Year Cost Estimates (4/4)



Total 5-Year Unrefined Long-Term & Interim Solution Costs

Total 5-Year Refined Long-Term & Interim Solutions Costs

Grant Eligible Costs: \$3.25 Billion
 Solutions implementation costs potentially covered by SWB.

Local Cost Share = \$7 Billion
 Solution implementation costs borne by water system customers or private well owners.

- **\$4.05 Billion Eligible for SWB Loans**
- **\$2.95 Billion Not Eligible for SWB Loans** (capital costs, includes O&M, interest payments)

5-Year Funding and Financing Availability (\$ in Millions)

State Water Board Fund	Yr. 1 Est. Fund Size	Cumulative Est. 5-Yr. Fund Size
Safe and Affordable Drinking Water Fund (SADWF) (Grant)	\$137	\$593
Drinking Water State Revolving Fund (DWSRF) (Grant)	\$120	\$320
<i>DWSRF Loan Capacity</i>	<i>\$ 300</i>	<i>\$ 1,500</i>
Small Community Drinking Water Funding Program (Grant)	\$275	\$275
Emergency Drinking Water/Cleanup & Abatement Account Programs – Urgent Drinking Water Needs Projects (Grant)	\$9	\$9
Water Board Household & Small Water System Drought Assistance Program; CAA – DW Well Replacement Program (Grant)	\$0.861	\$0.861
Water System Administrator Program (Grant)	\$8	\$8
TOTAL:	\$850 M	\$2,710 M

Estimating Funding Availability: Non-SWRCB Funds

Non-SWRCB loan and grant programs that may be available to support SAFER projects have been identified (pg. 293)

A rough estimate of the aggregate, non-SWRCB funds potentially available to leverage with SWRCB funding in the future is provided.

Non-SWRCB funds were not incorporated into the Gap Analysis.

U.S. EPA

U.S. USDA

DWR

USBR

Funding Gap Analysis Methodology: Step 2

STEP 2

Match Estimated Funding Needs to Funding Programs

- HR2W & At-Risk**
- Physical Consolidation \$
- Treatment \$
- O&M \$
- Interim & Emergency \$
- Technical Assistance \$



- HR2W & At-Risk**
- Physical Consolidation \$
- Treatment \$

- DAC/SDAC: HR2W**
- DAC/SDAC: At-Risk**
- Interim & Emergency \$



Funding Gap Analysis Methodology: Step 3

STEP 3

Determine Funding Gaps & Estimate Time to Meet Funding Needs

Funding Gap Based on SAFER Program Priorities

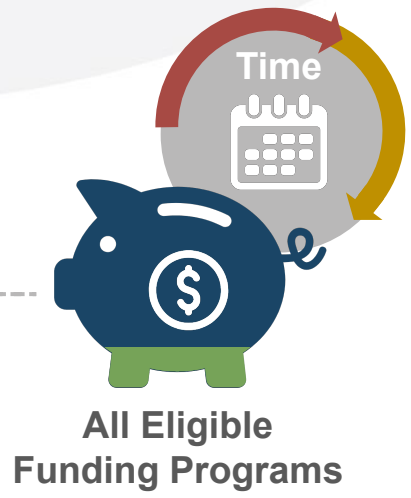
Tier 1 Priorities

- HR2W: Primary Violations \$
- HR2W & At-Risk: Consolidation \$
- Interim & Emergency \$

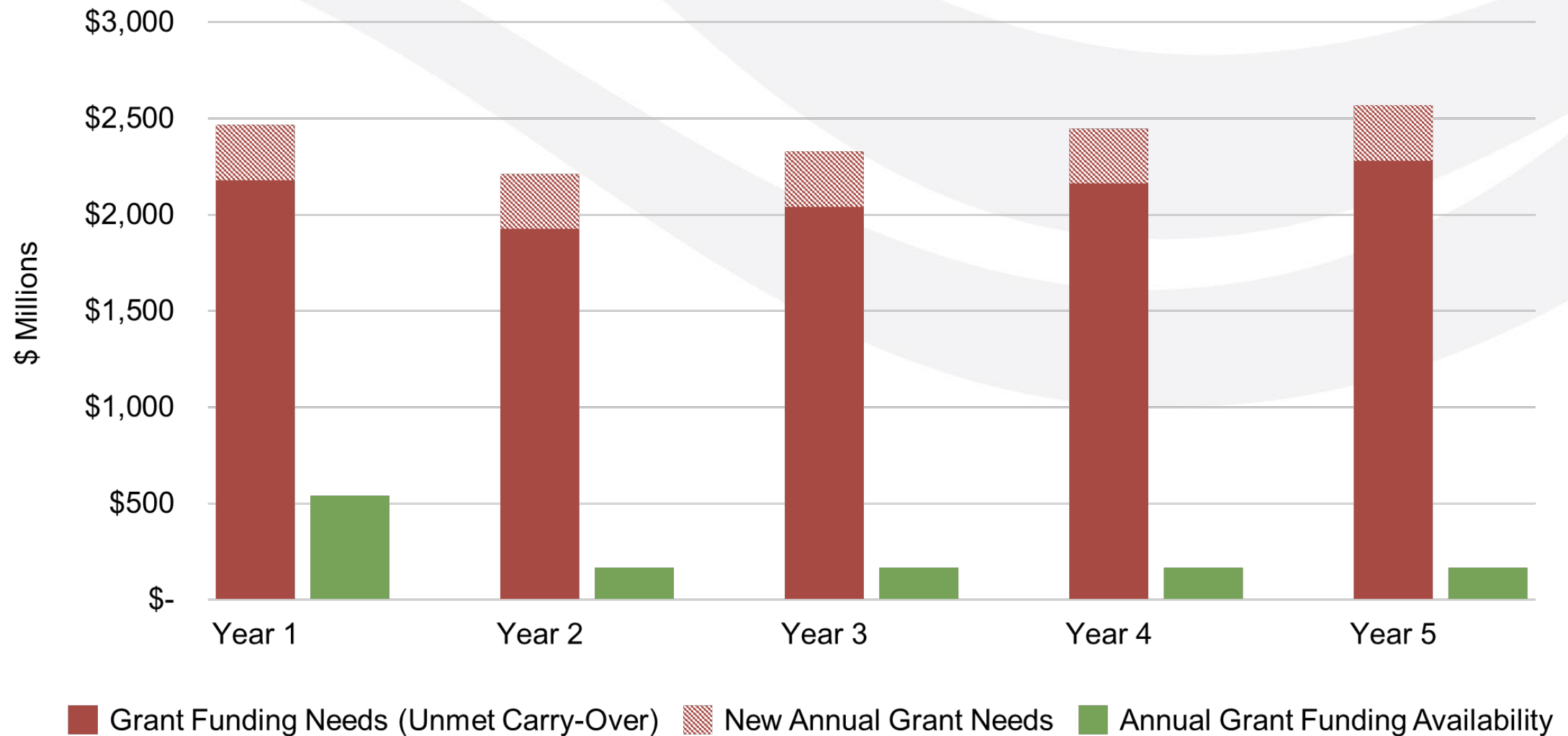


Tier 2 Priorities

- HR2W: Secondary Violations \$
- At-Risk Non-Consolidation \$
- Technical Assistance & O&M \$



5-Year Cumulative Grant Funding Needs & Funding Availability



Funding and Financing Gap Analysis Results Summary

When compared to the 5-year State Water Board grant and loan funds availability (\$2.7 billion), there is a:

- Grant funding gap of **\$2.05 billion**; and
- Financing (loan) gap of **\$2.55 billion**.
- \$2.95 billion is not eligible for State Water Board loan or grant.

However; it is important to highlight that some of these needs may be met by other State and Federal funding programs. These programs have their own eligibility requirements and are outside the control of the State Water Board.

Discussion Topic: Cost Assessment & Gap Analysis

Do you have any questions or comments about the Cost Assessment & Gap Analysis Methodology and/or 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.

Affordability Assessment Results

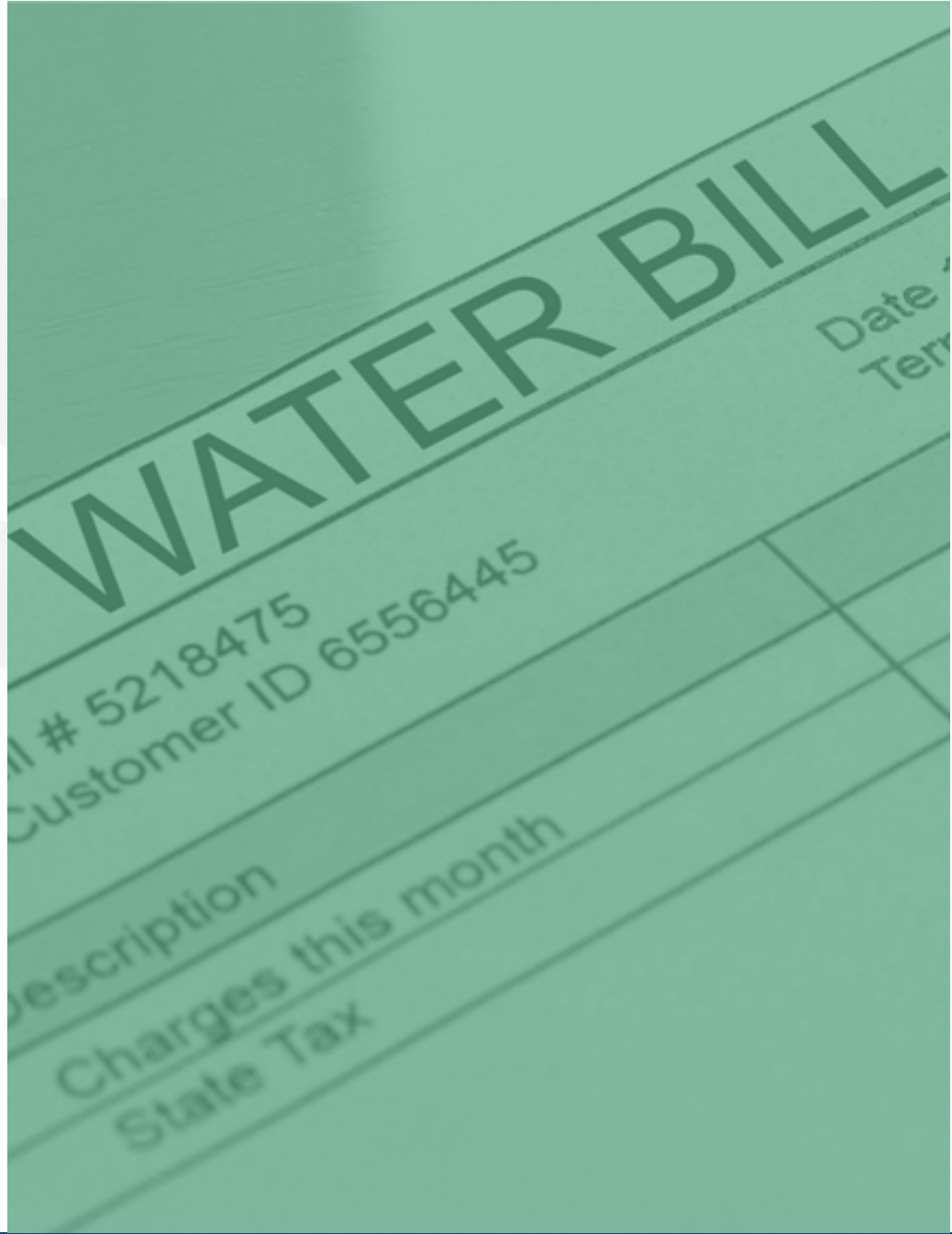
Kristyn Abhold
Needs Analysis Unit, SAFER Section
Division of Drinking Water
State Water Resources Control Board



Affordability Assessment Purpose

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.

Legislation does not define what the Affordability Threshold should be. Nor is there specific guidance on the perspective in which the State Water Board should be assessing the Affordability Threshold.



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.

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.

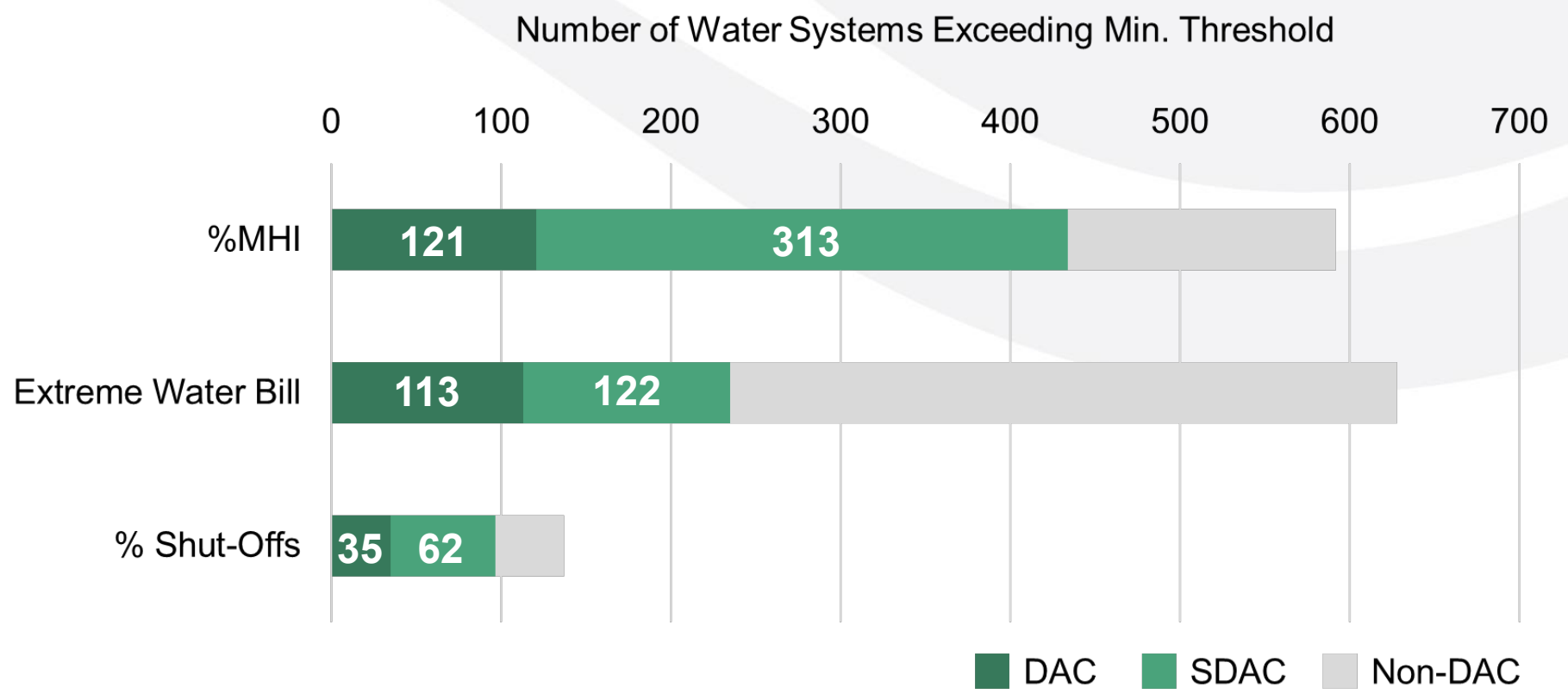
% Shut-Offs: 10% or more of a water system's residential customer base experienced service shut-offs due to non-payment in 2019.

Water Systems Assessed: Community Water Systems


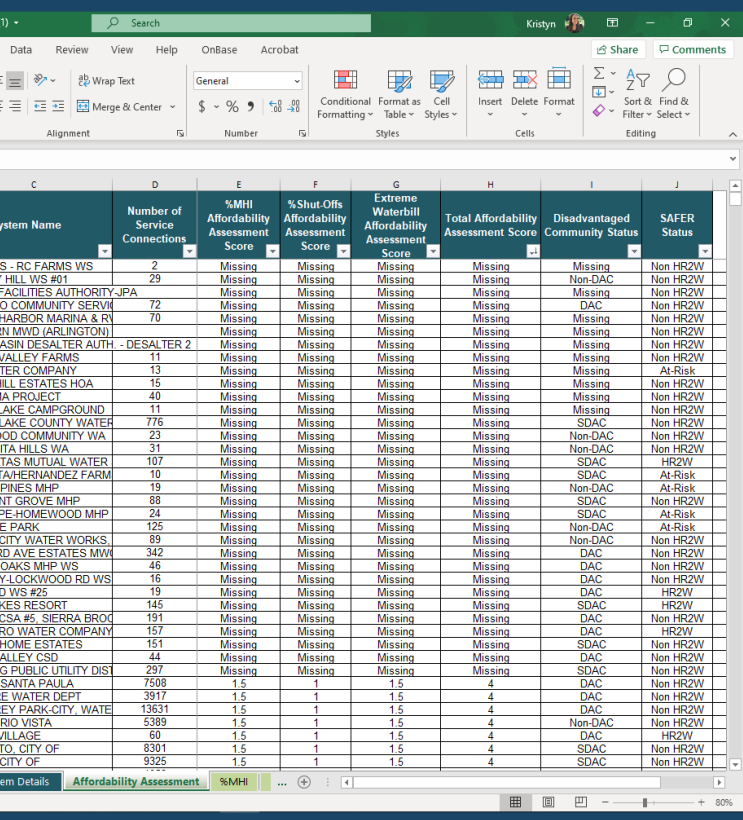
SAFER Program Status	Risk Assessment	Affordability Assessment
HR2W List System	326	276
At-Risk Public Water System	617	467
Not HR2W or At-Risk System	1,836	2,134
TOTAL:	2,779	2,877

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

Results per Affordability Indicator, Exceeding Min. Affordability Threshold



Access the Affordability Assessment Results and Raw Data

System Name	Number of Service Connections	%MHI Affordability Assessment Score	%Shut-Offs Affordability Assessment Score	Extreme Waterbill Affordability Assessment Score	Total Affordability Assessment Score	Disadvantaged Community Status	SAFER Status
S - RC FARMS WS	2	Missing	Missing	Missing	Missing	Missing	Non HR2W
T HILL WS #01	29	Missing	Missing	Missing	Missing	Missing	Non HR2W
FACILITIES AUTHORITY-JPA	72	Missing	Missing	Missing	Missing	Missing	Non HR2W
O COMMUNITY SERV	70	Missing	Missing	Missing	Missing	DAC	Non HR2W
MIDDLE HARBOR MARINA & RY	70	Missing	Missing	Missing	Missing	Missing	Non HR2W
WESTERN MWD (ARLINGTON)	29	Missing	Missing	Missing	Missing	Missing	Non HR2W
CHIVO BASIN DESALTER AUTH - DESALTER 2	11	Missing	Missing	Missing	Missing	Missing	Non HR2W
BENITO VALLEY FARMS	11	Missing	Missing	Missing	Missing	Missing	Non HR2W
RAY WATER COMPANY	13	Missing	Missing	Missing	Missing	Missing	At-Risk
CHALK HILL ESTATES HOA	15	Missing	Missing	Missing	Missing	Missing	Non HR2W
CACHUMA PROJECT	40	Missing	Missing	Missing	Missing	Missing	Non HR2W
HOLEY LAKE CAMPGROUND	11	Missing	Missing	Missing	Missing	Missing	Non HR2W
LOWER LAKE COUNTY WATER	776	Missing	Missing	Missing	Missing	SDAC	Non HR2W
LEAFWOOD COMMUNITY WA	23	Missing	Missing	Missing	Missing	Non-DAC	Non HR2W
MANZANITA HILLS WA	31	Missing	Missing	Missing	Missing	Non-DAC	Non HR2W
LAS DELTAS MUTUAL WATER	107	Missing	Missing	Missing	Missing	SDAC	HR2W
MURRIETA/HERNANDEZ FARM	10	Missing	Missing	Missing	Missing	SDAC	At-Risk
SUTTER PINES MHP	19	Missing	Missing	Missing	Missing	Non-DAC	At-Risk
PLEASANT GROVE MHP	88	Missing	Missing	Missing	Missing	SDAC	Non HR2W
ANTELOPE-HOMEWOOD MHP	24	Missing	Missing	Missing	Missing	SDAC	At-Risk
OAKVALE PARK	125	Missing	Missing	Missing	Missing	Non-DAC	At-Risk
SIERRA CITY WATER WORKS	89	Missing	Missing	Missing	Missing	Non-DAC	Non HR2W
VINEYARD AVE ESTATES MWA	342	Missing	Missing	Missing	Missing	DAC	Non HR2W
VALLEY OAKS MHP WS	46	Missing	Missing	Missing	Missing	DAC	Non HR2W
BRADLEY-LOCKWOOD RD WS	16	Missing	Missing	Missing	Missing	DAC	Non HR2W
RIVER RD WS #25	19	Missing	Missing	Missing	Missing	DAC	HR2W
TWIN LAKES RESORT	145	Missing	Missing	Missing	Missing	SDAC	HR2W
SIERRA CSA #6- SIERRA BROG	191	Missing	Missing	Missing	Missing	DAC	Non HR2W
CAZADERO WATER COMPANY	157	Missing	Missing	Missing	Missing	DAC	HR2W
MOBILE HOME ESTATES	151	Missing	Missing	Missing	Missing	SDAC	Non HR2W
LITTLE VALLEY CSD	44	Missing	Missing	Missing	Missing	DAC	Non HR2W
HERLONG PUBLIC UTILITY DIST	297	Missing	Missing	Missing	Missing	SDAC	Non HR2W
CITY OF SANTA PAULA	7508	1.5	1	1.5	4	DAC	Non HR2W
FILLMORE WATER DEPT	3917	1.5	1	1.5	4	DAC	Non HR2W
MONTEREY PARK-CITY WATE	13631	1.5	1	1.5	4	DAC	Non HR2W
CITY OF RIO VISTA	5389	1.5	1	1.5	4	Non-DAC	Non HR2W
ALPINE VILLAGE	60	1.5	1	1.5	4	DAC	HR2W
ADELANTO CITY OF	8301	1.5	1	1.5	4	SDAC	Non HR2W
HEMET CITY OF	9325	1.5	1	1.5	4	SDAC	Non HR2W

Download the **Affordability Assessment Results Spreadsheet:**

<https://bit.ly/3d3jmkC>

This spreadsheet will be updated periodically with data refreshes.

Water System Data Change Request

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

<https://bit.ly/3t9XgTg>

Requests will be reviewed by State Water Board staff.

The screenshot shows a web form titled "Needs Assessment Data Change Request Form" with the California Water Boards logo. The form includes a header with the logo and title, a purpose statement, a greeting, and a list of required fields with input boxes. The fields are: 1. PWSID, 2. Water System Name, 3. First Name, Last Name, 4. Job Title, 5. Email Address, and 6. Phone Number.

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 *

Enter your answer

4. Job Title *

Enter your answer

5. Email Address *

Enter your answer

6. Phone Number

Conclusions

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.



Needs Assessment Refinement Opportunities

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



Next Steps and Announcements

SAFER Timeline*

April - June

4/20 Board Update: Needs Assessment

4/22 Advisory Group Mtg.

5/27 SAFER Summer Series Kick-Off

6/TBD Draft FEP Released

6/8 Tribal Workshop: Central CA

6/10 Advisory Group Mtg.

6/17 Tribal Workshop: North. CA

6/17 Community Workshop

6/22 Tribal Workshop: South. CA

July - September

7/TBD FEP Finalized

7/6 Advisory Group Application Window Opens

8/4 Advisory Group Application Workshop

8/17 Board Considers Adoption of FEP

9/16 Advisory Group Mtg.

9/30 Advisory Group Application Window Closes

October - December

10/TBD Stakeholder Affordability Discussions

11/18 Advisory Group Mtg.

12/TBD Advisory Group Members Selected

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

Immediate Next Steps

- Water system data change requests:
 - <https://bit.ly/3t9XgTg>
- General feedback on the Needs Assessment results and methodologies:
 - 2021 Drinking Water Needs Assessment: <https://bit.ly/3mAz2yK>
 - Submit feedback to: SAFER@waterboards.ca.gov
 - Please submit feedback on the report by **07.01.2021**
 - Respond to survey questions here: <https://bit.ly/2OH58wm>

Audience Poll Question 3

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

- Yes
- No
- Maybe, I haven't looked at them yet

Risk Assessment Results Spreadsheet: <https://bit.ly/3d0XxSF>

Affordability Assessment Results Spreadsheet: <https://bit.ly/3d3jmkC>

Discussion Topic: Open Q&A

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:

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.



THANK YOU

CALIFORNIA WATER BOARDS

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