CALIFORNIA
Water Boards

APPENDIX:
FUNDING GAP ANALYSIS METHODOLOGY

LAST UPDATED: JUNE 2024

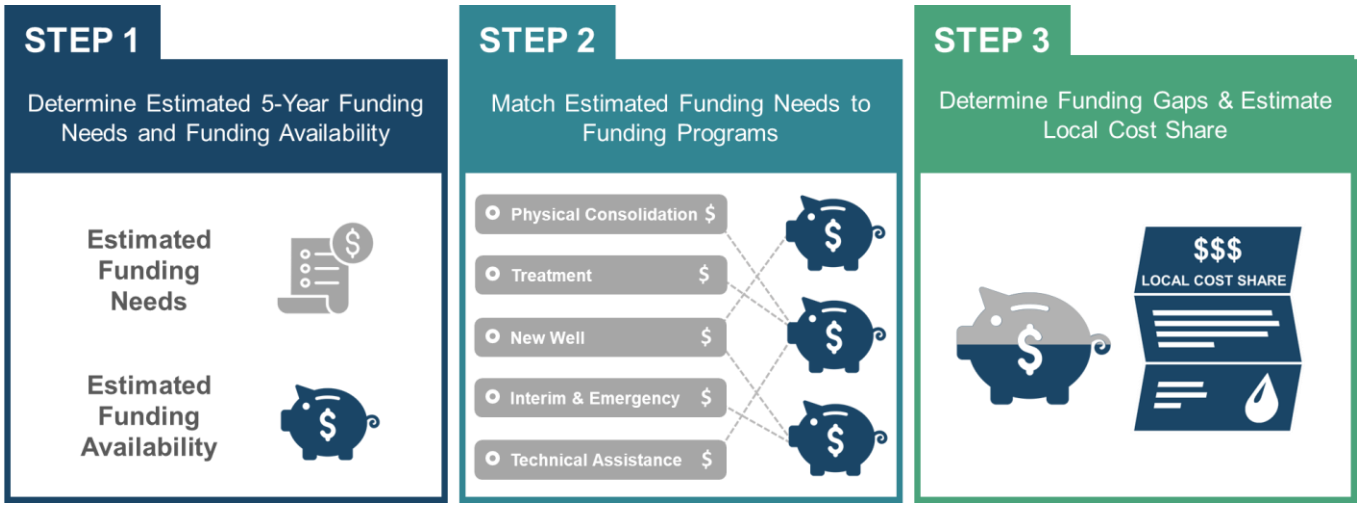
This supplemental appendix is related to the Drinking Water Needs Assessment's Cost Assessment Component. Learn more here: Appendix: Cost Assessment Methodology.

CONTENTS

INTRODUCTION

The Funding Gap Analysis is the final step of the Cost Assessment and its methodology is composed of three main steps. The first step focuses on refining the estimated funding needs, modeled by the Cost Assessment, for implementation of interim and long-term solutions for current Failing and At-Risk public water systems, high-risk state small water systems, and domestic wells. The second step concentrates on identifying State Water Board funding sources that can be leveraged to support the modeled funding needs based on project and borrower eligibilities. Disadvantaged community (DAC) status and other system-level characteristics are utilized to refine this analysis. The third and final step uses the State Water Board's SAFER program funding priorities to determine the funding and financing gap for the refined estimated funding need. Together, this analysis estimates how much it may cost and how long it may take to achieve the Human Right to Water with existing and projected funding sources. However, it is important to highlight that other State, Federal, and private funding and financing may be available to meet some of these estimated needs, and that large regionalization projects may reduce estimated needs.

Figure 1: Funding Gap Analysis Methodology



STEP 1: ESTIMATING FUNDING NEEDS AND FUNDING AVAILABILITY

The first step of the Funding Gap Analysis methodology refines the modeled interim and long-term solution capital and managerial cost estimates produced by the Cost Assessment by: (1) removing the estimated costs for Failing public water systems, At-Risk public water systems, and high-risk state small water systems and domestic wells that have already received State Water Board funding assistance; (2) removing a portion of estimated costs that would be met by communities through local cost share; and (3) adding estimated new costs associated with projections for systems that will start to fail over the next five years. Together, these three refinement steps produce the estimated funding need utilized in the Funding Gap Analysis.

Available funding was determined by analyzing existing State Water Board funding programs and projecting the availability of future funding based on known existing funding sources. The

Funding Gap Analysis focused on the gap that may exist after State Water Board funding sources are exhausted and is not inclusive of other funding sources outside of the State Water Board.

ESTIMATING FUNDING NEEDS

Remove Modeled Costs for Systems with Existing Funding Agreements

The first step taken to estimate 5-year funding needs is to refine the Cost Assessment's estimated first-year (Year 1) funding needs by removing the estimated interim and long-term solution capital and managerial costs associated with Failing and At-Risk public water systems that already have funding agreements in place with the State Water Board.[1] Table 1 summarizes Failing and At-Risk public water systems with executed planning, construction, technical assistance, and/or Administrator assistance funding agreements between July 2019 and February 2024. It also includes a summary of executed funding agreements for high-risk state small water systems and domestic wells between July 2019 and February 2024.

Table 1: Existing Funding Agreements/Assistance from the State Water Board for Current Failing Public Water Systems, At-Risk Public Water Systems, High-Risk State Small Water Systems, and Domestic Wells

System Type	# of Systems	Existing Funding Agreements
Failing Public Water Systems	**175 (45%)[2]**	**$352.1 M**
Long-Term Capital Needs	57 (15%)	$285 M
Interim Needs[3]	89 (23%)	$26.5 M
Technical Assistance	141 (37%)	$33[4] M
Planning Assistance	7 (2%)	$2.6 M
Administrator Assistance	5 (1%)	$5 M
At-Risk Public Water Systems[5]	**100 (16%)**	**$135.9 M**
Long-Term Capital Needs	36 (6%)	$117 M
Technical Assistance	90 (15%)	$14 M

[1] These executed funding agreements are for projects that address the associated public water system's reason why they are on the Failing list.
[2] Unique count of Failing public water systems that have existing funding agreements with the State Water Board.
[3] Total number of systems and funding for interim needs of Failing public water systems assumes 10% of public water systems would be assisted through existing regional programs and incorporates funding agreements with individual public water systems as well Failing systems assisted through the State Water Board's Bottled Water for Schools and Drinking Water for Schools grant programs.
[4] This amount includes technical assistance funding provided to Failing water systems between April 2022 through December 2023 and committed Administrator assistance.
[5] Unique count of At-Risk public water systems that have existing funding agreements with the State Water Board.

System Type	# of Systems	Existing Funding Agreements
Planning Assistance	11 (2%)	$3.9 M
Administrator Assistance	1 (0%)	$1 M
High-Risk State Small Water Systems[6]	**60 (8%)**	**$10 M**
High-Risk Domestic Wells	**15,235[7] (11%)**	**$175[8] M**
Long-Term Capital Needs[9]	N/A	$172.1 M
Decentralized Treatment Technical Assistance[10]	N/A	$2.9 M
TOTAL:		**$673 M**

Modeled estimated individual long-term and interim capital and managerial costs associated with Failing public water systems, At-Risk public water systems, high-risk state small water systems, and domestic wells were removed from the total Year 1 estimated need included in the Funding Gap Analysis. The "refined estimated funding need" for Year 1 is summarized in Table 2. Many Failing and At-Risk water systems had part of the modeled interim and long-term needs met by existing funding agreements. There were 49 Failing water systems that had all of their interim and long-term needs met and are excluded from the Funding Gap Analysis. There were 336 Failing public water system that had remaining interim and/or long-term modeled needs unmet that are included in the Funding Gap Analysis.

[6] Total number of systems and funding available for high-risk state small water systems assumes that 5% of high-risk state small water systems would be assisted through existing regional programs.
[7] The count of high-risk domestic wells reflects the total number of individual domestic well users assisted under existing regional funding programs.
[8] Funding for high-risk domestic wells assumes that 85% of high-risk domestic well users would be assisted through existing regional programs.
[9] Long-term capital needs for high-risk domestic well regional programs includes, but is not limited to, the following: well assessment / repair / replacement, bottled water, tanks and water hauling, and decentralized treatment.
[10] Total funding estimated for technical assistance assumes 10% of total funding under existing regional programs that offer Decentralized Treatment solutions for high-risk domestic wells users goes towards outreach activities.

Table 2: Refined 2024 Cost Assessment Total Estimated Funding Needs for Modeled Capital and Managerial Solutions ($ in Millions)

System Type	# of Systems	Total Estimated Modeled Need[11]	Removed Estimated Modeled Need[12]	Total Refined Year 1 Estimated Funding Needs
Failing Public Water System	**385[13]**	**$2,493**	**$530**	**$1,963**
Long-Term Needs	*385*	*$2,027*	*$383*	*$1,644*
Interim Needs[14]	*214*	*$466*	*$147*	*$319*
At-Risk Public Water System	**613[15]**	**$2,883**	**$192**	**$2,691**
High-Risk State Small Water System	**727**	**$330**	**$0[16]**	**$330**
High-Risk Domestic Wells[17]	**143,663**	**$4,582**	**$0[18]**	**$4,582**
TOTAL:		**$10,288**	**$722**	**$9,566**

Add Projected Funding Needs for Anticipated New Failing Public Water Systems

The Funding Gap Analysis is an analysis of 5-years of projected modeled interim and long-term needs. The funding need for modeled solutions for Failing and At-Risk systems was estimated both for this current year ("Year 1" = "FY 2024-25") and for five years into the future ("Year 5" = "FY 2028-29").

The State Water Board estimates that approximately 72 unique public water systems will be added to the Failing list each year, starting with Year 2 (FY 2025-26) and ending with Year 5 (2028-29).[19] This equates to 288 projected Failing public water systems. The Funding Gap Analysis assumes no new additional At-Risk public water systems or high-risk state small

[11] Total estimated modeled need includes the 2024 Cost Assessment's total estimate long-term solution costs plus modeled, full duration, interim modeled costs.
[12] Removed estimated model needs are equal to the sum of the 2024 modeled costs for Failing and At-Risk public water systems with existing funding agreements with the State Water Board (Table 1).
[13] There are 49 Failing public water systems that have all of their modeled needs met and have been removed from the Funding Gap Analysis.
[14] Interim needs reflect 1-year total estimated cost.
[15] There are 44 At-Risk public water systems that have all of their modeled needs met have been removed from the Funding Gap Analysis.
[16] Due to the nature of the funding for high-risk state small water systems, the State Water Board is not removing any estimated modeled need for purposes of the Funding Gap Analysis.
[17] Total number of systems / households for high-risk state small water systems and domestic wells was not revised based on current regional program funding outlined in Table 1 as most services provided are interim solutions and do not necessarily address long-term needs.
[18] Due to the nature of the funding for high-risk domestic wells, the State Water Board is not removing any estimated modeled need for purposes of the Funding Gap Analysis.
[19] This estimate was derived from State Water Board analysis of historical public water system Failing list occurrences from 2017-2023.

water systems or domestic wells will be added to the At-Risk list given the nature of the Risk Assessment employed for these systems.

To estimate the funding needs for the projected new 288 Failing public water systems, the State Water Board utilized the results of the 2024 Cost Assessment. A proportional sample[20] of estimated Failing public water systems needs from the 2024 Cost Assessment were used to develop projected new Failing public water system needs. These projected needs were then added to the refined 2024 Cost Assessment results to develop a 5-year projected need estimate for the Funding Gap Analysis. The results of this step are summarized in Table 3.

Table 3: Refined Cost Assessment Estimated Funding Needs for Capital and Managerial Solutions[21] ($ in Millions)

System Type	Total Refined Year-1 Estimated Funding Need	# of Projected (Year 2-5) New Systems with Need	Projected Estimated Need for New Systems	Total 5-Year Projected # of Systems with Need	Total Refined Estimated 5-Year Funding Need
Failing Public Water System	**$1,963**	**288**	**$1,814**	**624[22, 23]**	**$3,860**
Long-Term Needs	*$1,644*	*288*	*$1,511*	*622*	*$3,238*
Interim Needs[24]	*$319*	*153*	*$303*	*321*	*$621*
At-Risk Public Water System	$2,691	0	$0	569	**$2,783**
High-Risk State Small Water System	$330	0	$0	727	**$330**

[20] Utilizing service connections.
[21] Total refined estimated modeled need includes the refined (costs associated with existing funding agreements removed) 2024 Cost Assessment's total estimate long-term solution costs plus modeled, full duration, interim modeled costs.
[22] There are 49 Failing systems that currently have all of their modeled long-term and/or interim needs met by existing funding agreements with the State Water Board. Therefore, the Funding Gap Analysis includes estimated and projected modeled needs for 336 currently Failing (Year 1) systems and 288 projected new Failing systems (Years 2-5).
[23] Unique count of Failing systems with modeled projected long-term and/or interim funding needs for the next five years.
[24] Full modeled duration of interim needs.

System Type	Total Refined Year-1 Estimated Funding Need	# of Projected (Year 2-5) New Systems with Need	Projected Estimated Need for New Systems	Total 5-Year Projected # of Systems with Need	Total Refined Estimated 5-Year Funding Need
High-Risk Domestic Wells	$4,582	0	$0	143,663	**$4,582**
TOTAL:	**$9,566**	**288**	**$1,814**	**145,583**	**$11,555**

Determine Funding Needs that are Grant Eligible & Loan Eligible

The estimated modeled capital and managerial funding needs in the analysis are further refined based on the assumption that a portion of the total cost burden of modeled needs is borne by water systems, their ratepayers, and/or domestic well owners, and thus, not fully borne by the State Water Board's funding sources. Interim and long-term solution estimated funding needs were separated into three categories: costs that are grant eligible, costs that are loan eligible, and costs that are not loan or grant eligible.

Note: Estimated financing costs (public and private interest payments) and estimated new modeled treatment O&M costs are excluded from the Funding Gap Analysis. They are included in estimated Local Cost Share for communities.

Grant Eligible Needs: portion of modeled long-term and interim estimated capital and managerial needs that are State Water Board grant eligible. Grant eligibility is based on system size, system type, disadvantaged community or severely disadvantaged community (DAC/SDAC) status, and affordability. Learn more in Table 4.

Loan Eligible Needs: portion of modeled long-term and interim estimated capital needs that are State Water Board loan eligible. Loan eligibility is based on system size, system type, DAC/SDAC status, and affordability. Learn more in Table 4.

Non-State Water Board Funding Eligible Capital Needs: portion of modeled interim and long-term capital needs that are neither State Water Board loan nor grant eligible.

This analysis was based on four types of qualifications:

- Water system type: public water system, state small water systems, or domestic well
- Water system size
- DAC/SDAC status
- Water rates as percent of median household income (%MHI)

The specific requirements used to determine grant-eligible needs were generally adapted from Appendix E of the FY 2023-24 Drinking Water State Revolving Fund (DWSRF) Intended Use

Plan (IUP).[25] The grant-eligibility criteria used in the Funding Gap Analysis is summarized in Table 4.

Table 4: Capital Project Grant Funding Eligibility Criteria

Type of Community	%MHI[26]	Proportion Grant Eligible	Max. Amount Per Conn.
Category A-C and/or Consolidation Projects[27]			
Small DAC/SDAC,[28] Eligible Non-Transient Non-Community Water Systems that serves a Small DAC/SDAC, Expanded Small DAC/SDAC[29], Small Non-DAC with MHI less than 150% Statewide MHI	N/A	100%	$60,000
Medium DAC/SDAC[30]	N/A	100%	$60,000
Large DAC,[31] Non-DAC systems	N/A	Not eligible for grant/principal forgiveness	N/A
Category D Projects[32]			
Small DAC/SDAC,[33] Eligible Non-Transient Non-Community Water Systems that serves a Small DAC/SDAC, Expanded Small DAC/SDAC,[34] Small Non-DAC with MHI less than 150% Statewide MHI	N/A	100%	60,000

[25] FY 2023-24 Drinking Water State Revolving Fund Intended Use Plan https://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/docs/2023/2023-24-dwsrf-iup.pdf

[26] The water rate as percent of MHI was obtained from the affordability assessment results on a system-by-system basis. For 333 of the 558 public water systems that qualify as D-F Category Projects, the water rate as percent of MHI was not available. For these systems, the cost share was estimated based on the average local proportion for systems with a similar number of connections according to the following system size bins: 1-100 connections, 101-500, 501-1,000, 1,001-3,300, 1,001-3,300, and 3,301 and above.

[27] A-C Category Projects are generally defined as follows: A = Immediate Health Risk; B = Untreated or At-Risk Sources; C = Compliance or Shortage Problems. For complete definitions see the "Policy for Implementing the Drinking Water State Revolving Fund.
Drinking Water State Revolving Fund Program:
https://www.waterboards.ca.gov/drinking_water/services/funding/DWSRF_Policy.html

[28] "Small" refers to a community water system that serves no more than 3,300 service connections or a year-round population of no more than 10,000.

[29] "Expanded Small" refers to a community water system that serves no more than 6,600 service connections or a year-round population of no more than 20,000.

[30] A DAC with a population more than 20,000 but no more than 100,000 people, or more than 6,600 service connections but no more than 30,000 connections.

[31] "Large" refers to a community water system that serves 100,000 people and/or more than 3,300.

[32] D-F Category Projects are generally defined as follows: D = Inadequate Reliability; E = Secondary Risks; F = Other Projects. For complete definitions see the "Policy for Implementing the Drinking Water State Revolving Fund."

[33] "Small" refers to a community water system that serves no more than 3,300 service connections or a year-round population of no more than 10,000.

[34] "Expanded Small" refers to a community water system that serves no more than 6,600 service connections or a year-round population of no more than 20,000.

Type of Community	%MHI[26]	Proportion Grant Eligible	Max. Amount Per Conn.
Medium DAC/SDAC, Large DAC, Non-DAC systems	N/A	Not eligible for grant/principal forgiveness	N/A
Category E-F Projects			
Small DAC/SDAC, Public K-12 Schools that serve a small DAC	N/A	100%	$45,000
Expanded Small DAC/SDAC	≥1.5%	100%	$45,000
Expanded Small DAC/SDAC	<1.5%	Not eligible for grant/principal forgiveness	N/A
Medium DAC/SDAC, Large DAC, Non-DAC	N/A	Not eligible for grant/principal forgiveness	N/A
High-Risk State Small Water Systems and Domestic Wells[35, 36]			
DAC/SDAC High-Risk State Small Water Systems	N/A	100%	N/A
DAC/SDAC High-Risk Domestic Wells	N/A	100%	N/A

For all Failing and At-Risk public water systems the maximum eligible percentage of total modeled project cost was used, up to the maximum amount per connection.[37] For all costs that exceeded the maximum amount per connection for a given system, they were allocated 100% to loan. Where there are exceptions in practice to grant amounts listed in the IUP, the standard amount detailed in the IUP was used for the Funding Gap Analysis.[38]

For Failing and At-Risk public water systems not eligible for 100% grant coverage of their modeled solution capital cost, it was assumed that the remaining costs would be covered through a State Water Board loan with either a 0% or 2.5% interest rate, detailed in Table 5. For high-risk state small water systems modeled eligible costs that were not eligible for 100%

[35] High-risk state small water systems and domestic wells eligibility is primarily determined based upon low-income / DAC status and requests are considered on a case-by-case basis through existing regional funding programs.
[36] The Funding Gap Analysis assumed that all domestic well owners that are DAC and SDAC would receive grant funding from the State Water Board covering 100% of modeled interim and long-term solution costs, and all domestic well owners that are Non-DAC would bare 100% of modeled costs as local cost share.
[37] Maximum amount per connection was calculated for each system as the proportion of the total grant-eligible project cost divided by the number of connections. For purposes of the Funding Gap Analysis, the maximum grant was capped for all eligible systems at $6,000,000 with Division of Financial Assistance Deputy Director's approval or $20,000,000 per the DWSRF 2023-24 IUP.
[38] For example, it states in the FY 2023-24 DWSRF IUP: "The Deputy Director of the Division of Financial Assistance may approve up to 100% grant for capital costs required to complete a mandatory or voluntary consolidation."

grant coverage, it was assumed that the remaining costs would be covered by a private loan at a 5% interest rate. For high-risk domestic wells, the Funding Gap Analysis assumed that 100% of interim and long-term modeled solution costs for DAC/SDAC wells were grant eligible. High-risk non-DAC domestic well owners are not currently eligible for State Water Board loans; therefore, the analysis assumes all estimated capital costs for non-DAC domestic wells will be financed by a private loan at a 5% interest rate.[39]

Table 5: Capital Project Loan Eligibility Criteria and Assumptions

Type of Community	Interest Rate	Maximum Financing Term
Small SDAC, Public K-12 Schools that serve a small DAC, Small DAC or Expanded Small DAC/SDAC with Water Rate ≥1.5%	0%	40 Years
Small DAC or Expanded Small DAC/SDAC with Water Rate < 1.5%	½ General Obligation Bond Rate	40 Years
Medium DAC, Large DAC, Non-DAC	½ General Obligation Bond Rate for State Water Board loan 5% for private loan	30 Years[40]

Table 6 and Table 7 summarize the results of Step 1 of the Funding Gap Analysis. The tables include the final breakdown of refined 5-year long-term and interim funding needs by State Water Board grant and loan eligibility.

Table 6: Projected 5-Year Count of Systems that are Grant and/or Loan Eligible

System Type	# Systems Grant Eligible Only	# of Systems Loan Eligible Only	# of Systems Both Grant & Loan Eligible Only[41]	# Systems Neither Grant nor Loan Eligible
Failing Public Water System	**533**	**13**	**78**	**0**
Long-Term Needs	*533*	*13*	*78*	*0*

[39] The State Water Board recognizes that some non-DAC domestic well owners are capable of funding the construction of a new well or procurement of decentralized treatment using savings/available cash-on-hand. However, for purposes of the Funding Gap Analysis, the State Water Board is assuming financing is needed by all non-DAC domestic wells owners to develop a conservative state-wide cost estimate.

[40] The Drinking Water SRF Policy states the financing term is the shorter of 30 years or useful life for public water systems not serving a DAC/SDAC and 40 years or useful life for public water systems serving a DAC/SDAC. For purposes of the Cost Assessment and Funding Gap Analysis it is assumed that solutions have a 30-year useful life.
https://www.waterboards.ca.gov/drinking_water/services/funding/documents/srf/dwsrf_policy/dwsrf_policy_final.pdf

[41] Estimated projects funding needs are partially grant eligible up to $20,000,000 funding amount and the remaining funding need is State Water Board loan eligible.

System Type	# Systems Grant Eligible Only	# of Systems Loan Eligible Only	# of Systems Both Grant & Loan Eligible Only[41]	# Systems Neither Grant nor Loan Eligible
Interim Needs	*321*	0	0	*0*
At-Risk Public Water System	497	1	71	0
High-Risk State Small Water System	224	Not Eligible	0	503
High-Risk Domestic Wells	40,755	Not Eligible	0	102,908
TOTAL	**42,009**	**14**	**149**	**103,411**

Table 7: Projected 5-Year Capital and Managerial Needs by Funding-Type Eligibility

System Type	5-Year Projected Grant Eligible Needs	5-Year Projected Loan Eligible Needs
Failing Public Water Systems	$3,425 M	$435 M
Long-Term Needs	*$2,803 M*	*$435 M*
Interim Needs	*$621 M*	*Not Eligible*
At-Risk Public Water Systems	$2,476 M	$307 M
High-Risk State Small Water Systems	$95 M	Not Eligible
High-Risk Domestic Wells	$1,479 M	Not Eligible
TOTAL	**$7,475 M**	**$742 M**

ESTIMATING FUNDING AVAILABILITY

Estimated Funding and Financing Availability

While the Safe and Affordable Drinking Water Fund (SADWF) is a unique fund that is wholly available to the SAFER program, the State Water Board has additional complementary funding sources that can be utilized to advance the SAFER program's objectives. The Funding Gap Analysis considered the SADWF along with other funding sources administered by the State Water Board. Table 8 provides a complete list of all State Water Board funds that are available to help meet SAFER program funding objectives.

For the Funding Gap Analysis, all funding sources managed by the State Water Board were considered and included based on each funds' relevance to the SAFER program. Relevance was assessed using established fund eligibility criteria and their match to interim and long-term solutions modeled for the systems included in the analysis. However, it is important to highlight that other State, Federal, and private funding may be available to meet some of these estimated needs.

Table 8 provides a summary of current State Water Board funds' capacity and estimated cumulative future fund sizes. It is important to highlight that in order to conduct the Funding Gap Analysis, the methodology assumes the total project's costs are allocated the full amount of funding needs within a year. This does not align with actual State Water Board capital and technical assistance financing practices, which often stretch the allocation of committed funding over a span of many years.

Table 8: State Water Board Grant and Loan Availability

State Water Board Fund	Yr. 1 Est. Fund Size	Projected Total 5-Yr. Fund Size
Safe and Affordable Drinking Water Fund (SADWF) (Grant State Funding)	$214[42] M	$670 M
Drinking Water State Revolving Fund (DWSRF)[43] (Grant Federal Funding)	$146 M	$540 M
DWSRF (Loan Federal Funding)	$300 M	$1,500 M
Emerging Contaminant Funding Program (e.g. 1,2,3-TCP, manganese, etc.) (Grant Federal Funding)	$523 M	$770 M
TOTAL:	**$1,183 M**	**$3,480 M**

UNACCOUNTED FUNDING SOURCES

To achieve the Human Right to Water, any estimated long-term and interim costs that are not eligible for State Water Board grant funding, and any eligible needs that are not met by projected available funds, would need to be met by other federal, state, local funding, and/or private sources. Other potential sources of funding include Federal infrastructure funding, funds derived from other utility fees and charges, local taxes, private settlements, or other mitigation efforts. In California this may include mitigation efforts from agriculture and related regulatory programs administered by the Regional Water Boards, as well as mitigation provided for by Groundwater Sustainability Plans (GSPs) under the Sustainable Groundwater Management Act (SGMA). There is also potential settlement money for specific water systems

[42] The Funding Gap Analysis assumes approximately $114 million in grant funding availability through 2030, which includes $130 million from SADWF appropriations, reduced by $16 million for State Water Board staff costs. The estimated amount available for year 1 (FY 2024-25) includes an amount of $100 million carried over from prior FYs.
[43] For principal forgiveness.

through past and ongoing lawsuits over contaminants such as 1,2,3 TCP and PFAS related chemicals.

The extent of the availability of this type of funding tends to be site specific and is unknown on an aggregated Statewide basis. Therefore, for the purposes of calculating this Funding Gap Analysis it was assumed that there is no contribution from litigation or regulatory programs.

STEP 2: MATCHING FUNDING NEEDS TO FUNDING PROGRAMS

State Water Board funding sources each have specific eligibility requirements regarding applicant type and project type. When estimating funding availability, the Funding Gap Analysis used these eligibility requirements to ensure the most appropriate funds are applied to specific categories of systems and solution types. Table 9 shows which funds were considered for which types of systems and modeled solution types. Notably, the SADWF is the only State Water Board funding included in the Funding Gap Analysis with eligibilities that include O&M assistance and can cover grants to state small water systems and domestic well owners.

Table 9: State Water Board Funds Matched to Funding Needs

State Water Board Funds	System Types	Modeled Solution Types
SADWF	Failing and At-Risk Public Water Systems, State Small Water Systems, Domestic Wells	Physical Consolidation, Treatment, Other Essential Infrastructure (OEI), O&M, Interim solutions, Technical Assistance, Administrator Assistance, State Small Water Systems & Domestic Well programs
DWSRF	Failing and At-Risk Public Water Systems	Physical Consolidation, Treatment, OEI, Technical Assistance
Emerging Contaminant Funding Program	Failing and At-Risk Public Water Systems	Capital/Construction (i.e., Physical Consolidation, Treatment, OEI) for projects addressing emerging contaminant issues

STEP 3: CONDUCT FUNDING GAP ANALYSIS

The Funding Gap Analysis is meant to inform how much State Water Board funding-eligible need may not be met based on current and projected funding availability. The Funding Gap Analysis utilizes refined projected 5-year estimated funding needs and projected 5-year funding availability from Step 1 and the program eligibilities defined in Step 2 to conduct the Funding Gap Analysis. The Funding Gap Analysis can be conducted in many different ways to help inform potential demand for the State Water Board's funding programs. The following sections describe the types of analysis conducted for the 2024 Drinking Water Needs Report.

This analysis is for modeling purposes only. The projected funding needs refined in Step 1 do not reflect typical funding demand for the State Water Board's programs. Many water systems

are able to self-finance their interim and/or long-term capital needs. Since 2019, on average, 87 (87%) funding applications are submitted to the State Water Board annually for planning and construction projects by small and medium sized water systems.[44] The requested funding needs for small and medium sized water systems on average total $460 million (60% of total funding demand) annually. Overall, the average annual funding demand including large water systems is around 100 applications requesting on average $766 million.

Table 10: Demand for State Water Board Planning & Construction Funding by Large and Small/Medium Sized Water Systems[45]

Year	# of Submitted Applications[46]	# of Applications Funded Since 2019	Executed[47]	Planned[48]	Total Demand
2019					
Large	10	5	$58 M	$734 M	**$792 M**
Small/Medium	87	41	$448 M	$65 M	**$513 M**
2020					
Large	18	3	$78 M	$276 M	**$354 M**
Small/Medium	87	29	$95 M	$198 M	**$293 M**
2021					
Large	7	0	$0 M	$69 M	**$69 M**
Small/Medium	79	24	$149 M	$197 M	**$346 M**
2022					
Large	18	1	$7 M	$233 M	**$240 M**
Small/Medium	91	4	$14 M	$569 M	**$583 M**
2023					
Large	8	0	$11 M	$81 M	**$92 M**
Small/Medium	89	5	$11 M	$554 M	**$565 M**

[44] Large community water systems with 100,000 or more population served are excluded.
[45] Large systems serve populations of 100,000 or more, small/medium sized systems serve less than 100,000.
[46] This count excludes submitted applications that could not move forward through the State Water Board's funding process between 2019 - 2023.
[47] This represents the actual funding amount for each funding agreement.
[48] Funding amount for projects that have not been executed yet. This excludes submitted applications that could not move forward through the State Water Board's funding process.

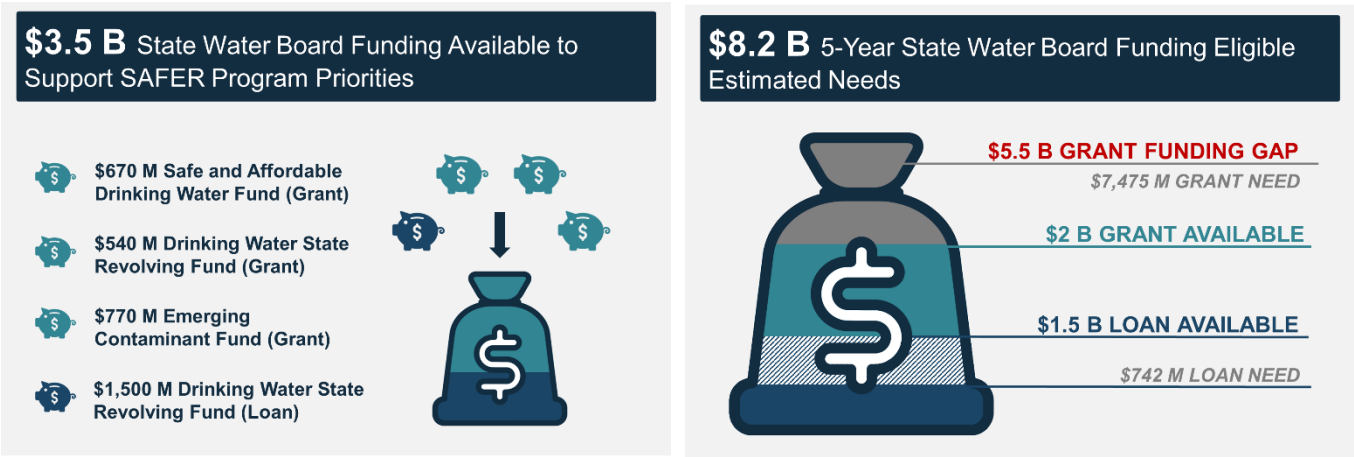
Year	# of Submitted Applications[46]	# of Applications Funded Since 2019	Executed[47]	Planned[48]	Total Demand
TOTAL:	**494**	**112**	**$871 M**	**$2,976 M**	**$3,847 M**

FUNDING GAP ANALYSIS OF ALL STATE WATER BOARD FUNDS

Anticipated available near-term funding across all State Water Board funding programs relevant to drinking water (Table 8) were analyzed and compared to the estimated total funding need. Anticipated available funding was distributed based on general funding priorities identified in the FY 2023-24 FEP's "General Funding Approach and Prioritization."

The total State Water Board estimated 5-year funding eligible need is $8.2 billion for Failing public water systems, At-Risk public water systems, high-risk state small water systems, and domestic wells. Of this total estimated 5-year funding need, $7.5 billion is grant eligible and $742 million is loan-eligible. The State Water Board has a projected $3.5 billion in 5-year funding availability: $2 billion for grants and $1.5 billion for loans. The estimated 5-year funding gap is $5.5 billion for grant eligible needs. All estimated 5-year loan eligible needs are met by projected available loan capacity.[49] The State Water Board estimates $758 million in loan capacity that could be utilized for projects for larger, potentially non-DAC systems.

Figure 2: 5-Year Funding Gap Analysis Results for Estimated Capital & Managerial Assistance Needs



The following sub-sections look at the funding gap in various ways, including by: SAFER status, DAC status, using a tiered funding prioritization scheme, and considering the SADWF only for certain solution types.

[49] The evaluation of loan eligible need does not factor each individual system's ability to take on a State Water Board administered repayable loan. This is evaluated by State Water Board staff based on several items including revenue to debt service ratio, available reserves, and TMF capacity.

Failing & At-Risk Public Water Systems Only

The total State Water Board estimated 5-year funding eligible needs is $6.6 billion for Failing ($3.8 billion) and At-Risk ($2.8 billion) public water systems. If the State Water Board were to prioritize funding Failing and At-Risk public water systems only, excluding high-risk state small water systems and domestic wells, the estimated 5-year funding gap is $3.9 billion for grant eligible needs. All estimated 5-year loan eligible needs are met by projected available loan capacity. The State Water Board estimates $758 million in loan capacity that could be utilized for projects for larger, potentially non-DAC systems.

DAC/SDAC Failing & A-Risk Public Water Systems Only

The total State Water Board estimated 5-year funding eligible needs is $4.1 billion for **DAC/SDAC-only** Failing ($2.4 billion) and At-Risk ($1.7 billion) public water systems. If the State Water Board were to prioritize funding Failing and At-Risk public water systems only, excluding high-risk state small water systems and domestic wells, the estimated 5-year funding gap is $2.1 billion for grant eligible needs. All estimated 5-year loan eligible needs are met by projected available loan capacity. After meeting all estimated 5-year loan eligible needs for DAC-only Failing and At-Risk public water systems, the State Water Board estimates $1.2 billion in loan capacity that could be utilized for projects for larger, potentially non-DAC systems.

DAC/SDAC High-Risk State Small Water Systems & Domestic Wells Only

The total State Water Board estimated 5-year funding eligible needs is $3.1 billion for high-risk state small water systems and domestic wells, $1.6 billion (52%) for **DAC/SDAC-only** high-risk state small water systems ($95 million) and domestic wells ($1.5 billion). If the State Water Board were to prioritize funding DAC/SDAC-only high-risk state small water systems and domestic wells only, excluding public water systems, the estimated 5-year grant eligible needs are met by the projected available grants available ($2 billion). None of the estimated state small water systems and domestic well funding needs are State Water Board loan eligible.

Tier 1 Priorities Only

For the purposes of the 2024 Funding Gap Analysis, and due to more limited funding from complementary sources than in prior years, a possible tiered prioritization scheme was evaluated. In this scenario, Tier 1 funding priorities are:

1. Failing systems with a primary MCL violation
2. Consolidations that include Failing and At-Risk public water systems
3. Interim water supplies and emergency repairs for Failing systems
4. Interim and long-term solutions for DAC/SDAC high-risk state small water systems and domestic well communities

The total State Water Board estimated 5-year funding eligible needs is $7.4 billion for communities meeting the Tier 1 priorities summarized above. If the State Water Board were to limit funding to these priority systems and projects, the estimated 5-year funding gap is $4.8 billion for grant eligible needs. All estimated 5-year loan eligible needs are met by projected available loan capacity. The State Water Board estimates $841 million in loan capacity that could be utilized for projects for larger, potentially non-DAC systems.

Table 11: Systems & Estimated 5-Year Funding Needs for Tier 1 Priorities

Priority	Count of Systems	5-Yr. Grant-Eligible Needs	5-Yr. Loan-Eligible Needs
Failing systems with a primary MCL violation[50]	525	$2,238 M	$377 M
Consolidations that include Failing and At-Risk public water systems[51]	535	$2,322 M	$282 M
Interim water supplies and emergency repairs for Failing systems[52]	305	$621 M	$0
Interim and long-term solutions for DAC/SDAC high-risk state small water systems and domestic wells	40,979	$1,574 M	Not Eligible
TOTAL:	**42,344**	**$6,755 M**	**$659 M**

SADWF ONLY

The SADWF is a unique funding program with one of the most diverse sets of funding eligibilities. $7.5 billion (91%) of the projected 5-year funding need is eligible for SADWF funding. However, based on the projected estimated 5-year SADWF funding availability ($670 million), the projected funding gap for this program alone would be $6.85 billion.

Taking a narrow look at the unique SADWF eligibilities, the Funding Gap Analysis determined whether projected available SADWF funding could cover the following modeled needs excluding all other needs:

Interim Needs Only: Interim and emergency funding needs for DAC/SDAC Failing public water systems, DAC/SDAC high-risk state small water systems and domestic wells are eligible for SADWF funding. The estimated 5-year interim needs are $726 million, including $594 million for DAC/SDAC Failing public water systems and $132 million for DAC/SDAC high-risk state small water systems and domestic wells. The estimated 5-year SADWF funding gap is $56 million.

Long-Term O&M Needs Only: Thirty-year O&M needs for DAC/SDAC Failing public water systems, DAC/SDAC high-risk state small water systems and domestic wells are eligible for SADWF funding. The estimated long-term O&M needs are $547 million, which includes $426 million for DAC/SDAC Failing public water systems and $121 million for DAC/SDAC high-risk state small water systems and domestic wells with modeled long-term decentralized treatment. The estimated 5-year SADWF funding ($670 million) would be capable of covering all modeled

[50] Includes all estimated long-term (capital and managerial) costs and excludes modeled interim needs.
[51] Includes all estimated long-term costs for systems where at least one of their modeled long-term solutions is physical consolidation. Failing systems with a primary MCL violation are excluded from this analysis, they are captured in the first row of the table. Estimated interim needs are also excluded.
[52] This includes both modeled interim decentralized treatment and bottled water for the full modeled duration.

O&M needs for DAC/SDAC Failing public systems and DAC/SDAC high-risk state small water systems and domestic wells with $123 million in unused grant capacity.

LOCAL COST SHARE

Any estimated long-term and interim costs that are not eligible for State Water Board funding and any eligible needs that are not met by projected available funds are considered by the Funding Gap Analysis to be "local cost share." Local cost share is the sum of estimated, modeled long-term and interim solution costs that would need to be funded up-front and in the long-term by communities rather than the State Water Board (grant funding) to achieve the Human Right to Water. Local cost share includes the principal of private/State Water Board loans, long-term financing costs (interest payments), long-term O&M costs associated with new modeled treatment, and estimated grant eligible needs not covered by available 5-year State Water Board grant funding. The following table breaks down the estimated local cost share.

Table 12: 5-Year Estimated Funding Need Local Cost Share Components

System Type	5-yr. Capital Needs Not SWB Funding Eligible = Private Loan[53]	5-yr. Capital Needs SWB Loan	Estimated Long-Term Financing Costs	O&M[54] for New Modeled Treatment
Failing Public Water Systems	$0 M	$435 M	$158 M	$1,872 M
At-Risk Public Water Systems	$0 M	$307 M	$102 M	$0
High-Risk State Small Water Systems	$235 M	Not Eligible	$123 M	$26 M
High-Risk Domestic Wells	$3,103 M	Not Eligible	$1,636 M	$400 M
TOTAL:	**$3,338 M**	**$742 M**	**$2,019 M**	**$2,298 M**

The State Water Board estimates that with projected 5-year grant funding availability, the state of California can cover $2 billion towards achieving the Human Right to Water for all Californians. The remaining $5.5 billion[55] of grant-eligible needs would need to be covered through local cost share – rates, fees, saving, reserves, etc. to pay for the modeled long-term and interim solutions to achieve the Human Right to Water.

[53] Long-term needs not eligible for State Water Board funding include long-term O&M, interest payments, and capital expenditures.
[54] Modeled O&M costs were calculated 30-years for Failing public water systems and 20-years for high-risk state small water systems and domestic wells.
[55] Based on 5-year grant gap analysis. Any gran-eligible needs that are not met by projected available 5-year grant availability would need to be covered by local communities.

Local Cost Share ($13,892 M) = Private Loan Principal ($3,338 M) + State Water Board Loan Principal ($742 M) + Financing Costs ($2,019 M) + Long-Term O&M ($2,298 M) + Unmet Grant-Eligible Needs ($5,495 M)

ACHIEVING THE HUMAN RIGHT TO WATER

The total estimated cost of achieving the Human Right to Water is $15.9 billion for the communities served by currently Failing public water systems, At-Risk public water systems, high-risk state small water systems, domestic wells, and projected new Failing public water systems over the next 5 years. The State Water Board's available grant funding can meet $2 billion of this cost, and local communities would need to fund $13.9 billion.