Date: October 24, 2023

To: Honorable Mayor and Councilmembers

From: Amos Hoover, City Clerk
Marti Brown, City Manager

Subject: Countywide Drought Management Committee Appointment

Recommendation:

Appoint a member of the Council to the Countywide Drought Management Committee.

Rational for Recommendation:

Under Senate Bill 552 (SB 552), passed and signed by Governor Gavin Newsom on September 2021, State and local governments will share the responsibility in preparing and acting in the case of a water shortage event via a Committee process.

Background:

Per Senate Bill 552, each county in California is required to have a standing drought task force to facilitate drought and water shortage preparedness for state small water systems (serving 5 to 14 connections), domestic wells, and other privately supplied homes within the county's jurisdiction. Each county must also develop a plan demonstrating the potential drought and water shortage risk and proposed interim and long-term solutions for state small water systems and domestic wells within the county. Both requirements may be implemented as part of other existing committees and/or planning processes.

Discussion & Analysis:

By appointing a member of the Council to this Committee, the City of Willows and its interests will be represented as part of any countywide effort to mitigate the impacts of a drought.

Fiscal Impact:

There is no fiscal impact.

Attachments:

- Attachment 1: County Drought Resilience Plan Guidebook
- Attachment 2: SB 552 Primer

Attachment 1

County Drought Resilience Plan Guidebook

Task Force Formulation, Plan Development, and Implementation
Considerations for Implementing Senate Bill 552 (Hertzberg)

March 2023

California Department of Water Resources
Water Use Efficiency Branch

State of California

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California Natural Resources Agency

Wade Crowfoot, Secretary for Natural Resources

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Disclaimer

This *County Drought Resilience Plan Guidebook: Task Force Formulation, Plan Development, and Implementation Considerations for Implementing Senate Bill 552 (Hertzberg)* (Guidebook) was prepared by the California Department of Water Resources (DWR) to aid counties who must comply with the requirements of California Water Code (CWC) Section 10609.70. As part of its technical assistance, DWR has voluntarily prepared this Guidebook to assist counties in their efforts to comply with Senate Bill 552 requirements and create an implementable plan to improve drought resilience planning for their residents. Counties subject to CWC Section 10609.70 are solely responsible for compliance and may use this Guidebook if they choose. For assistance with interpreting the content of this document, please contact DWR Water Use Efficiency staff at wue@water.ca.gov.

Acknowledgments

DWR would like to express its gratitude to the Working Group members for contributing their valuable input and expertise to the development of this Guidebook. DWR also would like to recognize the collaboration and input from other State of California agencies that share responsibility in implementing Senate Bill 552. Lastly, DWR would like to thank the consultant team that conducted research and technical investigation for the Guidebook's development, and facilitated the Working Group functions and stakeholder engagement.

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Abbreviations and Acronyms

2018 Legislation .....2018 Legislation on Water Conservation and Drought Planning (Senate Bill 606 [Hertzberg] and Assembly Bill 1668 [Friedman], as amended)
AB .....Assembly Bill
AWIA.....America's Water Infrastructure Act
Brown Act.....Ralph M. Brown Act
C&E Plan.....Communication and Engagement Plan
Cal OES.....California Governor's Office of Emergency Services
CalWARN.....California Water/Wastewater Agency Response Network
CCR .....California Code of Regulations
CDAG.....County Drought Advisory Group
CDPH.....California Department of Public Health
CFCC .....California Financing Coordinating Committee
CGC .....California Government Code
County DRP.....County Drought Resilience Plan
County OES.....County Office of Emergency Services
CUEA.....California Utilities Emergency Association
CWC .....California Water Code
DWR .....California Department of Water Resources
EDWA .....El Dorado Water Agency
EID .....El Dorado Irrigation District
EO .....Executive Order
FEMA.....Federal Emergency Management Agency
GIS .....geographic information system
GSA .....Groundwater Sustainability Agency

GSP .....Groundwater Sustainability Plan
Guidebook.....County Drought Resilience Plan Guidebook: Task Force Formulation, Plan Development, and Implementation Considerations for Implementing Senate Bill 552 (Hertzberg)
HSC .....California Health and Safety Code
LAFCO.....Local Area Formation Commission
Legislature.....California State Legislature
LHMP .....Local Hazard Mitigation Plan
LPA .....local primacy agency
NGO.....non-governmental organization
O&M .....operations and maintenance
OPR .....California Governor's Office of Planning and Research
PID .....Paradise Irrigation District
Reclamation.....U.S. Department of the Interior, Bureau of Reclamation
SB .....Senate Bill
SGMA.....Sustainable Groundwater Management Act of 2014
State.....State of California
State Water Board....State Water Resources Control Board
Task Force.....County Drought and Water Shortage Task Force
U.S. .....United States
USDA.....U.S. Department of Agriculture
USEPA.....United States Environmental Protection Agency

Photography Credit

Kelly Grow / California Department of Water Resources - Table of Contents, Chapters 1, 3

Florence Low / California Department of Water Resources - Executive Summary, Chapters 2, 4, 5, 6, 9, Appendices

Andrew Innerarity / California Department of Water Resources - Title Page, Chapter 7

Paul Hames / California Department of Water Resources - Chapter 8

Use of embedded links: Throughout the Guidebook, embedded links were used to connect the readers to websites with relevant information. The links were verified when the Guidebook was published. The referenced information may be changed or updated in the future and the link may not be functioning accordingly. When this happens, DWR encourages counties to conduct content search on the Internet to locate the latest information for their consideration and use. The embedded links will not be functional on a printed format.

Executive Summary

In September 2021, Governor Gavin Newsom signed into law Senate Bill (SB) 552 (Hertzberg), which assigned new responsibilities and requirements at the State of California (State) and local levels to help small water suppliers and rural communities reduce their risks of inadequate water supply amid a water shortage event. A water shortage event could be caused by droughts or other emergencies such as wildfires, earthquakes, floods, and other local emergencies. Through SB 552, the California State Legislature identifies counties as the best-suited government entity to provide the needed leadership to improve water resilience for state small water systems and domestic wells. A state small water system provides piped water to the public for human consumption for at least five, but not more than 14, service connections, and does not regularly serve drinking water to more than an average of 25 individuals daily for more than 60 days out of the year (Health and Safety Code [HSC] Section 116275(n)). A domestic well is a groundwater well used to supply water for the domestic needs of an individual residence or a water system that is not a public water system, and has no more than four service connections, as defined in HSC Section 116681(i) (with equivalent definition in California Water Code Section 1060951(k)).

SB 552 requires counties to prepare a plan to achieve meaningful and long-term improvements in water resilience for their residents. To that end, the California Department of Water Resources (DWR) prepared this *County Drought Resilience Plan Guidebook—Task Force Formulation, Plan Development, and Implementation Considerations for Implementing Senate Bill 552 (Hertzberg)* (Guidebook) in collaboration with other State agencies, including the State Water Resources Control Board, Governor's Office of Emergency Services, and Governor's Office of Planning and Research. This Guidebook is a technical resource for counties to develop a County Drought Resilience Plan (County DRP) and includes information about available data and tools compiled by State agencies, short-term response actions, long-term mitigation strategies and actions, and other supporting capacities. The Guidebook also provides guidance and suggestions on plan organization and implementation considerations. SB 552 provides the flexibility for counties to develop the County DRP as one stand-alone plan or as a collection of existing and new plans and associated components.

In addition to the development of a County DRP, SB 552 also directs counties to establish a long-standing County Drought and Water Shortage Task Force (Task Force) to cultivate the continued practices of drought planning and improving long-term water resilience. As such, this Guidebook provides guidance and suggestions for establishing a Task Force that fulfills the purposes identified in SB 552, while allowing flexibility to accommodate individual counties' needs and organizational functions. Where applicable, counties are encouraged to consider their broad authority and available tools and resources when developing a County DRP and forming a Task Force to achieve broad and long-lasting benefits for all residents and water systems within their corresponding jurisdiction.

It is important to note that counties are solely responsible for compliance with the requirements under SB 552. This Guidebook, prepared by DWR as part of its technical assistance, is for advisory purposes. DWR welcomes further input from counties and stakeholders on any improvements to this Guidebook. Subject to resource availability, DWR may update this Guidebook as warranted in the future to capture lessons learned or best practices.

1 | Introduction

In September 2021, Governor Gavin Newsom signed into law Senate Bill (SB) 552 (Hertzberg), which establishes new responsibilities and requirements for State of California (State) and local agencies to improve water resilience for small water suppliers and rural communities. SB 552 is part of the implementation of the 2018 Legislation on Water Conservation and Drought Planning (SB 606 [Hertzberg] and Assembly Bill (AB) 1668 [Friedman], as amended; hereinafter referred to as the "2018 Legislation") passed by the California State Legislature (Legislature). The 2018 Legislation provides a new framework for urban water use efficiency; directives for eliminating water waste; additional requirements for strengthening local drought resilience for urban areas and for vulnerable small water suppliers and rural communities; and recommendations for improving agricultural water use efficiency and drought planning.

The Legislature found that counties can have a significant role in improving drought planning for small water suppliers and rural communities, which were especially vulnerable and struggling during the 2012 to 2016 drought. Since the conditions for small water suppliers and rural communities are diverse, the 2018 Legislation directed the California Department of Water Resource (DWR), in coordination with the State Water Resources Control Board (State Water Board), to develop recommendations to the Legislature for actions to improve drought planning for small water suppliers and rural communities.

DWR organized a County Drought Advisory Group (CDAG) in 2018 to assist DWR in the vulnerability assessment and development of recommended actions for improving drought planning for small water suppliers and rural communities. CDAG consisted of representatives from counties and other local agencies, small water systems, tribes, academics, non-profit organizations, and other interested parties. DWR transmitted the recommendations to the Legislature in March 2021, providing the basis for SB 552.

SB 552 requires counties to develop and implement a plan to achieve meaningful and long-term improvements in water resilience for their residents. To that end, DWR prepared this *County Drought Resilience Plan Guidebook—Task Force Formulation, Plan Development, and Implementation Considerations for Implementing Senate Bill 552 (Hertzberg)* (Guidebook). The Guidebook is a resource for counties to use to develop a County Drought Resilience Plan (County DRP) specifically for state small water systems and domestic wells. DWR developed this Guidebook as part of its technical assistance in collaboration with other State agencies, including the State Water Board, California Governor's Office of Emergency Services (Cal OES), and Governor's Office of Planning and Research (OPR).

A state small water system provides piped water to the public for human consumption for at least five, but not more than 14, service connections, and does not regularly serve drinking water to more than an average of 25 individuals daily for more than 60 days out of the year (Health and Safety Code (HSC) Section 116275(n)). A domestic well is a groundwater well used to supply water for the domestic needs of an individual residence or a water system that is not a public water system and that has no more than four service connections, as defined in HSC Section 116681(i) (with equivalent definition in California Water Code (CWC) Section 1060951(k)).

Per SB 552, the County DRP may be a stand-alone document or integrate elements of the County DRP into existing plans, such as a local hazard mitigation plan (LHMP), emergency operations plan, climate action plan, or general plan. CWC Section 10609.70, enacted by SB 552, provides a description of the minimum content to be included in a County DRP:

> *A county shall consider, at a minimum, all of the following in its plan:*
>
> *(1) Consolidations for existing water systems and domestic wells.*
>
> *(2) Domestic well drinking water mitigation programs.*
>
> *(3) Provision of emergency and interim drinking water solutions.*
>
> *(4) An analysis of the steps necessary to implement the plan.*
>
> *(5) An analysis of local, state, and federal funding sources available to implement the plan.*

Refer to *Primer of Senate Bill 552: Drought Planning for Small Water Suppliers and Rural Communities* (DWR and State Water Board 2022) for additional information.

1.1 Focus on Counties

Counties are recognized political and administrative subdivisions of the State and operate many of the State's activities. In addition, counties are the front-line providers for many familiar government services, including human services, public safety, infrastructure, and agriculture services in rural, urban, incorporated, and unincorporated areas (California State Association of Counties 2022).

California's counties have three primary responsibilities, delegated to them by the State (Danielson and Mejia 2011):

1. They serve as agents of the State in administering statewide health and social services programs.
2. They carry out other designated countywide functions, including public safety, public works, and elections.

3. In unincorporated areas, they deliver local services that would otherwise be provided by cities (e.g., policing, parks, and garbage collection). About 35 percent of all State and local government workers in California (excluding those involved in education) are employed by counties.

The CWC, commencing with Section 10609.70, imposes responsibilities on counties to provide drought planning for state small water systems and domestic wells within their respective jurisdictions. State small water systems and domestic wells are not public water systems defined in HSC Section 116275(h) and, thus, are not part of the water systems managed by the local primacy agencies pursuant to HSC Section 116330.

Although the term "county" could include city and county (CWC Section 14), in the context of CWC Section 10609.70, the requirements relate specifically to counties. Large cities within a county with their own water systems are likely subject to requirements for preparing an Urban Water Management Plan and Water Shortage Contingency Plan, consistent with the 2018 Legislation (see *Urban Water Management Plan Guidebook 2020* [DWR 2021a] for additional details). Small cities also may have their own water systems, or may be served by other water purveyors. For consistent implementation, counties should coordinate with cities within their county, especially those that share certain roles and responsibilities in the context of CWC Section 10609.70 (e.g., well permitting).

State Small Water Systems

HSC Section 116340 requires the State Water Board to adopt regulations for operation of a state small water system. Public health is usually administrated at the county level, with the local health officer, or a local health agency designated by the local health officer, responsible for enforcement. California Code of Regulations (CCR), Title 22, Chapter 14, Sections 64211 through 64217 also provide regulatory requirements, including permits issued by the local health officer and associated monitoring, reporting, and notification requirements.

Domestic Wells

In California, the regulatory authority over well construction, alteration, and destruction activities rests with local jurisdictions (cities, counties, or in some cases, local water agencies for limited purposes) with proper authority to adopt a local well ordinance that meets or exceeds California Well Standards as prescribed in DWR's Bulletins 74-81 and 74-90 combined. Permitting and enforcement are conducted by the local enforcing agency that issued the permit. Most counties have only one county department designated as the enforcing agency; however, there are exceptions whereby the responsibility is shared with cities and, sometimes, local water agencies. In the context of rural communities considered in SB 552, focusing only on domestic wells under the county's jurisdiction is appropriate, since production wells under the jurisdiction of cities

and selective local water agencies (typically, for large water systems) serve the needs of more urbanized areas and, therefore, are outside of SB 552 requirements (but still covered by the 2018 Legislation). However, counties are encouraged to coordinate and verify the practices with cities and local water agencies, where appropriate, for consistency and potential collaboration.

In addition to well permitting, counties also have a role in groundwater management under the Sustainable Groundwater Management Act of 2014 (SGMA). In the event that there is an area within a high- or medium-priority basin that is not within the management area of a Groundwater Sustainability Agency (GSA), the county within which that unmanaged area lies will be presumed to be the GSA for that area (CWC Section 10724(a)). Counties in which GSAs are present are strongly encouraged to coordinate with those GSAs. This coordination is especially important for long-term mitigation strategies and actions, so that counties can understand how drinking water users are considered in the Groundwater Sustainability Plans (GSP) and how GSAs plan to monitor and manage groundwater levels over the 20-year timeline of SGMA for when they will achieve long-term groundwater sustainability. Additionally, GSA representatives, such as the local County Drought and Water Storage Task Force (Task Force) that participates in a county's drought planning activities, can make sure groundwater-interested parties are aware of the county plans and can provide timely input and valuable alignment in practice.

Emergency Services

Per California Government Code (CGC) Section 8605, each county is designated as an operational area under the California Emergency Services Act (CGC, Chapter 7, commencing with Section 8550). An operational area is an intermediate level of the State emergency services organization, consisting of a county and all political subdivisions within the county area, such as cities, special districts, and water agencies (CGC Section 8559(b)). Although applying the concept of operational areas within a county and its political subdivisions is permissible, the county remains the contact point for the State during emergencies defined in CGC Section 8558 and unequivocally for the unincorporated areas within a county, where state small water systems and domestic wells may exist.

Each county has a department or office for emergency services, referred to in this Guidebook for simplicity as a County Office of Emergency Services (County OES). County OES is the primary contact for Cal OES for disaster response and other related assistance. Three Cal OES regions play a vital role in disaster response and preparedness throughout the State. The Emergency Services Coordinators and management for each geographic region have their own unique sets of challenges, but share the same responsibility to provide guidance on emergency management, support, and information-sharing during and after disasters. These coordinators also remain the primary conduit of contact for the Operational Areas and Special Districts throughout the State (Cal OES 2022).

1.2 Purpose of this Guidebook

In collaboration with the State Water Board, Cal OES, and OPR, DWR prepared this Guidebook as technical assistance to help counties develop their respective County DRP to meet the requirements of SB 552. This Guidebook includes information about statewide data and tools compiled by State agencies that are available to all counties for their water shortage risk assessment, a range of short-term responses, long-term mitigation strategies and actions, and other supporting capacity building that counties should consider and adapt, as appropriate, in their respective County DRP based on their need to achieve meaningful, long-term water resilience improvements for their residents.

To cultivate the continued practice of water resilience, SB 552 also directs counties to establish a longstanding Task Force. As such, this Guidebook provides guidance and suggestions for establishing a Task Force that meets SB 552 requirements and is customized to fit the individual county's needs and organizational functions to provide input and guidance to the respective county for improving water resilience for its residents. Where applicable, counties are encouraged to consider their broad authority and available tools and resources when developing their County DRP and forming their Task Force to achieve broad and long-lasting benefits for all residents and water systems within their corresponding jurisdiction.

It is important to note that counties are solely responsible for compliance with the requirements under SB 552. This Guidebook is for advisory purposes only. DWR welcomes further input from counties and stakeholders on any improvements to this Guidebook. Subject to resource availability, DWR may update this Guidebook as warranted in the future to capture lessons learned or best practices.

1.3 County Drought Resilience Plan Development and Implementation

The County DRP is meant to support counties to facilitate drought and water shortage preparedness for state small water systems and domestic wells within a county's jurisdiction. This Guidebook focuses on these two types of systems, because other water systems are covered by provisions in the 2018 Legislation and in other chapters of SB 552. This Guidebook also serves as a reference to the Task Force to provide a basic understanding of SB 552 requirements and principles and practices of drought planning, to better prepare the Task Force to make informed contributions to the planning process. While SB 552 does not directly assign the Task Force the responsibility for developing the County DRP, the role of the Task Force is clear to advise on plan development to maintain consistency in local implementation and relevancy to local conditions.

For consistency and efficiency, the County DRP should be prepared in a collaborative setting to integrate various relevant government functions for collective implementation and greater benefits. Most counties have existing emergency, operational, or resource management plans that could inform County DRP development. Thus, the County DRP should conform with, tier from, and/or be consistent with existing plans by using uniform definitions, compatible arrangement, and leveraged capabilities. Similarly, where possible and allowable by available resources, counties could consider broadening the scope of the County DRP to include other water systems in coordination and collaboration with proper entities and authorities to formulate a comprehensive water resilience plan for all residents.

SB 552 allows counties to develop a stand-alone plan or integrate elements into existing plans such as a LHMP, emergency operations plan, climate action plan, or general plan. A desktop assessment of existing planning documents can be completed to help counties to determine the best pathway for compliance. Counties can list the SB 552 components against the relevant and existing county documents specifying the sections that are directly tied to SB 552. Completing this exercise allows counties to see areas of potential amendment needed to bring existing county plans into compliance. Developing a stand-alone plan may be easier for counties to reference in other plans, as only one plan needs to be updated as new information emerges and local conditions change. However, it is important to recognize that certain procedural requirements, such as county General Plan updates, may apply and facilitate the actual amendments and adoption of changed and augmented element(s). In this context, the stand-alone plan is merely a policy document that outlines actions to be taken separately for realizing the needed changes.

Appendix B contains a template that counties may reference for how to complete a desktop assessment of existing planning documents. **Figure 1-1** provides an overview of the County DRP development and implementation process.

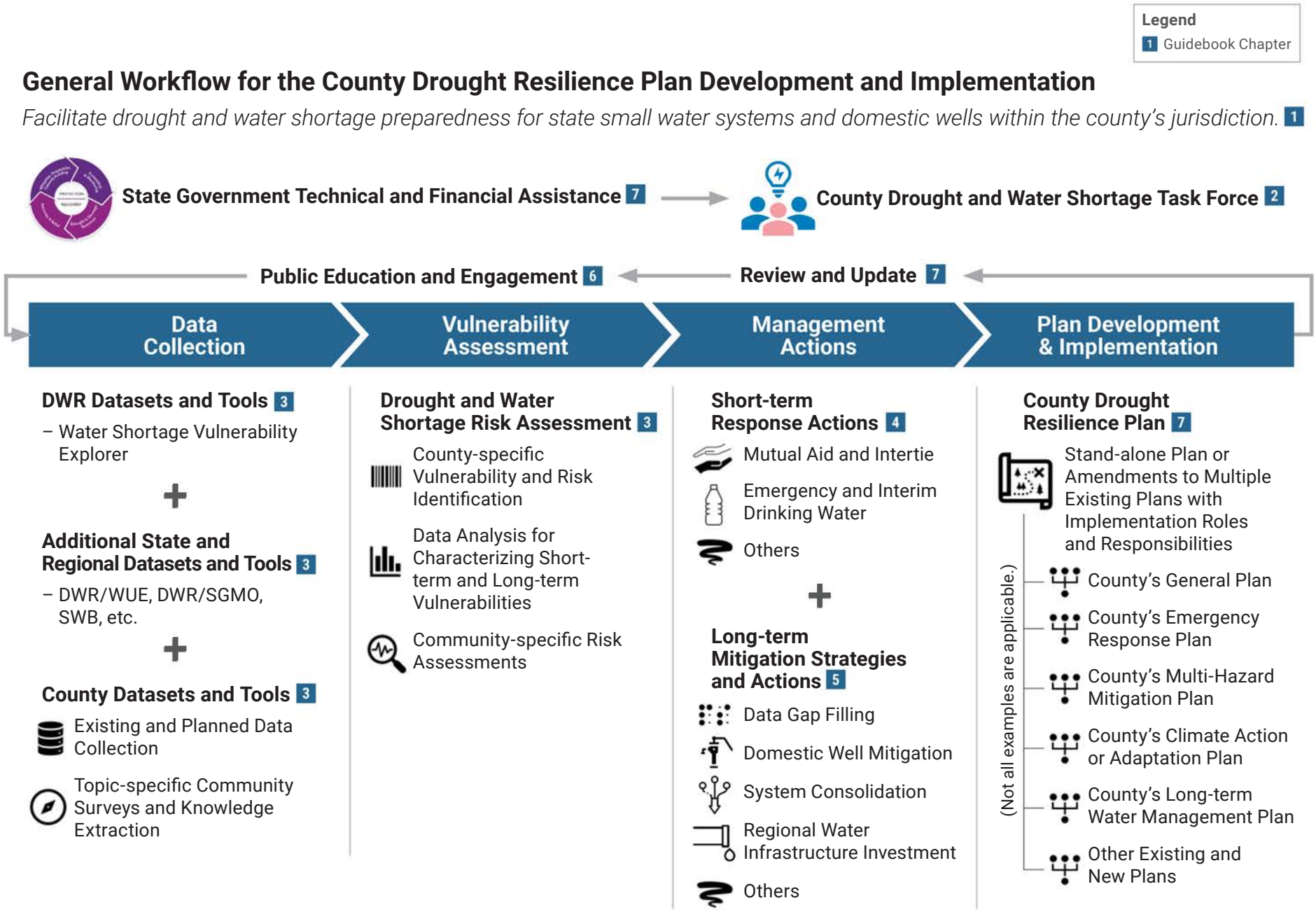


Figure 1-1 – General Workflow for the County Drought Resilience Plan Development and Implementation

1.4 Guidebook Organization

This Guidebook is organized as follows.

- **Chapter 1: Introduction** – Provides an overview of county responsibilities in facilitating drought and water shortage planning for state small water systems and domestic wells. This chapter also provides an overview of the County DRP that must be developed by counties to meet SB 552 requirements. It also provides insight into the general workflow for the County DRP development and implementation process.
- **Chapter 2: County Drought and Water Shortage Task Force** – Describes the SB 552 requirements for establishing a Task Force and offers guidance on membership, responsibilities, best practices, and case studies from Butte County and El Dorado County relative to how they are meeting SB 552 requirements.
- **Chapter 3: Drought and Water Shortage Risk Assessments** – Provides guidance on how to complete a vulnerability assessment to inform short-term response actions and long-term mitigation strategies and actions.
- **Chapter 4: Short-Term Response Actions** – Provides guidance on what counties may do to mitigate impacts during the initial stages of drought and during ongoing drought conditions in areas that have had wells go dry or are susceptible to water shortages.
- **Chapter 5: Long-Term Mitigation Strategies and Actions** – Provides guidance on what counties may pursue in the long term to secure reliable water supplies for state small water systems and domestic wells.
- **Chapter 6: Public Outreach, Information, and Engagement** – Provides guidance on practices for counties to conduct adequate public outreach and education as they develop and implement their respective County DRP.
- **Chapter 7: Implementation Considerations** – Provides guidance on the development, implementation, and maintenance of the County DRP.
- **Chapter 8: Glossary** – Provides definitions of key terms used within the Guidebook.
- **Chapter 9: References** – Provides a summary of references used in the development of the Guidebook.

2 | County Drought and Water Shortage Task Force

Under climate change, the State is facing conditions conducive to more frequent droughts and water shortages that are expected to increase. The ongoing multi-decade drought evolving in the Colorado River Basin also provides solemn reminders for the possibility of long-term aridification. Lessons learned in past droughts in the State suggest that a locally driven planning process could identify unique challenges and needs, establish proper priorities to address identified unique challenges and needs, and encourage a more equitable response to drought conditions.

CWC Section 10609.70 requires counties to set up a standing Task Force with participation of local governments and stakeholders to facilitate drought and water shortage preparedness for state small water systems and domestic wells within each county's jurisdiction. A water shortage event could be caused by droughts or other emergencies such as wildfires, earthquakes, floods, and other local emergencies. A standing Task Force would provide consistent implementation and continuous progress towards facilitating drought and water shortage preparedness for state small water systems and domestic wells. This chapter provides guidance to counties on establishing a standing Task Force that will educate the community and plan against future drought and water shortage events.

2.1 Legislative Directive

CWC Section 10609.70 enacted by SB 552 requires counties to establish a standing Task Force or an alternative process that facilitates drought and water shortage preparedness for state small water systems and domestic wells within each county's jurisdiction:

> *(a) (1) A county shall establish a standing county drought and water shortage task force to facilitate drought and water shortage preparedness for state small water systems and domestic wells within the county's jurisdiction, and shall invite representatives from the state and other local governments, including groundwater sustainability agencies, and community-based organizations, local water suppliers, and local residents, to participate in the task force.*
>
> *(2) In lieu of the task force required by paragraph (1), a county may establish an alternative process that facilitates drought and water shortage preparedness for state small water systems and domestic wells within the county's jurisdiction. The alternative process shall provide opportunities for coordinating and communicating with the state and other local governments, community-based organizations, local water suppliers, and local residents on a regular basis and during drought or water shortage emergencies.*
>
> *(3) A county that establishes a drought task force on or before January 1, 2022, shall be deemed in compliance with this subdivision as long as the task force continues to exist.*

A county that established a standing Task Force or alternative process on or before January 1, 2022, shall be deemed in compliance with part of SB 552 requirements for Task Force initiation. The established Task Force or alternative process should have regularly scheduled meetings during non-emergency periods, and more frequent meetings during drought and water shortage emergencies.

To be fully compliant with SB 552 requirements on a Task Force, counties need to demonstrate that the established Task Force or alternative process can provide the required functions for, at a minimum, the participation specified in SB 552. Counties need to further demonstrate that the required functions and participation continue in perpetuity.

2.2 Task Force Responsibilities

The main role of the Task Force or alternative process will be to facilitate drought and water shortage preparedness, as illustrated by the disaster risk management framework shown in **Figure 2-1**. Lessons learned are captured and applied to future planning to continuously update short-term response actions and long-term mitigation strategies and actions captured in the County DRP. The County DRP may be a stand-alone document or include elements to be added/amended in existing county plans, such as a LHMP, emergency operations plan, climate action plan, or general plan. Counties shall consult with their Task Force or alternative process to coordinate County DRP development.

Note: This framework is based on Ekstrom et al. (2020) and informed by Baird (1975); Carter (2008); Coetzee and Niekerk (2012); and Van Dongeren et al. (2018)

Figure 2-1 – Disaster Risk Management Framework

In addition to advising County DRP development, counties should consider how to leverage the Task Force for additional contribution to the following:

- Sharing findings and recommendations related to drought and water shortage planning efforts with the communities
- Providing briefings to the board of supervisors of their respective county
- Monitoring drought conditions to make recommendations for initiating reasonable short-term response actions according to established plans, including the County DRP
- Identifying data gaps and necessary actions (including potential needed capacity development and resource acquisition) to gather missing data for better drought and water shortage planning
- Facilitating proactive planning and coordination across ongoing or anticipated efforts within their respective county to reduce the occurrence and associated consequence of water shortage. Examples of these efforts may include: (1) actions by small water suppliers to comply with SB 552 requirements, (2) implementation of GSPs in coordination with GSA(s), and (3) implementation pursuant to other applicable law and regulations, such as AB 685 of 2012 that establishes the State's human right-to-water policy
- Holding open discussions regarding drought and water shortage conditions within the county, and the anticipated outcomes of ongoing or anticipated efforts to mitigate short-term and long-term risks of water shortage
- Sharing updates on relevant regulatory requirements and the implementation status of County DRP and other relevant plans for improving water resilience
- Sharing/pursuing funding opportunities for advancing planning for water resilience and responses to water shortage events
- Encouraging and implementing long-term (advance planning) that anticipates budget and policy needs, and trigger points for future actions

2.3 Task Force Membership

A task force is an organizational structure that plans, maximizes participation and engagement, encourages consistency over time, and makes efficient use of time and money. In the context of SB 552, the intent of the Task Force, at a minimum, is to lead the preparedness planning for state small water systems and domestic wells against water shortages that could be caused by droughts, wildfires, or water quality issues. Since SB 552 provides limited guidance on the membership of the Task Force, counties have some flexibility in determining the structure and makeup of the members. To better serve the state small water systems and domestic wells, the Task Force should, at a minimum, include "core" members that are legally responsible for public water systems, state small water systems, and domestic wells, as well as implementing the requirements of SB 552. Counties could opt to leverage existing county groups in lieu of a new Task Force or alternative process. Potential core members to consider include the following entities and individuals in their respective county:

- Well-permitting agencies (e.g., counties) that oversee the installation of new wells or modifications of existing wells.
- County health officials who have direct oversight responsibility for state small water systems and domestic wells. Often, county health officials may delegate the responsibility to the local primacy agency (LPA), if established. The involvement of the county health official in the Task Force even under this circumstance is encouraged.
- The LPA or State Water Board for counties without a local primary agency overseeing the small water systems with more than 15 connections to provide experience and additional support as needed.
- County emergency management units (e.g., County OES, county office of emergency management, county fire department, or sheriff's office), as they can ensure that emergency response procedures developed for drought are consistent with the county's existing processes and terminology in other plans.

Case Study

Butte County Drought Task Force

Butte County adopted a Drought Preparedness Plan in 2004 and established a Butte County Drought Task Force comprising various Butte County Department Directors and others in the county that represent the interests of several groups, state small water systems, and domestic well owners. The Drought Task Force members are listed on the county's website.

The Drought Task Force monitors hydrologic conditions in Butte County throughout the water year and reports the findings to Butte County's Water Commission and Board of Supervisors for further actions. The Drought Task Force meets annually in non-drought situations and biannually, quarterly, or monthly as the drought progresses. Meetings are publicly announced on the county's website, with web conference capacity to accommodate general participation. The composition of members of Butte County's Drought Task Force and its advisory nature do not automatically trigger any procedural requirements for compliance with the Ralph M. Brown Act (CGC, Section 549501 et seq., hereinafter "the Brown Act").

Since the enactment of SB 552, Butte County leveraged the existing Drought Task Force to meet the requirements of CWC Section 10609.70(a) for a standing county drought and water shortage task force.

- Tribal representatives for their perspective in terms of potential water shortage risks and offering institutional knowledge, data and science, other resources, and valuable input.
- GSAs, as they have developed and must implement GSPs to manage groundwater sustainably in a basin using either a single plan or coordinated multiple plans. Engagement with GSA(s) that exist within the county will be vital to coordinate efforts for SB 552 implementation in areas with recognized groundwater basins.
- State representative for continuous State support and guidance on SB 552 requirements (e.g., staff from DWR or State Water Board's Division of Drinking Water).
- Community members who get their household water from state small water systems and domestic wells to provide their perspective and practical considerations.
- Representative(s) from large public water systems with potential capacities to support long-term mitigation strategies and actions and short-term response actions (such as mutual aid and water sharing).
- Leadership from county government that sets or communicates priorities (e.g., county chief administrative office).
- Representative(s) from other relevant regional management groups, such as CV-SALTS Management Zones, as they have responsibilities related to well testing and provide replacement water in the Central Valley. Their participation would facilitate additional coordination and learning on outreach and program design.

Case Study

El Dorado County Drought and Water Shortage Task Force

Per SB 552 requirements under CWC Section 10609.70(a), El Dorado County established a Drought and Water Shortage Task Force in 2022 under the Countywide Plenary for Water established by El Dorado Water Agency (EDWA) for implementing its county water plan, the Water Resources Development and Management Plan. Separate from the County of El Dorado, EDWA is charged through the 1959 El Dorado County Water Agency Act with water resource development and management in El Dorado County, as the Legislature found that countywide water management issues cannot be adequately managed by individual water agencies.

El Dorado County's Drought and Water Shortage Task Force consists of five core members who are responsible for managing public water systems, state small water systems, and domestic wells. The five core members also consult with additional advisory members who provide information about local conditions and specific needs and offer input for consistent implementation and equity. In addition, the Drought and Water Shortage Task Force provides input to the EDWA Board and El Dorado County Board of Supervisors on drought management and water shortage mitigation for implementation considerations. The membership information and the charter of the Drought and Water Shortage Task Force are provided on EDWA's website.

The composition of members and the advisory nature of El Dorado County's Drought and Water Shortage Task Force do not automatically trigger actions required for compliance with the Brown Act. Meetings are publicly announced on the county's website, with web conference capacity to accommodate general participation.

Counties are encouraged to conduct an assessment of their unique conditions and identify core members to provide adequate coverage of, at a minimum, state small water systems and domestic wells as required by SB 552. They are also encouraged to consider the additional benefits for expanded coverage to include additional representatives to provide a comprehensive picture of potential water shortage risks and needs for short-term mitigation and long-term prevention.

The following is a list of potential members who may have resources, capabilities, and ideas to contribute to the Task Force for drought and water shortage supply planning. Note that this is not an exhaustive list of stakeholders; counties should consider their own lists of potential partners for improving countywide drought planning.

- Nonprofits that have a goal to provide accessible and safe water supplies to communities (e.g., Self Help Enterprises, Community Water Center, Leadership Center for Accountability and Justice)
- Facilities and infrastructure specialists who make recommendations about improvements or installations (e.g., water system operators, public water systems, flood control districts, water rights specialist from the State Water Board)
- Access and functional needs representatives who can help target special water needs
- Public information specialists who can aid in messaging the work that the Task Force does, and can publicize conservation measures
- Community residents on community water systems at risk of failing or on the State Water Board's Human Right to Water list
- Environmental and resource specialists such as hydrology specialists, but also natural and cultural resource subject matter experts
- Planning departments that can ensure compliance with other requirements and integrate drought planning into existing plans (e.g., Public Works, Zoning Plans, Land Management Plans)
- Economic and business sector representatives who may be able to identify private-sector capabilities
- Public safety representatives who may have experience organizing and working with Task Forces and may offer varying perspectives on unique water needs and security concerns

- Legal counsel that can ensure that plans and funding are in line with county and State laws, policies, and procedures
- Adjacent county or government partners who can leverage capabilities and identify opportunities for economies of scale
- Engineers who can share technical solutions based on prior experiences

2.4 Best Practices

The following are best practices that the Task Force, or alternative process, may implement to improve its functions and outcomes:

- Develop a charter (see Appendix A for a charter template for consideration) or, at a minimum, a common understanding about the charge of the Task Force that includes:
  - The purpose and goal of the group
  - Membership
  - Responsibilities
  - Meeting schedule and parameters
- Establish the frequency of meetings during normal conditions, early onset of drought, drought, and emergency drought conditions (e.g., twice a year during normal conditions, once a month during the early onset of drought, every other week during active drought conditions, and every week during emergency drought conditions).
- Identify, define, and recommend priorities, trigger points, phases, and processes for inclusion in drought planning. These may mirror or incorporate existing plans.
- Develop an information flow and documentation system for continuous drought and water shortage planning.
- Create a web page, perhaps hosted on the county website, on which to post answers to frequently asked questions, drought- and water shortage-related materials, Task Force information (e.g., meeting details, minutes from meetings held), a list of county resources, and the County DRP.

  - Example 1: Butte County's **website** incorporates Public Health, Water Resources and Conservation, and County OES information.
  - Example 2. EDWA's **website**, generates real-time drought conditions through its public geographic information system (GIS) portal, along with other countywide information resources.

- Coordinate and support the county with long-term and advance planning efforts to prevent water shortages.
- Engage the community in drought and water shortage planning efforts and consider the needs of groups with access and functional needs (i.e., people with disabilities, older adults, children, limited English proficiency, and transportation-challenged), as these groups may be disproportionately affected during disasters.
- Serve as a coordination hub to support effective and efficient implementation of emergency response and programming across programs.
- Provide a centralized venue for residents to receive information and connect to resources.
- Facilitate coordination between County OES and Cal OES during drought and water shortage emergencies.

Meetings held by the Task Force or alternative process should be public to improve transparency and accountability with meeting information posted online and onsite for easy access. Depending on the member composition, a convening of the Task Force does not automatically trigger compliance requirements of the Brown Act. Rather, most task forces are advisory in nature and, therefore, do not include elected officials or decision-makers as members. Counties should consult their legal counsel to define best practices for meeting announcements and associated actions, and, if needed, for Brown Act compliance. If there is a potential for a quorum, proper notification should be made. In some cases, a meeting can be noticed as a special meeting to allow for a quorum to be present and for certain topics to be raised, and to clarify whether any decisions would be made during the meeting.

3 | Drought and Water Shortage Risk Assessments

A risk assessment is an overall process to explore potential hazards and analyze what could happen and who may be impacted if the hazard occurs. This is a standard part of informing any disaster mitigation plan. A drought and water shortage risk assessment is central to understanding, planning for, and reducing, where possible, the vulnerabilities and potential impacts of drought conditions, water shortage events, and other related hazards to state small water systems and domestic wells. Identifying vulnerabilities provides counties with information that can, and should, be used to develop response plans to meet emergency and short-term needs and to develop long-term mitigation strategies and actions that reduce the need for future short-term emergency response actions. This chapter provides guidance on how to conduct a drought and water shortage risk assessment within a county for state small water systems and domestic wells, and how to use that information to plan emergency response and longer-term mitigation.

If a jurisdiction is also seeking approval of the drought and/or water shortage risk assessment within the LHMP, it should follow the requirements outlined in the Federal Emergency Management Agency's (FEMA) **Local Mitigation Planning Handbook** (FEMA 2013). It should also refer to the most recent version of the California State Hazard Mitigation Plan. The guidance offered in this Guidebook does not replace the more structured FEMA regulatory requirements. Counties would improve their eligibility for FEMA's Pre-Disaster Mitigation and Hazard Mitigation Grant programs by following FEMA's approach for risk assessment.

3.1 Legislative Directive

CWC Section 10609.70 enacted by SB 552 provides the following directives relative to drought and water shortage risk assessment (**bold** added for emphasis as related to this section):

> *(b)* ***A county shall develop a plan that includes potential drought and water shortage risk*** *and proposed interim and long-term solutions* ***for state small water systems and domestic wells within the county's jurisdiction.*** *The plan may be a stand-alone document or may be included as an element in an existing county plan, such as a local hazard mitigation plan, emergency operations plan, climate action plan, or general plan. A county shall consult with its drought task force or alternative coordinating process as established by this section in developing its plan. A county shall consider, at a minimum, all of the following in its plan:*
>
> *(1) Consolidations for existing water systems and domestic wells.*
>
> *(2) Domestic well drinking water mitigation programs.*
>
> *(3) Provision of emergency and interim drinking water solutions.*
>
> *(4) An analysis of the steps necessary to implement the plan.*
>
> *(5) An analysis of local, state, and federal funding sources available to implement the plan.*

3.2 Concepts and Terminology

Risk assessments include a suite of concepts that are traditionally used in emergency response and disaster mitigation planning. This Guidebook uses terms consistent with Cal OES, FEMA, and other State and federal agencies. For the purposes of this Guidebook, the following definitions from the FEMA Local Mitigation Planning Handbook (FEMA 2013) have been adapted slightly for drought and water shortage planning:

- **Hazard** – Source of harm or difficulty created by a meteorological, environmental, geological, other event, or hydrological and/or other environmental conditions.
- **Community assets** – The people, structures, facilities, and systems that have value to the community. The minimum assets considered as part of the SB 552 plan must include state small water systems and domestic wells and populations reliant on these water supplies.
- **Vulnerability** – Characteristics of community assets or population that make them susceptible to damage from a given hazard. This guidance presents both physical vulnerability and social vulnerability.
- **Impact** – The consequences or effects of a hazard related to drought and water shortages on the community and its assets.
- **Risk** – The potential for damage, loss, or other impacts (e.g., water shortage) created by the interaction of natural hazards with community assets and their physical and social vulnerabilities.
- **Risk assessment** – Product or process that collects information and assigns values to risks for the purpose of informing priorities, developing or comparing courses of action, and informing decision-making.

3.3 Purpose of a Drought and Water Shortage Risk Assessment

The purpose of completing a drought and water shortage risk assessment as part of the County DRP is to understand pathways of how the potential impacts of drought and other water shortage may occur and, subsequently, induce impacts on the people, economy, and environments of the community (FEMA 2013). The findings provide a foundation for developing the plan to reduce or avoid the potential impacts of drought and water shortage events. This includes, but is not limited to, identifying the areas within a county that are most susceptible to water shortages and/or where residents are most vulnerable to impacts of water shortages. Domestic wells, homes with private surface water intakes, and state small water systems vary in terms of how they may experience impacts during drought and water shortage events. However, they are generally considered to be among the most vulnerable to drought in the State, providing an important driver of SB 552.

The outcomes of a drought and water shortage risk assessment may include the following types of information, all of which contribute to drought and water shortage planning:

- The locations of domestic wells, and private surface water and state small water systems
- Understanding where residents rely on domestic wells, private surface water intakes, and state small water systems, and their status of social vulnerability
- Data gaps that should be filled to better inform development and implementation of short-term response actions and long-term mitigation strategies and actions
- Barriers, if any, that prevent the county and state small water systems and domestic wells from pursuing strategies for short-term response and long-term mitigation strategies and actions (e.g., affordability; technical, organizational, and institutional capacities; limited authorities; State mandates to alleviate housing shortages and other competing policies and regulations; political will and community support; and available funding and burdens for securing funding)

3.4 Risk Assessment Approach

Drought- and water shortage-related hazards may be different in terms of duration, intensity, geographic location, and other characteristics. Where and how people may be impacted depends on a combination of environmental, hydrological, and social factors. A county may gain valuable information on the vulnerability of state small water systems and domestic wells in its jurisdiction and what may need to be done to prevent future water shortages. Completion of a drought and water shortage risk assessment yields more comprehensive and objective findings, because hydrological conditions are complex. Access to water may be affected by surface water flows, groundwater levels and conditions, and regulatory and infrastructure constraints.

Domestic wells, homes with private surface water intakes, and state small water systems, as well as some small public water systems, vary in terms of how they experience impacts during drought and other water shortage situations. However, they are generally considered to be among the most vulnerable to drought in California, providing an important driver to the passing of SB 552 legislation.

Conducting a drought and water shortage risk assessment will include a review of local water supply reliability planning efforts to identify triggers and needed outcomes of short-term response actions. In general, a drought and water shortage risk assessment can be completed in five steps to understand vulnerabilities and risks countywide, with a sixth step to use the findings to identify needs of the county for implementing its County DRP once it is developed. The following is based on the steps presented in the 2013 FEMA Local Mitigation Planning Handbook to conduct a risk assessment (FEMA 2013):

1. Describe the hazard
2. Define the scope and community assets
3. Conduct vulnerability assessment
4. Analyze risks
5. Summarize assessment

Table 3-1 shows a list of recommended questions that can help counties document their potential needs. A county may choose to include these in its long-term mitigation plan to support a better understanding of the assets and how they are vulnerable and at-risk to drought and water shortages.

Step 1: Describe the Hazard

The first step to complete a risk assessment is to describe the hazards, which in the context of SB 552 are the natural, human-made, and social processes that can lead to water shortages in the county. The description should include a characterization of drought and water shortage conditions in the county, including past events and their extent, and the probability of future events. More specifically, this could include a discussion of available water supplies, estimated water uses, and planned water management actions (if any) for improving water reliability and resilience to set the broader context. The historical hydrological data in the region reflecting varying weather conditions is useful

Table 3-1
Recommended Questions Tied to the Risk Assessment

Risk Assessment Steps	Example Questions
1. Describe the hazard	Are the impacts of past droughts documented in the county? Are there scenarios developed that could provide insight into how groundwater levels and other supply availability could be affected?
2. Define the scope and community assets	Does the county have an inventory of homes reliant on domestic wells, private surface water intakes, and state small water systems?
3. Conduct vulnerability assessment	Under what conditions would these homes experience water shortages? Are some vulnerability factors unknown or could data be inaccurate? Can available regional or State data be scaled to the state small water system/domestic well/ private surface water intake level? Are there some measures for which no data or insufficient data is available (e.g., depth of well to hard rock)?
4. Analyze risks	Do scenarios of past droughts or projected extreme events exist in a useful format for exploring risk?
5. Summarize assessment	What are the key findings? What methods were used? What people participated in the assessment and review?
6. Assess capabilities	Are additional staff or skills needed to support planning and implementation to mitigate the identified drought and water shortage risks?

information to include, as well as climate change impacts that have already manifested now and will continue to do so in the projected future. Counties also may choose to incorporate hazards that frequently co-occur with drought, such as wildfires (including human-induced incidents), water quality concerns, and extreme heat conditions. Doing so makes their County DRP more robust.

The State and federal governments provide services such as weather forecasts and compilation of historical data. The **US Drought Monitor** offers a broad view of drought conditions throughout the continental United States (U.S.), and allows users to download selective data. DWR's **California WATER WATCH** offers a variety of past and current water conditions, viewable by statewide or by geographic location, that can be used to understand water supplies and drought in the county (DWR 2022a). Datasets from different sources include:

- Precipitation
- Temperature
- Reservoir levels
- Snowpack
- Groundwater levels
- Streamflow
- Soil moisture
- Vegetation conditions

For more detailed information on groundwater, both past and present, **California's Groundwater Live** maintained by DWR offers information, including maps on:

- Current conditions
- Groundwater levels
- Well infrastructure
- Land subsidence

Counties can utilize available qualitative and quantitative information through various studies to further characterize how water shortage conditions may evolve under climate change, including the 2018 **California's Fourth Climate Change Assessment** and several **basin studies** completed by U.S. Department of the Interior, Bureau of Reclamation (Reclamation) (e.g., the 2022 **American River Basin Study**, 2017 Los Angeles Basin Study, 2016 Sacramento and San Joaquin Basin Study, and others).

Cal Adapt is a data platform that can be used to explore and access scientific data that depicts how climate change might affect California at the state and local levels. Data is made available through downloads, visualizations, and other options. Especially relevant to counties is the Local Climate Change Snapshot Tool (within Cal Adapt) that allows the user to enter a county (or other geographic location) and generate a report for that area's climate conditions (past and projected future under the changing climate), including:

- Extended drought scenarios
- Precipitation
- Sea level rise
- Extreme weather
- Extreme precipitation
- Extreme heat
- Wildfire
- Snowpack
- Streamflow

Additionally, other organizations (GSAs, Integrated Regional Water Management programs, universities, and other researchers) may have further information and documentation to use as part of the hazard description, including information relative to future conditions under climate change. The projected conditions under climate change are most important for counties to incorporate into their design of long-term strategies and actions to reduce drought impacts and mitigate water shortage conditions. As with all compiled data, counties should review the available information to determine the accuracy, limitations, and resolution, and, to the extent possible, to develop local-specific information for customized use.

Step 2: Define the Scope and Community Assets

After the hazard is characterized, the next step is for the county to identify the scope and objectives for asset protection for drought resilience planning purposes, and inventory the associated assets. In the context of SB 552, goals and objectives for drought resilience planning are, at a minimum, to focus on those reliant on state small water systems and domestic wells, and to identify the desired outcomes in terms of level of protection for these populations. Counties may include private homes with their own surface water intake as part of the asset inventory, because they can be very vulnerable to water quality problems and shortages in drought conditions. An asset inventory focuses on mapping the locations of domestic wells, state small water systems, and private surface water intakes for domestic use. Other physical water supply assets that a county may choose to consider in its scope may include small public water systems, ecological habitats, and other beneficial uses of water.

To the extent possible, counties should develop an inventory of areas that state small water systems and domestic wells may serve. The State hosts databases with this type of information to the extent possible, some of which is included in the DWR **Water Shortage Vulnerability Explorer** that offers counties a starting point. Counties may have more accurate data records or can work to create accurate inventories of active domestic wells, state small water system service areas, locations of households reliant on private surface water intakes, and population counts of how many people rely on these water supplies.

A widely used dataset of domestic wells statewide is DWR's **well completion report website** that hosts an online public database of well completion reports submitted to the State by well drillers, along with a mapping tool. The data contained in a well completion report includes its location, depth, and other information about each well, which is also accessible through **California Groundwater Live** and the DWR **Water Shortage Vulnerability Explorer**. Note that the existence of a well in the well completion records does not guarantee the corresponding well is active or the information is up to date. Not all well drillers are diligent in submitting their well completion reports. Counties should do their best to corroborate information for accurate reporting.

The State Water Board also has compiled documentation of **state small water systems** and domestic wells submitted by counties as part of SB 200 implementation. SB 200 requires local health officers and other relevant local agencies to submit water quality data for state small water systems and domestic wells. Refer to the State Water Board's **state small water system and domestic well water quality data website** for additional information. Note that state small water systems can rely on surface water intakes or groundwater wells.

Table 3-2 describes State-hosted datasets on locations of state small water systems and domestic wells. Counties may have a more complete inventory of these assets than State-hosted information. In such cases, they are encouraged to use the best available data for their risk assessments based on their discretion and needs.

State small water systems and domestic wells could be affected by drought or water shortage events, but some conditions may make these assets more vulnerable than others. For example, shallow domestic wells are more physically vulnerable to water shortage than deeper wells in the same area of a groundwater basin. Some domestic well-reliant households that do not have access to a vehicle may face more challenges when coping with a well outage. Similar conditions may be applicable for some households with private surface water intakes. Some of the indicators of physical and social vulnerability are described in Step 3, many of which were previously identified and developed in the CDAG process leading to SB 552 (DWR 2021b).

Several other water-related assets can inform the risk assessment, including, but not limited to: locations and attributes of public water systems (size, service area, water sources), proximity of water systems to one another (domestic wells, state small water systems, public water systems), existing mutual aid agreements between water suppliers or between water suppliers and the county to support domestic well outages, storage tanks, fill stations, and other infrastructure or arrangements to support interim drinking water solutions. The **State Water Board's Electronic Annual Report** is a survey of public water systems that compiles information on public water system source water capacity, contacts, population and volume served, and number of service connections, among other information. The service areas of these systems, hosted by the State Water Board's Service Area Boundary Layer, is also

Table 3-2
State Small Water System and Domestic Well Data Accessibility

State Small Water System Data

State Source	Local Source
State Water Board hosts a **public database** with locations of state small water systems that is also available upon request	Available by county department that oversees the management of state small water systems (e.g., Environmental Health)

Domestic Well Data

State Source [1,2,3]	Local Source
DWR: Well completion reports GAMA Groundwater Information System: Groundwater quality data from several different sources on an interactive Google-based map interface	Available by county department that oversees well permitting or county data management (e.g., Environmental Health, Assessor's office)

Notes:

[1] https://data.cnra.ca.gov/dataset/well-completion-reports

[2] https://www.waterboards.ca.gov/water_issues/programs/gama/online_tools.html

[3] ttps://sgma.water.ca.gov/CalGWLive/

Key:
DWR = California Department of Water Resources
GAMA = Groundwater Ambient Monitoring and Assessment Program
State Water Board = State Water Resources Control Board

included in the DWR **Water Shortage Vulnerability Explorer** to help explore the locations of other assets in the county. Other assets may be more locally specific and, therefore, not available in statewide databases. Nonetheless, these locally-specific assets may be very valuable for informing risk assessment and plan development.

Step 3: Conduct Vulnerability Assessment

Step 3 is to conduct a vulnerability assessment by gathering and assessing the data and other information needed about what may make people reliant on certain assets in the county that may become vulnerable during drought or water shortage events. Based on the findings, counties should document the extent and areas vulnerable and why.

There are two major categories of vulnerability assessment for counties to consider as they develop their County DRP: physical vulnerability and social vulnerability. A set of indicators for physical and social vulnerabilities was developed through a stakeholder participation process per the requirements of AB 1668 to identify small water system and rural communities in the State at risk of drought and water shortages. During this process, physical and social vulnerability indicators were formulated considering geology, land use, climate, infrastructure, population demographics, and other factors. Details of these indicators are provided later in this discussion of Step 3. Counties should review all the indicators for their applicability to their respective state small water systems and domestic wells, and develop additional indicators as appropriate. Counties may review physical vulnerability and social vulnerability together, as they may mutually reinforce each other.

To further aid counties in the assessment of physical and social vulnerabilities, DWR has improved the exploratory tool and indicators developed during (and updated since) the aforementioned AB 1668 process. The resulting DWR **Water Shortage Vulnerability Explorer** contains available statewide data that is relevant and publicly available. These datasets serve as basic information that counties could rely on in their efforts to conduct drought and water shortage vulnerability assessments. DWR is committed to maintaining this tool and updating the indicators and reference layers with necessary improvements. DWR is also committed to expanding the tool's intended use in perpetuity as part of its technical assistance, and to meet the corresponding requirements of SB 552 (CWC Section 10609.80(a)).

To provide data to all counties in a consistent manner, DWR included datasets that have statewide coverage, and recognizes that the resolution and integrity of the data depends on how the original reported data were prepared by contributing entities. Counties may have additional county-specific data that could be used to augment the basic datasets to further assist the vulnerability assessment for improved quality or relevancy. Counties may leverage their local datasets to augment statewide data provided through the DWR **Water Shortage Vulnerability Explorer**, document their use, and share them with State agencies to promote awareness and a shared understanding of on-the-ground conditions.

DWR's **Water Shortage Vulnerability Explorer** provides individual maps of the indicators and downloadable data for all indicators. Maps of individual vulnerability could be more useful for developing short-term response plans and long-term mitigation strategies and actions than a composite score, because they provide specific detail of each vulnerability.

Physical Vulnerability Assessment

A checklist for assessing physical vulnerability is provided in **Table 3-3**, followed by a more detailed discussion of its use in a drought and water shortage risk assessment. Many of these indicators, as well as original dataset source information, are provided through the DWR **Water Shortage Vulnerability Explorer** to assist counties in initiating their drought and water shortage risk assessments.

DWR developed the checklist in **Table 3-3** based on the findings of the Small Water Systems and Rural Communities Drought and Water Shortage Contingency Planning and Risk Assessment (DWR 2021b). To assess a county's drought and water shortage vulnerability for state small water systems and domestic wells, counties should consider the checklist and determine if each risk indicator is applicable in their respective county.

The checklist in **Table 3-3** offers an initial step to identify relevant vulnerability factors for additional evaluation. Counties may download the associated maps from the DWR **Water Shortage Vulnerability Explorer** or create maps based on collected data for easy dissemination of information and documentation as part of their countywide assessment.

After completing this exercise, counties may realize that more data and information are needed to inform planning. If that is the case, counties can proceed with completing a risk assessment with available data, identifying additional data needs, and taking action to acquire additional data to improve their water shortage planning efforts. Documenting methods, dataset used, and contributors on this part of the vulnerability assessment and making it public supports a transparent planning process.

Social Vulnerability Assessment

Certain communities and individuals tend to be more impacted by a drought and water shortage event than others due to their social vulnerability. Even a single day without household water can create major hardships and stress. Two neighboring homes may both rely on private domestic wells, but one household may be impacted more severely than the other for a variety of reasons. One household may know who to contact to ask for help, while the neighbor may have no knowledge that help may exist. Or they may have the knowledge, but no transportation, time between jobs, language ability, or budget to purchase or otherwise pick up bottled water. One neighbor may be able to find alternative housing until their water supply is safe again, whereas the other neighbor may have no known options. Understanding the socioeconomic, demographic, and community

Table 3-3 – Physical Vulnerability Factors Recommended for Consideration in the County's Assessment

No.	Physical Vulnerability Indicator	Observed Conditions	Applicability – If YES, please check off and evaluate vulnerability	Applicability – If NO, please check off and explain why	Available data (quantitative or qualitative) for assessment
1	Temperature shift: Projected change in heat by mid-century				
2	Wildfire risk: Projected severe or high severe risk				
3	Sea level rise projections of seawater intrusion into coastal aquifers				
4	Most recent water year's precipitation compared to historical average				
5	Count of multiple dry years within the past five years				
6	Fractured rock area: Communities in fractured rock areas				
7	Current Wildfire Risk (CAL FIRE)				
8	Groundwater Water Quality Risk Index: Likelihood that groundwater accessed by domestic wells may contain concentrations of constituents above regulatory levels				
9	Subsidence presence: Record of subsidence				
10	Over-drafted basin: Critically over-drafted groundwater basin				
11	Declining groundwater levels				
12	Irrigated agriculture: Presence of irrigated agriculture				
13	Reported household outages on domestic wells: Presence of domestic wells running dry				
14	(Alluvial Basin only) – Dry well susceptibility: Estimated likelihood of domestic well(s) running dry				
15	(Fractured Rock Area-only) – High density of domestic wells				
16	Depth of domestic wells and state small water system wells				
17	Back-up energy sources for households on domestic wells and for state small water system wells				

Key: CAL FIRE = California Department of Forestry and Fire Protection

Note: Refer to the Small Water Systems and Rural Communities Drought and Water Shortage Contingency Planning report for descriptions of the vulnerability factors (DWR 2021b).

characteristics and conditions (collectively, "social vulnerability") is a critical component for counties to be able to properly identify risks and then to account for them when developing Emergency Response Plans, interim drinking water solutions, and long-term mitigation strategies and actions for households reliant on state small water systems and domestic wells.

Recognizing the importance of accounting for vulnerable communities in local disaster and emergency planning, the Technical Advisory Committee of the Integrated Climate Adaptation and Resiliency Program developed a guide for local planners on how to assess social vulnerability, including what type of indicators to consider and why, and where to find the information (**Defining Vulnerability Communities in the Context of Climate Adaptation**). This guide is a useful reference for counties to learn how to incorporate this critical dimension of conducting a drought and water shortage risk assessment in the County DRP.

Tools to Explore Social Vulnerability

Several tools exist for exploring social vulnerability among a variety of indicators to support local planning in the State. The DWR **Water Shortage Vulnerability Explorer** tool offers a limited set of population characteristics frequently used to assess social vulnerability. These characteristics serve as a starting point for counties as they develop their drought and water shortage risk assessment; counties are able to view these population characteristics in conjunction with physical vulnerability indicators, assets (domestic wells and state small water systems), and other reference layers.

The **Healthy Places Index®**, developed by the Public Health Alliance, is a well-established and widely used tool to explore social vulnerability across a wide variety of relevant indicators. This platform is used by counties and other local planners throughout the State "to compare the health and well-being of communities, identify health inequities and quantify the factors that shape health." The platform not only provides many indicators related to understanding social vulnerability, but also provides narratives with each indicator to translate the data to help decision-makers and local planners interpret the indicators for each user-selected location. This data and decision-support platform allows the user to:

- Compare data across geographies and time periods
- Examine the link between race and place
- Explore longitudinal data
- Filter geographies by race, ethnicity, and country of origin
- Analyze historical redlining data to highlight the impact of racist policies

- Track indicator changes over time
- Conduct side-by-side map comparisons
- View data by ZIP code and unincorporated areas
- View hundreds of new decision-support layers, including measures of equity, diversity, and inclusion; schools, students, and education; climate projections; and housing stock
- Get policy recommendations tailored to the needs of their community

As an additional resource to highlight, the California Department of Public Health (CDPH) provides guidance and data visualization through the **Climate Change and Health Vulnerability Indicators** for county health departments in the State. The approach used by CDPH also offers helpful framing to apply to drought risk for domestic wells and state small water systems specifically. For county planning efforts, several tools are available to support social vulnerability assessments and social equity.

Counties should leverage the tools available to explore social vulnerability within their county to facilitate drought and water shortage planning. **Table 3-4** provides a list of social vulnerability indicators compiled from research, recommendations, and guidance provided by OPR, U.S. Center for Disease Control and Prevention (Flanagan et al. 2011), and Cal OES for identifying the highest risk and most socially vulnerable communities. For a more inclusive checklist and additional resources, refer to OPR's guide on vulnerable communities. Additionally, counties may have other information that could be useful for assessing social vulnerabilities and are encouraged to incorporate it as appropriate.

As with the physical vulnerabilities, documenting findings of social vulnerability assessments using maps or other means is an effective means for communication and can provide the basis to inform the development of strategies and actions for short-term response actions and long-term mitigation strategies and actions.

Table 3-4 – Social Vulnerability Indicators Recommended for Consideration in the County's Assessment

No.	Social Vulnerability Indicator	Observed Conditions	Applicability – If YES, please check off and evaluate vulnerability	Applicability – If NO, please check off and explain why
1	Median household income*			
2	Per capita income*			
3	Population under poverty level*			
4	Elderly*			
5	Children*			
6	Single parent households*			
7	Unemployment*			
8	Educational attainment*			
9	Linguistic isolation*			
10	Vehicle ownership/access*			
11	Group quarters*			
12	Homeownership*			
13	Mobile homes*			
14	Unhoused populations			
15	Percent of population non-white			
16	Percent of tribal homes			
17	Supermarket access			
18	Health insurance			
19	Prison populations			
20	Tribal communities			
21	Gender			
22	Immigrants			
23	Sexual orientation			
24	Access and functional needs populations			

Note: * Denotes the population characteristics provided by the DWR **Water Shortage Vulnerability Explorer** tool to assess social vulnerability.

Table 3-4 – Social Vulnerability Indicators Recommended for Consideration in the County's Assessment

No.	Social Vulnerability Indicator	Observed Conditions	Applicability – If YES, please check off and evaluate vulnerability	Applicability – If NO, please check off and explain why
25	Domestic violence shelters			
26	Shelters for lesbian, gay, bisexual, transgender/ transsexual, queer/ questioning, intersex, and allied/asexual/ aromantic/ agender (LGBTQIA) youth and adults			
27	Household knowledge level of drought- and other water shortage-related disaster resources			
28	Amount of full-time jobs available versus part-time job year round			
29	Telecommunications – availability and accessibility			
30	Households with water or electricity shut off in last 12 months			
31	Services for undocumented persons			
32	Neighborhood cohesion			
33	Civic participation			
34	Access to credit			

Metrics of Water Shortage Vulnerability for Planning

Understanding the metrics related to physical and social vulnerabilities in relationship to droughts and water shortages can inform a county's development of remedies to alleviate the identified physical and social vulnerabilities. Counties also can begin to put together the pieces of the risk assessment as part of this step. More specifically, reporting on metrics that indicate high physical vulnerabilities and high social vulnerabilities is a useful way to identify and communicate areas needing prioritization. The following are suggested metrics to include when mapping out data within a county's boundaries, as appropriate locally. If the county includes GSA boundaries, jurisdictional, or other types of commonly used divisions, metrics may be reported for each county or sub-region within the county, as appropriate, for planning:

- Number of people with domestic wells
- Number of state small water systems and overall population
- Number of domestic wells on fractured rock
- Percentage of active wells less than 100, 200, 300, and 400 feet (or any depth that is appropriate for individual county); well depth will vary depending on location within the State, and a deep well along the coast may be 60 feet in depth
- Number and percentage of wells in areas of high and medium water quality risk; describe what water quality constituents present the risk
- Number and percentage of state small water systems in areas of high and medium water quality risk; describe what water quality constituents present the risk
- Number of households receiving bottled water due to water quality issues
- If known, number of homes with a self-supplied back-up storage tank to handle power outages and other limited-term outages
- If known, the number of systems that have auxiliary power to maintain system operation during outages
- Number of homes on private surface water intakes, such as from a lake, creek, river, reservoir, or spring
- Distance from the nearest urban center
- Number of unhoused populations
- Water sources of unhoused populations

Metric development is an important planning exercise that can be useful for tracking impacts and evaluating effectiveness of the County DRP's implementation over time, and for building political will and public engagement and support for the planning process.

Step 4: Analyze Risks

Step 4 of the risk assessment is to apply the previously characterized hazard (the occurrence and associated impacts of droughts and water shortage events) for the identified community assets of interest and the findings of assessment on the community's physical and social vulnerabilities associated with the hazard to evaluate the resulting risks of water shortage. For the purposes of this Guidebook, risk analysis involves first identifying the negative impacts that could be potentially realized as a result of a hazard considering its probability of occurrence. This step can help counties and other parties involved in the planning process to understand where the greatest risks of droughts or water shortages to communities are and their corresponding extent of water shortage (see **Figure 3-1**).

Each drought is different, and even the same drought presents different risks of how people could be impacted. Therefore, risk can be evaluated based on different scenarios of conditions and incidents of water supply outages. For drought and water shortage events, counties may explore different scenarios by carefully formulating questions like the following, but not limited to:

- What areas have a high physical vulnerability and a high number of state small water systems or domestic wells (representing consequence of impact)?
- What areas are in fractured rock and have a high density of domestic wells (high consequence of impact)?
- Where are high wildfire risk zones with frequent public safety shutoffs (thus, high likelihood of water shortage occurrence)? Do state small water systems and domestic wells have back-up power or sources of water (including, but not limited to, bottled water) in these areas?
- Where are populations with high social vulnerability (e.g., linguistic isolation) that rely on domestic wells in fractured rock areas?
- Where are populations with a high proportion of children living below poverty that rely on domestic wells or state small water systems?

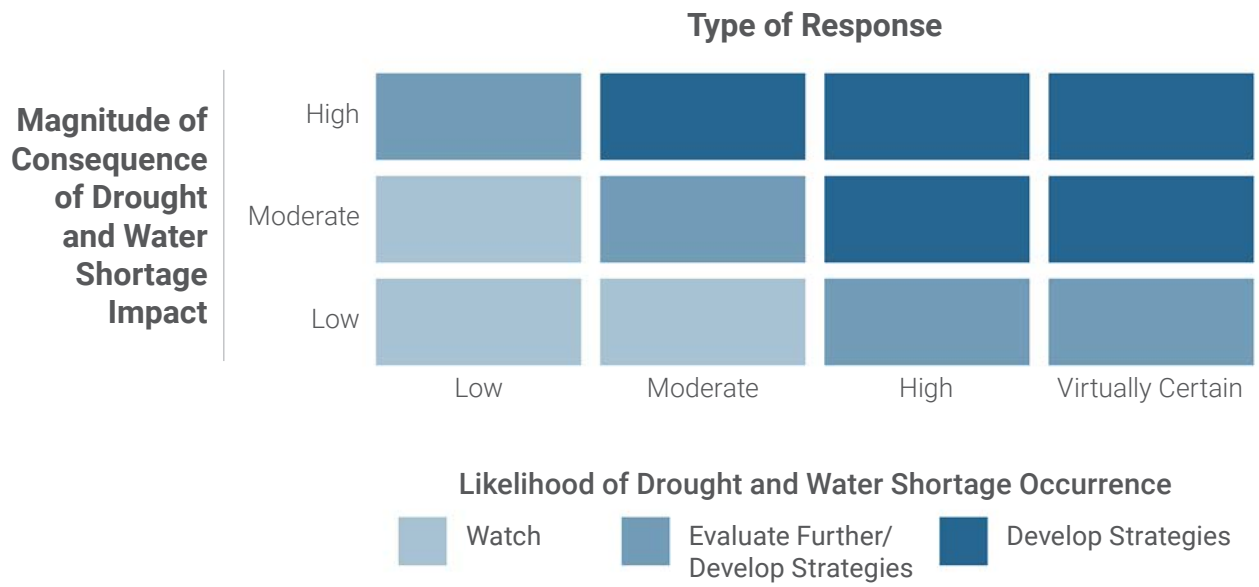
With these questions, counties may consider exploring scenarios with combination of conditions reflected by answers to the above questions. For example, a county might explore the scenario of a high proportion of domestic wells reporting outages, possibly under conditions of an extended multi-year drought event or

continued aridification. This scenario may be less likely to occur, but it could have significant consequences and disruption because of the potential number of households and residents that may be affected. Counties may document the assessments of these scenarios systematically for easy synthesis and identification of needed focus in planning efforts to mitigate drought and water shortage impacts. A **table template** used by the U.S. Department of Homeland Security to organize information by hazard and by scenario for their business risk assessment can be used as an example for further adaptation by counties to use in their drought and water shortage risk assessments.

Another reference for best practices in risk assessment and documentation is **the guidance and templates** developed by the U.S. Environmental Protection Agency (USEPA) to assist community water systems serving more than 3,300 people to conduct required risk and resilience assessments to inform their development of Emergency Response Plans required by the America's Water Infrastructure Act (AWIA) of 2018. The AWIA-focused community water systems have already completed their respective Emergency Response Plans based on the required filing schedule. The experience and identified practices of these community water systems could be helpful for reference by counties and state small water systems and domestic wells as the scope of their risk assessment and associated response planning are much broader, including all natural and human-made disasters and emergencies. This condition presents another opportunity for counties to engage larger water systems for potential collaboration and assistance to state small water systems and domestic wells when necessary. In addition, AWIA requires a five-year review of associated risk assessments and revision of the Emergency Response Plans developed by community water systems for compliance purposes. The periodic review can also be very helpful in the context of drought and water shortage risk assessment. A periodic review of their assessment and associated County DRP can help keep the information current and provide transparency and accountability for implementation.

Risk matrices that account for the probability of occurrence and consequence of occurrence are commonly used to engage interested parties and the broader community to identify potential risks. They also can effectively facilitate the discussion of appropriateness and prioritization of varying strategies and actions for short-term response and long-term mitigation. **Figure 3-1** presents an example representation of a risk matrix that can be used to display the findings of risk assessment. The available quantitative information to determine the probability and consequence of hazards can be enhanced by using other techniques, including interested parties surveys for collaborative knowledge building and incorporation of experience and outcome from prior implementation actions. Local knowledge to fill the gaps in available statewide data and to correct the data can make the assessment more realistic, useful, and applicable to local situations and unique considerations.

Figure 3-1 – Example of a Risk Matrix and Potential Prioritization of Actions



Note: Adapted from USGSA (2018) and Keenan (2019)

The DWR **Water Shortage Vulnerability Explorer** provides a composite physical vulnerability score that combines most of the factors listed in **Table 3-3**, and similarly provides a score combining a set of the statewide available social vulnerability indicators listed in **Table 3-4**. As previously noted, social vulnerabilities should be considered along with physical vulnerabilities in the risk assessment. The aggregate scorings offer a starting point for the county risk assessment. These aggregated scores can also help State agencies to identify areas where multiple factors simultaneously contribute to vulnerability, suggesting certain systematic deficiencies in government functions, physical conditions, or both, in combinations that require additional attention. Counties are encouraged to use their own scoring criteria that are customized for their local conditions and priorities to inform the development of short-term response actions and long-term mitigation strategies as part of the County DRP. Therefore, by default, the scoring presented in the DWR **Water Shortage Vulnerability Explorer** is offered as a starting point and may not be sufficiently comprehensive for direct use by counties without additional review, supplemental information, and potential adjustments.

Step 5: Summarize Assessment

A comprehensive vulnerability and risk assessment involves the use of a tremendous amount of information, both qualitative and quantitative. Data visualization through geospatial maps can help decision-makers to comprehend the scale and magnitude of issues and relative conditions among different geographic areas. Following FEMA's guidance for LHMP risk assessments (FEMA 2013), it is important to summarize the risks and vulnerabilities. Such a summary is useful for subsequent planning purposes and for communicating with decision-makers, including the county's Board of Supervisors and leadership of management agencies and entities. Other management groups and entities, such as GSAs and other regional planning groups, may also benefit from the summary of assessment findings.

Developing additional summary information in layman's terms makes the risk assessment information more accessible for public consumption and easy comprehension. The summary information should include the purpose and objectives for counties to develop a County DRP. Accessible and relatable information about the findings on drought and water shortage vulnerabilities is especially helpful to enhance the awareness of affected communities and individual households and promote actions to address the identified vulnerabilities and reduce associated risks of impact from drought and water shortage events.

Step 6: Assess Capacity

Evaluating capacity within a county for addressing drought and water shortage risks can help guide the development of solutions for state small water systems and domestic wells in the county. A capacity assessment can be done as part of the completion of the risk assessment, but is also important to revisit as part of developing the next plan elements (short-term response actions, interim solutions, long-term mitigation strategies and actions, and financing the implementation of the plan elements).

A community may already have a Threat and Hazard Identification and Risk Assessment / Stakeholder Preparedness Review as part of its emergency management preparedness and should check with local emergency management to see if it includes drought. A Threat and Hazard Identification and Risk Assessment is a three-step process that helps communities understand their risks and what they need to do to address those risks. A Stakeholder Preparedness Review is a self-assessment of a jurisdiction's current capability levels against the targets identified in the Threat and Hazard Identification and Risk Assessment. The U.S. Department of Homeland Security's ***Threat and Hazard Identification and Risk Assessment (THIRA) and Stakeholder Preparedness Review (SPR) Guide: Comprehensive Preparedness Guide 20***1 (FEMA 2018) describes how to conduct such a review, providing a model with additional guidance on conducting a drought and water shortage risk assessment and associated capacity assessment that creates a critical reference for developing effective mitigation actions.

Counties may consider the following example questions when assessing capacity for developing and implementing its County DRP:

- How many licensed water haulers are available in the county or to serve the county? How many other counties also rely on these haulers? What portion(s) of the county may be more reliable for water hauling because of available sources of water in close vicinity?
- Has messaging on where to get help been distributed appropriately to communities reliant on state small water systems and domestic wells (translated in the language(s) spoken by the communities, posted in locations where communities gather, relayed or confirmed by trusted community leaders)?
- How many temporary storage tanks are available, at what locations, and of what sizes? How many people could they serve?
- Is the source water in a drought or water shortage event for water hauling secured by a contract or other legal agreement ? Who are the involved parties? What are the terms and conditions? Are there emergency contingencies specified in the contract or agreement?
- Does the county have designated personnel with appropriate training and availability to oversee the implementation of the County DRP?

These questions and other similar locally-appropriate questions tailored to findings of the risk assessment can help cultivate discussions on capacity needs for supporting preparedness, interim solutions, and risk reduction.

Data and information are an important part of developing a risk assessment. Therefore, identification of data and knowledge gaps is also critical to characterize the potential limitations and proper use of the County DRP, and areas of investment that could be realized through improving data and information availability and quality. The technical capacity and financial capacity of counties to acquire missing data and information are also important to understand. When the needed efforts for filling the identified data gaps are beyond county's capacity, well-articulated needs may be addressed by collaboration and cooperation with federal and State agencies or by additional financial assistance provided by federal and State agencies when available.

4 | Short-Term Response Actions

Based on the risk assessment, counties are to develop short-term response actions and long-term mitigation strategies and actions to alleviate the risk of droughts and water shortages. Chapters 4 and 5 of this Guidebook provide examples of short-term response actions and long-term mitigation strategies and actions for consideration by counties.

Short-term response actions recognize the vulnerability and expeditiously mitigate impacts during the early stages and during ongoing drought conditions and water shortage events in the planning area. This is in contrast to long-term mitigation strategies and actions that aim to reduce the vulnerability from occurring in the future. Short-term response actions fall under the recovery component of the Disaster Risk Management Framework presented in **Figure 2-1** as actions taken during and after a disaster to reduce the impacts of existing and ongoing drought and water shortage impacts.

An agreed-upon, clear Emergency Response Plan for drought and water shortage is a critical part of having a common vision and plan of action during dry conditions, so that residents with private supplies from domestic wells or surface water intakes, and customers of state small water systems, have adequate water supplies. The completion of the county's risk assessment should have provided insight into areas most susceptible to droughts and water shortages, including where shortages have occurred in past droughts, gaps in delivery capabilities, or water quality concerns.

This chapter describes several actions that counties can consider in their short-term response actions to provide emergency water supplies to California households and communities experiencing water shortages during a drought or water shortage. The portfolio of emergency preparedness actions established in one County DRP will differ from another based on local needs and preferences. In this chapter, only mutual aid agreements, interties, and emergency and interim water suppliers are discussed in detail. Other possible actions could include decontamination (if applicable), emergency generators (if the water shortage is due to disrupted electricity services), and others.

Establishing a portfolio of short-term response actions will involve building relationships, establishing potential contracts and agreements to be relied on during an emergency, and infrastructure design and construction for emergency water supply. It is important to note that the identified response actions are not an exhaustive list, but options for consideration by counties that may have various roles in implementing each action depending on the nature of those actions. Additional solutions and creativity are encouraged to augment this list of actions.

4.1 Legislative Directive

SB 552 requires that each county develop a drought and water shortage plan that includes proposed interim solutions for state small water systems and domestic wells, per CWC Section 10609.70 (**bold** added for emphasis as related to this section), which is essential to drought and water shortage planning:

> *(b)* ***A county shall develop a plan that includes potential drought and water shortage risk and proposed interim*** *and long-term* ***solutions for state small water systems and domestic wells within the county's jurisdiction****. The plan may be a stand-alone document or may be included as an element in an existing county plan, such as a local hazard mitigation plan, emergency operations plan, climate action plan, or general plan. A county shall consult with its drought task force or alternative coordinating process as established by this section in developing its plan. A county shall consider,* ***at a minimum****, all of the following in its plan:*
>
> *(1) Consolidations for existing water systems and domestic wells.*
>
> *(2) Domestic well drinking water mitigation programs.*
>
> *(3)* ***Provision of emergency and interim drinking water solutions.***
>
> *(4) An analysis of the steps necessary to implement the plan.*
>
> *(5) An analysis of local, state, and federal funding sources available to implement the plan.*

4.2 Mutual Aid Agreements

Mutual aid is a network arrangement established prior to an emergency that provides personnel, equipment, materials, and/or associated services from other utilities to restore critical operations impacted during any type of emergency. The specific arrangements included in the mutual aid agreement could differ widely from supplying water in a shortage situation to state small water systems, domestic wells, and households on private surface water supplies, to other assistances deemed adequate and important.

Mutual aid agreements are a tool common among public water systems, especially between large suppliers and small systems, to clearly describe how they may engage with one another during a water shortage emergency. Counties are not typically a signatory to these agreements unless they also serve as a water purveyor. Therefore, counties likely serve a role of a facilitator for forming such an agreement among willing water suppliers. Counties may work with the involved entities and relevant authorities to creatively establish agreements that provide protection to the targeted households and residents.

There are two important characteristics of mutual aid agreements that counties should consider in facilitating the collaboration:

1. To be effective as a short-term response action for a specific state small water system, a mutual aid agreement with another entity should be established and executed before water shortages occur. Therefore, the agreement should be developed for generalized conditions, but not for a specific water shortage event.
2. Counties may include all large water purveyors within the county to discuss the possibility of sharing needed assistance countywide among large water purveyors equitably to build flexibility and avoid unintended redirected impacts.

Mutual aid agreements lay the groundwork for how water suppliers could help each other to improve water supply reliability during emergencies while maintaining their independence. Counties may consider modifying USEPA's template (Appendix C) for state small water systems and domestic wells.

In facilitating the mutual aid agreements for state small water systems and domestic wells, counties may explore a partnership with the California Water/Wastewater Agency Response Network (CalWARN) to explore potential collaboration. CalWARN supports and promotes statewide emergency preparedness, disaster response, and mutual assistance processes for public and private water and wastewater utilities. CalWARN provides its members with the following:

- A standard omnibus mutual assistance agreement and process for sharing emergency resources among signatories statewide.
- The resources to respond and recover more quickly from a disaster.
- A mutual assistance program consistent with other statewide mutual aid programs, the Standardized Emergency Management System, and the National Incident Management System.

Case Study

Butte County

Butte County has a mutual aid agreement with Paradise Irrigation District (PID). The agreement states that PID will provide, to the greatest extent possible, emergency water service to residents near PID's service area who are not customers of PID that Butte County has identified as having a dry well and/or spring, have registered with My Dry Water Supply, and reside in Butte County. Among other terms and conditions, the agreement between Butte County and PID states the effective period of the agreement, the services PID will provide, and intended beneficial uses of water provided by PID. Refer to Appendix D for the mutual aid agreement for emergency water service that exists between Butte County and PID.

- A forum for developing and maintaining emergency contacts and relationships.
- New ideas from lessons learned in recent disasters.

Another potential partner for collaboration is the California Utilities Emergency Association (CUEA). CUEA provides emergency operations support for gas, electric, water, wastewater, telecommunications (including wireless), and petroleum pipeline utilities. CUEA provides its members with benefits ranging from emergency response and restoration support to mutual assistance, planning, and training exercises. It serves as a point of contact for utilities with critical infrastructure, Cal OES, and other governmental agencies before, during, and after an event to:

- Facilitate communications and cooperation between member utilities and public agencies, and with non-member utilities (where resources and priorities allow)
- Support utility emergency planning, mitigation, training, exercises, and education
- Provide emergency response support wherever practical for electric, petroleum pipeline, telecommunications, gas, water, and wastewater utilities

4.3 Interties

An intertie is a physical interconnection between water systems permitting the exchange or delivery of water between those systems. In the case of a water shortage emergency (or an incident with water quality contamination), an intertie can be vital to an area experiencing a water shortage event; however, the activation of such an intertie for water sharing should be based on the terms and conditions of an operating agreement established between these entities prior to the water shortage event.

Intertie activation in times of drought emergency or water shortage events is considered a potential short-term response action available to counties recognizing the arrangement needs required prior to the event and, ideally, through a long-term collaboration. Similar to a mutual aid agreement between two water systems, the operating agreement for an intertie are between two willing water systems; counties are not typically a signatory except when serving as a water purveyor. In other words, counties have a role as a facilitator or convenor for such an arrangement, but do not have any role or associated responsibilities for implementation.

In many cases, an intertie can be very effective for a short-term response action. For example, above-ground emergency interties can be deployed expeditiously during a water outage incident. Development of new

interties may help facilitate a later discussion about consolidation between large water suppliers and nearby state small water systems and domestic wells, where appropriate and supported by corresponding rate payers. Counties may explore such an option as a long-term and more sustainable solution; however, counties may not have proper authority to force a consolidation of water systems or domestic wells without a justifiable cause or overwrite the interests of paying customers of either water system.

It is important for counties to engage relevant parties to devise beneficial arrangements and facilitate the accessibility of needed water supply during drought and water shortage conditions. In addition to facilitating and convening necessary engagement and discussion for mutually beneficial arrangements for involved water systems and domestic wells, counties could work on regional solutions focusing on backbone infrastructure and overlying water management strategies and polices as part of long-term mitigation strategies and actions. These options are discussed in more detail in Chapter 5.

4.4 Permit Streamlining and Coordination

Counties may set up procedures and protocols to allow certain permit streamlining through better coordination. This is especially relevant for those permitted activities that could provide relief during ongoing water shortage conditions, including well construction, deepening, and rehabilitation. These permits are within the county's jurisdiction and, thus, it is perceivable that the county could develop procedures, protocols, and limitations for permit streamlining prior to drought or water shortage events with defined triggers for them to be activated when needed and deactivated when no longer needed.

An example of permit streamlining for addressing urgent needs for health and safety water supply can be found in Governor Newsom's Executive Order (EO) N-7-22 issued on March 28, 2022. Effective only during the drought emergency, the EO provides counties direction to consider the proximity and location of new well permits and potential impacts to nearby wells or areas and infrastructure that may experience land subsidence based on current and known groundwater conditions. However, it also clarifies that exemptions should be given for wells that provide: (1) less than 2 acre-feet per year of groundwater for individual domestic users, or (2) groundwater exclusively to public water systems for human consumption with 15 or more service connection as defined in Section 116275 of the HSC. Counties can continue to use this EO as a model to establish protocols and procedures before a water shortage emergency and activate based on a set of triggers to provide timely assistance to impacted households and state small water systems in future dry years.

4.5 Emergency and Interim Drinking Water Supplies

Emergency water supplies are typically provided as a last resort during a water shortage event. Interim drinking water supplies involve providing a temporary water supply for some extended amount of time until a more permanent water supply is secured. During drought and water shortage emergencies, emergency and interim drinking water supplies can be deployed to meet basic health and safety needs, if necessary. These services can be provided on a local level through local government and/or through non-governmental organizations (NGO) and community groups, if applicable. However, if local capabilities have been exhausted, State-level assistance for these basic needs may become necessary in a portfolio of options, given that every drought and water shortage event could be different in its impacted areas and could have varying consequences.

The County DRP should include lists of protocols and actions to be taken in order to activate the use of emergency and interim water supply provisions as intended during future drought and water shortage events. The current minimum human health and safety standard is 55 gallons per capita per day per 2021 State of California Administrative Law and the future standards that are subject to provisions of SB 1157 of 2022.

The following discussion within this section provides example short-term response actions for providing emergency or interim water supplies during drought and water shortage emergencies that are adapted from the 2014 Emergency Drinking Water Procurement and Distribution Planning Guidance developed by Cal OES (Cal OES 2014). The discussion is also augmented by other examples and practices considered appropriate and relevant. To effectively implement these response actions, counties should designate an emergency response unit in their county (e.g., County OES) responsible for implementation and include them in the County DRP planning process to build a common vision and a cohesive plan for implementation. Adequate agreements and understanding among relevant entities (e.g., vendors, water purveyors, and other entities) should be secured beforehand to avoid delay and confusion in implementation.

Dedicated Water Filling Stations by Large Water Purveyors

Counties may investigate the willingness of large water purveyors to provide emergency water supplies for state small water systems and domestic wells when they cannot access their regular source(s) of water. Many large water purveyors have water stations for construction or other purposes and are willing to assist if it does not create additional undue burdens or other regulatory requirements. This option could be very useful for counties to include in their portfolio of emergency and interim water supplies.

In the drought from 2012 to 2016, residents in El Dorado County obtained needed water supply for health and safety use from El Dorado Irrigation District's (EID) bulk water stations when experiencing dry wells and other water shortage conditions. EID is the largest water purveyor in El Dorado County and, historically, received water rights and other contract entitlements through local farmers and assistance from EDWA. Therefore, to assist domestic use by county residents during drought and water shortage conditions, EID allows residents to take water from its seven bulk water stations located throughout its service area without charges; these water stations provide water to customers with prepaid cards and often for construction and other similar use.

Establishment of the privilege for impacted residents to use such fill stations for the drought-affected communities allows residents to haul their own water supplies. Counties can proactively coordinate with large water purveyors to explore their willingness and associated terms and conditions for using their water stations for such purposes. The large water purveyors likely decline any liability for transporting water to impacted state small water systems and domestic wells and resulting use. Counties, state small water systems, and domestic wells should evaluate if the water quality meets potable drinking water standards and other applicable laws and regulations for domestic use before incorporating it as part of the emergency water supply. While it is possible that large water purveyors may waive the cost of water for residents during drought or water shortage events, counties may establish proper agreements on principles to avoid any potential confusion and complications.

Treatment of Available Water from Alternate Sources that Are Not Typically Used

Every state small water system and domestic well has its established source of water that was approved by the State Water Board's Drinking Water Program or County Public Health Officer for intended beneficial uses. During the time when regular sources of water become scarce, residents may suggest the use of alternate water supplies that may have been rejected for use in the past or new water supplies that residents secure on a short-term basis. DWR encourages counties to consult the State Water Board's Drinking Water Program or County Public Health Officer prior to the execution of any emergency drinking water supply plan to comply with all applicable law, regulations, and local requirements.

Commercial portable water treatment systems are available to connect to non-approved water sources, if necessary. The State Water Board's Drinking Water Program or County Public Health Officer must approve the use of an alternate source of water and/or approve a treatment unit to provide sufficient treatment for domestic use.

Packaged or Bottled Water

Counties could consider entering into an agreement with vendors or other suppliers to provide packaged or bottled water during drought emergencies or water shortage events to state small water systems and domestic well owners. However, it is important to secure such agreements before an incident occurs, including the capacity needs and adequate terms and conditions for supply. It is also important for counties to identify the key vendors, suppliers, and manufacturers that can provide the needed capabilities and to contract with them for as-needed support (FEMA 2022).

A list of approved commercial bottled water vendors is maintained by the CDPH's Food and Drug Branch. Counties should always check the approved list of vendors before issuing final approval of a bottled water supply. Water in one-gallon plastic containers or cases of individual bottles can be stored or purchased from local retail stores, community-based organizations, and/or government agencies. Major bottlers and distributors may be another source of bottled water. Bottled water can be purchased and stored in preparation for water shortage emergencies. Bottled water storage should be based on the vendor's recommendation, and bottled water should be stored in a cool, odor-free, and dry environment. Three- or five-gallon containers may be provided to the elderly and disabled residents.

In collaboration with County OES, counties should develop plans for distributing packaged or bottled water to their residents efficiently and effectively. Planning for emergency drinking water distribution includes determining the status of local drinking water system/utility infrastructure. These conditions will require the provision of emergency drinking water and may include the coordination of water transport and water distribution sites.

A countywide packaged or bottled water distribution plan includes considerations for storage and points of distribution:

- **Storage:** Packaged water requires transport and warehousing prior to moving it to distribution sites. In some cases, water from existing treated reservoirs can be pumped into tankers or packaged on-site to meet customer needs. Logistics concerns include planning for forklifts and other equipment required to transfer water into tankers or loading pallets on/off trucks.

- **Points of Distribution:** Water utilities/local governments and other organizations that provide emergency drinking water should identify the locations for emergency water distribution and negotiate agreements for location/facility use. Special care should be taken to avoid jurisdictional conflicts and competing uses. Before entering into an agreement, a county must determine that it meets the needs of the emergency water distribution functions. Items to consider include:
  - Size (minimum of 200 feet by 200 feet)
  - Proximity to emergency shelters and schools
  - Proximity to fire hydrants
  - Sufficient lighting and power supply
  - Back-up power supply (e.g., generators) and wraparound services
  - Phone service or other communications system availability
  - Road access, including access by water delivery tankers
  - Accessibility by public, including people with disabilities
  - Easily identified ingress and egress routing
  - Central location to the community
  - Public-transportation accessible
  - Clear planning around the location of sites (e.g., geographic area served and appropriate serviceability to expected population)
  - Delivery and storage of water (e.g., arrival of commodities before public-distribution capabilities are established)
  - Over-ordering commodities and surpassing distribution capability or actual public consumption
  - Plan for necessary equipment and type of facility (e.g., truck loading availability, types of forklifts needed for offloading)

- Adequate sanitation facilities
- Indoor rest and recreation area for staff not on duty
- Security
- Staffing

In addition to the above physical challenges of distributing emergency packaged or bottled water, counties should also consider potential challenges tied to the socioeconomics of county residents. Local knowledge and trust of the person or entity providing water can be key constraints. Examples may include, but are not limited to:

- Residents without proper documentation may fear deportation if reported.
- A hospice patient could be forced into a facility if reported to have no running water for basic health and safety needs.
- Mothers with young children may fear losing their children to child protective services if reported to have no running water for basic health and safety needs.

Counties are encouraged to solicit input and support from their Health Officer and management agency(ies) or program(s) to develop a viable approach to handling sensitive issues involving vulnerable populations, since these individuals could be the most in need of emergency water deliveries. Strategies to reach those who are hesitant to report to county governments include building trust, which can only develop over time with effort, and relying on bridging organizations that have already developed trusted relationships with community members. Messaging at the regional scale has proven important in some areas of the State and can contribute to building trust by using consistent messaging across communities.

Water Hauling or Bulk Water Delivery

Bulk/hauled water is moved by tanker trucks. Bulk/hauled drinking water tankers may be used as distribution points for residents who bring a container to be filled. Bulk/hauled drinking water tankers could be connected to hospitals or critical infrastructure to siphon those water supplies. Before engaging any water hauling services, counties and residents are recommended to verify their license status through the CDPH **website**, under the Food and Drug Branch.

There are three types of water hauling contracts; each can be structured by individual state small water systems or domestic wells; by a local agency (i.e., a county); or by a State agency on behalf of several counties for pricing benefits:

- A direct purchase order and delivery of a specific amount of potable water to a specific location, community, or water system
- A transportation contract for moving potable water between water systems or sources as requested
- A service contract for a contractor to supply bulk potable water and storage capacity at the receiving location, community, or water system

Some water purveyors have procured water-hauling vehicles and portable water storage vessels such as bladders that can be used to transport water via a flatbed truck. The use of these vehicles and devices could be incorporated into the mutual aid agreements if possible. Counties may include necessary onsite infrastructure and costs in the planning process, such as a pump system at the residences to reestablish water service with these storage units.

Partnership with Non-Governmental Organizations

Counties may choose to partner with NGOs that operate within the county to provide interim drought support. For example, community-based organizations like the **Community Water Center** and Self-Help Enterprises can provide bottled water delivery, storage tanks, and funding for well drilling to counties in the San Joaquin Valley. Self-Help Enterprises also assist State agencies to provide drought relief services. Many local NGOs or community groups also provide similar functions to specific communities or counties. Partnership with NGOs can be particularly beneficial when the NGOs have established relationships with the impacted communities and households.

Arrangements for interim drinking water supply distribution alternatively may be set-up between the individual state small water system or household to directly engage with the NGOs for emergency drinking water assistance. Such arrangements should also have established rules of engagement for transparency and so that the county can track coverage and needs. For reference, the State Water Board provides a list of **NGO resources** available to different geographic regions. Counties may choose to make this information available to the public as part of outreach and education.

Triggers to Activate Response Actions

Counties should establish clear triggers for activating various response actions. These triggers may include the State's declaration of drought emergencies or critical water shortages due to various reasons, locally declared emergencies and water shortage events, and other natural or human-made disasters. There is a wide range of options for types of triggers, but pre-determining these can help prepare county staff and others involved in the response process.

Counties should establish means and methods to connect with their residents in ongoing development of water supply challenges. For example, Tuolumne County OES developed a **form** for residents to report water shortage problems, water shortage concerns, and if there is need for bottled water. This type of direct input can be very effective, as it clearly defines the challenges and who may be impacted.

Considering the potential reporting challenges mentioned earlier associated with certain socioeconomic factors, residents also may be concerned (or fear) that the county planning department could declare their residences uninhabitable due to deficient drinking water supply should they report a water supply interruption. They also could be apprehensive about reporting an inadequate drinking supply or requesting assistance, concerned that the county might determine that there are violations of permitting requirements. However, planning departments often do not have the staff or capacity to proactively identify residents with water supply challenges or conduct inspections for potential water supply-related violations. Rather, most of the time, county planning departments likely would rather focus on additional well permitting, streamlining for alleviating a drywell condition, or other similar measures. Nonetheless, these concerns suggest the trust issue mentioned earlier. Counties are encouraged to work with their own departments to identify means and measures to improve the trusted relationship with their residents.

County Implementation

Under the County DRP, counties should have a portfolio of short-term response actions and interim drinking water solutions to meet the basic health and safety needs of their residents. Depending on the emergency solutions selected, the following are a series of best practices that can be incorporated into a county's planning efforts:

- Communication and Coordination
  - Early coordination with local water providers is crucial for the success of any emergency water provisions. Many water providers require some form of agreement/contract that may take months to develop.

– Leverage existing response plans and emergency plans for emergency water supply distribution.

– Develop an Emergency and Interim Drinking Water Distribution Plan and include the following:

1. Determine what agency will lead the development of a plan for integration into the County DRP (e.g., County OES).
2. Identify the lead agency for implementing the plan.
3. Identify triggers and steps that will be taken once water shortages occur. For example, what steps will be taken to provide emergency water supplies? Following a trigger, will a series or combination of actions be taken? Drought plans typically include phases or stages that summarize specific actions to undertake as drought conditions worsen.
4. Determine the lead agency for community engagement and coordination.
5. Determine what agency will distribute information to the community on how and where to get emergency water supplies. This communication should be made following a trigger or when water shortages are expected. Consider if different triggers will initiate different communication protocols.
6. Determine how information will be distributed to the community on how and where to get emergency water supplies. This may involve providing information on a county website in addition to mailing out notices for those who may not have internet access. This may also include sharing information on local television, bilingual radio stations, distributing information door-to-door, public outreach meetings, or through the use of existing communication tools, such as newsletters and email lists.
7. Share the types of information that may be requested when obtaining water supplies and how that information will be used for future planning purposes. Refrain from asking identifiable information that may make the community uncomfortable about seeking emergency water supplies.
8. Any communication distributed on how and where to get emergency water supplies should be provided in the languages predominantly spoken in the county. Staff on site at water distribution centers should include individuals that speak the predominate languages spoken in the county.

- Emergency Water Distribution
  - Evaluate the actions required to support the acquisition and distribution of emergency drinking water.
  - To inform the quantity of water needed for distribution to the public, the locations where distribution is required, and the frequency of distributions, assess emergency drinking water needs and parameters by estimating:
    - The duration of system outage, drought, or water shortage
    - The affected geographic area
    - The size and demographics of the affected population
  - Determine the preferred method of emergency drinking water distribution. The distribution method may include the use of point of distribution sites or delivery of water to identified critical facilities, depending upon the water sources and forms of packaging (e.g., bottled, bulk).
  - Identify and coordinate resource staging areas.
  - Coordinate the procurement and delivery of water to identified staging areas. This may involve acquiring additional water supplies to account for unexpected needs.
  - Identify staff resources and equipment needed to operate the identified water distribution method.
  - Monitor the emergency drinking water distribution process and coordinate with stakeholders as needed.
  - Continue coordination until the impacted water system(s) is/are restored to normal operations.
  - Map out water distribution points and share with clear directions on where, when, and how to get water supplies.
  - Develop a hotline for residents to call and get an overview of resources available.

The varying short-term response actions that a county may take or include in its County DRP is heavily dependent on local conditions. Certain customizations and local innovations are expected. Internal coordination and consistency among practices in different departments or operating units within a county is encouraged.

5 | Long-Term Mitigation Strategies and Actions

Short-term response actions, as discussed in Chapter 4, address immediate, often basic needs during drought and water shortage events; long-term mitigation strategies and actions described in Chapter 5 provide long-term solutions, if not preventive measures, to areas susceptible to drought and water shortage conditions.

Long-term mitigation strategies and actions fall under the mitigation, preparation, and capacity-building component in the Disaster Risk Management Framework shown in **Figure 2-1** as actions taken before a drought or water shortage event to reduce potential impacts. Properly implemented long-term mitigation strategies and actions could reduce the extent and cost of emergency response actions, but cannot totally eliminate the need for emergency response actions. While the cost for implementing long-term mitigation strategies and actions can be high, costs for short-term response actions can also be significant. For example, during the drought from 2012 through 2016, more than 4,500 domestic wells in the San Joaquin Valley were impacted, resulting in widespread water shortages among communities, among which many were socially disadvantaged. The associated costs for immediate response actions was more than $150 million (Community Water Center 2022), not counting other indirect impacts.

This chapter presents long-term mitigation strategies and actions that counties may pursue or facilitate to improve the reliability and resilience of water supply to state small water systems and domestic wells within a county's jurisdiction. The goal of these strategies and actions should be to reduce the reliance on short-term response actions during drought and water shortage emergencies. The feasibility of these long-term mitigation strategies and actions will vary by county based on their individual vulnerabilities and needs; available financial, technical, and human resources; and political and public support. The role a county may hold in implementing the long-term mitigation strategies and actions may vary. Counties may lead and facilitate the development and implementation of long-term mitigation strategies and actions (but as noted in Chapter 4, unless the county is also serving as a water purveyor, it may be limited to the role of facilitator or convenor during short-term response actions).

5.1 Legislative Directive

As part of the SB 552 county plan requirement, the plan must cover long-term solutions addressing drought and water shortage risks for state small water systems and domestic wells. At a minimum, this element of the plan must consider consolidation and domestic well drinking water mitigation programs. Per CWC Section 10609.70 (**bold** added for emphasis as related to this section):

> *(b)* ***) A county shall develop a plan that includes potential drought and water shortage risk and proposed*** *interim and* ***long-term solutions for state small water systems and domestic wells within the county's jurisdiction.*** *The plan may be a stand-alone document or may be included as an element in an existing county plan, such as a local hazard mitigation plan, emergency operations plan, climate action plan, or general plan. A county shall consult with its drought task force or alternative coordinating process as established by this section in developing its plan. A county shall consider,* ***at a minimum****, all of the following in its plan:*
>
> *(1)* ***Consolidations for existing water systems and domestic wells.***
>
> *(2)* ***Domestic well drinking water mitigation programs.***
>
> *(3) Provision of emergency and interim drinking water solutions.*
>
> *(4) An analysis of the steps necessary to implement the plan.*
>
> *(5) An analysis of local, state, and federal funding sources available to implement the plan.*

Counties are encouraged to develop creative long-term solutions. This chapter offers guidance on the following actions to reduce water shortage risk for rural residents in the State:

- Drinking water well mitigation program
- System consolidation plan
- Regional water infrastructure investment

For long-term mitigation strategies and actions, counties could exercise their land use and other permitting authorities broader to explore opportunities for collaboration for development and implementation to achieve mutual beneficial outcomes for all parties. Counties may consider applicable policies to actively promote and foster this potential.

5.2 Drinking Water Well Mitigation Program

Based on hydrologic conditions and increased demand on groundwater resources in dry and drought years, certain relatively shallower groundwater wells or groundwater wells in certain locations may be more susceptible to water shortage conditions, as these wells could run dry more frequently.

The roles and responsibilities for mitigating dry wells are complex and the leadership of counties under SB 552 implementation, in collaboration with other local and State agencies, will be critical to make progress to improve these conditions for many rural communities that rely on groundwater for their drinking water supplies. SB 552 requires counties to consider a domestic well drinking water mitigation program in its County DRP. Proactively establishing such a program with necessary protocols and processes will be helpful to ensure that residents within the county's jurisdiction have access to resources to reduce water shortage risks or offset impacts, such as dry wells for rural and often more vulnerable populations.

The drinking water well mitigation program will include: (1) identifying wells that may be impacted through a thorough drought and water shortage risk assessment, as described in Chapter 3; (2) developing options for mitigation, including, but not limited to, well rehabilitation and other potential mitigation strategies discussed later in this chapter; (3) implementing community-supported solutions in collaboration with other local and State agencies; and (4) continued coordination on well monitoring for maintenance, assurance, and adaptation for changes in conditions should they occur. One example of local agency coordination includes counties engaging with GSAs. Focused on the long-term trend and balance of basin hydrology, SGMA implementation and the resulting GSPs developed by their corresponding GSA in collaboration with regional partners could include the recognition of fluctuations of groundwater levels between years and an agreed-upon, long-term sustainability goal. Counties are encouraged to develop their domestic well mitigation program in coordination with the GSAs to build mitigation programs and develop solutions that account for how groundwater will be managed.

Counties may seek technical and financial assistance opportunities for planning and implementation. There are existing grants and funding available from State and federal agencies that could be used for this purpose, but counties should note that not all such funding would be labeled for SB 552 and, thus, a broader approach is warranted. Additional discussions on State and federal funding opportunities can be found in Chapter 7 of this Guidebook.

Drought and Water Shortage Risk Assessment

Completing the drought and water shortage risk assessment as described in Chapter 3 is the foundation for informing a county's drinking water well mitigation program in the two following topics:

- The population and geographic extent that may require assistance from the drinking water well mitigation program. This would establish the basic information regarding the potential funding and options for addressing this water shortage risk, including long-term operations and maintenance (O&M) costs.
- The adequate depth for new wells based on how groundwater levels will be monitored and managed by GSAs and where there may be undesirable results based on groundwater levels exceeding identified minimum thresholds in the GSPs. Fractured rock aquifers are not managed under SGMA, like alluvial basins, and therefore do not have GSAs that are responsible for managing groundwater levels. Therefore, counties overlying fractured rock areas will need to be vigilant about climate change projections, associated groundwater demand, and overall groundwater levels.

Counties should proceed with actions as part of the program in these two areas based on their authorities and local conditions.

Well Rehabilitation and Other Management Actions

Counties should develop a plan to mitigate the water shortage risks that have already been realized or are likely to be realized soon. It is important for counties to understand the cause for dry wells to devise location-specific solutions because a one-size-fits-all approach is likely not acceptable for the diverse conditions associated with domestic wells in the rural communities. In addition, counties should also understand the preferences and limitations of impacted households, such as affordability for immediate capital costs and long-term O&M costs for any mitigation measure of choice.

Counties may include the following management actions in their drinking water mitigation program to reduce water shortage risks for these domestic wells.

- Coordinate with the well operators as entities or individuals so the actions of one does not affect others. For example, agricultural and municipal well operations can affect the surrounding small and shallower wells for domestic use. If applicable, this option could be very cost-effective without significant infrastructure investments.

- Facilitate the formation of a new small public water system by connecting domestic wells not located near a public water system to other nearby domestic wells. Counties should refer to the State Water Board's **website** for additional information on establishing a public water system.
- Facilitate the system consolidation where applicable and with the willingness of impacted households. More discussion about system consolidation is provided in a later section of this chapter.
- Additional regional water infrastructure as discussed in a later section of this chapter could be helpful and remain as an option in the toolbox; however, unless the infrastructure plan is already matured, close to implementation, or already implemented, it may not be timely to address the current and near-term needs for remedial actions.
- Develop an assistance program to offer support to state small water systems and domestic wells for new well installation and existing well remediation (including well deepening and other equipment improvement, such as lowering the well pump) to address existing water supply or quality issues that obstruct their functions to provide water for safe domestic use. Counties should leverage available State and federal assistance programs to expand the capacity of their assistance programs (discussed further in Chapter 7) for timely remedial actions and to alleviate potential financial and administrative burdens to their own operation. Counties may review these opportunities thoroughly as they may target local agencies and regional entities for regional implementation, individual water system managers for system improvements, or, in some cases of federal assistance programs, individual well owners for well and equipment improvements.
- Monitor groundwater levels in coordination and collaboration with groups and entities (e.g., GSAs, DWR) that have established charges and practices for well monitoring, rather than starting a monitoring network from scratch.
  - Counties should consider including efforts for synthesizing the collection of data available through different monitoring entities and potentially provide a clearinghouse for data sharing.
  - Counties should also make efforts to establish a trusted relationship with their residents to encourage reporting water shortage occurrence or dry well conditions. In addition to the social vulnerability that could affect this important reporting, the fear of impacting real estate values of their properties is also a significant barrier, because a county could mark the property unsafe for occupancy due to lack of reliable water for health and safety use. Counties should consult with their legal counsel(s) and planning department for possible accommodation and adequate messaging to their residents to enable them to notify their county more freely regarding their dry well condition and to seek assistance.

- Distribute educational materials and comprehensive information on management and well maintenance responsibilities and potential drought risks associated with drinking water wells.
  - Consistent with the guidance provided in Chapter 3, counties should generate maps (GIS-based or not) with areas that are likely to have wells run dry or experience water shortages. The maps can be used for public outreach and as future reference for other relevant activities, including approving land use and other permit applications. Information from vulnerable communities can be added to this map, inclusive of disadvantaged communities, severely disadvantaged communities, household composition and language, and housing and transportation information.
  - Additional materials with layman's terms can be very helpful for direct outreach for impacted or potentially impacted homes within the county. Direct outreach would be important to initiate the dialogue for necessary remedial actions and long-term planning for mitigating the water shortage risks.

Water Shortage Prevention for New Wells

As discussed in Chapter 1, counties and cities are the primary entities for well permits. With an understanding of relevant processes (e.g., SGMA implementation) and water shortage risks throughout the county, counties could include additional preventive measures in their well permitting practices through formalized ordinances or requirements with similar effects for the following:

- Restrict the construction of wells in areas at high-risk for water shortages based on the completed drought and water shortage risk assessment. Following the guidance provided in Chapter 3 for a drought and water shortage risk assessment, counties should have already established working relationships with other local agencies and entities; have a shared understanding about the water shortage risks in different areas; and an awareness of potential population and beneficial uses that may be impacted. Therefore, counties are well positioned to modify relevant land use policies and other practices for implementing this ordinance. Counties should notify all relevant partners about the new well installation request and keep them informed about the progress and resulting decisions. When necessary, consultation with these partners, especially GSAs in areas where a GSP is required, could be beneficial and is encouraged.
- Require wells to be constructed to an appropriate depth, with an appropriately sized pump to continue to provide adequate supply for intended beneficial uses, should water levels drop. This depth restriction could be informed by historical water level data from nearby monitoring wells. If the proposed location for such a new well is within an area covered by a GSP, counties may want to establish a required process to consult

with the corresponding GSA for awareness and concurrence on associated requirements for well depth and equipment. In fractured rock areas or areas without a GSA, counties should review their own practices to consider necessary enhancements, in some cases, through additional studies and research, to establish proper criteria for well permitting process.

- Demonstrate no apparent risks of impacting existing operations of existing wells. Counties have established criteria for well setting in their permit requirements. These typically include the setback requirements from the property lines and known contaminants, and that the equipment should be set above the base flood elevation to avoid contamination during flood. The influence from the operation of the new or rehabilitated wells is typically verified based on some referenced spacing requirements or findings from a groundwater modeling analysis where available to reduce if not alleviate potential influence on the use of nearby existing wells. Counties should follow the **State well standards** accordingly. For a location in areas subject to a GSP, counties may correspond with the respective basin GSA for concurrence. For a location in areas that are not subject to a GSP due to lack of recognized groundwater basins, counties may conduct additional investigations and consultation with other local and State agencies for potential guidance and assistance to establish a justifiable setback requirement and corresponding method(s) of determination for implementation needs.

Additional regulatory procedures and compliance with the California Environmental Quality Act may be required in approving the ordinance or other amendments to existing plans as part of the County DRP. Counties should consult with their legal counsel(s) and other relevant department leads and subject matter experts for proactive planning of such requirements as part of the program.

Water Shortage Prevention for Existing Wells

Following the guidance presented thus far in the Guidebook, counties should have established the needed collaboration with regional partners, especially well operators, through the drought and water shortage risk assessment and other drinking water well mitigation program activities mentioned above. Counties should continue fostering the relationship for continued collaboration and coordination practices as a critical strategy to prevent water shortage events for existing wells.

Counties may take the lead to develop a countywide groundwater monitoring network that provides consistent monitoring and reporting functions. A well monitoring network should be able to record water levels and changes in groundwater levels and water quality at different locations.

Counties may review the existing groundwater monitoring efforts by local agencies and entities for inclusion of the countywide monitoring network; this includes efforts of local GSAs in areas managed under a GSP, and other areas with designated monitoring entities or local agencies under the State's California Statewide Groundwater Elevation Monitoring program. This program also monitors groundwater levels and water quality for their respective purposes. Other State and federal agencies (e.g., U.S. Geological Survey) could also have monitoring data. LPAs require regular sampling data for small water systems that could be incorporated in the network of information which, in turn, would represent a comprehensive understanding of the status of groundwater resources.

DWR provides technical assistance to GSAs, including the installation of groundwater monitoring wells. This technical assistance could provide additional relief to counties and other small water systems (e.g., schools) in their groundwater monitoring needs. Counties may leverage the findings of the drought and water shortage risk assessment to identify data gaps and potential locations for additional monitoring wells. This information could, in turn, help counties to characterize water shortage risks for state small water systems and domestic wells.

5.3 System Consolidation Plan

In certain areas susceptible to water shortages as identified in the drought and water shortage risk assessment, physical consolidation of water systems and domestic wells may be a viable option between willing parties. Physical consolidation is a joining of two or more water systems, and it often involves a smaller water system being absorbed into a larger water system. For the purposes of this Guidebook, consolidation also includes creating a new water system by retiring the domestic wells or private surface water intakes of multiple nearby households. Similarly, consolidation may also include connecting households that previously relied on domestic wells for their drinking water supply to a nearby existing and larger water system for improved water supply reliability.

County's System Consolidation Plan

Based on the outcome of the drought and water shortage risk assessment conducted according to Chapter 3, counties should identify areas of opportunity and priority for system consolidation, develop estimated costs and physical/engineering needs, and ascertain the social feasibility for system consolidation. Additionally, counties may develop a system consolidation plan that identifies potential candidates for physical consolidation based on their geographic locations, primary reasons for their identified water shortage risks (water production or water quality issues), and the willingness of impacted households and state small water systems to be consolidated with other water systems or entities. Counties typically do

not have the authority to force any system consolidation without a justifiable cause (e.g., failing system performances); however, counties could proactively develop concepts and facilitate discussions among parties to make progress towards system consolidation. In some cases, where resources are available, counties may provide technical assistance to help state small water systems and domestic wells apply for grants and loans that could offset or alleviate certain financial burdens associated with system consolidation. Furthermore, in some instances, counties do have jurisdiction over systems and could initiate consolidation and service extension to state small water systems and domestic well reliant households where appropriate (e.g., County Service Areas, County Water Works Districts, Maintenance Districts, certain Special Act Districts and other County Departments where the County Board of Supervisors is the designated governing body) (Dobbin and Fencl 2021). Based on available information, counties can develop a pathway for facilitating the discussion and for implementation, including the potential costs for capital improvement and long-term O&M needs.

The resulting system consolidation plan becomes a roadmap for implementation. The process of system consolidation is often not straightforward, and the associated cost implications and ratepayer impacts cannot be overlooked. Counties could leverage the available State and federal assistance programs for potential relief on funding needs; however, it is very important that the consideration of long-term O&M costs should be identified and discussed among parties for a shared understanding. Counties should incorporate public outreach and stakeholder engagement for developing their system consolidation plan. In some cases, counties may conclude that certain areas are not yet ready for consolidation and emergency water supply may be the only viable option during drought or water shortage events.

Case Study

Coachella Valley Water District

Several disadvantaged small public water systems and state small water systems, under the jurisdiction of Riverside County local primacy agency, are anticipated to be consolidated by Coachella Valley Water District.

Coachella Valley Water District is leading an effort to evaluate approximately 100 water systems for potential consolidation and then to implement consolidation of selected water systems in clusters using a phased approach. This project includes mapping and identifying demand, assessing the possibility of consolidation, and prioritizing consolidation/extension of service. Several of the small water systems considered for consolidation have existing water quality issues involving nitrate, arsenic, chromium VI, total dissolved solids, and/or other maximum contaminant level exceedances.

On April 19, 2022, Coachella Valley Water District presented a new phase of the project to the State Water Board for funding. In addition to previous phases that were already funded and completed, Coachella Valley Water District was approved for $23 million in State funding, which is expected to fund the construction of a new water transmission line that would consolidate approximately nine water systems and provide the backbone infrastructure for additional consolidations anticipated to occur in the future.

This project shows the benefits of regional planning combined with utilizing existing funding programs to create more resilient water infrastructure.

Steps for Physical System Consolidation

Guidance developed by the State Water Board provides a step-by-step process for those entities considering system consolidation (State Water Board 2022):

- Find a Nearby Public Water System(s) – To determine if consolidation is a feasible solution, the first step may be to find the boundaries for the nearest public water systems closest to the state small water system or domestic well(s) of interest. Locations of the most vulnerable state small water systems and domestic wells would have been identified during the drought and water shortage risk assessment and flagged as priority areas to address. The State Water Board has developed the **Consolidation Outreach Map** Tool for facilitating outreach to nearby public water systems and allowing users to perform a spatial query to locate public water systems, state small water systems, and the number of domestic wells in a one square mile area to determine the geographical possibilities for consolidation. It also provides a layer of dry wells from DWR's My Dry Wells **website** for reference.
- Check Service Boundaries – Planning boundaries that define local jurisdictions must be checked to determine the feasibility of the consolidation. Consolidations are less challenging if the water system falls within the service boundary of the nearest public water system, otherwise additional actions are required. Service boundaries that can be checked are as follows:
  - *Utility Service Area Boundaries* – Water utilities typically have service area boundaries that define where they provide services. Obtain a map showing where these boundaries are in relation to the water system. These can usually be found through an online search or by calling the utility. Many water systems can implement some form of "out of area water service agreements" in the event of public health emergencies, but they may require approval of the water system's board or a local council. For disadvantaged residents of state small water systems and domestic wells suffering from a drought emergency where residents refused service and consolidation is physically feasible, the State Water Board has mandatory consolidation authority that could be considered under HSC Section 116680.
  - *Local Area Formation Commission (LAFCO)* – LAFCO's sphere of influence boundaries are designed to encourage the orderly formation of local governmental agencies, preserve agricultural land resources, and discourage urban sprawl. They usually are slightly larger than utility service areas and are the general geographic direction that a city or area plans to grow. Clarification of the LAFCO sphere of influence boundaries can be obtained by contacting the LAFCO executive officer using the contact information available **online**. In the event of public health emergencies, "extraterritorial service agreements" may be possible.

- *Surface Water Rights – Place of Use Boundaries* – If during the previous step it was noted that the system is served by surface water, the water system likely has surface water rights with specific areas where those rights can be used, called the "Place of Use." If the existing surface water right does not include the service area of the water system to be subsumed, a **Petition for Change** will likely need to be filed with the State Water Board's Division of Water Rights by the water right holder. A temporary urgency change may be appropriate under some situations involving public health and may be faster to process.

- Contact Local Water System for Consolidation – Call local water systems and discuss consolidation options. Flag any public health emergency the water system to be consolidated may have based on the conducted risk assessment. It is best to talk to a manager regarding these issues. Find out if the other water system would be willing to consider adding the water system, community, or residence as a connection. If their staff indicates there are barriers, note what the barriers are. For example: service boundaries, LAFCO sphere of influence boundaries, distance to mains, supply capacity, or water rights. Many barriers can be overcome, but will require extra steps in the planning process, so it is important to note what they are. Key questions to ask include what the connection fees are, water rates, and do existing domestic wells have to be destroyed or can they be utilized for irrigation; and if they can be maintained, the kind of backflow device that is required.

- Call the Division of Drinking Water District Office – For a public water system, state small water system, or larger clusters of domestic well consolidations, contact the **Division of Drinking Water SAFER Engagement Unit staff** to discuss the information gained and discuss potential funding mechanisms, pathways to deal with barriers, and other water systems. The State Water Board's Division of Drinking Water is often supportive of consolidation projects.

- Funding the Consolidation – The next step is to determine how consolidation will be financed, particularly if private capital is not available. The State Water Board's website (**Funding and Incentives for Consolidation and Regionalization Projects**) discusses the options for consolidation funding and incentives for both consolidation and regionalization. These funding opportunities are primarily designed for public water systems and state small water systems, but could also be used for domestic well clusters if the application is submitted by a larger public water system on behalf of the domestic well clusters. For consolidation of individual wells, counties should include a request for **funding** that covers this type of action in their application for countywide and regional funding programs. Current entities with these types of programs can be found, separated by County served, on the State Water Board website (**Domestic Water Wells and State Smalls Program**).

- Help Sign Up Customers with the New Public Water System – When construction of the consolidation project is completed, residents may need assistance signing up with the billing system of the new public water system. Keeping residents informed throughout the entire consolidation process will help make this easier.
- Dissolve the Old Water System – The legal entity of the subsumed water system, such as a public water system or a state small water system, may need to provide a written request to the State Water Board Division of Drinking Water or county requesting that its domestic water supply permit be canceled. It may also be necessary to cancel any associated business licenses and insurances for the dissolved public water system, close bank accounts, and transfer deeds or titles. If applicable, important records, such as distribution maps and operations plans, should be provided to the receiving water system staff.

Managerial Consolidation or Water Partnerships

If no water systems are close enough for physical consolidation, consider discussing managerial consolidation or water partnerships between neighbors. Managerial consolidation is when a small water system becomes part of a larger water system for all managerial purposes, but continues to use their original water supply and distribution system. For example, a state small water system may once have had an all-volunteer staff, but anticipated increasing instability of future support for various reasons to provide necessary duties in maintaining the system responsibly. If the state small water system is too far from the large water system to make it cost-effective to physically consolidate, a large water system may be willing to legally take over the existing functions of the said state small water system, including regulatory reporting, billing, operations, etc.; but the state small water system would continue to use its existing infrastructure. Under this condition, the smaller water system would dissolve and would no longer be legally responsible for water service (DWR 2023). Counties may facilitate effective and targeted discussions among involved parties to establish a common understanding and solidify the willingness of the partnership moving forward.

5.4 Regional Water Infrastructure Investment

As counties conduct long-term water supply planning driven by the results of the drought and water shortage risk assessment, they should consider investing in regional water infrastructure to augment local water infrastructure to benefit state small water systems and domestic wells. This regional consideration is consistent with the integrated regional water management practices that the State has promoted since the early 2000s, and that Reclamation has incentivized through its WaterSMART grant program for regional drought contingency planning efforts.

This type of planning effort involves looking at the county as a whole and determining if there are any projects, such as the construction of any transmission lines or interties, that are feasible to promote resilience and redundancy. This section covers a general approach for identifying projects that may be able to minimize future water shortages for state small water systems and domestic wells.

Regional water infrastructure investment involves developing key infrastructure that will allow the movement of water to an area that may need it to meet additional demand or an unforeseen water shortage emergency. Projects of this sort can be found in planning documents such as:

- Integrated regional water management plans or relevant studies
- Regional drought contingency plans
- Urban water management plans
- Other applicable water reliability, water resilience, and drought plans

Identifying regional projects may aid in augmenting water supply in a county, specifically related to leveraging the existing infrastructure of larger water systems to expand the possibility of system consolidation with state small water systems and domestic wells, developing additional interties between major systems, or providing mutual aid. In addition, regional projects could extend the needed services to currently underserved areas that may be hindered by socioeconomic factors or other reasons. The county, with the support of the Task Force, should conduct the following exercises to examine the needs for regional facility investment:

- Review all the local planning documents to identify infrastructure projects that can augment water supplies.
- Prioritize infrastructure projects that can provide secure water supplies to the areas that are most susceptible to water shortages as informed by the drought and water shortage risk assessment.
- Develop a plan or strategy for funding-prioritized infrastructure projects (this could include allocating budget to complete feasibility studies and, later, additional allocations for local cost share when applying for grants).

By completing this exercise, counties may identify the following types of projects:

- Construction of surface water diversions to supply water more securely to additional service areas
- Improvement/expansion of water infrastructure interties to move water supplies more reliably between water agencies when supplies are limited

• Augmentation of groundwater resources to provide redundant supplies when water supplies are limited

• Augmentation of surface water storage that captures and stores additional water during dry conditions

Based on the identified projects, counties could pursue partnerships for further project development and approval and, subsequently, develop financial mechanisms for implementation.

5.5 Filing Data Gaps

Drought and water shortage planning for state small water systems and domestic wells can be achieved when there is adequate and sufficient data available. However, stressors and conditions evolve through time, such that there will always be new information to collect and new data gaps to fill. Filling in data gaps is important for refining the findings of the drought and water shortage risk assessment and associated quality of these findings, resulting in improved decision-making by counties for defining short-term response actions and long-term mitigation strategies and actions to reduce water shortage risks for state small water systems and domestic wells.

Data acquisition is an expensive action, especially for local governments like counties. Additional professional care and long-term maintenance would be required to make the record valuable for planning and monitoring purposes. Data acquisition without a long-term sustainable effort is often of limited value. Certain strategic planning for best-value data acquisition in terms of location and attributes could also be helpful to maximize the return of investment for desired planning outcomes.

As previously mentioned in Chapter 3, DWR has committed to continue maintaining the DWR **Water Shortage Vulnerability Explorer**, which provides a consolidated compilation of statewide data available from State agencies for use by counties in their risk assessment. The DWR Water Shortage Vulnerability Explorer is the default source of data that counties may use to conduct their drought and water shortage risk assessment. Counties may have additional data and local knowledge that could be beneficial to the risk assessment. Where appropriate, counties should supplement DWR data with additional available local data to improve the quality and local applicability of the resulting risk assessment. Counties may share their local data with State agencies to promote awareness and shared understanding of local risk factors.

Counties may consider the following for additional data acquisition to supplement the previously described monitoring network:

• Identify the datasets that are scarce or nonexistent.

- For scarce and non-existent data, identify the county department or local agency that should assist in the collection, processing, and management of the data.
- Identify the long-term costs of collecting missing and non-existent data.
- Identify funding sources and strategize how to obtain the funds for the necessary data collection, processing, and management.
- Establish the parameters for data collection, such as the frequency and approach for gathering the data of interest.
- For data that is available, determine if data collection needs to be improved at the county level to have a better understanding of local conditions. If so, establish the frequency at which the data needs to be collected, the resolution, the responsible entity, the funding sources, and how to collect them.
- Establish partnership to share the burden of data acquisition. Potential partners could be academic and research institutes such as the University of California and its Extension, California State University, or others. It is also possible to combine the needs of nearby counties for a consolidated service contract for cost efficiency for data acquisition and consistency in quality of acquired data.

6 | Public Outreach, Information, and Engagement

The purpose of this chapter is to provide guidance on how counties can foster meaningful and ongoing public engagement during the development and implementation of the County DRP to cover the needs of state small water systems and domestic wells.

As defined by the Center for Advances in Public Engagement, public engagement is a process that brings people together to address issues of common importance, to solve shared problems, and to bring about positive social change. Effective public engagement invites citizens to get involved in deliberation, dialogue, and action on public issues that they care about. It helps leaders and decision makers better understand the perspectives, opinions, and concerns of citizens and stakeholders. When done well, public engagement goes far beyond the usual participants to include those members of the community whose voices have traditionally been left out of political and policy debates.

6.1 Public Outreach and Information

Meaningful public involvement requires an informed public. Public outreach is any activity that provides helpful information to community members and educates the public on services, programs, and initiatives. During the development of the County DRP, the county and the Task Force may actively share information with the public. Ways to accomplish this are to develop a webpage on the county's website that displays the county's efforts to comply with SB 552 requirements. For example, as the implementing agency for El Dorado County, EDWA maintains a **webpage** that describes SB 552 requirements and EDWA's efforts towards compliance and beyond. Simultaneously, counties may provide regular updates to the Board of Supervisors on SB 552 and what they are actively doing to comply.

In sharing information with the public, consider sharing information that answers the following questions:

- How will the County DRP benefit the stakeholders?
- How can the county help residents during a drought or water shortage event, or when wells run dry? This information can be shared with an informational handout.
- What is SB 552?
- What is the County DRP and how does it fit with regional and local plans and programs?
- Who is developing the County DRP? What type of input does the county need from the public and when may this happen? For example, the county may request that the public review the draft County DRP when available for public review.
- How can stakeholders be engaged during the development and implementation of the County DRP?

When creating material for the public, consider making it concise, in languages spoken predominantly within the county, and include infographics.

Since outreach to domestic well owners and state small water systems is ongoing through state and regional water management programs, including CV-SALTS and SGMA, counties may also learn from, and coordinate outreach efforts with, these existing programs.

6.2 Public Engagement

Public engagement is a two-way process, involving interaction and listening, with the goal of generating mutual benefit. Through the development and implementation of the County DRP, the county should keep the following in mind:

- Clarify the SB 552 compliance processes.
- Convey the impact and relevance of SB 552 to the public.
- Explain how and when the public can participate, including how public input and response will be used.
- Engage with all populations and provide materials in languages predominantly spoken in the county.
- Share resources available for state small water systems and domestic wells before emergencies occur on were and how they can find help if they encounter water shortages.
- Continually re-evaluate the effectiveness of the public outreach process for different components of the development and implementation of the County DRP.

If material will be shared outside of the Board of Supervisors meetings and county website, consider sharing additional information as follows:

- Postcards or mailers (e.g., utility correspondence, county tax mailers)
- Press releases
- Direct communication to state small water systems (e.g., emails)
- Working directly with special districts
- Booth at farmers markets
- Community groups (e.g., Rotary Club)

- Schools (e.g., integrating into school curriculum)
- Open houses
- Utility bill inserts
- Kiosks at county fairs or festivals
- Social media
- Listservs
- Guest speakers in community groups
- Door-to-door information sharing
- Scheduled community meetings

Communication and Engagement Plan

The county may choose to do a Communication And Engagement Plan (C&E Plan) during the development and implementation of the County DRP that captures potential near- and long-term outreach strategies, tactics, and tools that support public and stakeholder communication actions. The C&E Plan for the County DRP can be organized as described below.

- **Section 1: Introduction** – Provide an overview of the purpose for the development of the C&E Plan and who is responsible for implementing and conducting the public outreach.
- **Section 2: Communities of Interest** – Describe communities for whom the C&E Plan will be developed. Communities can be the state small water systems and domestic wells, but also the subset of people who are more likely to experience social and physical vulnerabilities as they relate to drought and water shortages.
- **Section 3: Communication and Engagement** – Identify opportunities for public engagement and discuss how public input and response will be used during the development and implementation of the County DRP. Provide a description of how and when the county will encourage the active involvement of diverse social, cultural, and economic elements of the population within the county's jurisdiction. Describe the method the county will follow to inform the public about progress of development of the County DRP. During implementation, counties should build on outreach activities conducted during the plan development phase; but they should also include new and targeted outreach as the need arises and cultivate more

diverse engagement. Successful and established activities should be continued throughout the County DRP's implementation and then updated to include new stakeholder groups and emerging issues. Engagement with specific collaborative groups may be outlined during specific milestones of the County DRP (e.g., between the GSA and drillers).

Outreach Tools

Counties should disseminate information to the public and engage stakeholders to support the development of the County DRP. On an as-needed basis, counties should translate materials to other languages to reach non-English-language communities. A premium should be put on materials that are easy to access and that provide information for varied levels of knowledge. Below is a list of outreach tools that can be integrated within actions outlined in Section 3 of the C&E Plan.

- **Website** – The county can develop a website to keep stakeholders and other interested parties informed of the County DRP development and future implementation activities. The site can include copies of informational, background, technical, and planning documents; Task Force meeting agendas and materials; and information on SB 552. The site can be used as the location to post the County DRP to solicit public review and input.
- **Listserv** – Develop a listserv or expand an existing listserv to communicate information relevant to SB 552 to individuals, organizations, or agencies that have expressed interest in being informed about the County DRP activities and efforts. This listserv can receive notices regarding plan preparation, meeting announcements, and availability of draft plans, maps, and other relevant documents. Those in the listserv can be notified of public meetings, workshops, and announcements related to SB 552 implementation. Provide information on how people can be signed up or be automatically included. For example, every time a new domestic well is installed, the well owner is added to the listserv.
- **Informational Materials** – The county can develop a suite of informational materials aimed at educating members of the public and stakeholders about SB 552, drought, and water shortages; and the County DRP can be used to bridge information gaps that may exist related to SB 552 implementation. The county can adapt materials over time as needs arise. As needed, the county can translate materials into non-English languages to reach specific-language communities. The following are examples of fit-for-purpose outreach tools:
  - **Fact sheets** aimed at educating members of the public about drought, water shortage, resources available during water shortages, and the County DRP. The fact sheets can be distributed through postings on websites, via electronic distribution, or offered in hard-copy format in easy-to-access public areas or through the Task Force members' existing communication channels.

- **Presentation slides** presented at the Board of Supervisors Meetings that provide status updates on SB 552 implementation that can be adapted for use at public meetings, workshops, and presentations to community groups. These slides help educate, provide a basis for engaging in meaningful discussions, and ensure consistent messaging that helps unify materials across the county.
- **Notices** including fliers, email copy, and social media posts to promote public meetings, workshops, and resources available during water shortages. The county can distribute these notices to the listserv and other county stakeholders. The materials may be distributed via email by posting on websites and social media accounts, and/or delivered as hard-copy materials for physical posting on community bulletin boards or at events.
- **Calendar notices and news releases** aimed at informing the media about County DRP milestones, including the release of public documents, the opening of public comment periods, or calls for suggestions and input. The county may also use calendar notices to distribute details for upcoming public events or community events as they relate to SB 552.

Outreach Activities

Counties may conduct and monitor a variety of public outreach activities to inform, engage, interact with, and respond to stakeholders and the public during the development, adoption, and, later, implementation of the County DRP. Public outreach activities also assist the county in collecting information important to short- and long-term water supply planning. As needed, the county can translate materials into non-English languages to reach specific-language communities. Examples of outreach activities that can be integrated with activities outlined in Section 3 of the C&E Plan include the following:

- **Briefings to the Board of Directors** – County staff should provide regular briefings to the Board of Supervisors on the status of the County DRP's development and implementation, and any upcoming outreach activities. These briefings should be conducted during regularly held and publicly noticed meetings, which also include opportunities for public comment. The primary purpose of these briefings is to update the governing body on the County DRP and next steps, and to respond to questions from the Board of directors.
- **Public Meetings and Workshops** – Public meetings and workshops are another venue to educate the public about SB 552, the County DRP, and water shortage resources. If there are any public meetings, they should be recorded (i.e., video recording) and posted on the county website. This tactic allows those who are unable to attend – due to scheduling conflicts or health and safety concerns – to stay informed about the County DRP development and implementation. Some portions of the workshops or meetings should be performed in the evening to accommodate residents who are working or otherwise unavailable during the day.

- **Community Presentations** – The county may conduct presentations to existing civic, nonprofit, school/parent groups, and other community organizations to build and maintain awareness about SB 552 and the County DRP. Presentations may be provided upon request by organizations or stakeholder groups, and then scheduled as time allows for all involved.
- **In-Person Outreach at Community Events** – The county can create an ongoing list of community events in which the county can provide in-person distribution of materials to the public, while also offering a chance to engage people in conversations about SB 552 and the County DRP.

If hybrid meetings occur (i.e., in-person and simultaneously available online), provide multiple options for teleconferencing, with two-way communication options that allow either computer users or phone users to engage and provide comments at meetings. For members of the public that may not have access to the internet or a computer, or who are unable to use video applications, consistently provide an adequate telephone option - available in multiple languages - and ensure that comments can be made via phone.

Implementation Activities

For consistent implementation, counties should continue public outreach activities, such as public meetings, community presentations, and Board updates, and to engage the public in conversations at community events. Informational materials and website content should be updated regularly at key implementation milestones, with a periodic update (e.g., in a five-year cycle) to reflect the status of the County DRP's implementation. In addition, new materials can be developed to help the public understand next steps, how they can stay engaged in the County DRP's implementation, and how to participate in call-to-action activities. Public engagement activities during the implementation of the County DRP can be integrated with activities outlined in Section 3 of the C&E Plan.

7 | Implementation Considerations

One major purpose of SB 552 is to have counties take steps to implement more proactive drought planning with the development of a plan that would help reduce potential catastrophic impacts on drinking water supply for the basic health and safety needs of state small water systems and domestic wells, including communities at risk for physical and social vulnerabilities. Following the guidance of previous chapters, counties should develop the technical content and facilitate stakeholder engagement necessary for the success of the County DRP. This chapter provides additional guidance about the County DRP as a package, and additional considerations for implementation.

7.1 Organization of County Drought Resilience Plan

CWC Section 10609.70 enacted by SB 552, requires counties to develop a County DRP to improve long-term drought resilience planning for state small water systems and domestic wells:

> *(b) A county shall develop a plan that includes potential drought and water shortage risk and proposed interim and long-term solutions for state small water systems and domestic wells within the county's jurisdiction. The plan may be a stand-alone document or may be included as an element in an existing county plan, such as a local hazard mitigation plan, emergency operations plan, climate action plan, or general plan. A county shall consult with its drought task force or alternative coordinating process as established by this section in developing its plan. A county shall consider, at a minimum, all of the following in its plan:*
>
> *(1) Consolidations for existing water systems and domestic wells.*
>
> *(2) Domestic well drinking water mitigation programs.*
>
> *(3) Provision of emergency and interim drinking water solutions.*
>
> *(4) An analysis of the steps necessary to implement the plan.*
>
> *(5) An analysis of local, state, and federal funding sources available to implement the plan.*

Per CWC Section 10609.70, the County DRP can be a standalone document or an element of an existing county plan. The flexibility provided by the legislation is to avoid duplication of efforts in plan development, but improve the established practices to achieve the goal to protect vulnerable state small water systems and domestic wells. However, inserting specific data and information relative to vulnerabilities and the findings of the drought and water shortage risk assessment into an existing plan may be potentially challenging to maintain its original, intended use.

The County DRP is to be implemented through a collective effort among different departments and units within the county in coordination with other State and local agencies. Therefore, it is most likely that the policy directions and outcome declared in the County DRP would need to be realized through the required regulatory or legal process for implementation. For example, provisions related to land use decisions need to be reflected in the subsequent general plan update with its own regulatory requirements for adoption. The LHMP prepared by the County OES also would be subject to adoption requirements consistent with the requirements of FEMA. Counties should include these details in their implementation and outline all necessary steps to realize the planning objectives and identify the plan elements implementable on a long-term basis. Subject to individual consideration by each county, it may be more burdensome for tracking the progress in a disaggregated manner, resulting in dilution of a county's transparency and accountability for SB 552 compliance.

Counties may develop the County DRP to be a stand-alone document that presents the complete planning process, findings, and recommendations for improving drought planning for state small water systems and domestic wells, and for mitigating short- and long-term water shortage hazards. With this stand-alone document, necessary implementation detail for each identified action, including the implementing agency, required process, and regulatory compliance requirements, can be included, and any anticipated outcomes can be described and tracked for progress.

7.2 Suggested Plan Layout

As counties develop their County DRP, counties may consider the following organization that is consistent with the workflow process shown in **Figure 1-1** and the organization of this Guidebook.

- **Chapter 1: Introduction** – Provide an overview of the county, inclusive of hydrology, demographics, number of state small water systems, and number of domestic wells.
- **Chapter 2: County Drought and Water Shortage Task Force** – Describe the Task Force (or alternative process that facilitates drought and water shortage preparedness for state small water systems and domestic wells), inclusive of the membership, roles, purpose, and frequency that they meet.
- **Chapter 3: Drought and Water Shortage Risk Assessment** – Provide an overview of the approach, data used, and results. Clearly describe any observations and the significance of the results on where there are current communities in distress or may be in distress in the future. Describe any gaps, such that if the missing data were obtained, the analysis could be refined. If the data is collected, describe the approach for its collection and validation.
- **Chapter 4: Short-Term Response Actions** – In cases in which communities are socially and physically vulnerable to immediate water shortage events, describe the immediate actions that the county proposes. Refer to Chapter 4 of this Guidebook for suggestions regarding what counties may potentially propose and the timeline of when proposed

actions would be activated based on local triggers. In addition, discuss the funding strategy, public education, and public engagement opportunities.

- **Chapter 5: Long-Term Mitigation Strategy and Actions** – To secure reliable water supplies to communities that were identified as physically and socially vulnerable, describe what actions from Chapter 5 of this Guidebook will be proposed for implementation. Discuss the funding strategy for public education and public engagement opportunities.
- **Chapter 6: Implementation Considerations** – The County DRP is to be implemented through a collective effort among different departments and units within the county in coordination with other State and local agencies. Counties should outline the implementation considerations in this chapter as a roadmap for implementation. The funding availability for implementing the County DRP should also be discussed as part of the implementation considerations.

7.3 Policy Alignment for Implementation

As counties develop their County DRP, they may align it with existing local and regional adaptation planning efforts for which the State has developed an integrated set of policies and tools:

- **California Adaptation Planning Guide (2020)**. This document introduces the basis for climate change adaptation planning and details a step-by-step process for local and regional climate vulnerability assessments and adaptation strategy development. This resource may be helpful when identifying an approach for long-term mitigation strategies and actions.
- **State of California General Plan Guidelines** (updated periodically). Every city and county in California is required by State law to prepare and maintain a planning document called a general plan. A general plan is designed to serve as the jurisdiction's "constitution" or "blueprint" for future decisions concerning land use, infrastructure, public services, and resource conservation. A county's general plan may be updated to reflect the land use planning proposed as a result of the long-term mitigation strategies and actions counties may take to reduce future water shortages.
- **State Hazard Mitigation Plan** (2018 Update). This plan supports the development and State approval of LHMPs to identify State and local risks of hazards, mitigation capabilities, and mitigation strategies. The LHMP can be updated to reflect the hazards identified as part of the drought and water shortage risk assessment.
- Regulations and Guidance for SGMA implementation. The associated nexus and needed coordination and consistency were discussed in previous chapters and, thus, not repeated herein.

Since the language of SB 552 allows for flexibility in how each county implements the SB 552 requirements, certain plans and response arrangements could be implemented by agencies other than the county. If that is the case, counties should establish formal agreements with these agencies or adopt ordinances to formalize the relationship and associated roles and responsibilities to meet the requirements of SB 552, including the needs of separate adoption or deference procedural requirements.

7.4 Adaptive Management, Transparency, and Accountability

The County DRP will be implemented in an adaptive manner with routine updates to reflect changed conditions and availability of new data. Subject to their own discretion, counties could specify a periodic update to the County DRP among the guidance and direction on next steps and recommended actions (as appropriate).

Through implementing the County DRP, it is anticipated that the vulnerability of state small water systems and domestic wells and associated water shortage risks would be reduced over time. Counties may establish a periodic review of the plan and its implementation and develop updates by incorporating new data and information and reflecting progress made to date. In many statewide and local planning processes, a five-year update is common to allow sufficient time for progress and maintain necessary urgency for improvement. Counties may consider a five-year update process or define another update frequency by aligning with their other existing planning processes. If desired, performance measures and other progress evaluation can also be included in the periodic updates to improve transparency and accountability.

7.5 Funding Opportunities and Assistance Programs

Collective implementation is expected for the County DRP. Although many strategies and actions can be taken by counties and their departments and offices, many would require participation or leadership of other local and State agencies. Counties do not have authority to direct the budget of other local and State agencies. At the same time, many households associated with state small water systems and domestic wells may not be able to afford the solutions, especially the more costly long-term strategies and actions that can alleviate their water shortage risks, because they are economically disadvantaged. SB 552 requires the Commission on State Mandates to determine if the costs for local agencies and school districts to comply with SB 552 are reimbursable by the State. Until the determination is completed, counties may be creative in applying existing funding to cover the needs to comply with SB 552, developing alternative funding sources for implementing the County DRP, and leveraging available federal and State assistance. To maximize funding opportunities, the Task Force should discuss funding strategies in each standing meeting and consider coordinating with regional entities and the GSA(s).

Local Assistance Programs

At a local scale, where resources are available, counties can develop their own local assistance programs to provide technical or financial assistance to state small water systems and domestic wells to support grant applications for installing a new well or rehabilitating an existing well (including deepening). Counties should be familiar with the adequate and allowable uses of their funding to determine the extent of funding that may be allocated and used for assisting state small water systems and domestic wells. Without a steady source of funding or, in some cases, an alternative source of funding, counties may have limited capacity in providing such a service on a continued basis.

State Assistance Programs

At the State level, subject to budget conditions and other directives, technical assistance, or financial assistance (including grants or loans) are provided by State agencies, including DWR and the State Water Board, that could help counties in planning and implementation of short-term response actions and long-term mitigation strategies and actions to alleviate the water shortage risks for state small water systems and domestic wells. The following are examples of potential State funding:

- **Grants and loans by DWR** for drought relief, local planning and project implementation needs, and other authorized purposes
- Grants and loans by State Water Board resources:
  - **Countywide and Regional Funding Program**, through which counties are eligible to develop a program for State Water Board funding to specifically support their state small water systems and domestic wells. Activities can include risk assessment, and implementation of interim and long-term solutions. The program also can cover some county administration costs.
  - **Emergency financial assistance programs** in the form of grants and loans for drought funding. These funds are typically focused on water systems rather than domestic wells, but may be relevant in some cases.
  - **Funding incentives for consolidation and regionalization projects** for larger public water systems that will expand their service area to include smaller public water systems, and state small water systems and domestic well clusters.
  - **Emergency drought funding** that is typically focused on responding to community water system emergencies, rather than domestic wells, but may be relevant in some cases.

  - **Direct technical assistance** prioritized to help develop projects benefiting small, disadvantaged communities.

- **Integrated Climate Adaptation and Resiliency Program Grant Programs** that provide funding to help fill local, regional, and tribal adaptation planning and resilience needs, provide resources, and support the development of a pipeline of climate-resilient projects.

Note that the above is not a complete list of potential funding opportunities and potential State funding availability is subject to change. Therefore, counties may investigate available funding through the **California Grants Portal**, where most of the State funding is advertised. Counties may use search terms such as "drinking water," "domestic well," and "small community water systems" to locate active funding programs. Counties may explore available funding programs broadly and creatively to leverage State funding as much as possible.

Federal Assistance Programs

At the federal level, resources exist in the form of grants and loans. Assistance programs with immediate nexus for assisting counties to reduce water shortage risks for state small water systems and domestic wells include the following.

- The **Rural Development Program of U.S. Department of Agriculture** (USDA) provides rural communities technical assistance and financing options to develop drinking water and waste disposal systems. Note that certain assistance programs target individual well owners directly to address their needs for improvement. While counties are not eligible for such assistance, they can promote the awareness of this assistance program to well owners and provide technical assistance for the application.

- Through its **WaterSMART program**, Reclamation provides many planning and implementation grants for water purveyors and other eligible parties to improve their water supply reliability and drought resilience.

- The **National Integrated Drought Information System** provides funding opportunities related to drought early warning research.

The above is not a complete list of available federal assistance programs, and counties should explore additional opportunities to enhance their capacity in implementing actions to reduce water shortage risks for

state small water systems and domestic wells. Due to the continued evolving conditions for grant availability and associated eligibility and requirements, counties may register with GRANTS.GOV, where most federal grants are announced, to receive updated information regarding active grants and their specifications. The past grant information retained in the database at **GRANTS.GOV** can also provide additional insight for the availability and typical requirements for certain grants that counties may incorporate into their efforts for funding acquisition.

Additional Resources for Both State and Federal Assistance Programs

Similar to the California Grant Portal, the **California Financing Coordinating Committee** (CFCC) Funding Fair is another venue for learning about available State and federal funding to support individual project implementation. DWR, State Water Board, California Infrastructure and Economic Development Bank, California Department of Housing and Community Development, Reclamation, and USDA are among CFCC members. The CFCC website provides a detailed list of State, federal, nonprofit, and other funding programs that counties are strongly encouraged to explore for additional opportunities. The county will need to track new opportunities to pursue as they become available. DWR will continue to work with other State agencies to develop technical assistance programs to help counties implement their County DRP.

7.6 Experience Sharing and Mutual Learning Opportunities

To facilitate mutual learning experience and general compliance status, DWR will provide a **portal** by Spring 2023 for counties to submit their County DRP voluntarily. Counties may also develop an annual report to post online or share their progress on the implementation of the County DRP.

8 | Glossary

2018 Legislation. Senate Bill 606 (Hertzberg) and Assembly Bill 1668 (Friedman) of 2018.

community water system. A public water system that serves at least 15 service connections used by yearlong residents or regularly serves at least 25 yearlong residents of the area served by the system, as defined in California Health and Safety Code Sections 116275(i) and California Water Code Section 10609.51(a).

county. City and county, as defined in California Water Code Section 14.

County Drought Resilience Plan. A plan demonstrating the potential drought and water shortage risk and proposed short-term response actions and long-term mitigation actions for state small water systems and domestic wells within a county.

County Drought Resilience Plan Guidebook Workgroup. A stakeholder group of county representatives that reviewed, discussed, and shared local perspectives and needs with California Department of Water Resources staff and the technical team to inform the County Drought Resilience Plan Guidebook development.

domestic well. A groundwater well used to supply water for the domestic needs of an individual residence or a water system that is not a public water system and that has no more than four service connections, as defined in California Health and Safety Code Section 116681(g) and California Water Code Section 10609.51(k).

drought. Defined in various ways depending on the needs. Generally, a drought is when supply does not meet demand for water, which has been met in the past. Drought tends to be associated with lower-than-average precipitation periods, though it can be driven by increases in demand and ambient temperatures (which can influence demand and timing of supplies). Dry or warm periods can lead to reduced surface water flows, reduced surface and groundwater storage, and increased water quality challenges (e.g., from harmful and other algal blooms or increased disinfectant biproduct concentrations). Additionally, dry periods can lead to shifts in pollutant blooms in aquifers. These water quality issues are important drought risks to consider when planning and preparing for droughts, especially as temperatures increase under the changing climate.

local primacy agency. A local health officer that has applied for and received primacy delegation pursuant to California Health and Safety Code Section 116330 (California Health and Safety Code Section 116275(r)).

non-transient, non-community water system. Means a public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year, as defined in Health and Safety Code Section 116275(k). Example of this includes a school (California Water Code Section 10609.51(g)).

public water system. A system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily for at least 60 days out of the year (Health and Safety Code Section 116275(h)).

risk. Consistent with the Intergovernmental Panel on Climate Change 2012 Special Report (Cardona et al. 2012) and its upcoming Sixth Assessment Report, risk is the combination of vulnerability and the extent of exposure to a hazardous event or conditions, including projected future hazards (IPCC 2017).

rural community. A community with fewer than 15 service connections or regularly serving less than 25 individuals daily at least 60 days out of the year, including domestic wells (California Water Code Section 10609.51(j)). In other words, rural community in this law covers all water systems or domestic wells for human consumption that are not a public water system.

service connection. The point of connection between the customer's piping or constructed conveyance, and the water system's meter, service pipe, or constructed conveyance (California Health and Safety Code Section 116275(s)).

small water supplier. A community water system serving 15 to 2,999 service connections, inclusive, and that provides less than 3,000 acre-feet of water annually (California Water Code Section 10609.51(k)).

state small water system. Provides piped water to the public for human consumption that serves at least 5, but not more than 14, service connections and does not regularly serve drinking water to more than an average of 25 individuals daily for more than 60 days out of the year as defined in California Health and Safety Code Sections 116275(n) and 116681(m), and California Water Code Section 10609.51(m).

Urban Water Management Plan. A plan required per California Water Code Section 10610 et seq. for publicly and privately owned urban water suppliers that provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail or wholesale cost for municipal purposes.

vulnerability. The propensity or predisposition to be adversely affected. Such predisposition constitutes an internal characteristic of the affected element, whereas exposure to a hazard is a condition or event to which the affected element (i.e., supplier or community) is subjected. In the field of disaster risk management, this includes the characteristics of a person or group and their situation that influences their capacity to anticipate, cope with, resist, and recover from the adverse effects of physical events (Wisner et al. 2003).

water shortage. An insufficient quantity of water to meet indoor water uses, such as drinking and sanitation, and other critical water needs, which can be caused by chronic conditions, extreme events, or both. This includes the physical lack of supply coming out of the tap, a problem that can be caused by dry wells or surface water, a regulatory restriction on accessing surface water, or some physical obstruction impeding water supply.

Water Shortage Contingency Plan. A document required per California Water Code Section 10617.5 for publicly and privately owned urban water suppliers that incorporates the provisions detailed in California Water Code Section 106329(a).

Water Shortage Vulnerability Explorer. A drought and water shortage vulnerability scoring of small water suppliers and rural communities, and the interactive webtool to explore the information, originated as part of meeting the California Department of Water Resource's County Drought Advisory Group process (California Water Code Section 10609.42 (a)) and maintained and updated to meet SB 552 requirements (California Water Code Section 10609.40). SB 552 mandates DWR to maintain and update indicators and the tool in perpetuity.

9 | References

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Appendix A | County Drought and Water Shortage Task Force Charter Template

The following is a template that counties may use to develop a charter for the establishment of the county drought and water shortage task force.

NAME OF GROUP

SAMPLE CHARTER

PURPOSE & GOALS

This section should provide the "elevator speech" of what the group hopes to accomplish. For example, outline the goals of the mandated charge and be sure it is inclusive of the legislative language:

- Facilitate drought and water shortage preparedness for state small water systems and domestic wells within the county's jurisdiction.
- Coordinate and communicate with the state and other local governments, community-based organizations, local water suppliers, and local residents on a regular basis as well as during drought or water shortage emergencies.

BACKGROUND

This section should help the reader understand the context of the group's work and why it is important to be successful.

MEMBERSHIP

This section should list the members of the group and may include non-member advisors or other persons outside of the class that support the team, such as facilitators and consultants.

ROLES AND RESPONSIBILITIES

This section is meant describe the roles and responsibilities of the group.

ATTENDANCE AND MEETING SCHEDULE

This section should describe the group's expectations regarding attendance and the frequency of meetings.

GROUND RULES

Establish standing meeting ground rules (e.g., one person speaks at a time).

RESOURCES

This section may include materials, services, or other assets available to the team (e.g., conference phone line, Google docs, shared drive, etc.).

Appendix B | Desktop Assessment of Existing Planning Documents

To evaluate how counties may choose to develop their County Drought Resilience Plan, either as a stand-alone document or included as an element in an existing plan, a desktop assessment of existing planning documents may be completed. Under this exercise, counties can list the SB 552 components against the relevant and existing county documents specifying the sections that are directly tied to SB 552. Completing this exercise allows counties to see what existing county plans would need amendments to refer to a stand-alone County Drought Resilience Plan, or which existing plans could integrate portions of the County Drought Resilience Plan.

TEMPLATE

SB 552 Component	Organization/Document	Chapter Section	Page Number	Description	Link	Enhanced Compliance Ideas
County Drought and Water Shortage Task Force	May include: Integrated Regional Water Management Plan (IRWMP), Regional Drought Contingency Plan, Local Hazard Mitigation Plan, etc.	List relevant chapter or section of plan identified	List relevant page number of plan identified	Provide description of relevant content from plan identified	Provide link to plan	Describe how Senate Bill 552 component can be integrated to plan identified
	Plan A					
	Plan B					
Analysis of Potential Drought and Water Shortage Risk	May include: Regional Drought Contingency Plan, Local Hazard Mitigation Plan, etc.	List relevant chapter or section of plan identified	List relevant page number of plan identified	Provide description of relevant content from plan identified	Provide link to plan	Describe how Senate Bill 552 component can be integrated to plan identified
	Plan A					
	Plan B					

SB 552 Component	Organization/Document	Chapter Section	Page Number	Description	Link	Enhanced Compliance Ideas
Interim (Emergency) Solutions	May include: Regional Drought Contingency Plan, County Office of Emergency Services, etc.	List relevant chapter or section of plan identified	List relevant page number of plan identified	Provide description of relevant content from plan identified	Provide link to plan	Describe how Senate Bill 552 component can be integrated to plan identified
	Plan A					
	Plan B					
Long-Term Solutions (consolidation opportunities, domestic well drinking water mitigation programs)	May include: Integrated Regional Water Management Plan (IRWMP), Regional Drought Contingency Plan, Local Hazard Mitigation Plan, etc.	List relevant chapter or section of plan identified	List relevant page number of plan identified	Provide description of relevant content from plan identified	Provide link to plan	Describe how Senate Bill 552 component can be integrated to plan identified
	Plan A					
	Plan B					
Implementation Considerations	May include: Integrated Regional Water Management Plan (IRWMP), Regional Drought Contingency Plan, Local Hazard Mitigation Plan, etc.	List relevant chapter or section of plan identified	List relevant page number of plan identified	Provide description of relevant content from plan identified	Provide link to plan	Describe how Senate Bill 552 component can be integrated to plan identified
	Plan A					
	Plan B					

SB 552 Component	Organization/Document	Chapter Section	Page Number	Description	Link	Enhanced Compliance Ideas
Funding Sources	May include: Integrated Regional Water Management Plan (IRWMP), Regional Drought Contingency Plan, etc.	List relevant chapter or section of plan identified	List relevant page number of plan identified	Provide description of relevant content from plan identified	Provide link to plan	Describe how Senate Bill 552 component can be integrated to plan identified
	Plan A					
	Plan B					

Appendix C | Mutual Aid Agreement Template

Model Mutual Aid and Assistance Agreement for Intrastate

Water/Wastewater Agency Response Network (WARN)

This Model Agreement contains procedures and standards for a water and wastewater utility Mutual Aid and Assistance Program. The Model is based on existing water and wastewater utility Mutual Aid and Assistance agreements implemented in California, Florida, Texas, Louisiana, South Carolina, Oregon, Georgia, and Pennsylvania. While the Model shares some similarities with each of the eight agreements, it is a unique document in and of itself.

Creating an agreement for Mutual Aid and Assistance involves a number of policy decisions. The Model Agreement proposes specific approaches to Mutual Aid and Assistance Program issues; however, reasonable minds will differ as to whether the approaches presented in the model are the best. Accordingly, notes are included for each provision of the Model Agreement. These notes highlight significant issues that arise in the drafting of a mutual aid and assistance Program and how the Model Agreement approaches those issues. The notes also explain why certain provisions are included in the Model Agreement.

Representatives of the water and wastewater industry can use this Model Agreement as a tool to facilitate discussion on drafting an Intrastate Mutual Aid and Assistance agreement that best illustrates their needs. However, while each intrastate steering committee may revise portions of this Agreement, it is important to note that this Model Agreement allows for inclusion and eventual connection with a national interstate mutual aid and assistance agreement. Because mutual aid and assistance programs require standardized operational procedures, consistency between the intrastate agreements is critical. Thus, major modifications to this Agreement would preclude using it for connection with an interstate program for mutual aid and assistance program.

AGREEMENT

This Agreement is made and entered into by public and private Water and Wastewater Utilities that have, by executing this Agreement, manifested their intent to participate in an Intrastate Program for Mutual Aid and Assistance.

Statutory Authority – (cite authorizing state statute, if any) This Agreement is authorized under Section XXX of the (state revised statutes on mutual aid) which provides that Water and Wastewater Utilities may contract with each other to provide services.

Note

Water and wastewater utilities may need statutory authority to enter into agreements for Mutual Aid and Assistance. If there is no statutory authority, a legal question arises as to whether such authority is necessary for a water and wastewater Mutual Aid and Assistance agreement. Agreements in California, Louisiana South Carolina and Oregon reference statutory authority. The Florida and Texas Agreements do not.

ARTICLE I.
PURPOSE

Recognizing that emergencies may require aid or assistance in the form of personnel, equipment, and supplies from outside the area of impact, the signatory utilities hereby establish an Intrastate Program for Mutual Aid and Assistance. Through the Mutual Aid and Assistance Program, Members coordinate response activities and share resources during emergencies. This Agreement sets forth the procedures and standards for the administration of the Intrastate Mutual Aid and Assistance Program.

Note on Article I

Article I briefly describes why water and wastewater utilities established a Program for Mutual Aid and Assistance and the purpose of the Agreement. Inclusion of this Article recognizes the spirit and intent of the Mutual Aid and Assistance Program.

ARTICLE II.
DEFINITIONS

A. Authorized Official – An employee or officer of a Member utility that is authorized to:

   1. Request assistance;

   2. Offer assistance;

   3. Refuse to offer assistance or

   4. Withdraw assistance under this agreement.

B. Emergency – A natural or human caused event or circumstance causing, or imminently threatening to cause, loss of life, injury to person or property, human suffering or financial loss, and includes, but is not limited to, fire, explosion, flood, severe weather, drought, earthquake, volcanic activity, spills or

releases of oil or hazardous material, contamination, utility or transportation emergencies, disease, blight, infestation, civil disturbance, riot, intentional acts, sabotage and war that is, or could reasonably be beyond the capability of the services, personnel, equipment, and facilities of a Mutual Aid and Assistance Program Member to fully manage and mitigate internally.

C. Members – Any public or private Water or Wastewater Utility that manifests intent to participate in the Mutual Aid and Assistance Program by executing this Agreement.

   1. Associate Member – Any non-utility participant, approved by the State Steering Committee, that provides a support role for the WARN program, for example State Department of Public Health, or associations, who are members of the Regional or State Steering Committees 1 and do not officially sign the WARN agreement.

   2. Requesting Member – A Member who requests aid or assistance under the Mutual Aid and Assistance Program.

   3. Responding Member – A Member that responds to a request for aid or assistance under the Mutual Aid and Assistance Program.

   4. Non-Responding Member – A Member or Associate Member that does not provide aid or assistance during a Period of Assistance under the Mutual Aid and Assistance Program.

D. Confidential Information – Any document shared with any signatory of this Agreement that is marked confidential, including but not limited to any map, report, notes, papers, opinion, or e-mail which relates to the system vulnerabilities of a Member or Associate Member.

E. Period of Assistance – A specified period of time when a Responding Member assists a Requesting Member. The period commences when personnel, equipment, or supplies depart from Responding Member's facility and ends when the resources return to their facility (portal to portal). All protections identified in the agreement apply during this period. The specified Period of Assistance may occur during response to or recovery from an emergency, as previously defined.

F. National Incident Management System (NIMS): A national, standardized approach to incident management and response that sets uniform processes and procedures for emergency response operations.

Note on Article II

These terms and corresponding definitions are drawn from the eight existing water and wastewater agreements for Mutual Aid and Assistance. Only the definition for emergency is noteworthy. The Model Agreement specifies a definition of an emergency that includes disasters that "could reasonably be" beyond the control of the participating utility. As explained in the Note for Article V below, this permits a participating utility to request assistance prior to the onset of a disaster. The request for aid does NOT require a declaration of an emergency by the local or state agencies, and the aid may be provided during the emergency response or recovery phases.

The term confidential information and Article XIV has been included to address the sharing of potentially security sensitive information in order to facilitate an appropriate response and recovery from an incident.

ARTICLE III.
ADMINISTRATION

The Mutual Aid and Assistance Program shall be administered through Regional Committees, as needed, and a Statewide Committee. The purpose of a Regional Committee is to provide local coordination of the Mutual Aid and Assistance Program before, during, and after an emergency. The designated regions are consistent with the existing public health or emergency management regions of the state and include (list the regions - for example: one for the Southern Region Members, one for the Northern Region Members, one for the Western Region Members, and one for the Eastern Region Members). Each Region Committee, under the leadership of an elected Chairperson, shall meet annually to address Mutual Aid and Assistance Program issues. Each Region Committee shall also meet annually to review emergency preparedness and response procedures. The Chairperson of each Regional Committee represents their Regional Committee's interests on the Statewide Committee. In addition to representing the interests of the Members, the Statewide Committee includes representatives from (list other organizations that may have a role to play in the Mutual Aid and Assistance Program, e.g., public health, emergency management, Rural Water Association, American Water Works Association, etc.). Under the leadership of the Chair, the Statewide Committee members shall plan and coordinate emergency planning and response activities for the Mutual Aid and Assistance Program.

Note on Article III

The Model Agreement conceptualizes a Mutual Aid and Assistance Program administered through regional committees and a statewide committee. Article III formalizes this approach. The concept is drawn from a provision in California' Agreement which establishes a committee system for program administration. The Model Agreement outlines administering the program through regional or "local" committees that could

promote coordination and help resolve program issues. However, the sample agreement recognizes that a committee system for Program administration may be too elaborate for some states. There are other, less formal ways to ensure efficient operation of a Mutual Aid and Assistance Program. For example, the Mutual Aid and Assistance agreement could require participating utilities to develop operational and planning procedures. The main objective is to have a well-developed system for Mutual Aid and Assistance whether through establishment of a committee system or a less formal approach. The more organized the utilities are, the less apt emergency response agencies will step in.

ARTICLE IV.
PROCEDURES

In coordination with the Regional Committees, emergency management and public health system of the state, the Statewide Committee shall develop operational and planning procedures for the Mutual Aid and Assistance Program. These procedures shall be reviewed at least annually and updated as needed by the Statewide Steering Committee.

Note on Article IV

Article IV recognizes that an agreement by itself may be insufficient to cover the range of issues that arise in Mutual Aid and Assistance Programs. To have an efficient Program, participating utilities may need to supplement the Mutual Aid and Assistance agreement with a Program guidance document that includes detailed operational and planning procedures. To supplement the agreement, participating utilities develop a Mutual Aid and Assistance Program Manual and a Mutual Aid and Assistance Handbook.

ARTICLE V.
REQUESTS FOR ASSISTANCE

A. Member Responsibility: Members shall identify an Authorized Official and alternates; provide contact information including 24-hour access. and maintain resource information that may be available from the utility for mutual aid and assistance response. Such contact information shall be updated annually or when changes occur, provided to the State Steering Committee.

In the event of an Emergency, a Member's Authorized Official may request mutual aid and assistance from a participating Member. Requests for assistance can be made orally or in writing. When made orally, the request for personnel, equipment, and supplies shall be prepared in writing as soon as practicable. Requests for assistance shall be directed to the Authorized Official of the participating Member. Specific protocols for requesting aid shall be provided in the required procedures (Article IV).

B. Response to a Request for Assistance – Members of the agreement are not obligated to respond to a request. After a Member receives a request for assistance, the Authorized Official evaluates whether or not to respond, whether resources are available to respond, or if other circumstances would hinder response. Following the evaluation, the Authorized Representative shall inform, as soon as possible, the Requesting Member whether it will respond. If the Member is willing and able to provide assistance, the Member shall inform the Requesting Member about the type of available resources and the approximate arrival time of such assistance.

C. Discretion of Responding Member's Authorized Official – Execution of this Agreement does not create any duty to respond to a request for assistance. When a Member receives a request for assistance, the Authorized Official shall have sole and absolute discretion as to whether or not to respond, or the availability of resources to be used in such response. An Authorized Member's decisions on the availability of resources shall be final.

Note on Article V

1. The Model Agreement sets a low threshold for when Members can request mutual aid and assistance. Article V permits requests for mutual aid and assistance in the event of an "Emergency." An "Emergency" under Article II is defined as "an event that is, or is likely to be, beyond the control of the services, personnel, equipment, and facilities of a Mutual Aid and Assistance Program Member." This definition has two noteworthy characteristics. First, the use of the word "event", rather than "disaster", broadens the situations in which Members can request mutual aid and assistance. Second, an Emergency includes events that are "likely to be" beyond the control of the participating utility. By including the "is likely to be" language, participating utilities can request mutual aid and assistance before an event overwhelms their resources. This approach envisions situations where pre-event response would be necessary to protect human health and property. The Florida and Texas Agreements do not allow for pre-event assistance requests.

2. Article V permits oral and written requests for assistance; however, when made orally, the requesting member must put the request in writing as soon as practicable. This approach balances the need to make a quick and prompt request with the need for accuracy.

3. The Model Agreement does not provide specific details on the type of information that must be provided when a participating utility requests assistance. This can be provided in the protocols that support the agreement. This approach is in contrast to the Florida and Texas Agreements that do

list the information that must be provided when a member makes a request for assistance. Those agreements also require a responding member to provide certain information to the requesting member. Again, the Model Agreement adopted a different approach. Article V only requires responding members to indicate what resources will be provided and when the resources will arrive at the requesting member's facility.

4. The Model Agreement provides participating utilities with absolute discretion when deciding whether to respond a request for assistance. This is consistent with all four existing water and wastewater Mutual Aid and Assistance agreements.

ARTICLE VI.
RESPONDING MEMBER PERSONNEL

A. National Incident Management System - When providing assistance under this Agreement, the Requesting Utility and Responding Utility shall be organized and shall function under the National Incident Management System.

B. Control - While employees so provided may be under the supervision of the Responding Member, the Responding Member's employees come under the direction and control of the Requesting Member, consistent with the NIMS Incident Command System to address the needs identified by the Requesting Member. The Requesting Member's Authorized Official shall coordinate response activities with the designated supervisor(s) of the Responding Member(s). The Responding Member's designated supervisor(s) must keep accurate records of work performed by personnel during the specified Period of Assistance.

C. Food and Shelter – Whenever practical, Responding Member personnel must be self-sufficient for up to 72 hours. When possible, the Requesting Member shall supply reasonable food and shelter for Responding Member personnel. If the Requesting Member is unable to provide food and shelter for Responding personnel, the Responding Member's designated supervisor is authorized to secure the resources necessary to meet the needs of its personnel. Except as provided below, the cost for such resources must not exceed the State per diem rates for that area. To the extent Food and Shelter costs exceed the State per diem rates for the area, the Responding Member must demonstrate that the additional costs were reasonable and necessary under the circumstances. Unless otherwise agreed to in writing, the Requesting Member remains responsible for reimbursing the Responding Member for all reasonable and necessary costs associated with providing food and shelter, if such resources are not provided.

D. Communication – The Requesting Member shall provide Responding Member personnel with radio equipment as available, or radio frequency information to program existing radio, in order to facilitate communications with local responders and utility personnel.

E. Status - Unless otherwise provided by law, the Responding Member's officers and employees retain the same privileges, immunities, rights, duties and benefits as provided in their respective jurisdictions.

F. Licenses and Permits – To the extent permitted by law, Responding Member personnel that hold licenses, certificates, or permits evidencing professional, mechanical, or other skills shall be allowed to carry out activities and tasks relevant and related to their respective credentials during the specified Period of Assistance.

G. Right to Withdraw - The Responding Member's Authorized Official retains the right to withdraw some or all of its resources at any time for any reason in the Responding Member's sole and absolute discretion. Notice of intention to withdraw must be communicated to the Requesting Member's Authorized Official as soon as soon as is practicable under the circumstances.

1. The National Incident Management System (NIMS) provides a consistent nationwide approach that allows federal, state, local and tribal governments as well as private sector and non-governmental organizations to work together to manage incidents and disasters of all kinds. To be eligible federal emergency management assistance, water and wastewater mutual aid and assistance programs must meet NIMS standards for emergency preparedness and response.

2. The Model Agreement promotes "home" supervisory control over personnel. This approach recognizes that personnel will likely work better with their regular supervisors. To ensure an efficient response, Article VI requires responding member supervisors to coordinate with the requesting member's authorized official.

3. Article VI requires the requesting member to supply food and shelter to responding member personnel. This may be too onerous given that the requesting member will be faced with an emergency when it makes a request for Mutual Aid and Assistance. Accordingly, Article VI permits the requesting member to reimburse the responding member for food and shelter costs rather than securing such provisions.

4. Article VI includes a provision that allows the responding member to withdraw some or all of its resources at any time. This approach limits the commitment of the responding member. If a situation arose in the responding member's facility, resources could be withdrawn as appropriate. The Model Agreement promotes assistance because participating utilities would be less likely to withhold resources out of concern that they could not respond to needs at their own facilities.

5. Licensing and permitting authority will most likely not be an issue for intrastate mutual aid. However, this Agreement is drafted to permit assistance under the Interstate Emergency Management Assistance Compact and an Interstate Mutual Aid and Assistance Program for water and wastewater utilities, if such a program were established (see Article XXI). Because state issued licensing and permitting credentials vary, it is important to clarify what actions and tasks responding member personnel can take when participating in interstate mutual aid and assistance. The licensing and permitting provision allows the maximum utilization of the professional skills held by responding member personnel. However, it does provide responding member personnel with authority to conduct activities or tasks that may only be completed by those holding locally issued professional credentials.

ARTICLE VII.
COST- REIMBURSEMENT

The Requesting Member shall reimburse the Responding Member for each of the following categories of costs incurred during the specified Period of Assistance as agreed in whole or in part by both parties; provided, that any Responding Member may assume in whole or in part such loss, damage, expense, or other cost, or may loan such equipment or donate such services to the Requesting Member without charge or cost.

A. Personnel – The Responding Member shall be reimbursed by the Requesting Member for personnel costs incurred for work performed during the specified Period of Assistance. Responding Member personnel costs shall be calculated according to the terms provided in their employment contracts or other conditions of employment. The Responding Member's designated supervisor(s) must keep accurate records of work performed by personnel during the specified Period of Assistance. Requesting Member reimbursement to the Responding Member could consider all personnel costs, including salaries or hourly wages, costs for fringe benefits, and indirect costs.

B. Equipment – The Requesting Member shall reimburse the Responding Member for the use of equipment during the specified Period of Assistance, including, but not limited to, reasonable rental

rates, all fuel, lubrication, maintenance, transportation, and loading/unloading of loaned equipment. All equipment shall be returned to the Responding Member in good working order as soon as is practicable and reasonable under the circumstances. As a minimum, rates for equipment use must be based on the Federal Emergency Management Agency's (FEMA) Schedule of Equipment Rates. If a Responding Member uses rates different from those in the FEMA Schedule of Equipment Rates, the Responding Member must provide such rates orally or in writing to the Requesting Member prior to supplying the equipment. Mutual agreement on which rates are used must be reached in writing prior to dispatch of the equipment. Reimbursement for equipment not referenced on the FEMA Schedule of Equipment Rates must be developed based on actual recovery of costs. If Responding Member must lease a piece of equipment while its equipment is being repaired, Requesting Member shall reimburse Responding Member for such rental costs.

C. Materials and Supplies – The Requesting Member must reimburse the Responding Member in kind or at actual replacement cost, plus handling charges, for use of expendable or non-returnable supplies. The Responding Member must not charge direct fees or rental charges to the Requesting Member for other supplies and reusable items that are returned to the Responding Member in a clean, damage-free condition. Reusable supplies that are returned to the Responding Member with damage must be treated as expendable supplies for purposes of cost reimbursement.

D. Payment Period – The Responding Member must provide an itemized bill to the Requesting Member for all expenses incurred by the Responding Member while providing assistance under this Agreement. The Responding Member must send the itemized bill not later than (90) ninety dates following the end of the Period of Assistance. The Responding Member may request additional periods of time within which to submit the itemized bill, and Requesting Member shall not unreasonably withhold consent to such request. The Requesting Member must pay the bill in full on or before the forty-fifth (45th) day following the billing date. The Requesting Member may request additional periods of time within which to pay the itemized bill, and Responding Member shall not unreasonably withhold consent to such request, provided, however, that all payment shall occur not later than one-year after the date a final itemized bill is submitted to the Requesting Member.

E. Records - Each Responding Member and their duly authorized representatives shall have access to a Requesting Member's books, documents, notes, reports, papers and records which are directly pertinent to this Agreement for the purposes of reviewing the accuracy of a cost bill or making a financial, maintenance or regulatory audit. Each Requesting Member and their duly authorized

representatives shall have access to a Responding Member's books, documents, notes, reports, papers and records which are directly pertinent to this Agreement for the purposes of reviewing the accuracy of a cost bill or making a financial, maintenance or regulatory audit. Such records shall be maintained for at least three (3) years or longer where required by law.

Note on Article VII

1. Mutual Aid programs established in the 1950s did not have cost reimbursement procedures. Rather, program members would provide assistance at no charge, with the understanding that assistance would be provided to them when they were in need. For those utilities that wish to abide by that principle, the initial statement of Article VII allows the requesting and responding member to determine which resources could be exchanged without cost. Because public resources cannot normally be provided to private organizations, this process is appropriate only when the assistance is exchanged between private utilities.

2. For those utilities that seek reimbursement for services, Article VII reflects the cost reimbursement procedures set forth in the four existing water and wastewater agreements for Mutual Aid and Assistance. To qualify for FEMA cost-reimbursement, this Article must be included in a mutual aid agreement.

3. In general, private organizations cannot receive public funds. This rule prevents gifts of private funds to private organizations. However, public funds can be used to reimburse private organizations for costs incurred as a result of providing assistance to a public entity as long as the costs are identified. Accordingly, Article VII requires an itemized bill for all expenses incurred during a Period of Assistance.

4. The Model Agreement suggests procedures include a penalty provision for unpaid bills. Providing a penalty provision will promote timely reimbursement to the requesting member.

ARTICLE VIII.
DISPUTES

If any controversy or claim arises out of, or relates to, the execution of the Agreement, including, but not limited to, alleged breach of the Agreement, the disputing Members shall first attempt to resolve the dispute by negotiation, followed by mediation and finally shall be settled by arbitration in accordance with the Rules of the American Arbitration Association. Any court of competent jurisdiction may enter the judgment rendered by the arbitrators as final judgment that is binding on the parties.

Note on Article VIII

Article VIII sets forth a two-tiered process for handling disputes. First, members must try negotiation. If unsuccessful, then the matter must be resolved through arbitration. Arbitration is much faster and less expensive than traditional civil litigation. The Rules of the American Arbitration Association are widely recognized and often cited in arbitration clauses. However, a dispute resolution provision could include specific procedures for arbitration rather than require use of procedures developed by the American Arbitration Association. The Florida and Texas Agreements take this approach.

ARTICLE IX.
REQUESTING MEMBER'S DUTY TO INDEMNIFY

The Requesting Member shall assume the defense of, fully indemnify and hold harmless, the Responding Member, its officers and employees, from all claims, loss, damage, injury and liability of every kind, nature and description, directly or indirectly arising from Responding Member's work during a specified Period of Assistance. The scope of the Requesting Member's duty to indemnify includes, but is not limited to, suits arising from, or related to, negligent or wrongful use of equipment or supplies on loan to the Requesting Member, or faulty workmanship or other negligent acts, errors or omissions by Requesting Member or the Responding Member personnel.

The Requesting Member's duty to indemnify is subject to, and shall be applied consistent with, the conditions set forth in Article X.

Note on Article IX

1. Article IX sets forth a comprehensive indemnity provision. The provision requires the requesting member to indemnify responding members, and their officers and, employees. This requirement protects responding members from the costs associated with civil suits that may arise from, or are related to, providing Mutual Aid and Assistance. The Model Agreement allows an indemnity provision that would encourage participating utilities to provide assistance in the event of an emergency.

2. However, it is important to recognize that Article IX places an added burden on members that request assistance. The duty to indemnify, along with other requesting member obligations set forth in the Model Agreement, may deter participating utilities from utilizing the Mutual Aid and Assistance Program. An alternative approach is provided in the Florida and Texas Agreements. Those agreements require each member to bear the risks associated with participating in the Mutual

Aid and Assistance Program. This includes the risk of facing civil liability that arises from, or is related to, providing Mutual Aid and Assistance. This approach reduces the burdens on members that request assistance under the Mutual Aid and Assistance Program.

ARTICLE X.
SIGNATORY INDEMNIFICATION

In the event of a liability, claim, demand, action, or proceeding of whatever kind or nature arising out of a specified Period of Assistance, the Members who receive and provide assistance shall have a duty to defend, indemnify, save and hold harmless all Non-Responding Members, their officers, agents and employees from any liability, claim, demand, action, or proceeding of whatever kind or nature arising out of a Period of Assistance.

Note on Article X

A lawsuit or similar action that arises from or is related to a Mutual Aid and Assistance response may name all participating utilities as defendants regardless of their involved in the transaction or occurrence that gave rise to the suit. Article X protects non-responding members from costs associated lawsuits or similar actions. This protection would encourage participation in the Mutual Aid and Assistance Program. Water and wastewater utilities would not incur additional liability by participating in the Mutual Aid and Assistance Program.

ARTICLE XI.
WORKER'S COMPENSATION CLAIMS

The Responding Member is responsible for providing worker's compensation benefits and administering worker's compensation for its employees. The Requesting Member is responsible for providing worker's compensation benefits and administering worker's compensation for its employees.

Note on Article XI

Most state law requires the employer to provide and manage worker's compensation for their employees.

This article recognizes that the Responding Member has knowledge of the potential risks associated with deployment while providing resources to the Requesting Member(s) and the community it serves. If a member is unwilling to accept such risk they are not obligated to provide aid and assistance under the terms of this agreement.

ARTICLE XII.
NOTICE

A Member who becomes aware of a claim or suit that in anyway, directly or indirectly, contingently or otherwise, affects or might affect other Members of this Agreement shall provide prompt and timely notice to the Members who may be affected by the suit or claim. Each Member reserves the right to participate in the defense of such claims or suits as necessary to protect its own interests.

Note on Article XII

Article XII recognizes that Members of the Agreement need to know about claims or suits that affect, or might affect, them. The Article also preserves the right of a Member to defend itself in any claim or suit that affects its interests.

ARTICLE XIII.
INSURANCE

Members of this Agreement shall maintain an insurance policy or maintain a self-insurance program that covers activities that it may undertake by virtue of membership in the Mutual Aid and Assistance Program.

Note on Article XIII

1. Article XIII requires members to carry insurance to protect against risks associated with participation in the Mutual Aid and Assistance Program. This provision provides a secure means of covering risks associated with participation in the Mutual Aid and Assistance Program.

2. A requirement to carry insurance could be an alternative to the indemnity provisions provided in Articles IX and X. That is, rather than place the burden on the Requesting Member to indemnify the responding member; the mutual aid and assistance agreement could provide that all members bear the risks of their own actions. The Florida and Texas Agreements take this approach; however these agreements do not require participating utilities to obtain insurance.

ARTICLE XIV.
CONFIDENTIAL INFORMATION

To the extent provided by law, any Member or Associate Member shall maintain in the strictest confidence and shall take all reasonable steps necessary to prevent the disclosure of any Confidential Information disclosed under this Agreement. If any Member, Associate Member, third party or other entity requests or demands,

by subpoena or otherwise, that a Member or Associate Member disclose any Confidential Information disclosed under this Agreement, the Member or Associate Member shall immediately notify the owner of the Confidential Information and shall take all reasonable steps necessary to prevent the disclosure of any Confidential Information by asserting all applicable rights and privileges with respect to such information and shall cooperate fully in any judicial or administrative proceeding relating thereto.

Note on Article XIV

Many state laws were updated following 9/11 to address the management of confidential information or security sensitive information. Therefore, it may be appropriate for parties to this agreement to establish protocols for handling such information to facilitate the rapid recovery of the impacted utility.

ARTICLE XV.
EFFECTIVE DATE

This Agreement shall be effective after the Water and Wastewater Utility's authorized representative executes the Agreement and the applicable Regional Committee Chair receives the Agreement. The Regional Committee Chair shall maintain a list of all Members in the respective region. The Statewide Committee Chair shall maintain a master list of all members of the Mutual Aid and Assistance Program.

Note on Article XV

Article XV provides a standard approach on the process for participation in the Mutual Aid and Assistance Program.

ARTICLE XVI.
WITHDRAWAL

A Member may withdraw from this Agreement by providing written notice of its intent to withdraw to the applicable Regional Committee Chair and the Statewide Chair. Withdrawal takes effect 60 days after the appropriate officials receive notice. Withdrawal from this Agreement shall in no way affect a Requesting Member's duty to reimburse a Responding Member for cost incurred during a Period of Assistance, which duty shall survive such withdrawal.

Note on Article XVI

Article XVI recognizes that a Member may decide to withdraw from Mutual Aid and Assistance Program.

ARTICLE XVII.
MODIFICATION

No provision of this Agreement may be modified, altered or rescinded by individual parties to the Agreement. Modifications to this Agreement may be due to programmatic operational changes to support the agreement, legislative action, creation of an interstate aid and assistance agreement, or other developments. Modifications require a simple majority vote of Members within each region and a unanimous agreement between the regions. The Statewide Committee Chair must provide written notice to all Members of approved modifications to this Agreement. Approved modifications take effect 60 days after the date upon which notice is sent to the Members.

Note on Article XVII

Article XVII recognizes that members may want to modify the Program agreement. There may also be circumstances that require modification of the Program agreement. For example, creation of an interstate water and wastewater utility Mutual Aid and Assistance Program may require agreement modifications.

ARTICLE XVIII.
SEVERABILITY

The parties agree that if any term or provision of this Agreement is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular term or provision held to be invalid.

Note on Article XVIII

Conflict with one article of the agreement does not void the entire agreement.

ARTICLE XIX.
PRIOR AGREEMENTS

This Agreement supersedes all prior Agreements between Members to the extent that such prior Agreements are inconsistent with this Agreement.

Note on Article XIX

Members of the Mutual Aid and Assistance Program may already have assistance agreements in place with utilities. Article XIX ensures that existing assistance agreements do not interfere with the operation of the intrastate Mutual Aid and Assistance Program.

ARTICLE XX.
PROHIBITION ON THIRD PARTIES AND ASSIGNMENT OF RIGHTS/DUTIES

This Agreement is for the sole benefit of the Members and no person or entity must have any rights under this Agreement as a third-party beneficiary. Assignments of benefits and delegations of duties created by this Agreement are prohibited and must be without effect.

Note on Article XX

Article XX covers issues of contract law that may interfere with the operation of the Mutual Aid and Assistance Program. The prohibition on third-party beneficiaries limits all rights and benefits under the agreement to participating utilities. Thus, a local government could not assert rights under this agreement as a third-party beneficiary. Article XX also prohibits the assignment of benefits created by the agreement to third parties. In other words, a participating utility could not assign its ability to request mutual aid and assistance to a non-participating utility. Prohibiting the delegation of duties ensures that only the participating utilities are involved in the Mutual Aid and Assistance Program.

ARTICLE XXI.
INTRASTATE AND INTERSTATE MUTUAL AID AND ASSISTANCE PROGRAMS

To the extent practicable, Members of this Agreement shall participate in Mutual Aid and Assistance activities conducted under the State of XXX Intrastate Mutual Aid and Assistance Program and the Interstate Emergency Management Assistance Compact (EMAC). Members may voluntarily agree to participate in an interstate Mutual Aid and Assistance Program for water and wastewater utilities through this Agreement if such a Program were established.

Note on Article XXI

At least 13 states have an overarching statewide mutual aid program. Article XXI requires coordination with the statewide mutual aid program, if one exists. Additionally, Article XXI permits participation in an interstate water and wastewater mutual aid program if one were established.

Now, therefore, in consideration of the covenants and obligations set forth in this Agreement, the Water and Wastewater Utility listed here manifests its intent to be a Member of the Intrastate Mutual Aid and Assistance Program for Water and Wastewater Utilities by executing this Agreement on this _____ day of _____ 20XX.

Water/Wastewater Utility:

By: _____ By: _____

Title: _____ Title: _____

_____ _____

Please Print Name Please Print Name

Approved as to form and legality

By: _____

Attorney for Utility

_____

Please Print Name

Additional References

Writing Guide for a Memorandum of Understanding (MOU), Writing Guide for Memorandum of Understanding (cisa.gov)

Crafting Interlocal Water and Wastewater Agreements, Crafting20Interlocal20Agreements_Final_01.pdf (unc.edu)

Appendix D | Example Agreement For Emergency Water Service

THIS AGREEMENT is made on July XX, 2022, by and between the County of BUTTE, a political subdivision of the State of California ("County") and PARADISE IRRIGATION DISTRICT, a California designated special district ("PID") (together, "Parties").

Due to the current State and County declared drought emergency, there are residents near PID's service area who are not customers of PID and who do not have a reliable source of water. The County desires to receive, and PID agrees to provide, to the greatest extent possible, emergency water service pursuant to the terms and conditions set forth in this Agreement to assist those residents for a limited time period not to exceed 1 year from the date of this agreement.

The County shall only provide water to residents that have been identified by the County as having a dry well and/or spring, have registered with My Dry Water Supply, and reside in Butte County. The County is prohibited from reselling water obtained under this Agreement pursuant to the California Public Utilities Commission's General Order 96-B, General Rule 8.2.3. The County shall not provide or use the water for commercial or other nonresidential purposes.

If the PID Board of Directors or PID General Manager, determines that continuing with the Agreement negatively impacts PID's operations or customers who are situated within PID's approved service area (including a determination that there is excessive or inappropriate use of water obtained under this Agreement), the County shall be notified, and the Parties shall develop a timetable and process (such as phasing in a decrease of the maximum withdrawal amounts) to ensure termination of the Agreement within a reasonable time not to exceed thirty (30) days.

The County shall defend, indemnify and hold harmless PID and its directors, officers, employees, and agents from and against all third party claims, damages, losses, liabilities, expenses, and attorney's fees (collectively "Claims") to the extent arising from a negligent act or omission or intentional misconduct of the County, its employees, agents, or contractors in accessing a hydrant or the delivery of emergency water from a hydrant, including, but not limited to, Claims for:

a. Bodily injury including, but not limited to, sickness or disease, emotional injury or death to persons, the public, End Users, employees or agents of the County or any contractor;

b. Damage to real or personal property of anyone, including loss of use thereof; and

c. Water shortages, delays, curtailment, interruption, or service termination to any End User of water delivered by the County under this Agreement.

"County"	"PID"
BUTTE COUNTY,	PARADISE IRRIGATION DISTRICT,
By: _____	By: _____
Name: Josh Jimerfield	Name: Tom Lando
Title: Deputy CAO-OEM	Title: District Manager

Appendix E | Additional Resources

SGMA Data Viewer

The SGMA Data Viewer provides access to groundwater related datasets that are organized by the requirements of the SGMA and the Groundwater Sustainability Plan (GSP) regulations for the purpose of supporting GSP development and implementation. This resource provides data on groundwater levels, groundwater storage, water quality, land subsidence, interconnected surface water, water budgets, hydrogeological conceptual model and reference layers. This resource can be used to determine water quality concerns, subsidence presence, groundwater over drafting, declining water levels, and well depths. SGMA Data Viewer (ca.gov)

Domestic Well Water Quality Tool

The State Water Board was tasked to conduct a Needs Assessment of the state of drinking water in California (SB 862, 2018). The State Water Board Division of Drinking Water identified three elements for this analysis: (1) identification of public water systems at risk, (2) identification of domestic wells and state small systems at risk, and (3) an analysis of the cost to implement Human Right to Water. The information provided in this application supports the second element, identifying the location and number of domestic wells potentially accessing groundwater affected by constituents at concentrations above regulatory levels. This resource can be used to identify areas that may have water quality concerns. Needs Analysis GAMA Tool (ca.gov)

Combined Risk

Tool represents the combined risk for water quality and domestic well/state small users by Census block group, prepared in support of the Aquifer Risk Map. This tool can help identify areas that have water quality concerns. ArcGIS Enterprise - Combined Risk (ca.gov)

California's Groundwater Live

Groundwater tool which features the latest groundwater information, live statistics and a series of interactive dashboards tied to current groundwater conditions, groundwater levels, well infrastructure, and land subsidence. For the drought and water shortage risk assessment, counties may use this site to determine the presence of subsidence, declining water levels, reported household outages, and dry well susceptibility. https://sgma.water.ca.gov/CalGWLive/

Dry Well Reporting System

This site is for Californians experiencing problems with their private (self-managed) wells (not for residents served by a public water system already regulated by the State). California's may use this site to report dry wells. For the drought and water shortage risk assessment, counties may use this site to determine the number of households that have reported a well running dry. Dry Well Reporting System (ca.gov)

Dry Well Susceptibility

This dashboard estimates dry domestic well susceptibility within groundwater basins. The results are created by combining the latest information on domestic well locations, depths, and local groundwater level conditions. This dashboard has been created for informational purposes only and is not intended to be a prediction of when and where specific domestic wells will go dry. The information is intended to help local, state, and federal partners understand areas of highest dry well susceptibility in California in order to prepare and respond to ongoing drought conditions. This resources can be used to determine the likelihood of where wells are likely to run dry. Dry Well Susceptibility Dashboard (arcgis.com)

California WATER WATCH

California Water Watch offers the most current local and statewide water conditions down to your region and even your neighborhood. This information is updated dynamically from a variety of data sources.
California Water Watch

California Drought Action

Provides California's latest news related to current drought conditions and actions. California drought action

Drought

Contains general drought information and additional State resources. Drought (ca.gov)

GIS Data

Different California GIS data sources:
CA Governor's Office of Emergency Services Public Data Hub (arcgis.com) and GIS - CDT Services (ca.gov).

Climate Adaptation and Finance in California

This book serves as a guide for local governments and private enterprises as they navigate the unchartered waters of investing in climate change, https://opr.ca.gov/climate/docs/20181106-Keenan_Climate_Adaptation_Finance_and_Investment_in_California_2018.pdf.

General Plan Guidelines

The safety, environmental justice, and climate change sections of the guidelines (Chapters 4 and 8) in particular outline climate resilience considerations, https://opr.ca.gov/planning/general-plan/guidelines.html.

Safety Element Guidance (Chapter 4)

The safety element of a general plan must outline goals and policies that protect communities from "unreasonable risks" (Government Code (GC) § 65302(g)). Pursuant to Senate Bill 379 (2015) and codified in GC § 65302(g)(4), local governments are required to analyze and identify their community's vulnerability to climate change and climate-related hazards in the safety element, https://opr.ca.gov/docs/OPR_C4_final.pdf. This chapter of OPR's General Plan Guidelines describes and provides guidance for the required elements of local government general plans, including climate vulnerability and adaptation planning requirements in the safety element.

Fire Hazard Planning Technical Advisory

This Technical Advisory provides guidance to local governments on planning for wildfire risk and building resilience, https://opr.ca.gov/docs/20220817-Fire_Hazard_Planning_TA.pdf.

Environmental Justice Element

Senate Bill 1000 (Leyva, 2016) local agencies should consider climate vulnerability in disadvantaged communities when preparing the vulnerability assessment and adaptation goals, policies, and programs for the safety element would be an appropriate linkage with the environmental justice element or equivalent, https://opr.ca.gov/docs/20200706-GPG_Chapter_4_EJ.pdf.

Climate Change Chapter

The climate change chapter of OPR's general plan guidelines can help communities align planning mechanisms. This resource summarizes how a general plan or climate action plan can be consistent with California Environmental Quality Act (CEQA) Guidelines section 15183.5 (b) and associated CEQA streamlining opportunities, https://opr.ca.gov/docs/OPR_C8_final.pdf.

SB 379 Report

This report summarizes the findings of a 2019 survey of local governments' efforts to meet the requirements of SB 379, https://opr.ca.gov/docs/20200626-SB379-Report.pdf.

Guide to Defining Vulnerable Communities in the Context of Climate Adaptation

This guidance document helps communities define and identify community climate vulnerability, https://opr.ca.gov/docs/20180723-Vulnerable_Communities.pdf.

State Adaptation Clearinghouse

The Adaptation Clearinghouse at ResilientCA.org is the State of California's consolidated searchable database of resources for local, regional, and statewide climate adaptation planning and decision-making. Search and explore resources for adaptation and resiliency efforts in California, including case studies; tools, data, and scientific studies; example plans and projects; guidance, templates, and technical documents; and more from localities across the state, https://resilientca.org/#:~:text=The%20Adaptation%20Clearinghouse%20is%20the,and%20resiliency%20efforts%20in%20California.

2020 Adaptation Planning Guide

The Adaptation Planning Guide (APG) provides guidance to local governments on local adaptation and resiliency planning. The APG features a four-phase process to plan for climate change and features a summary of statewide guidance, resources and tools, updated from the 2012 original to reflect 2020 best practices, available science, and updates to state plans, policies, programs and regulations, https://resilientca.org/apg/intro/.

Climate Resilience Plan Alignment Guides

Adaptation Clearinghouse plan alignment guides support the alignment of multiple planning efforts and documents, allowing local planners to achieve climate mitigation and adaptation goals, reduce duplication, and avoid policy conflicts, https://opr.ca.gov/news/2022/11-16.html.

Designing Water System Consolidation Projects Guide and Toolkit

Researchers at the University of California Los Angeles Luskin Center have developed a guidance and toolkit looking at the potential governance structures for water systems. If several state small water systems and/or domestic wells create a new water system these tools can help them analyze what the most appropriate form of governance may be for their community. Appendix A provides a statutory review of the various codes, powers and obligations for each type of governance structure. The guide can be found here, https://innovation.luskin.ucla.edu/wp-content/uploads/2022/10/Designing-Water-System-Consolidation-Projects.pdf. The toolkit can be found here, https://docs.google.com/document/d/1NKPSU2qWMB73-uOo0KSGbJboJhqUTrx0flilU2cdCJQ/edit.

Drinking Water Watch

All active and inactive public water systems in California are provided on this website as well as a contact phone number or address for the public water system. The listing can be filtered by count. This database also indicates whether the water source is groundwater "G" or surface water "S," https://sdwis.waterboards.ca.gov/PDWW/.

Division of Drinking Water SAFER Program

The Division of Drinking Water District Office Safe and Affordable Funding for Equity and Resilience (SAFER) staff may be contacted if a county is unable to find a public water system nearby using the tools above. If no water systems are close enough for physical consolidation, consider discussing managerial consolidation or water partnerships between neighbors, https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2022/eu-map.pdf.

California Department of Water Resources
Water Use Efficiency Branch

Attachment 2

Primer of Senate Bill 552: Drought Planning for Small Water Suppliers and Rural Communities

Prepared by

And

May 2022

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GLOSSARY

Community water system: A public water system that serves at least 15 service connections used by yearlong residents or regularly serves at least 25 yearlong residents of the area served by the system, as defined in Section 116275 of the Health and Safety Code (Water Code §10609.51 subd. (a)).

County Drought Advisory Group: A state agency and stakeholder group that developed recommendations on which Senate Bill 552 was based.

Domestic well: A groundwater well used to supply water for the domestic needs of an individual residence or a water system that is not a public water system and that has no more than four service connections, as defined in Section 116681 of the Health and Safety Code (Water Code §10609.51 subd. (k)).

Drought and water shortage risk vulnerability tool: The water shortage vulnerability tool that Department of Water Resources developed to implement Chapter 10 (commencing with Water Code §10609.40) of Part 2.55 (Water Code §10609.51 subd. (i)).

Non-transient, non-community water system: A public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year, as defined in Section 116275 subd. (k) of the Health and Safety Code. Example of this includes a school (Water Code §10609.51 subd. (g)).

Public water system: A system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily for at least 60 days out of the year (Health and Safety Code §116275 subd. (h).)

Rural community: A community with fewer than 15 service connections or regularly serving less than 25 individuals daily at least 60 days out of the year, including domestic wells (Water Code §10609.51 subd. (j)). In other words, rural community in this law covers all water systems or domestic wells for human consumption that are not a public water system.

Small water supplier: A community water system serving 15 to 2,999 service connections, inclusive, and that provides less than 3,000 acre-feet of water annually (Water Code §10609.51 subd. (k)).

State small water system: A system for the provision of piped water to the public for human consumption that serves at least five, but not more than 14, service connections and does not regularly serve drinking water to more than an average of

25 individuals daily for more than 60 days out of the year as defined in Section 116275 (n) of the Health and Safety Code (Water Code §10609.51 subd. (m)).

State smalls. Abbreviated form of state small water system.

Urban water management plan: A plan required per California Water Code §10610 et seq. for publicly and privately owned urban water suppliers that provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail or wholesale cost for municipal purposes.

Water shortage contingency plan: A document required per California Water Code §10617.5 for publicly and privately owned urban water suppliers that incorporates the provisions detailed in California Water Code §106329(a).

Water shortage vulnerability tool: The drought and water shortage risk scoring of small water suppliers and rural communities, and the interactive webtool to explore the information, developed as part of the Department of Water Resources County Drought Advisory Group process (Water Code §10609.42 subd. (a)).

ACRONYMS AND ABBREVIATIONS

§	Section
CDAG	County Drought Advisory Group
DWR	California Department of Water Resources
ENP	emergency notification plan
ERP	emergency response plan
NTNC	non-transient, non-community water system
SB	Senate Bill
State Water Board	California State Water Resources Control Board
WSCP	water shortage contingency plan

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INTRODUCTION

This primer summarizes a 2021 drought planning legislation, referred to as Senate Bill (SB) 552 (Reg. Session 2021-2022, Stats. 2021, ch. 245). In September 2021, SB 552 was signed by Governor Newsom and enacted into law.

SB 552 includes new responsibilities and requirements at both the state and local levels to help small water suppliers and rural communities reduce their risk of inadequate water supply during a water shortage event. As the first step in implementing the provisions of SB 552, the California Department of Water Resources (DWR) and the California State Water Resources Control Board (State Water Board) prepared this primer to summarize the roles, responsibilities and requirements for state agencies, small water suppliers and schools, and counties for implementing SB 552.

BACKGROUND

Recognizing the challenges experienced in the 2012-2016 drought in California and potential increased frequency and severity of droughts under climate change, the Legislature passed Assembly Bill 1668 and SB 606 in 2018 to establish a new framework for long-term water use efficiency and conservation in California.[1] Among other things, this framework included new requirements to strengthen local drought resilience for urban water suppliers[2] and directed DWR to collaborate with stakeholders and the State Water Board to develop recommendations for improving drought planning of small water suppliers and rural communities, which vary widely in supply source reliability and organizational capacity and can be highly vulnerable to water shortages during droughts.

During the development of recommendations, DWR organized a County Drought Advisory Group (CDAG) with diverse stakeholders and collaborated closely with the State Water Board and the Office of Environmental Health Hazard Assessment. DWR, through collaboration with CDAG and state agencies, identified small water suppliers and rural communities that are vulnerable to drought and at risk of water shortage

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[1] For a comprehensive overview of this landmark legislation, please see California Department of Water Resources, and California State Water Resource Control Board. 2018. "*Making Water Conservation A California Way of Life: Primer of 2018 Legislation on Water Conservation and Drought Planning Senate Bill 606 (Hertzberg) and Assembly Bill 1668 (Friedman).*" Legislative Summary.

[2] An "urban water supplier" is defined as a supplier, either publicly or privately owned, providing potable water for municipal purposes either directly at retail or indirectly at wholesale to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually (Water Code §10617).

and developed recommendations for how to improve drought preparedness through water shortage contingency planning. Figure 1 shows the disaster risk management framework that was used in the collaboration to guide the recommendation development. A Water Shortage Vulnerability Tool was also developed during the process to promote awareness and understanding of the potential water shortage risks for small water suppliers and rural communities.

DWR submitted the recommendation report, *Small Water Systems and Rural Communities Drought and Water Shortage Contingency Planning and Risk Assessment*, to the Legislature and Governor Newsom in Spring 2021. Referred to as the 2021 Recommendation Report, it includes the findings and recommendations to support improving drought preparedness. This 2021 Recommendation Report has two parts: Part I addresses drought and water shortage contingency planning recommendations; and Part II presents a methodology of drought and water shortage vulnerability assessment and risk scoring. DWR's recommendations became the basis of SB 552.

Source: Small Water Systems and Rural Communities Drought and Water Shortage Contingency Planning and Risk Assessment: Part 1 – Recommendations for Drought and Water Shortage Contingency Plans (DWR 2021).

Figure 1. Disaster Risk Management Framework

NEW REQUIREMENTS FOR LOCAL AGENCIES, COUNTIES, AND STATE GOVERNMENT

SB 552 adds requirements that address gaps in local and state water management for drought resiliency and water shortage preparedness in recognition that, "*No one should go without running water during a drought*." (Water Code §10609.50, subd. (e).) These new requirements are expected to improve the ability of small water suppliers and rural communities to improve drought planning and water shortage preparedness, resulting in reduced vulnerability during droughts or during other catastrophic events that impact water supply.

Meeting SB 552's requirements for improving drought resilience and contingency response during water shortages will require the following:

- **Drought Resilience Planning:** Take actions now to avoid emergency conditions during future drought and other water shortages to the maximum extent practicable. This includes capacity building, mitigation and other preparation actions, monitoring, forecasting, and reporting.
- **Water Shortage Response Planning:** Create procedures for the event of an expected or unforeseen emergency that can directly improve the ability to manage an emergency water shortage condition.
- **Communication and Coordination:** Improve communication and coordination between local, regional, and state governments and the many types of water users in California.

Small Water Suppliers and Schools Non-Transient, Non-Community Water Systems

SB 552 defines a small water supplier as a community water system serving 15 to 2,999 service connections, and that provides less than 3,000 acre-feet of water per year (Water Code §10609.51 subd. (k)). It considers several categories of small water suppliers: those suppliers with under 1,000 connections, those with 1,000 to 2,999 connections inclusive, and non-transient, non-community (NTNC) water systems that are schools (see Table 1 at the end of this report). Water suppliers providing water to over 3,000 connections are considered "urban water suppliers" and are subject to the Urban Water Management Planning Act (Water Code §10610 et seq.) and other requirements.

All small water suppliers and NTNC water systems that are schools must implement the following drought resilience measures, subject to funding availability:

a) *No later than January 1, 2023, implement monitoring systems sufficient to detect production well groundwater levels.*

b) *Beginning no later than January 1, 2023, maintain membership in the California Water/Wastewater Agency Response Network (CalWARN) or similar mutual aid organization.*

c) *No later than January 1, 2024, to ensure continuous operations during power failures, provide adequate backup electrical supply.*

d) *No later than January 1, 2027, have at least one backup source of water supply, or a water system intertie, that meets current water quality requirements and is sufficient to meet average daily demand.*

e) *No later than January 1, 2032, meter each service connection and monitor for water loss due to leakages.*

f) *No later than January 1, 2032, have source system capacity, treatment system capacity if necessary, and distribution system capacity to meet fire flow requirements (Water Code §10609.62).*

There are additional requirements that are specific for small water suppliers with different numbers of connections, as described below.

It is noted that these requirements and the ones listed below do not apply to small water suppliers and NTNC water systems that are schools that voluntarily choose to comply with the requirements specified in the Urban Water Management Planning Act (Water Code §10620 et seq.) for urban water suppliers. (Water Code §10609.63).

Suppliers with 15 to 999 connections

These suppliers must incorporate drought planning elements (including, but not limited to, drought-planning contacts and standard water shortage levels) into their Emergency Notification Plan (ENP) or Emergency Response Plan (ERP). The ENP or ERP is to be submitted to the State Water Board and updated every 5 years or when significant changes occur (Water Code §10609.60, subd. (c)).

Health and Safety Code §116460 requires all community water systems to have an ENP approved by the State Water Board that describes process and methods for meeting the public notification requirements specified in §116450 to §116485 when any primary drinking water standard is not complied with, when a monitoring requirement is not performed, or when the conditions of any variance or exemption are not complied with. In addition, America's Water Infrastructure Act of 2018 (Public Law 115-270) §2013(b) requires community water systems serving populations

greater than 3,300 to develop or update an ERP that incorporates findings of their risk assessment. Droughts and a wide range of incidents are considered in an ERP. This requirement is not based on number of connections, although the number of connections for a community water system serving a population of 3,300 is approximately 1,000. Therefore, there may be a small number of small water suppliers with less than 1,000 connections who have developed and maintained an ERP.

Subject to funding availability, the State Water Board will offer technical assistance to support water suppliers with less than 1,000 connections in implementing this new requirement for improving drought and water shortage resiliency (Water Code §10609.60, subd. (e)).

Suppliers with 1,000 to 2,999 connections and NTNC systems that are schools

Suppliers in this category must develop, adopt, and maintain on-site an abridged water shortage contingency plan (WSCP) that covers a subset of drought-planning elements included in the plans that urban water suppliers submit as part of their Urban Water Management Plan (Water Code §10609.60, subds. (a) (b)). The first plan must be developed by July 1, 2023, and posted on the supplier's website, if any, or made available upon request. This abridged WSCP must be updated at least every 5 years. (*Ibid*.). The required elements must include:

1) *Drought-planning contacts, including all of the following:*
    a) *At least one contact at the water system for water shortage planning and response and the development of the plan.*
    b) *Contacts for local public safety partners and potential vendors that can provide repairs or alternative water sources, including but not limited to, local community-based organizations that work with the population in and around areas served by the water system, contractors for drilling wells, vended water suppliers, and emergency shower vendors.*
    c) *State and local agency contacts who should be informed when a drought or water shortage emergency is emerging or has occurred.*
    d) *Regional water planning groups or mutual aid networks, to the extent they exist.*
2) *Triggering mechanisms and levels for action, including both of the following:*

a) *Standard water shortage levels corresponding to progressive ranges based on the water supply conditions. Water shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, a fire, and other potential emergency events.*

b) *Water shortage mitigation, response, customer communications, enforcement, and relief actions that align with the water shortage levels required by subparagraph (A) (Water Code §10609.60, subd. (a)).*

As part of the technical assistance, DWR and the State Water Board will create a template for this abridged WSCP for small water suppliers serving 1,000 to 2,999 service connections and NTNC systems that are schools by December 31, 2022, (Water Code §10609.60, subd. (d)). In addition, subject to funding availability, the State Water Board will offer technical assistance to support NTNC systems that are schools in implementing this new requirement for improving drought and water shortage resiliency (Water Code §10609.60, subd. (e)).

Counties

SB 552 places the drought and water shortage planning responsibility on counties for state small water systems and domestic well communities within the county's jurisdiction (Table 2).

Note that SB 552's language allows for flexibility in how each county implements the new requirements. Plans and response arrangements could be developed by groundwater sustainability agencies that cover the county, in which case the county would need to also formally recognize its agreement and adoption or deference to these plans as part of its compliance with SB 552.

County Drought and Water Shortage Task Force

By January 1, 2022, each county must establish a standing county drought and water shortage task force to facilitate drought and water shortage preparedness for state smalls and domestic wells within the county's jurisdiction (Water Code §10609.70, subd. (a)). Counties must solicit task-force membership from representatives of state and other local governments, including groundwater sustainability agencies (GSAs), community-based organizations, local water suppliers, and local residents.

As an alternative, a county may implement a different process that facilitates drought and water shortage preparedness for state smalls and domestic wells within the county's jurisdiction. The alternative process will provide opportunities for coordinating and communicating with the state and other local governments,

community-based organizations, local water suppliers, and local residents on a regular basis and during drought or water shortage emergencies.

County Drought and Water Shortage Risk Mitigation Plan (Water Code §10609.70)

A county will develop a plan that includes potential drought and water shortage risks and proposed interim and long-term solutions for state smalls and domestic wells within the county's jurisdiction. The plan may be a stand-alone document or may be included as an element in an existing county plan, such as a local hazard mitigation plan, emergency operations plan, climate action plan, or general plan. The plan must include:

- Potential drought and water shortage risk
- Proposed interim and long-term solutions for state smalls and domestic wells in the county

The plan must consider the following, at a minimum (Water Code §10609.70. subd. (b)):

- Consolidations for existing water systems and domestic wells
- Domestic well drinking water mitigation programs
- Provision of emergency and interim drinking water solutions
- An analysis of the steps necessary to implement the plan
- An analysis of local, state, and federal funding sources available to implement the plan

State Government

SB 552 identifies responsibilities for both the State Water Board and DWR and directs both agencies to work closely together to implement their new roles (Table 3). These responsibilities are designed to support and foster the capacity of small water suppliers and counties to avoid and mitigate drought impacts, and to better prepare for and respond to water shortage occurrences.

Standing Interagency Drought and Water Shortage Task Force

SB 552 directs DWR, in collaboration with the State Water Board and other relevant state agencies, to establish a standing interagency drought and water shortage task force for the State. The purpose and scope of this task force is to facilitate proactive state planning and coordination, both for pre-drought planning and post-drought

emergency response; to develop strategies to enhance collaboration between various fields; and to develop these plans, responses, and strategies in a way that considers all types of water users. The task force membership must include representatives from local governments, community-based organizations, nonprofit technical assistance providers, the public, and experts in land use planning, water resilience, and water infrastructure (Water Code §10609.80., subd. (b)).

Support for Small Suppliers (Water Code §10609.60, subd. (d))

- No later than December 31, 2022, Department of Water Resources and the California State Water Resources Control Board (State Water Board) will create a template for an abridged water shortage contingency plan for small water suppliers serving 1,000-2,999 service connections, inclusive, and non-transient, non-community (NTNC) water systems that are schools in order to assist these entities.
- To the extent that funding is made available, the State Water Board will offer technical assistance to small water suppliers serving fewer than 1,000 service connections and NTNC water systems that are schools to improve drought and water shortage resiliency, including requirements related to the emergency notification or response plan.

Support for Counties

The State Water Board will work with counties, groundwater sustainability agencies, technical assistance providers, nonprofit organizations, community-based organizations, and the public to address state smalls and domestic well community drought and emergency water shortage resiliency needs, including both of the following at a minimum (Water Code §10609.70, subd. (c)):

- Proactive communication to domestic well communities before a drought occurs, such as information on local bottled water and water tank providers
- Funding for installation of basic drought and emergency water shortage resiliency infrastructure, such as well monitoring devices

Water Shortage Vulnerability Tool

SB 552 directs DWR, in partnership with the State Water Board and other state agencies, to maintain and update the drought and water shortage risk vulnerability tool (Water Code §10609.80, subd. (a)).

1) *Maintain, in partnership with the State Water Board and other relevant state agencies, the risk vulnerability tool developed as part of the County Drought*

Advisory Group process and continue to refine existing data and gather new data for the tool, including, but not limited to, data on all of the following:

a) *Small water suppliers and NTNC water systems serving a school.*

b) *State small water systems and rural communities.*

c) *Domestic wells and other self-supplied residents.*

2) *Update the risk vulnerability tool for small water suppliers and rural communities periodically, by doing all of the following:*

a) *Revise the indicators and construction of the scoring as more data becomes readily available.*

b) *Make existing and new data publicly available on the California Open Data internet web portal.*

c) *In consultation with other relevant state agencies, identify deficits in data quality and availability and develop recommendations to address these gaps (Water Code §10609.80, subd. (a)).*

The CDAG identified over 20 factors to estimate the vulnerability of small water suppliers, domestic wells, and state smalls. DWR will update the scoring and tool as new data becomes available and as the State's understanding of water shortage vulnerabilities evolves. Periodic data updates and new datasets are to be made readily available, including the environmental conditions that affect water shortage vulnerability (i.e., groundwater conditions and climate change projections to name a few), population characteristics that affect social vulnerability, and organizational set-up of water suppliers. DWR will continue to make the data updates publicly available through the California Natural Resources Open Data portal (https://data.cnra.ca.gov/), and as an interactive dashboard tool to allow the public to access and explore the data for use in planning, as relevant. This work will be updated in coordination with the Safe and Affordable Funding for Equity and Resilience Program Needs Assessment conducted by the State Water Board.

Table 1. Summary of Small Water Supplier Requirements for Implementation of Senate Bill 552

Task	Summary of Requirement	Community Water Systems 1,000-2,999 Connections	Community Water Systems 15-999 Connections	NTNC Water Systems That Are Schools	Water Code Section
1	Drought Resiliency Measures	Yes	Yes	Yes	10609.62 (a-f)
2	Abridged Water Shortage Contingency Plan	Yes	No	Yes	10609.60 (a)
3	Drought Element added to Emergency Notification or Response Plan	No	Yes	No	10609.60 (b)
4	Annual reporting of water supply condition information to the State Water Board	Yes	Yes	Yes	10609.61 (a)
5	Annual water demand reporting to the State Water Board	Yes	Yes	Yes	10609.61 (b)

Table 2. Summary of County Requirements for Implementation of Senate Bill 552

Task	Summary of Requirement	Timeline to Implement, If Any	Water Code Section
1	Establish a standing county drought and water shortage task force or alternative process that facilitates drought and water shortage preparedness for state small water systems and domestic wells.	January 1, 2022	10609.70 (a)
2	Assess potential drought and water shortage risk.	No mandated timeline	10609.70 (b)
3	Provide emergency and interim drinking water solutions in the county drought and water shortage risk mitigation plan (plan).	No mandated timeline	10609.70 (b)(3)
4	Consider consolidations for existing water systems and domestic wells in the plan.	No mandated timeline	10609.70 (b)(1)
5	Consider domestic well drinking water mitigation programs in the plan.	No mandated timeline	10609.70 (b)(2)
6	Consider an analysis of steps to implement the plan.	No mandated timeline	10609.70 (b)(4)
7	Consider an analysis of local, state, and federal funding sources available to implement the plan.	No mandated timeline	10609.70 (b)(5)

Table 3. Summary of State Agency Requirements for Implementation of Senate Bill 552

Task	Summary of Requirement	Lead Agency	Other Agencies Involved*	Timeline to Implement	Water Code Section
1	Water shortage contingency plan template	State Water Board, DWR	N/A	December 31, 2022	10609.60 (d)
2	Technical assistance for water suppliers with under 1,000 connections	State Water Board	DWR	Ongoing	10609.60 (e)
3	Water supply and program reporting	State Water Board	DWR	Annual; ongoing	10609.61
4	Technical assistance for counties to address systems with under 15 connections and domestic wells	State Water Board	DWR, Governor's Office of Emergency Services (CalOES), Governor's Office of Planning and Research (OPR)	No mandated timeline	10609.70
5	Water shortage vulnerability tool	DWR	State Water Board and other state agencies	Periodically update, no mandated timeline	10609.80 (a)
6	Interagency drought and water shortage task force	DWR	State Water Board, OPR, Department of Fish and Wildlife, CalOES, Department of Food and Agriculture, Tribal representatives, federal agencies, local governments, community-based organizations, others	No mandated timeline	10609.80 (b)

*Participation not necessarily specified in law