Proposed Updates for the 2024 Drinking Water Needs Assessment

Kristyn Abhold
Needs Analysis Unit
Division of Drinking Water

Cap and Trade Dollars at Work

CALIFORNIA Water Boards

Meeting Logistics

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.

Agenda

1. FAILING CRITERIA UPDATES
2. COST ASSESSMENT UPDATES
3. PERLIMINARY COST ASSESSMENT RESULTS
4. RISK & AFFORDABILITY ASSESSMENTS
5. NEXT STEPS

FAILING CRITERIA UPDATE

CALIFORNIA WATER BOARDS

SAFER PROGRAM

Needs Assessment Components

Community Water Systems & K-12 Schools

Small and Medium Community Water Systems; K-12 Schools; SSWS; & DWs

Failing & At-Risk Systems and Domestic Wells

DAC/SDAC Community Water Systems

https://bit.ly/SAFER-NA

Purpose of the Failing List

Community Water Systems &
K-12 Schools

The State Water Board assesses water systems that fail to meet the goals of the Human Right to Water.

Failing water systems are systems that are **out of compliance** or **consistently out of compliance** with drinking water regulations.

SAFER Program Priority Systems: Failing Water Systems

PRIORITY

FAILING WATER SYSTEMS

Community water systems and K-12 public schools that meet the Failing criteria.

AT-RISK WATER SYSTEMS & DOMESTIC WELLS

Public water systems with up to 30,000 service connections and 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 and 100,000 population served, K-12 public schools, state small 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, and domestic wells that are not at-risk of failing.

Failing Water Systems

State Water Board has been tracking failing water systems since 2017.

There are currently **386** Failing systems.

Learn more: https://bit.ly/HR2W-FailingWaterSystems

Current list here: https://bit.ly/SAFER-Dashboard

Expanded Criteria for Failing Water Systems

Criteria	Before 3.2021	4.2021 - Now	Expanded 2024
Primary MCL Violation with an open Enforcement Action	Yes	Yes	Yes
Secondary MCL Violation with an open Enforcement Action	Yes	Yes	Yes
***E. coli* Violation with an open Enforcement Action**	No	Yes	Yes
Treatment Technique Violations (in lieu of an MCL): • One or more Treatment Technique violations (in lieu of an MCL), related to a primary contaminant, with an open enforcement action; and/or • Three or more Treatment Technique violations (in lieu of an MCL), related to a primary contaminant, within the last three years.	Partially	Expanded	Yes
Monitoring and Reporting Violations (related to an MCL and TTs): • Three 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	Expanded
NEW: Source Capacity & Water Outage Violations with an open Enforcement Action	No	No	Yes

Expanded Failing Criteria: Source Capacity & Water Outage Violations

Water systems with a violation and open enforcement action will be added to the Failing water system list.

SDWIS Analyte Data Field Code	Violation Type Code	Description
C277	WW	Water system fails to have adequate source capacity.
C278	WW	Water system fails to have adequate source capacity due to curtailments.
C279	WW	Water system fails to have adequate pressure, leading to outage caused by drought.
C295	WW	Water system fails to have adequate pressure, leading to outage not related to drought.

Expanded Failing Criteria: Additional Modifications to Failing Criteria

The State Water Board proposes **adding**:

- **1** Primary MCL Violation Number
- **5** Treatment Technical Violation Numbers
- **7** Monitoring & Reporting Violation Numbers

The State Water Board proposes **removing**:

- **3** *E. coli* Violation Numbers (historically misused)
- **1** Monitoring & Reporting Violation Number

Expanded Failing Criteria: Additional Violation Codes (1/3)

Failing Criteria	Violation Number	Description
Primary MCL Violation	MP	MCL violation for a water system using POU/POE. This is a failure to properly implement POU/POE and is considered a violation of a variance/exemption granted by the State.
Treatment Technique Violation	11	A violation of the maximum disinfectant residual level (MRDL) for chlorine, chloramine, or chlorine dioxide.
Treatment Technique Violation	13	A violation where the public water system has a daily sample taken at the entrance to the distribution system which exceeds the maximum disinfectant residual level (MRDL) for chlorine dioxide and on the following day, one or more, of the three samples taken in the distribution system exceed the MRDL.
Treatment Technique Violation	40	For public water systems with conventional or direct filtration that recycle flows only, failure to return filter backwash through all treatment elements.

Expanded Failing Criteria: Additional Violation Codes (2/3)

Failing Criteria	Violation Number	Description
Treatment Technique Violation	26	For public water systems with conventional filtration only, failure to meet the disinfection byproduct precursor removal ratio.
Treatment Technique Violation	2E Analyte #: 5200-LCRR	A system fails to complete the initial lead service line inventory by October 16, 2024. CFR §141.80(f)(3) & CFR§141.80(a).
Monitoring & Reporting Violation	4G Analyte #: 5200-LCRR	A system that fails to submit an initial inventory of service lines to the State no later than October 16, 2024. CFR§141.80(e)(1).
Monitoring & Reporting Violation	19	Failure to complete source water assessment monitoring.
Monitoring & Reporting Violation	29	For a public water system using surface water only, failure to conduct a comprehensive performance evaluation and/or produce a filter assessment due to an individual filter turbidity exceedance.

Expanded Failing Criteria: Additional Violation Codes (3/3)

Failing Criteria	Violation Number	Description
Monitoring & Reporting Violation	32	For a public water system using surface water only, failure to submit a complete source water monitoring plan and/or failure to complete monitoring from said plan.
Monitoring & Reporting Violation	53	Failed to collect and report routine or follow-up water quality parameter samples.
Monitoring & Reporting Violation	SP	POU/POE monitoring and reporting failure. This is a failure to properly implement POU/POE and is considered a violation of a variance/exemption granted by the State.
Monitoring & Reporting Violation	RR Analyte #: C296	Water system fails to report drought information pursuant to drought order.

Expanded Failing Criteria: Violation Codes Removed

Failing Criteria	Violation Number	Description	Removal Reason
E. coli Violation	01	MCL violation based on a single sample, or an organic analyte that is 10X the MCL.	These violations have historically been inadvertently used to record an E. coli violation. *Violation Number 1A is the code that is used to record E. coli violations.*
E. coli Violation	02	A violation for an inorganic, organic, or radiological constituent where compliance is based on a running annual average or more monitoring period average.	
E. coli Violation	T1	A violation where the water system failed to treat water using the treatment process the State has primacy to regulate (i.e., treatment failed per the system's permit).	
Monitoring & Reporting Violation	66	Failure to provide a lead consumer notice.	*Currently, other violations related to notifying customers are excluded from the Failing criteria.*

Failing Criteria – Preliminary Results

Failing Criteria	Preliminary Changes
Source Capacity & Water Outage Violation	**18** water systems **added** to the Failing list.
Treatment Technique Violation	**1** water system **added** to the Failing list.
E. coli Violation	**1** water system **removed** from the Failing list.

OVERVIEW OF PROPOSED CHANGES:

COST ASSESSMENT

CALIFORNIA WATER BOARDS

PROGRAM

SAFER

Needs Assessment Components

Community Water Systems & K-12 Schools

Small and Medium Community Water Systems; K-12 Schools; SSWS; & DWs

Failing & At-Risk Systems and Domestic Wells

DAC/SDAC Community Water Systems

https://bit.ly/SAFER-NA

Purpose of the Cost Assessment

Failing & At-Risk Water Systems & Domestic Wells

SB 200 directs the State Water Board to estimate “anticipated funding needs” related to the implementation of interim and/or emergency measures and longer-term solutions for Failing and At-Risk systems.

Results of the Cost Assessment are used to inform the prioritization of existing SAFER funding.

The Cost Assessment is NOT intended to inform local decisions

Systems Included in the Cost Assessment

Failing

Public Water Systems

- Primary MCL Violation
- Secondary MCL Violation
- *E. coli* Violation
- Treatment Technique Violations
- Monitoring & Reporting Violations

At-Risk

Public Water Systems

- Water Quality Risk
- Accessibility Risk
- Affordability Risk
- Technical, Managerial, Financial (TMF) Risk

At-Risk

State Small Systems

- Water Quality Risk
- Drought Risk

At-Risk

Domestic Wells

- Water Quality Risk
- Drought Risk

Long-Term Solutions

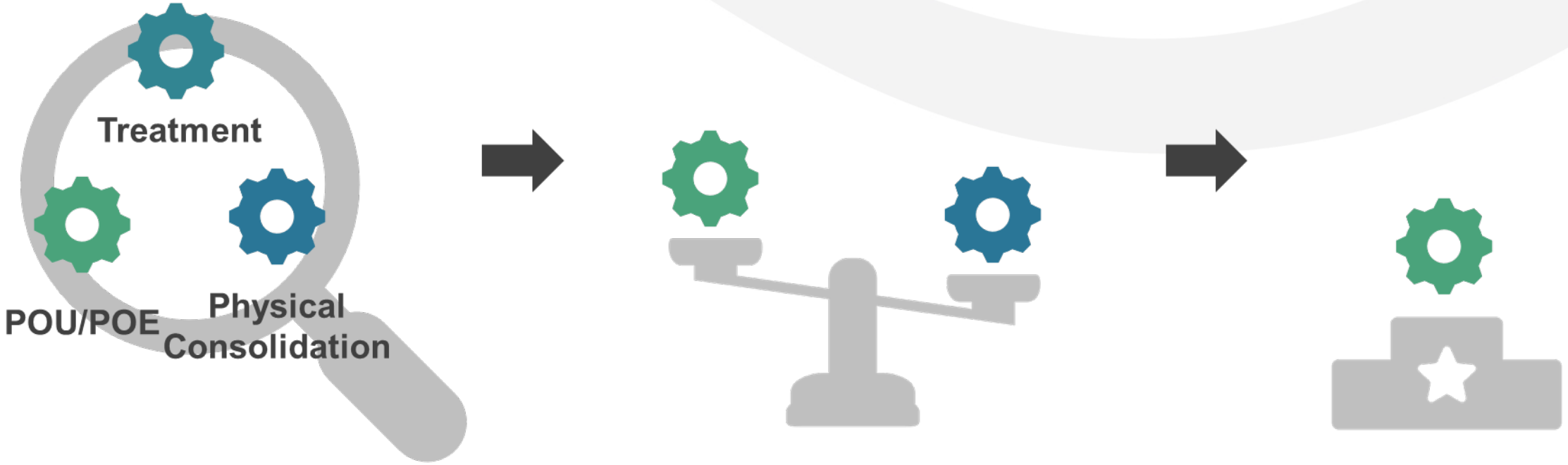
Model Long-Term Solutions for Failing public water systems, At-Risk public water systems, and high-risk SSWS & DWs

2021 Cost Assessment Modeled Long-Term Solution Selection Process for Failing Public Water Systems

STEP 1: All possible modeled solutions identified, and cost estimates developed.

STEP 2: Conduct Sustainability & Resiliency Assessment of all modeled solutions and compare top 2 solutions.

STEP 3: Select best model solution using cost and Step 2 score.



Proposed Cost Assessment Modeled Long-Term Solution Selection Process for Failing Public Water Systems

The proposed new Cost Assessment Model would assess modeled solutions in priority order, using clear selection and viability criteria.

STEP 1: Determine if physical consolidation is viable.

Physical Consolidation

STEP 2: If not, determine if centralized treatment is viable.

Treatment

STEP 3: If not, select decentralized treatment.

POU/POE

STEP 4: Add Other Infrastructure, Admin, TA, & Interim Needs.

Additional Needs

Proposed Cost Assessment Modeled Long-Term Solution Selection Process for At-Risk Public Water Systems

The proposed new Cost Assessment Model would assess modeled solutions in priority order, using clear selection and viability criteria.

STEP 1: Determine if physical consolidation is viable.

Physical Consolidation

STEP 2: Add Other Infrastructure, Admin, TA, & Interim Needs.

Additional Needs

Proposed Cost Assessment Modeled Long-Term Solution Selection Process for High *Water Quality* Risk SSWS/DWs

The proposed new Cost Assessment Model would assess modeled solutions in priority order, using clear selection and viability criteria.

STEP 1: Determine if physical consolidation is viable.

Physical Consolidation

STEP 2: If not, determine if decentralized treatment is viable.

POU/POE

STEP 3: If not, select Bottled Water.

Bottled Water

Proposed Cost Assessment Modeled Long-Term Solution Selection Process for High *Water Shortage* Risk SSWS/DWs

The proposed new Cost Assessment Model would assess modeled solutions in priority order, using clear selection and viability criteria.

STEP 1: Determine if physical consolidation is viable.

Physical Consolidation

STEP 2: If not, select construction of a new Well.

New Private Well

Additional Modeled Long-Term Solutions for Public Water Systems

Additional Long-Term Solutions

Other Essential Infrastructure

Technical Assistance

Administrator Assistance

Interim Solutions

Model Interim Solutions for DAC/SDAC Failing public water systems and high-risk SSWS & DWs

Interim Solutions

Only for **DAC/SDAC Failing** public water systems and **high-risk SSWS and DWs**.

STEP 1: Determine if decentralized treatment is viable.

POU/POE

STEP 2: If not, select Bottled Water.

Bottled Water

Updating Cost Assumptions

State Water Board has made proposed updates to how the Cost Assessment Model estimates long-term and interim **capital costs** and **operations & maintenance costs**.

Staff have conducted internal and external outreach:

- Reviewed 2021 Cost Assessment Model documentation.
- Reviewed U.S. EPA Work Breakdown Structure (WBS) Models.
- Consulted with vendors and consulting firms.
- Reviewed State Water Board funding projects.
- Reached out to water systems to collect/confirm cost data.
- Consulted with an internal workgroup of Division of Drinking Water engineers and Division of Financial Assistance staff.

Workshop 1: Updates to the Modeled Physical Consolidation Process

The State Water Board hosted a webinar workshop on July 14, 2023 to provide an overview of the proposed updates to the physical consolidation analysis in the Cost Assessment Model.

- **White Paper**: https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2023/20230714-final-cost-assessment-consolidation-white-paper.pdf
- **Webinar Presentation**: https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2023/20230714-final-cost-assessment-consolidation-workshop.pdf
- **Webinar Recording**: https://youtu.be/cfb_JMesbT8

Workshop 2: Updates to Modeled Long-Term Treatment

The State Water Board hosted a webinar workshop on October 5, 2023 to provide an overview of the proposed updates to how long-term treatment is estimated Cost Assessment Model.

- **White Paper**: https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2023/modeled-treatment-draft-whitepaper.pdf

- **Webinar Presentation**: https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2023/cost-assessment-lt-rreatment-workshop-10-05-2023.pdf

Workshop 3: Other Essential Infrastructure, Admin Needs, & Interim Solutions

The State Water Board is hosting a webinar workshop in December 12, 2023 to provide an overview of the proposed updates to how the Cost Assessment Model estimates costs for:

- Interim Needs
- Other Essential Infrastructure
- Administrator Assistance
- Technical Assistance
- Additional Final Cost Adjustments

White Paper:
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2023/2023-cost-assessment-model-workshop-3-white-paper.pdf

PRELIMINARY COST ASSESSMENT RESULTS

Preliminary Assessment: Count of Modeled Long-Term Solutions

System Type	Total Systems	Physical Consolidation	Centralized Treatment	Decentralized Treatment	New Private Well	Bottled Water	Add. Costs
Failing PWS	381	165 (43%)	179 (47%)	20 (6%)	N/A	N/A	356 (93%)
At-Risk PWS	512	246 (48%)	N/A	N/A	N/A	N/A	471 (92%)
High-Risk SSWS	810	436 (54%)	N/A	293 (36%)	146 (18%)	7 (0.01%)	N/A
High-Risk Domestic Wells	154,353	76,913 (49%)	N/A	42,067 (27%)	55,458 (36%)	1,667 (0.01%)	N/A

2021 Results

System Type	Total Systems	Physical Consolidation	Centralized Treatment	Decentralized Treatment	New Private Well	Bottled Water	Add. Costs
Failing PWS	305	61 (20%)	138 (45%)	106 (35%)	N/A	N/A	305 (100%)
At-Risk PWS	630	145 (23%)	N/A	N/A	N/A	N/A	630 (100%)
High-Risk SSWS	455	142 (31%)	N/A	303 (67%)	N/A	10 (2%)	N/A
High-Risk Domestic Wells	62,607	25,696 (41%)	N/A	36,911 (59%)	N/A	N/A	N/A

Preliminary Assessment: Cost Estimate of Modeled Long-Term Solutions (in Millions)

System Type	Physical Consolidation	Centralized Treatment	Decentralized Treatment	New Private Well	Bottled Water	Add. Costs	Estimated Total
Failing PWS	$531	$417	$1.7	N/A	N/A	$1,653	**$2,603**
At-Risk PWS	$895	N/A	N/A	N/A	N/A	$2,256	**$3,151**
High-Risk SSWS	$337	N/A	$20	$8	$0.72	N/A	**$366**
High-Risk Domestic Wells	$1,271	N/A	$315	$2,848	$20	N/A	**$4,454**
TOTAL:	**$3,034**	**$417**	**$337**	**$2,856**	**$21**	**$3,909**	**$10,573**

2021 Results

System Type	Physical Consolidation	Centralized Treatment	Decentralized Treatment	New Private Well	Bottled Water	Add. Costs	Estimated Total
Failing PWS	$131	$401	$19	N/A	N/A	$1,225	**$1,776**
At-Risk PWS	$293	N/A	N/A	N/A	N/A	$1,345	**$1,638**
High-Risk SSWS	$35	N/A	$19	N/A	N/A	N/A	**$53**
High-Risk Domestic Wells	$800	N/A	$296	N/A	N/A	N/A	**$1,096**
TOTAL:	**$1,259**	**$401**	**$334**	**N/A**	**N/A**	**$2,570**	**$4,563**

Preliminary Assessment: Count of Modeled Interim Solutions

System Type	Total Systems	Decentralized Treatment	Bottled Water	Total
Failing PWS	381	141 (37%)	38 (10%)	**179 (47%)**
At-Risk PWS	512	0	0	**0**
High-Risk SSWS	810	155 (19%)	128 (16%)	**283 (35%)**
High-Risk Domestic Wells	154,353	15,079 (10%)	38,233 (25%)	**53,312 (35%)**

2021 Results

System Type	Total Systems	Decentralized Treatment or Bottled Water
Failing PWS	343	**222 (65%)**
At-Risk PWS	630	**0**
High-Risk SSWS	611	**130 (21%)**
High-Risk Domestic Wells	77,569	**20,443 (26%)**

Preliminary Assessment: Cost Estimate of Modeled Interim Solutions (in Millions)

System Type	First Year		
	Decentralized Treatment	Bottled Water	Estimated Total
DAC Failing PWS	$233	$4	**$237**
DAC High-Risk SSWS	$7	$1	**$8**
DAC High-Risk Domestic Wells	$71	$46	**$117**
TOTAL:	**$311**	**$51**	**$362**

System Type	Full Duration		
	Decentralized Treatment	Bottled Water	Estimated Total
DAC Failing PWS	$312	$11	**$323**
DAC High-Risk SSWS	$10	$4	**$14**
DAC High-Risk Domestic Wells	$85	$92	**$177**
TOTAL:	**$407**	**$107**	**$514**

2021 Results

System Type	Bottled Water & Decentralized Treatment	
	First Year	Full Duration
DAC Failing PWS	**$172**	**$845**
DAC High-Risk SSWS	**$5**	**$9**
DAC High-Risk Domestic Wells	**$96**	**$193**

Risk & Affordability Assessments

Needs Assessment Components

Community Water Systems & K-12 Schools

Small and Medium Community Water Systems; K-12 Schools; SSWS; & DWs

Failing & At-Risk Systems and Domestic Wells

DAC/SDAC Community Water Systems

https://bit.ly/SAFER-NA

Risk Assessments for Public Water Systems, SSWSs, and Domestic Wells

The State Water Board is will not be making any changes to the Risk Assessment methodologies for public water systems, state small water systems, and domestic wells.

No Methodology Changes

Data Refreshes Only

Affordability Assessment for Community Water Systems

The State Water Board is will not be making any changes to the Affordability Assessment methodologies for community water systems.

No Methodology Changes

Data Refreshes Only

NEXT STEPS

Feedback Requested

The State Water Board is seeking stakeholder feedback on the proposed updates to the 2024 Drinking Water Needs Assessment.

Access the white paper online:
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2023/proposed-updates-2024-drinking-water-needs-assessment.pdf

Submit feedback to: SAFER@waterboards.ca.gov

Public Feedback due **January 19, 2024**

Discussion Topic: Open Discussion

General questions or feedback on the proposed changes for the 2024 Drinking Water Needs Assessment.

Thank You