

**DRAFT**  
**County Drought Resilience Plan Guidebook**

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

**December 2022**



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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. DWR has voluntarily opted to provide this Guidebook to make compliance simpler for counties, and to assist them in creating a useful planning document. 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](mailto:wue@water.ca.gov).

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# Table of Contents

1.0	Introduction .....	1-1
1.1	Focus on Counties .....	1-2
	State Small Water Systems.....	1-3
	Domestic Wells .....	1-3
	Emergency Services .....	1-4
1.2	Purpose of this Guidebook.....	1-5
1.3	County Drought Resilience Plan Development and Implementation.....	1-5
1.4	Guidebook Organization .....	1-8
2.0	County Drought and Water Shortage Task Force .....	2-1
2.1	Legislative Directive .....	2-1
2.2	Task Force Responsibilities .....	2-2
2.3	Task Force Membership .....	2-3
2.4	Best Practices .....	2-6
3.0	Drought and Water Shortage Risk Assessment.....	3-1
3.1	Legislative Directive .....	3-1
3.2	Concepts and Terminology .....	3-2
3.3	Risk Assessment Purpose .....	3-3
3.4	Risk Assessment Approach .....	3-3
	Step 1: Describe the Hazard .....	3-5
	Step 2: Define the Scope and Community Assets.....	3-6
	Step 3: Conduct Vulnerability Assessment.....	3-8
	Step 4: Analyze Risks .....	3-12
	Step 5: Summarize Assessment .....	3-14
	Step 6: Assess Capacity .....	3-14
4.0	Short-Term Response Actions .....	4-1
4.1	Legislative Directive .....	4-1
4.2	Mutual Aid Agreements.....	4-2
4.3	Interties .....	4-4

- 4.4 Permit Streamlining and Coordination ..... 4-5
- 4.5 Emergency and Interim Drinking Water Supplies..... 4-6
  - Dedicated Water Filling Stations by Large Water Purveyors..... 4-7
  - Treatment of Available Water from Non-Regular Sources ..... 4-7
  - Packaged or Bottled Water ..... 4-8
  - Water Hauling or Bulk Water Delivery ..... 4-10
  - Triggers to Activate Response Actions ..... 4-11
  - County Implementation ..... 4-12
- 5.0 Long-Term Mitigation Strategy and Actions ..... 5-1
  - 5.1 Legislative Directive ..... 5-1
  - 5.2 Drinking Water Well Mitigation Program ..... 5-2
    - Program Definition ..... 5-2
    - Drought and Water Shortage Risk Assessment ..... 5-3
  - 5.3 System Consolidation Plan ..... 5-6
    - Steps for System Consolidation ..... 5-6
    - County’s System Consolidation Plan ..... 5-10
  - 5.4 Regional Water Infrastructure Investment..... 5-10
  - 5.5 Filling Data Gaps ..... 5-12
- 6.0 Public Outreach, Information, and Engagement..... 6-1
  - 6.1 Public Outreach and Information..... 6-1
  - 6.2 Public Engagement..... 6-2
    - Communication and Engagement Plan ..... 6-3
    - Outreach Tools..... 6-4
    - Outreach Activities ..... 6-5
    - Implementation Activities..... 6-6
- 7.0 Implementation Considerations..... 7-1
  - 7.1 Suggested Plan Layout..... 7-2
  - 7.2 Funding Opportunities and Assistance Programs ..... 7-4
    - Local ..... 7-4
    - State..... 7-4

Federal .....	7-6
8.0 Glossary .....	8-1
9.0 References .....	9-1

## Figures

Figure 1-1 General Workflow for the County Drought Resilience Plan Development and Implementation .....	1-7
Figure 2-1 Disaster Risk Management Framework .....	2-2
Figure 3-1 Risk Prioritization Matrix.....	3-13

## Tables

Table 3-1 Recommended Questions Tied to the Risk Assessment .....	3-4
Table 3-2 State Small Water System and Domestic Well Data Accessibility.....	3-7
Table 3-3 Physical Vulnerability Factors Recommended for Consideration in the County’s Assessment .....	3-9
Table 3-4 Social Vulnerability Factors Recommended for Consideration in the County’s Assessment .....	3-11

## Appendices

Appendix A – County Drought and Water Shortage Task Force Charter Template	
Appendix B – Desktop Assessment of Existing Planning Documents	
Appendix C – Mutual Aid Agreement Template	
Appendix D – Example Agreement For Emergency Water Service	
Appendix E – Additional Resources	

## 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
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
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
NGO	non-governmental organization
PID	Paradise Irrigation District
SB	Senate Bill
SGMA	Sustainable Groundwater Management Act of 2014
SGMO	Sustainable Groundwater Management Office
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
USEPA	United States Environmental Protection Agency

# 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. Counties, in particular, were directed by SB 552 to provide 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. The 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 strategy 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 customized to an individual county's needs and organizational structure. Where applicable, DWR encourages each county to consider its broad authority and available tools and resources when developing its County DRP and forming its Task Force to achieve broad and long-lasting benefits for all residents and water systems within its 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.

# 1.0 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. The 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 technical resource for counties to use to develop a County Drought Resilience Plan (County DRP) specifically for state small water systems and domestic wells, and was developed in collaboration with other State agencies, including the State Water Board, Governor’s Office of Emergency Services, and Governor’s Office of Planning and Research.

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 CWC Section 1060951(k)).

The County DRP may be a stand-alone document or may be included as an element of an existing county plan, such as a local hazard mitigation plan (LHMP), emergency operations plan, climate action plan, or general plan. California Water Code (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 (i.e., State programs, county programs, and municipal services) in rural, urban, incorporated, and unincorporated areas. The California State Association of Counties (2022) provides a list of services that counties offer.<sup>1</sup>

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

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<sup>1</sup> [https://www.counties.org/sites/main/files/file-attachments/a\\_sampling\\_of\\_services\\_provided.pdf](https://www.counties.org/sites/main/files/file-attachments/a_sampling_of_services_provided.pdf)

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), that have the 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 in 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 strategy and actions, so that counties can understand any potential arrangements and the Groundwater Sustainability Plans (GSP) for drinking water wells and groundwater sustainability levels. Additionally, the GSA representatives participating in the county planning activities can make sure the GSA is aware of the county plans and needs.

## **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 the California Governor's Office of Emergency Services (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 has 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 Governor's Office of Planning and Research, 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 available data and tools compiled by State agencies, short-term response, long-term mitigation strategy and actions, and other supporting capacities to assist counties in their implementation needs to achieve meaningful and long-term water resilience improvements for their residents.

To cultivate the continued practice of water resilience, SB 552 also directs counties to establish a long-standing County Drought and Water Storage Task Force (Task Force). As such, this Guidebook provides guidance and suggestions for establishing a Task Force customized to an individual county's needs and organizational structure that will provide input and guidance for improving water resilience countywide. Where applicable, DWR encourages each county to consider its broad authority and available tools and resources when developing its County DRP and forming its Task Force to achieve broad and long-lasting benefits for all residents and water systems within its 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. Although the Task Force described in Chapter 2 is not directly assigned responsibility for developing the County DRP, it can lead or advise the plan development to maintain consistency. This Guidebook provides the Task Force with a basic understanding of drought planning to facilitate meaningful contributions to the planning process.

For consistency and efficiency, DWR reminds counties not to develop the County DRP in isolation, but integrate various relevant government functions for collective implementation. 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.

SB 552 allows counties to develop a stand-alone plan or integrate elements into existing plans. 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 for existing county plans to be compliant. 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.

LEGEND  
1 Guidebook Chapter

# General Workflow for the County Drought Resilience Plan Development and Implementation

Facilitate drought and water shortage preparedness for state small water systems and domestic wells within the county's jurisdiction.

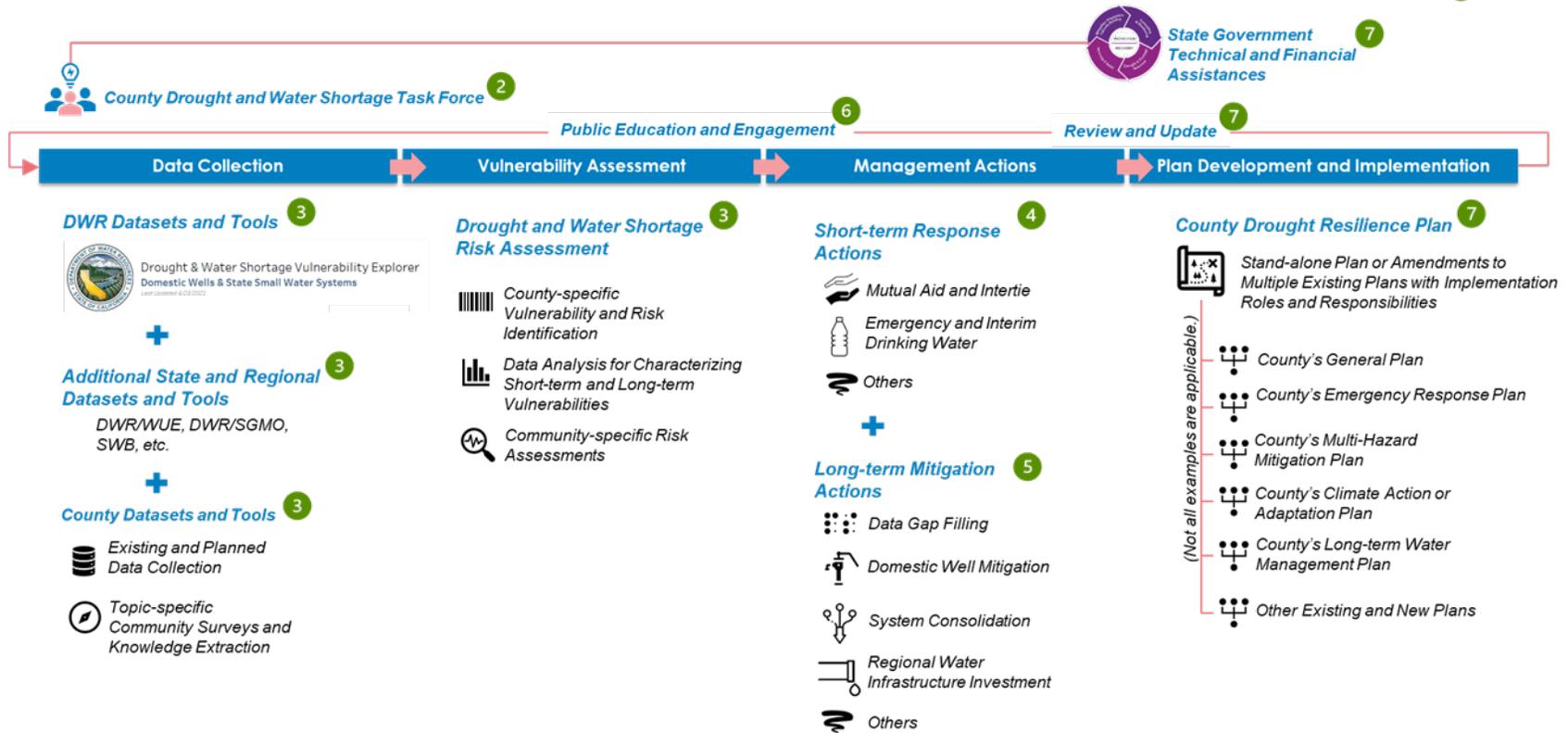


Figure 1-1 General Workflow for the County Drought Resilience Plan Development and Implementation

## 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 provides an overview of the County DRP that must be developed by counties to meet SB 552 requirements and 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 Assessment** – Provides guidance on how to complete a vulnerability assessment to inform short-term response actions and long-term mitigation strategy 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 Strategy 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.

## 2.0 County Drought and Water Shortage Task Force

The State is facing conditions conducive to more frequent droughts and water shortages are expected to increase. Lessons learned in past droughts suggest that a locally driven planning process will identify unique challenges and needs, focus attention on priorities, and encourage a more equitable response. CWC Section 10609.70 requires counties to set up a standing Task Force to facilitate drought and water shortage preparedness for state small water systems and domestic wells within each county's jurisdiction. 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.*

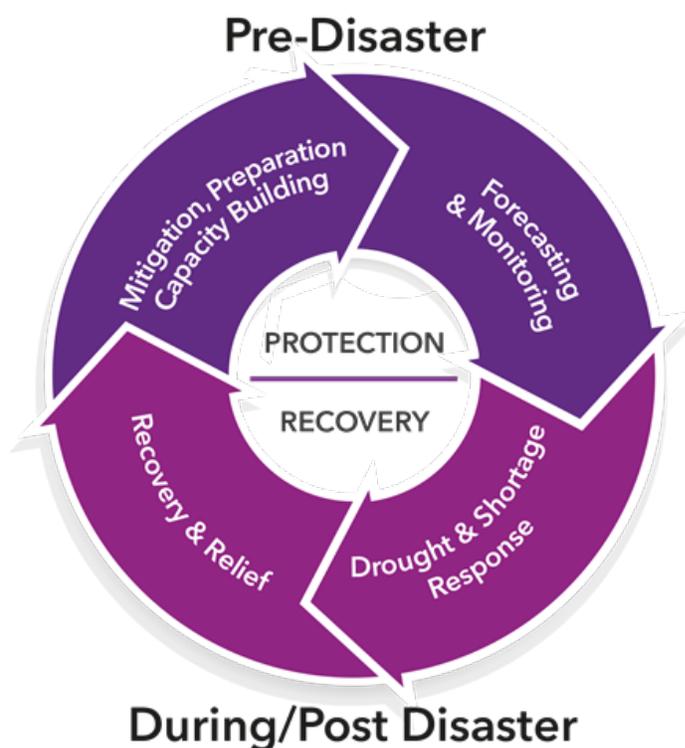
*(3) A county that establishes a drought task force on or before January 1, 2022, shall be deemed in compliance with this subdivision as long as the task force continues to exist.*

A county that establishes a standing Task Force or alternative process on or before January 1, 2022, shall be deemed in compliance with part of SB 552 requirements. This

means that a Task Force must continue to exist and be active after it has been established.

## 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 strategy 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, the Task Force may also contribute to the following:

- Sharing findings and recommendations related to drought and water shortage planning efforts with the community

- Providing briefings to the board of supervisors of their county
- Facilitating proactive planning and coordination across ongoing or anticipated county efforts (e.g., SB 552 small water supplier requirements, sustainable groundwater management plans with GSA(s)) to minimize the occurrence of water shortage events
- Monitoring drought conditions to initiate reasonable short-term response actions
- Identifying data gaps and necessary actions to gather missing data for better drought and water shortage planning
- Holding discussions regarding drought and water shortage conditions within the county related to ongoing or anticipated efforts
- Sharing regulatory requirements/updates and implementation
- Conducting regularly scheduled meetings and more frequent meetings during drought and water shortage emergencies
- Sharing/pursuing funding opportunities for water shortage planning
- 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 droughts or water shortages that could be caused by droughts, wildfires, or water quality issues. Since SB 552 only provides some guidance on the membership of the Task Force, counties have some flexibility in determining the structure and make-up 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:

- Well permitting agencies (e.g., county environmental management department) that oversee the installation of new wells

- The local primacy agency or State Water Board for counties without a local primary agency overseeing the state small water systems, as they have the responsibility to ensure that these systems deliver adequate and safe drinking water
- GSAs, as they have developed and must implement GSPs to manage groundwater in a basin, using either a single plan or coordinated multiple plans; direct engagement with GSA(s) that exist within the county will be vital to coordinate efforts associated with SB 552
- County emergency management specialists (e.g., County OES, county office of emergency management, county fire department, or sheriff), as they can ensure that emergency response procedures developed for drought are consistent with the county's existing processes and terminology in other plans
- State representative for continuous State support and guidance on SB 552 requirements
- Leadership from county government that sets or communicates priorities (e.g., county chief administrative office) and supports the development of new ordinances that influence well placement
- Public members to capture the perspective of domestic well owners
- Local water suppliers, as they support long-term mitigation strategy and actions and short-term response actions

### **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 were 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.

## **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 for 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 manage 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 were publicly announced on the county's website, with web conference capacity to accommodate general participation.

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 right specialist from the State Water Board)

- Access and functional needs representatives who can help target special water needs
- Tribal partners who can bring knowledge, data and science, other resources, and valuable perspectives to the table
- Public information specialists who can aid in messaging the work that the Task Force does and can publicize conservation measures
- 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 some best practices that the Task Force, or alternative process, may implement:

- Facilitate coordination between County OES and Cal OES during drought and water shortage emergencies.
- 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.

- 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,<sup>2</sup> which incorporates Public Health, Water Resources and Conservation, and County OES information.
  - Example 2. EDWA’s website,<sup>3</sup> which generates real-time drought conditions through its public geographic information system (GIS) portal, along with other countywide information resources.
- 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).
- 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; and
  - Meeting schedule and parameters.
- 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.

DWR recommends that, for transparency purposes, meetings held by the Task Force or alternative process be public, with meeting information posted online 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

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<sup>2</sup> <http://www.buttecounty.net/drought>

<sup>3</sup> <http://www.edwateragency.org/Pages/Drought.aspx>

forces were 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, 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.

## 3.0 Drought and Water Shortage Risk Assessment

A risk assessment is an overall process to explore potential hazards and analyze what could happen 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 short-term needs and to develop long-term mitigation strategy and actions that reduce the need for future short-term emergency response actions. This chapter describes 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, they should follow the requirements outlined in the Federal Emergency Management Agency’s (FEMA) Local Mitigation Planning Handbook (FEMA 2013).<sup>4</sup> They 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. Following this approach would make counties eligible for FEMA’s Pre-Disaster Mitigation and Hazard Mitigation Grant programs.

### 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*

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<sup>4</sup> [https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-planning-handbook\\_03-2013.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-planning-handbook_03-2013.pdf)

*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.
- **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 shortage 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.
- **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 Risk Assessment Purpose

The purpose of completing a risk assessment countywide as part of the County DRP is to inform development of pathways to determine the potential impacts of drought and other water shortage–inducing hazards on the people, economy, and environments of the community (FEMA 2013). This information provides a foundation for developing the mitigation plan to reduce and avoid the potential impacts of drought impacts and water shortage events. This includes, but is not limited to, identifying the areas within a county that are the most susceptible to experiencing water shortages and/or where residents are most vulnerable to impacts of potential water shortages. 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.

The risk assessment outcomes may include the following types of information:

- Where people rely on domestic wells, private surface water intakes, or state small water systems
- The locations of domestic wells, state small water systems, and private surface water–reliant households that are physically vulnerable to drought and other water shortage conditions or events
- The state small water systems and domestic wells relied on by populations that are socially vulnerable
- Data gaps, which should be filled to better inform short- and long-term water planning solutions
- Barriers (e.g., limited authorities, continued housing development needs in the State, political will, funding and funding processes, affordability, technical and institutional capacity, etc.), if any, that prevent the county, state small water systems and domestic wells from pursuing strategies for short-term response and long-term mitigation strategy and actions

### 3.4 Risk Assessment Approach

Every drought- and water shortage–related hazard 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. Past drought experiences may provide valuable information on the vulnerability of state small water systems and domestic wells and what may need to be done in the future to

prevent similar water shortage experiences, but should not preclude a current risk assessment. Hydrological conditions are complex in that access to water may be affected by surface water flows, groundwater levels and conditions, and regulatory constraints. Therefore, DWR strongly recommends broadening the assessment beyond the past impacts of drought.

Conducting a risk assessment may include a review of local water supply reliability planning efforts that may help identify drought triggers and targets that initiate response actions. A risk assessment can be completed in five steps to understand vulnerabilities and risks countywide. A sixth step can help direct the planning team’s attention to identify needs of the county for implementing its SB 552 plan. 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
6. Assess Capabilities

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 shortage.

**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 on all domestic wells, homes on private surface water intakes, and state small water systems?
3. Conduct Vulnerability Assessment	Are some vulnerability factors unknown or could data be inaccurate? Can 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

Risk Assessment Steps	Example Questions
	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?
6. Assess Capabilities	Are additional staff or skills needed to support planning and implementation to reduce risks?

### Step 1: Describe the Hazard

The first step to complete a risk assessment is to describe the hazards, which, relative to SB 552, are the natural, man-made, and social processes that can lead to water shortages in the county. The description should include a characterization of droughts and water shortages in the county, past events and extent, and probability of future events. More specifically this could include a discussion of water supplies, water uses, and planned actions (if any) to set the broader context. The history of drought impacts on the hydrology in the region is also useful information to include, as well as current and projected climate change impacts.

The State and federal government provide services on current and past climatic conditions. DWR's California WATER WATCH offers the following information, which the public can view statewide or by address, all of which can be useful to describing the past and recent conditions related to drought and water shortage (DWR 2022a):

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

For more detailed information on groundwater, both past and present, DWR's California Groundwater Live (DWR n.d.) offers information, including maps on:

- Current conditions

- Groundwater levels
- Well infrastructure
- Land subsidence

Additionally, other organizations (GSAs, Integrated Regional Water Management programs, universities, Cal-Adapt,<sup>5</sup> and other researchers) may have further information and documentation to use as part of the hazards description. It is important for counties to review the available information to determine the accuracy, limitations, and resolutions of available data for their use, and to the extent possible, to develop local-specific information for customized use.

## **Step 2: Define the Scope and Community Assets**

The next step is for the county team to identify goals and objectives for planning purposes, and the assets of interest. It is important to clarify for discussions and in messaging that the assessment is to identify the hazards posing a risk as well as the assets that are at risk. In this Guidebook, DWR provides recommendations on conducting the assessment for complying with the requirements of SB 552. By example, likely goals and objectives would be to identify the hazards posed by water shortage and drought in terms of its risks, and the resulting impacts on the community assets of interest associated with state small water systems and domestic wells. Some counties may choose to expand this scope to include other assets at risk to drought and water shortage, such as homes on private surface water intakes (strongly recommended), other small public water systems, ecological habitats, and other beneficial uses of water. Counties also may choose to consider other hazards related to water shortage or drought, such as wildfires (including human-induced incidents), water quality concerns, and extreme heat conditions.

Mapping the locations of private surface water intakes for domestic use, and state small water systems and domestic wells is a first step to understanding where vulnerable and high-risk areas are located. To the extent possible, counties should develop the inventory of areas that state small water systems and domestic wells may serve. This type of information is not available statewide and, as such, counties must develop it themselves for better management.

DWR hosts an online public database and map of well completion reports submitted to the State by well drillers. This includes location, depth, and other information about the wells. 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. Counties should do their best to corroborate information for accurate reporting.

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<sup>5</sup> <https://cal-adapt.org/>

The State Water Board also has compiled documentation of domestic wells submitted by some counties voluntarily, as part of SB 200 implementation, which may differ from the records in DWR’s well completion report database. This information is also publicly available where the source of information originated from counties. DWR assumes counties have access to information that is more applicable to risk assessment without any further assistance from DWR. The State Water Board has documented the point locations of state small water systems in a statewide data layer,<sup>6</sup> which is offered as a public resource, and will continue maintaining the database as new information becomes available. Table 3-2 describes State-hosted datasets on locations (not service areas) of state small water systems and domestic wells. Counties may have a more complete inventory of these assets than State-hosted information; in which case, they are encouraged to use the best available data for their risk assessment, based on their discretion and needs.

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

<b>State Small Water System Data</b>	
<b>State Source</b>	<b>Local Source</b>
State Water Board hosts a public database with locations (not service areas) of state small water systems	Available by county department that oversees the management of state small water systems (e.g., Environmental Health).
<b>Domestic Well Data</b>	
<b>State Source<sup>1,2,3</sup></b>	<b>Local Source</b>
DWR: Well completion reports	Available by county department that oversees well permitting or county data management (e.g., Environmental Health, Assessor’s office).
GAMA Groundwater Information System: Groundwater quality data from several different sources on an interactive Google-based map interface	
State Water Board GIS Portal: Water system boundaries, dry well information, and disadvantaged community layer	

Notes:

<sup>1</sup> <https://data.cnra.ca.gov/dataset/well-completion-reports>

<sup>2</sup> [https://www.waterboards.ca.gov/water\\_issues/programs/gama/online\\_tools.html](https://www.waterboards.ca.gov/water_issues/programs/gama/online_tools.html)

<sup>3</sup> <https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=70d27423735e45d6b037b7fbaea9a6a6>

Key:

DWR = California Department of Water Resources

GAMA = Groundwater Ambient Monitoring and Assessment Program

GIS = geographic information system

State Water Board = State Water Resources Control Board

All community assets of interest associated with state small water systems and domestic wells may be affected by drought or significant water shortage conditions

<sup>6</sup>[https://gispublic.waterboards.ca.gov/portalservices/rest/services/Hosted/State\\_Small\\_Water\\_Systems\\_DD\\_W/FeatureServer](https://gispublic.waterboards.ca.gov/portalservices/rest/services/Hosted/State_Small_Water_Systems_DD_W/FeatureServer)

(hazard), but some assets are more vulnerable than others. Shallow domestic wells can be more physically vulnerable to shortage than deeper wells in the same area of a groundwater basin or geographic area without a recognized groundwater basin. Some domestic well-reliant households may have fewer resources than others to cope with a well outage, including those without a vehicle and/or with low incomes. Similarly, households on private surface water intakes may face similar challenges with no readily available alternative source(s) of water unless emergency services are provided to them through an interim solution. Some of the indicators of physical and social vulnerability are described in the next step, most of which were previously identified and developed in the CDAG process leading to SB 552 (DWR 2021b).

### **Step 3: Conduct Vulnerability Assessment**

The next step is to gather and assess the data and other information needed about what may make the areas and assets in the county vulnerable to impacts from drought or water shortage events. This part of the assessment should document the extent and areas vulnerable and why. Information about physical vulnerability and social vulnerability is discussed separately below, but it is helpful to evaluate physical vulnerability and social vulnerability together. A list of physical and social vulnerability indicators was developed through a stakeholder participation process per the requirements of AB 1668 to identify rural communities in California at risk of drought and water shortage. These include geology, land use, climate, demographics, and other factors, some or all of which are relevant to consider.

Counties may opt to use the data available by the State as a basis for conducting a qualitative vulnerability risk assessment. More specifically, a Water Shortage Vulnerability Explorer was developed by DWR and contains several public data sets that can aid counties in completing their risk assessments. The tool will be updated periodically, providing the latest information available. Identifying and understanding county-specific vulnerabilities tied to water shortage may help identify drought triggers for initiating response actions. If counties have other preferred, more accurate, or higher resolution data, they may use it in addition to or instead of the statewide datasets.

#### ***Physical Vulnerability Assessment***

A checklist for assessing physical vulnerability is provided below in Table 3-3, followed by a more detailed discussion of this type of assessment.

**Table 3-3 Physical Vulnerability Factors Recommended for Consideration in the County’s Assessment**

No.	Vulnerability Factor	Applicability – If YES, please check off and evaluate vulnerability	Applicability – If NO, please check off and explain why
1	Temperature shift - Projected change in heat by mid-century		
2	Wildfire risk - Projected severe or high severe risk		
3	Most recent water year’s precipitation compared to historic average		
4	Count of multiple dry years within the past five years		
5	Fractured rock area- Communities in fractured rock areas		
6	Current Wildfire Risk (CAL FIRE)		
7	Water quality index - Likelihood that groundwater likely accessed by domestic wells may contain concentrations of constituents above regulatory levels		
8	Subsidence presence - Record of subsidence		
9	Over drafted basin - Critically over drafted groundwater basin		
10	Declining groundwater levels		
11	Irrigated agriculture - Presence of irrigated agriculture		
12	Reported household outages on domestic wells - Presence of domestic wells running dry		
13	(Alluvial Basin only) Dry well susceptibility - Estimated likelihood of domestic well(s) running dry		
14	(Fractured Rock Area-only) – High density of domestic wells		

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).

Key:

CAL FIRE = California Department of Forestry and Fire Protection

DWR developed the checklist in Table 3-3 based on 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 may go through the checklist and determine if the risk factors are applicable. After completing this exercise, counties may realize that an adequate risk assessment may not be possible with available data. 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.

Using the checklist in Table 3-3 offers an initial step of which vulnerability factors (and associated maps) to explore and evaluate as part of this assessment. For those identified as relevant, the assessment analyst may then create and download maps for these factors for the county to display as part of their countywide assessment.

As noted above, counties may use DWR's Water Shortage Vulnerability Explorer, which offers 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 strategy and actions than a composite score, because they provide specific detail of each vulnerability. In addition, the Water Shortage Vulnerability Explorer provides a composite physical vulnerability score that combines all the factors listed in Table 3-3. The aggregate scoring can 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.

### ***Social Vulnerability Assessment***

In emergency conditions or disasters, certain communities and individuals tend to be more impacted by the associated hazard than others due to their social or physical vulnerability. Studies (Flanagan et al. 2011; Flanagan et al. 2018) have shown that certain socioeconomic and demographic characteristics tend to be more impacted because of increased challenges of coping (e.g., accessing bottled water, not knowing who to call for assistance, lack of available assistance, etc.). Assessing socioeconomic and demographic characteristics that impact vulnerable communities (collectively, "social vulnerability") is a critical step in the process for understanding community vulnerability and risk, which then can inform a county's strategies for mitigating and responding to a drought or water shortage event.

Table 3-4 presents a list of population characteristics that represent social vulnerabilities developed by the Centers for Disease Control and Prevention (Flanagan et al. 2011) and recommended by Cal OES for identifying the highest risk, most socially vulnerable communities. Counties may have other information that could be useful for assessing social vulnerabilities and are encouraged to incorporate their use as appropriate.

**Table 3-4 Social Vulnerability Factors Recommended for Consideration in the County’s Assessment**

Socioeconomic Status	Household Composition and Language <sup>1</sup>	Housing and Transportation
<ul style="list-style-type: none"> <li>• Median household income</li> <li>• Per capita income</li> <li>• Percent under poverty level</li> </ul>	<ul style="list-style-type: none"> <li>• Percent 65 years and older</li> <li>• Percent under 5 years old</li> <li>• Percent single parent households</li> <li>• Percent of unemployment among employable age</li> <li>• Percent without a high school degree among those over 25 years</li> <li>• Percent of population where English is a second language</li> </ul>	<ul style="list-style-type: none"> <li>• Percent of households with no vehicle</li> <li>• Percent living in group quarters</li> <li>• Percent renters</li> <li>• Percent living in mobile homes</li> </ul>

Note:

<sup>1</sup> This is revised from the Centers for Disease Control and Prevention’s method to account for not having disability data and not using race data.

For those physical and social vulnerability factors relevant to the county, it is recommended to insert maps of physical and social vulnerability factors into the documentation of the assessment. These can provide useful information for discussion purposes to inform the risk assessment.

***Metrics of Water Shortage Vulnerability for Planning***

Understanding the metrics related to physical and social vulnerabilities to droughts or water shortages can inform a county’s development of remedies to alleviate the identified vulnerabilities. The following are suggested metrics to include when mapping out data within the county boundaries, if appropriate. If the county includes GSAs, 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:

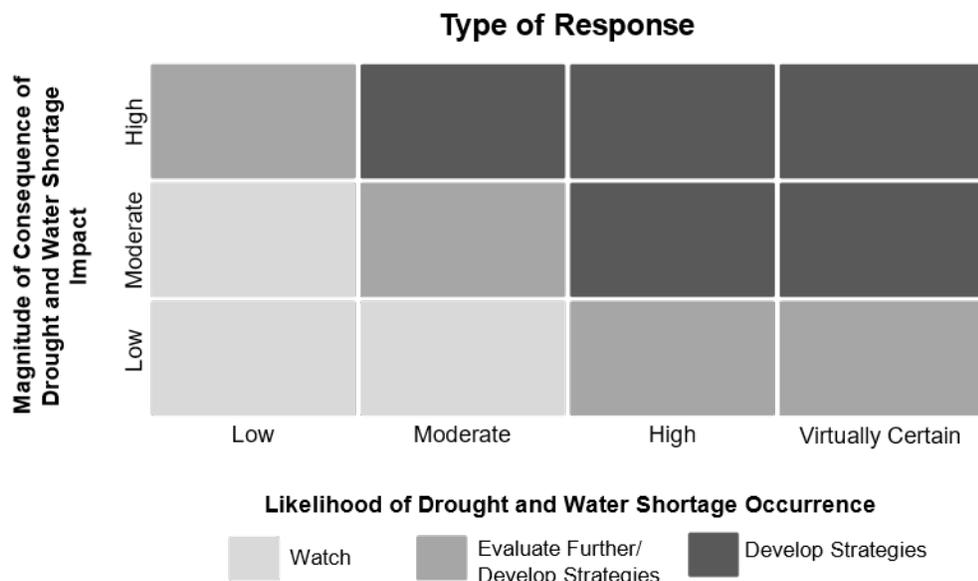
- Number of people with domestic wells
- Number of state small water systems and overall population
- Number of domestic wells on fractured rock
- Percentage of active wells less than 100, 200, 300, and 400 feet (or any depth that is appropriate for individual county); well depth will vary depending on location within California, 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
- Number of homes on private surface water intakes, such as from a lake, creek, river, reservoir or spring
- Distance from the nearest urban center

#### **Step 4: Analyze Risks**

Once the hazard is described and the community assets and their vulnerabilities are assessed, this information together is used to analyze risk. For the purposes of this Guidebook, risk is defined as the negative impacts that could be potentially realized as a result of a hazard. This step can help the county and others involved in the planning process to understand what and where the greatest risks of droughts or water shortages to communities are (see Figure 3-1).

All droughts are different and present 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 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.



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

**Figure 3-1 Risk Prioritization Matrix**

A risk assessment table<sup>7</sup> is offered by the United States (U.S.) Department of Homeland Security to organize different hazardous scenarios. This risk assessment table can be used to explore, discuss, or describe questions such as:

- 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 shut offs (thus, high likelihood of shortage occurrence)? Do state small water systems and domestic wells have back-up power or have back-up water sources (including, but not limited to, bottled water) in these areas?

Although not required, counties may review the U.S. Environmental Protection Agency’s (USEPA) guidance for risk and resilience assessments and emergency response plans to comply with the requirements of America’s Water Infrastructure Act of 2018 for community water systems serving more than 3,300 people. USEPA also provides additional tools, data, and a checklist for small systems for reference and use (USEPA 2022). A certain level of consistent implementation could be helpful to align the policies and practices within a county and promote cohesiveness among communities.

Risk matrices are commonly used to engage stakeholders and the broader community to identify potential risks, which, in turn, can be prioritized for focused development of

<sup>7</sup> [https://www.ready.gov/sites/default/files/2020-07/business\\_risk-assessment-table.pdf](https://www.ready.gov/sites/default/files/2020-07/business_risk-assessment-table.pdf)

mitigation and response actions. This can involve surveying different stakeholders as a way to: incorporate local knowledge; determine the likelihood of drought or water shortage conditions and potential consequences; and identify previously implemented 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. As previously mentioned, DWR developed the Water Shortage Vulnerability Explorer to share available statewide data for risk assessment; and counties may use this tool to further integrate local knowledge and available data for completeness. Any further data sharing or issues identified through the use of statewide data are welcome. Please contact DWR via the tool site for further assistance.

### **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 could allow 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 planning and to communicate with a county's Board of Supervisors and others (including GSAs and other regional planning entities) key to the plan development process. Counties are encouraged to develop summary information for public consumption in layman's terms that are easy to digest to support the purpose and objectives for counties to develop a County DRP. Summaries are useful, especially when they describe findings of the vulnerable areas in a way that can be related to developing actions and strategies to address or reduce the vulnerabilities and risks of impact.

### **Step 6: Assess Capacity**

Evaluating capacity within a county can help guide the development of solutions to address the drought and water shortage risks and vulnerabilities for state small water systems and domestic wells in the county. 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 201* (FEMA 2018) describes how to conduct a Threat and Identification and Risk Assessment and Stakeholder Preparedness Review – a model that provides further

guidance on conducting a Drought and Water Shortage Risk Assessment. This approach includes identification of capability needs as part of the risk assessment, which creates actionable information for developing the other elements of the required plan for SB 552.

Example questions to consider based on a capacity assessment for the purposes of the County DRP for state small water systems and domestic wells are as follows:

- How many water haulers are available in the county or to serve the county? How many other areas rely on these haulers, too? What portion(s) of the county may be more reliable for water haulers because of distance to the nearest water source?
- How many storage tanks are available, at what locations, and how many people could they serve?
- Is source water secured by a contract or other legal agreement for haulers in a drought or water shortage situation? What parties are involved in the agreement? What are the terms and conditions? What emergency contingencies are included in that contract?
- Does the county have a point person with appropriate training and time to oversee the implementation of the County DRP?

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.

## 4.0 Short-Term Response Actions

Based on the risk assessment, counties are to develop short-term response actions and long-term mitigation strategy and actions to alleviate the risk of droughts and water shortages. 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 strategy and actions that aim to reduce the vulnerability from occurring in the future. Chapters 4 and 5 of this Guidebook will introduce sample response actions for short-term applications and mitigation actions for long-term applications.

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 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 current 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 these 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):

***(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 that clearly describe how they may engage with one another during a water shortage emergency. This section provides some examples, but counties are encouraged to work with the involved entities and other authorities to creatively establish agreements that make sense for the residents; the county; the water suppliers; other stakeholders within the confines of the local hydrology and geology; and supply source reliability.

There are three important characteristics of mutual aid agreements that counties should consider:

1. It is important to recognize that, in the context of a County DRP, mutual aid agreements are a tool for counties and water suppliers to work together in coordination with a state small water system and domestic wells. The role of

counties is to facilitate the discussion and potential agreement formulation; counties do not have a role in implementing the resulting agreements.

2. 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.
3. As a facilitator or convenor, a county may choose to explore this option by gathering all of the large water purveyors to discuss the expectations, limitations, level of need, and gameplan to equitably spread water supplies across all the large water purveyors. It is important to spread the responsibilities among several water purveyors to avoid redirected impacts from the negotiated mutual aid agreements.

Mutual aid agreements lay the groundwork for how communities will help each other while maintaining their independence. USEPA provides a template (Appendix C) that may be modified for state small water systems to structure an agreement with another nearby water 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.

Counties may choose to look into the California Water/Wastewater Agency Response Network (CalWARN) that 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.

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

Counties may also look into the California Utilities Emergency Association (CUEA), which provides emergency operations support for gas, electric, water, wastewater, telecommunications (including wireless) and petroleum pipeline utilities. CUEA serves as a point of contact for critical infrastructure utilities, 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.

CUEA members can benefit from emergency response and restoration support, mutual assistance, planning, and training exercises.

## 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 that can be activated to purvey water to a location experiencing a shortage can be a vital tool; however, the activation of such an intertie involves established terms and conditions specified under an operating agreement.

Intertie activation in times of drought emergency or water shortage conditions is considered part of the county's short-term response actions although the arrangement needs to be done prior to the event and ideally, for a long-term collaboration. Similar to a mutual aid agreement between two water systems, counties have a role as a facilitator or convenor for such an arrangement, but do not have any role for implementation or related obligations or responsibilities.

Certain scenarios for intertie usage can demonstrate the effectiveness of such 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 large water suppliers absorb state small water systems and domestic wells within the intertie's proximity, where appropriate and supported by corresponding rate payers. However, DWR recognizes that counties do not have proper authority to force consolidation of water systems without a justifiable cause or overwrite the interests of

paying customers of either water system. This also applies to interties to domestic wells from a water system nearby.

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 policies as part of long-term mitigation strategy and actions. These options are discussed in more detail in Chapter 5.

## 4.4 Permit Streamlining and Coordination

Counties may want to set up procedures and protocols to allow certain permit streamlining and agency coordination during drought emergencies and critical water shortage events. This is especially relevant for those permits under a county's jurisdiction for well construction, deepening, and other rehabilitation. From this viewpoint, Governor Newsom's Executive Order (EO) N-7-22 issued on March 28, 2022, could provide items for consideration.

In addition to reinforcing previous directions to State agencies to provide necessary drought relief, this EO provides additional direction to State and local agencies to implement actions that will reduce, hinder, or delay the mitigation of the effects of drought conditions on human health, safety, and the environment. Specifically, for well permitting, the EO requires counties, cities, or other public agencies to approve permits for a new groundwater well or for alteration of an existing well only when either of the following conditions are met:

- If the proposed well is located within a basin subject to the SGMA and classified as medium or high priority, a written verification from the corresponding GSA is required to state that the proposed action would not be inconsistent with any adopted GSP and would not decrease the likelihood of achieving a sustainability goal for the basin covered by such a plan.
- In all other conditions, the permitting agency needs to first determine that extraction of groundwater from the proposed well is: (1) not likely to interfere with the production and functioning of existing nearby wells, and (2) not likely to cause subsidence that would adversely impact or damage nearby infrastructure.

Exceptions to the above requirements are allowed when the proposed well is to provide: (1) less than 2 acre-feet per year of groundwater for individual domestic users, or (2) groundwater exclusively to public water systems as defined in Section 116275 of the

HSC.<sup>8</sup> Despite the temporary nature of the EO, counties should consider the above to accommodate relevant, beneficial provisions in their local ordinances to facilitate the future application during drought emergency and water shortage events.

In adopting local ordinances for the above purposes, counties should also consider the potential air quality and noise impacts that may result from some emergency or interim actions, especially if they will last for more than a few days. Backup generators, pumps, and trucks hauling water have the potential to contribute emissions of criteria air pollutants to air basins that impede the ability for those regions to attain National Ambient Air Quality Standards and California Ambient Air Quality Standards. These activities also have the potential to expose residences and other noise-sensitive land uses that exceed local noise standards and/or result in sleep disturbance.

## 4.5 Emergency and Interim Drinking Water Supplies

Emergency water supplies is 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. Emergency and interim drinking water supplies can be deployed to meet health and safety needs, as necessary, and are considered a last resort when local capabilities have been exhausted and State-level assistance becomes necessary. They are necessary elements to have in a portfolio of options given that every drought and water shortage event could be different in its impacted areas and consequences.

The County DRP should include lists of actions and protocols 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. To meet the minimum human health and safety standard of 55 gallons per capita per day (2021 State of California Administrative Law and further subject to provisions of SB 1157 of 2022), the following are a few possible short-term response actions that may be taken when immediate threats of water shortage are present. Much of the guidance presented here is from the 2014 Emergency Drinking Water Procurement and Distribution Planning Guidance developed by Cal OES and augmented by other examples and practices DWR has reviewed (Cal OES 2014). DWR suggests that in order to activate these response actions, counties should coordinate an emergency response unit in their county (e.g., County OES) in the planning and coordination process to build a common vision and cohesive plan for execution. Adequate agreements and understanding with relevant entities (e.g.,

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<sup>8</sup> A “public water system” mean 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 at least 60 days out of the year (HSC Section 116275(h)).

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**

In the recent drought from 2012 to 2016, residents in El Dorado County obtained supplemental water supplies from El Dorado Irrigation District's (EID) bulk water stations. 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 fill stations for the drought-affected communities allows residents to haul their own water supplies. Counties can proactively coordinate with large water purveyors to establish mutual understanding or arrangements allowing state small water systems and domestic wells in distress to leverage the available water supply at their own cost of transport. The water supply should meet potable drinking water standards and other applicable laws and regulations for domestic use. While it is possible that large water purveyors may waive the cost of water for residents during drought or water shortage events, DWR suggests that counties establish proper agreements on principles to avoid any potential confusion and complications.

### **Treatment of Available Water from Non-Regular Sources**

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 emphasizes the importance of consulting 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. Again, 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 consumption.

## 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. 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 California Department of Public Health, 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 having no running water for basic health and safety needs.

Counties are encouraged to solicit input and support from their Health and Human Services Department or program 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 the community members. Messaging at the regional scale has proven important in some areas of California and can contribute to building trust by using consistent messaging across communities.

### **Water Hauling or Bulk Water Delivery**

Bulk/hailed water is moved by tanker trucks. Bulk/hailed drinking water tankers may be used as distribution points for residents who bring a container to be filled or connected to a building, such as a hospital or other critical infrastructure in need of a water supply. A list of licensed drinking water haulers by county can be accessed through the California Department of Public Health website, under the Food and Drug Branch.<sup>9</sup>

Some water purveyors have procured water hauling vehicles and portable water storage vessels such as bladders that can be moved via flatbed truck. These also may be possible via a mutual aid request from and in coordination with those water purveyors. No matter how the water hauling is facilitated, when discussing the option of using storage water tanks onsite, it is important to include additional infrastructure and cost considerations for a pump system at the residences to reestablish water service with these storage units.

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

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<sup>9</sup> <https://www.cdph.ca.gov/Programs/CEH/DFDCS/pages/fdbprograms/foodsafetyprogram/water.aspx>

- A service contract for a contractor to supply bulk potable water and storage capacity at the receiving location, community, or water system

An additional alternative for counties is to collaborate with a non-governmental organization (NGO) to provide drinking water assistance to individual households if households so choose. The State Water Board provides a list of NGO resources available to different geographic regions.<sup>10</sup> To the extent possible, counties could make this information available to the public without endorsement of services provided by individual NGOs. Should any individual household or water system plan to leverage these services via an NGO, it would be the responsibility of the household members that have domestic wells or residents of a state small water system to verify the effectiveness of receiving water supplies. Counties cannot assume liability and/or cannot reasonably be responsible for verifying stated services without extending already-limited resources for additional verification.

### Triggers to Activate Response Actions

Counties should establish clear triggers for activating various response actions. This 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 man-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<sup>11</sup> 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, it is recognized that most planning departments 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 would focus on additional well permitting, streamlining for alleviating a dry well condition, or other similar measures. Nonetheless, these concerns suggest the trust issue mentioned earlier. Counties are encouraged to

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<sup>10</sup> [https://www.waterboards.ca.gov/drought/drought\\_assistance.html](https://www.waterboards.ca.gov/drought/drought_assistance.html)

<sup>11</sup> <https://survey123.arcgis.com/share/9fb670eab88a429e8aaa20a9680c0cba>

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 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 that 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 area affected
      - 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 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. DWR strongly emphasizes the importance of internal coordination and consistency among practices in different departments or operating units within a county.

## 5.0 Long-Term Mitigation Strategy and Actions

Short-term response actions, as discussed in Chapter 4, address immediate drought and water shortage needs; long-term mitigation strategy and actions described in Chapter 5 provide a permanent solution to areas susceptible to drought and water shortage conditions. Long-term mitigation strategy and actions are expected to reduce the need and cost of emergency response, but not replace it entirely. If a drought like the one from 2012 to 2016 occurs in the future, more than 4,500 domestic wells in the San Joaquin Valley may be impacted (Community Water Center 2022). The cost to mitigate such damage could be more than \$150 million (Community Water Center 2022).

This chapter presents actions that counties may pursue to provide reliable and secure water supplies to state small water systems and domestic wells within county boundaries. The feasibility of implementing long-term mitigation strategy and actions will vary by county based on its individual conditions and needs, available resources, and political/public support. The role a county may play in a long-term mitigation strategy and action is anticipated to be more prominent than its role in short-term response actions that are typically between two willing entities, with counties as facilitators or convenors.

### 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 risk 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 reducing drinking water shortages to rural residents in California in the following areas.

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

## 5.2 Drinking Water Well Mitigation Program

Development of a drinking water well mitigation program is often complicated. Therefore, the following discussion starts with a program definition and is followed by additional elements of the program.

### Program Definition

As SGMA implementation continues, it is apparent that even though a basin's water budget calculation is considered sustainable, certain domestic wells are likely to be impacted due to changes in groundwater levels in their immediate vicinity. According to DWR's Sustainable Groundwater Management Office (SGMO), SGMA implementation is at a regional scale, meaning that localized groundwater conditions may not be favorable for some shallow residential drinking water wells, even though the beneficial use of those wells is fully recognized. Fluctuating and declining water tables and groundwater quality tend to be concerns for state small water systems on wells and domestic wells. In other words, GSP implementation could result in dry wells or wells with unfavorable water quality in certain areas, suggesting that certain actions would be required to mitigate the conditions and provide adequate water for domestic use in those areas.

The aforementioned scenario covered above is the genesis of the drinking water well mitigation program. However, the responsibility of developing and implementing a drinking water well mitigation program is not pre-determined and could rest with one of several parties, including the GSA, county, or other entities. Furthermore, new residents could be uninformed about the conditions. Counties may be the most appropriate party

for developing and implementing a drinking well mitigation program – within or beyond SGMA implementation. In addition, when developing such a program, the following considerations are necessary.

### **Drought and Water Shortage Risk Assessment**

Completing the Drought and Water Shortage Risk Assessment (described in Chapter 3) is the foundation for informing a county’s drinking water well mitigation program. The Drought and Water Shortage Risk Assessment helps identify areas that have a likelihood of wells running dry and have potential for water shortages as a result of the surrounding vulnerabilities. The county areas identified to have the likelihood of wells running dry and have potential for water shortages can be used to inform both (1) the potential restrictions that should be in place for future well installation based on the thresholds set forth by the GSA to reduce undesirable outcomes defined under SGMA, and (2) the adequate depth for new wells to adapt to the new conditions set forth by the GSP. The restrictions can be reinforced through local ordinances.

### ***Water Shortage Prevention for New Wells***

By completing the Drought and Water Shortage Risk Assessment, a county may generate a map (GIS-based or not) with areas that are likely to have wells run dry or experience water shortages. 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. This map can be used to inform future development, and counties may facilitate the installation restriction of future wells by the well permitting agency (city, county, local environmental health agency, local water district, water agency, etc.) in areas that have a likelihood to experience water shortage events. Restrictions can be based on the GSA minimum thresholds established if a county has a GSA.

DWR maintains a list of well permitting agencies<sup>12</sup> in California. Restricting well installation in areas with risk of water shortage events may minimize future distress to communities and provide long-term cost savings (i.e., not needing to respond to future water shortages). This can be achieved in two ways: either by restricting the construction of wells in areas of high risk, or by requiring wells to be constructed to an appropriate depth and with an appropriately sized pumps to continue to provide adequate supply, should water levels drop. This depth restriction could be informed by historical water level data from nearby monitoring wells. Additionally, if the new well is constructed in an area covered by a GSP, it should be able to provide safe water to users in the event that water levels drop to the minimum threshold.

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<sup>12</sup> <https://water.ca.gov/Programs/Groundwater-Management/Wells/Permitting-Agencies>

Any new well that will be installed in the county must be placed in a proper location and be properly constructed according to State well standards<sup>13</sup> to protect drinking water wells from known risks of contamination. It is important to maintain safe distances between a groundwater well and possible sources of contamination. Whenever possible, the well should be located at a higher elevation than surrounding areas and above flood levels to decrease the potential for contamination. The well location should be accessible for activities related to maintenance, sampling, groundwater level monitoring, repair, and, eventually, destruction/decommissioning (DWR 2022b).

To prevent the construction of new wells in areas that are at risk of future water shortage and in areas that previously experienced dry wells or water shortages, the county is encouraged to coordinate directly with the GSA, especially within county areas that are under the GSA's jurisdiction. The county could establish a local ordinance to formalize the procedural requirements to consult with the corresponding GSA before any new well construction or deepening. The scope of consultation could include updated guidance on where future wells can be placed based on location, setback requirements informed by water supply threats (wildfire risk, water quality threats, land subsidence, declining water levels etc.), and geology. Proper well placement and construction within a county can also be achieved through coordinated land use planning efforts amongst GSAs<sup>14</sup> and water agencies to align land use planning in general plans and groundwater sustainability planning efforts to ensure a reliable water supply for drinking water well users as land use changes occur.

### ***Water Shortage Prevention for Existing Wells***

For existing wells, a county's challenge will be to support the continued monitoring efforts on wells of state small water systems and domestic wells. In groundwater basin areas that are managed under a GSP, counties will need to work closely with GSAs to ensure that their activities are well coordinated.

In county areas that are not managed under a GSP, counties will need to take a lead role in predicting and preventing water shortages for those users. Counties may opt to implement any of the following management actions to learn about their local groundwater conditions and better protect the water supplies for state small water systems and domestic wells.

To reduce wells from state small water systems and domestic wells from running dry or experiencing water shortage events, counties may need to establish a well monitoring network or expand an existing one run by a GSA to track water levels over time where wells are running dry, have experienced water quality impairments, or have historically had issues. Counties are encouraged to work with GSAs in the respective basins that

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<sup>13</sup> <https://water.ca.gov/well-standards>

<sup>14</sup> <https://sgma.water.ca.gov/webgis/index.jsp?jsonfile=https%3a%2f%2fsgma.water.ca.gov%2fportal%2fresources%2fjs%2fmapconfigs%2fGsaMaster.js>

they overlie to coordinate representative monitoring sites identified in the basin's adopted GSP. DWR recognizes that starting a well monitoring network could be overwhelming and expensive, especially for rural counties. DWR's SGMO intends to expand the current statewide groundwater monitoring network to support SGMA implementation to cover other areas that are not subject to GSP requirements. Counties are encouraged to engage SGMO for further assistance and coordination for possible collaboration.

The information obtained from the well monitoring network can also be used to recommend against installing a well at a certain location. A well monitoring network typically monitors groundwater levels and flow conditions, and is used to obtain samples to determine groundwater quality. Establishing or expanding a well monitoring network provides current groundwater conditions and provides a source of data that can be used to refine a county's Drought and Water Shortage Risk Assessment to better prepare for future drought and water shortage events. A well monitoring network should be able to:

- Record water levels
- Track a change in groundwater levels
- Track changes in water quality

For a successful well monitoring network, the monitoring wells should be in areas near communities that are socially and or physically vulnerable. The placement of new observation wells can also be informed by the results of the Drought and Water Shortage Risk Assessment.

In coordination with the GSA, the county should collect monitoring data at a frequency adequate for water supply planning efforts and in alignment with existing planning efforts by the county and GSA, as they will work closely together to coordinate efforts under SB 552 and SGMA. Counties may also implement the following management actions to reduce any water supply impacts.

- Coordinate with well operators 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 wells not located near a public water system that can take on additional connections, establish a new small public water system by connecting several domestic wells. Refer to the State Water Board's website for additional information on establishing a public water system.<sup>15</sup>

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<sup>15</sup> [https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/documents/waterpartnerships/what\\_is\\_a\\_public\\_water\\_sys.pdf](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/waterpartnerships/what_is_a_public_water_sys.pdf)

- Develop a technical assistance program to offer state small water systems and domestic wells support in installing new wells and remediating wells with water quality issues.
- Provide financial support to assist in lowering a well pump and/or deepen wells, as described further in Chapter 7.
- Distribute educational materials and comprehensive information on management and well maintenance responsibilities and potential drought risks associated with drinking water wells.
- The County can function as a liaison to collect information on private wells, and if the wells are facing any challenges, those items can be brought to the attention of the GSA to address.

## 5.3 System Consolidation Plan

In certain areas susceptible to water shortages as identified in the Drought and Water Shortage Risk Assessment, physical consolidation may be a viable option. 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 domestic well-reliant households to an existing water system.

The need to consolidate may be due to water quality or quantity problems, or because the community water system can no longer meet the requirements. For example, a state small mobile home park which has its own water system may be near a city, and the mobile home park owner decides it no longer wishes to be responsible for providing drinking water. The city could begin providing water to the mobile home park through an interconnection. The mobile home park could then cease operating its water system when it is no longer responsible for providing water. However, in many areas, a consolidation is not as straightforward, and the cost implications and ratepayer impacts cannot be overlooked.

### Steps for System Consolidation

The guidance for system consolidation 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<sup>16</sup> 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 1 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.<sup>17</sup>

- **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 the following:
  - *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.<sup>18</sup> In the event of public health emergencies, "extraterritorial service agreements" may be possible.

<sup>16</sup> <https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=70d27423735e45d6b037b7fbaea9a6a6>

<sup>17</sup> <https://mydrywatersupply.water.ca.gov/report/>

<sup>18</sup> <https://calafco.org/about-us/lafco-directory>

- *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<sup>19</sup> 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.

### **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 exceedance.

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, additional systems, and provide the backbone infrastructure for additional consolidations.

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

- **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

<sup>19</sup> [https://www.waterboards.ca.gov/waterrights/publications\\_forms/forms/docs/pet\\_change.pdf](https://www.waterboards.ca.gov/waterrights/publications_forms/forms/docs/pet_change.pdf)

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<sup>20</sup> 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 funded and financed particularly if private capital is not available. The State Water Board’s website (Funding and Incentives for Consolidation and Regionalization Projects<sup>21</sup>) 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.<sup>22</sup> 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<sup>23</sup>).
- **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 cancelled. 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

<sup>20</sup> [https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/docs/eu-map.pdf](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/eu-map.pdf)

<sup>21</sup> [https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/fundingincentives.html](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/fundingincentives.html)

<sup>22</sup> [https://www.waterboards.ca.gov/safer/funding\\_solicitation.html](https://www.waterboards.ca.gov/safer/funding_solicitation.html)

<sup>23</sup> [https://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/caa/drinking\\_water\\_well.html](https://www.waterboards.ca.gov/water_issues/programs/grants_loans/caa/drinking_water_well.html)

titles. If applicable, important records, such as distribution maps and operations plans, should be provided to the receiving water system staff.

### **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, and develop estimated costs and physical/engineering needs, and social feasibility for system consolidation. DWR recognizes that, by themselves, counties do not have authority to force any system consolidation without a justifiable cause (e.g., failing system performances); however, counties could proactively develop concepts and convene 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 to apply for grants and loans that could offset or alleviate certain financial burdens associated with system consolidation.

Considerable public outreach and stakeholder engagement are anticipated throughout the development of a system consolidation plan that could guide counties in implementation. In this system consolidation plan, counties may also recognize 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.

## **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 the U.S. Department of the Interior, Bureau of Reclamation has promoted 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 the additional demand or 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 also 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 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 Filling Data Gaps

Filling in data gaps is important to the refinement of results obtained from the Drought and Water Shortage Risk Assessment and to informing future drought and water shortage planning as local conditions change. Data can empower counties to make informed decisions. Drought and water shortage planning for state small water systems and domestic wells can best be done when there are adequate and sufficient data available. However, data acquisition is also an expensive action for local government. Certain strategic planning for best-value data acquisition could be necessary in leveraging limited county resources.

As previously mentioned in Chapter 3, DWR has committed to continue maintaining the Water Shortage Vulnerability Explorer, which provides a consolidated compilation of statewide data for use by counties in their risk assessment. The Drought and Water Shortage Vulnerability Explorer is the default source of data that counties may use to conduct the Drought and Water Shortage Risk Assessment; however, DWR recognizes that counties may have additional information and local knowledge that could be beneficial to the overall risk assessment. Therefore, where applicable, counties should introduce additional available data to augment the State-provided information to improve the quality of assessment, where appropriate.

Collecting the outstanding data or missing data can help provide a clearer picture of the vulnerabilities the county is experiencing and, inform the better definition of short-term response actions and long-term mitigation strategy and actions to improve drought planning and resulting community resilience. Counties may opt to complete the following actions to have the latest data available to continue refining and improving their drought and water shortage supply planning:

- 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 are 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 need to be collected, the resolution, the responsible entity, the funding sources, and how to collect them.

Even with the additional data, it is likely that data gaps would still exist, require additional investment, and necessitate efforts for data acquisition and development for proper use. There are sources of funding to support data development and acquisition that counties may consider; however, DWR emphasizes that data acquisition without a long-term sustainable effort is often of limited value.

## 6.0 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. 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.<sup>24</sup> Simultaneously, the county may provide regular updates to the Board of Supervisors on SB 552 and what the county is actively doing to comply.

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

- How will it 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.

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<sup>24</sup> <https://www.edwateragency.org/Pages/Drought.aspx>

- 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.

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

## 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 where 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 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

### 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 targeted with the development of the C&E Plan. 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 discussion of 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 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 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 shortage; and the County DRP can be used to bridge information gaps that may exist related to SB 552 implementation. As needs arise, the county can adapt materials over time. As needed, the county can translate materials into non-English languages to reach specific-language communities. As such, these documents are fit-for-purpose outreach tools that may include the following:
  - 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, social media posts, and other types of notices 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 the County DRP milestones, including the release of public documents and 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. The outreach activities used can be integrated with activities outlined in Section 3 of the C&E Plan.

- **Briefings to the Board of Directors** – County staff should provide regular briefings to the County Board of Supervisors on the status of the County DRP development, 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 posted on the county website and should be recorded. 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 that are not available during the day (e.g., work)

- **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 where the county can participate and provide in-person distribution of materials to the public, while offering a chance to engage people in conversations about SB 552 and the County DRP elements.

### Implementation Activities

For consistent implementation, counties should continue public outreach activities, such as public meetings, community presentations and Board updates, and engaging 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 implementation. In addition, new materials can be developed to help the public understand next steps, how they can stay engaged in the County DRP 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.

## 7.0 Implementation Considerations

There are varying levels of water contingency planning and coverage across counties for state small water systems and domestic wells. Lack of proper drought planning could leave residents at risk of going without water to meet their basic household and drinking water needs during a water shortage event. One major purpose of SB 552 is to have counties take basic steps to implement more proactive drought planning with the development of a plan that would benefit the communities most at risk; and by doing so, help reduce catastrophic impacts on drinking water for the communities most vulnerable to the impacts of climate change. 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 be part of several existing planning documents. It is recommended that there be a stand-alone document that is referenced by all relevant planning documents so that only one planning document needs to be updated rather than several. Since the County DRP can be included as an element of an existing plan, this also means that the LHMP (or emergency operations plan, climate action plan, or general plan) by itself is likely insufficient to be a County DRP, as it would not include the necessary coordination or potential general plan amendments, ordinance, or well permit actions.

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

- California Adaptation Planning Guide (2020).<sup>25</sup> 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 strategy and actions.
- State of California General Plan Guidelines (updated periodically, most recently updated in 2017).<sup>26</sup> 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 strategy and actions counties may take to reduce future water shortages.
- State Hazard Mitigation Plan (2018 Update).<sup>27</sup> 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.

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.

## 7.1 Suggested Plan Layout

As counties develop their County DRP, counties may opt to organize it as shown below.

- **Chapter 1: Introduction** – Provide an overview of the county, inclusive of hydrology, demographics, number of state small water systems, and number of domestic wells.

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<sup>25</sup> <https://resilientca.org/apg/>

<sup>26</sup> <https://opr.ca.gov/planning/general-plan/guidelines.html>

<sup>27</sup> <https://www.caloes.ca.gov/office-of-the-director/operations/recovery-directorate/hazard-mitigation/state-hazard-mitigation-planning/>

- **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. 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. 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 County OES also would be subject to adoption requirements consistent with the requirements of FEMA. Counties should include these details in its implementation and outline all necessary steps to realize the planning objectives, and identify the plan elements implementable on a long-term basis.

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).

As an advisory body, the Task Force should support the implementation and update of the County DRP. To facilitate mutual learning experience and general compliance status, DWR will provide a portal<sup>28</sup> 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.

## 7.2 Funding Opportunities and Assistance Programs

DWR recommends that the county, along with the Task Force, identify the costs to implement the County DRP and then allocate budget in the local government each year for drought and water shortage planning. The money that is budgeted can be used to support the short-term response actions as they arise and support the implementation of the long-term mitigation strategy and actions. Long-term mitigation strategy and actions by nature will be more costly to implement depending on what the county has proposed to implement. As such, the county can explore different funding mechanisms available by the State and federal government to cover the additional costs. 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

At a local scale, where resources are available, counties can develop their own local assistance programs to provide technical 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). However, DWR recognizes that without a steady source of funding or, in some cases, an alternative source of funding, counties have limited capacity in providing such a service on a continued basis.

### State

At the State level, subject to budget conditions and other directives, technical assistance or financial assistance (including grants or loans) exist. Most State funding opportunities are available through the California Grants Portal,<sup>29</sup> with active funding programs that can be found by using search terms such as “drinking water,” “domestic well,” and “small community water systems.” It is important to recognize that not all funding opportunities are captured in this chapter, because State resources and availability change with time.

The California Financing Coordinating Committee<sup>30</sup> Funding Fair is another venue for learning about available funding to support individual project implementation. The

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<sup>28</sup> <https://wuedata.water.ca.gov/>

<sup>29</sup> <https://www.grants.ca.gov/>

<sup>30</sup> <https://www.cfcc.ca.gov/>

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 help implement their County DRP. The following are additional potential sources of funding:

- Grants and loans by DWR<sup>31</sup>
- Grants and loans by State Water Board resources:
  - Countywide and Regional Funding Program,<sup>32</sup> 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 assessment, interim solutions 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.<sup>33</sup> These funds are typically focused on water systems as opposed to 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.<sup>34</sup>
  - Emergency drought funding that is typically focused on responding to community water system emergencies, as opposed to domestic wells, but may be relevant in some cases.<sup>35</sup>
  - Direct technical assistance, prioritized to help develop projects benefitting small, disadvantaged communities.<sup>36</sup>
- The 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.<sup>37</sup>

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<sup>31</sup> <https://water.ca.gov/Work-With-Us/Grants-And-Loans>

<sup>32</sup> [https://www.waterboards.ca.gov/safer/funding\\_solicitation.html](https://www.waterboards.ca.gov/safer/funding_solicitation.html)

<sup>33</sup> [https://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/caa/drinking\\_water\\_well.html](https://www.waterboards.ca.gov/water_issues/programs/grants_loans/caa/drinking_water_well.html)

<sup>34</sup> [https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/fundingincentives.html](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/fundingincentives.html)

<sup>35</sup> [https://www.waterboards.ca.gov/drought/funding\\_available.html](https://www.waterboards.ca.gov/drought/funding_available.html)

<sup>36</sup> [https://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/tech\\_asst\\_funding.html](https://www.waterboards.ca.gov/water_issues/programs/grants_loans/tech_asst_funding.html)

<sup>37</sup> <https://opr.ca.gov/climate/icarp/grants/>

## Federal

At the federal level, resources exist in the form of grants. Although the resources below are identified, it is important to recognize that not all current opportunities were captured, federal resources available change with time, and the county will need to track new opportunities to pursue.

- The Rural Development Program of U.S. Department of Agriculture provides rural communities technical assistance and financing options to develop drinking water and waste disposal systems.<sup>38</sup>
- The National Integrated Drought Information System provides funding opportunities related to drought early warning research.<sup>39</sup>
- The U.S. Department of the Interior, Bureau of Reclamation will present several funding opportunities for infrastructure and drought planning.<sup>40</sup>

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<sup>38</sup> <https://www.rd.usda.gov/programs-services/water-environmental-programs>

<sup>39</sup> <https://www.drought.gov/drought-in-action/funding-opportunities>

<sup>40</sup> <https://www.usbr.gov/watersmart/#:~:text=The%20DRP%20funding%20opportunity%20offers,up%20to%20%245%20million%20in>

## 8.0 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 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.

**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.

**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 byproduct 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.

**drought and water shortage risk vulnerability tool.** The water shortage vulnerability tool that the California Department of Water Resources developed to implement California Water Code Division 6, Part 2.55, Chapter 10 (Countywide Drought and Water Shortage Contingency Plans, commencing with California Water Code Section 10609.40) enacted by 2018 Legislation.

**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.

**self-supplied communities.** Intends to cover what is regarded as the “rural communities” in the legislation. This is intended to cover those households and others with domestically used water (for dish washing, showering, drinking, and the like) from their own wells and surface water supplies. The unit of analysis for these communities is the U.S. Census Block group, omitting those with zero population (according to American Community Survey 2012-2016) and those that have no domestic wells recorded (based on data from the DWR Well Report Database 2019). For the purpose of this risk and vulnerability assessment, this category also addresses communities served by water suppliers with fewer than 15 service connections.

**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 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 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 tool.** A drought and water shortage risk scoring of small water suppliers and rural communities, and the interactive webtool to explore the information, developed to meet the California Department of Water Resource's County Drought Advisory Group process (California Water Code Section 10609.42 (a)) and maintain and updated to meet SB 552 requirements (California Water Code Section 10609.40).

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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**

<b>SB 552 Component</b>	<b>Organization/Document</b>	<b>Chapter Section</b>	<b>Page Number</b>	<b>Description</b>	<b>Link</b>	<b>Enhanced Compliance Ideas</b>
<b>County Drought and Water Shortage Task Force</b>	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					
<b>Analysis of Potential Drought and Water Shortage Risk</b>	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					
<b>Interim (Emergency) Solutions</b>	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					

<b>SB 552 Component</b>	<b>Organization/Document</b>	<b>Chapter Section</b>	<b>Page Number</b>	<b>Description</b>	<b>Link</b>	<b>Enhanced Compliance Ideas</b>
	Plan B					
<b>Long-Term Solutions (consolidation opportunities, domestic well drinking water mitigation programs)</b>	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					
<b>Implementation Considerations</b>	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					
<b>Funding Sources</b>	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

<b>SB 552 Component</b>	<b>Organization/Document</b>	<b>Chapter Section</b>	<b>Page Number</b>	<b>Description</b>	<b>Link</b>	<b>Enhanced Compliance Ideas</b>
	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's 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 nongovernmental 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 days 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 (45<sup>th</sup>) 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"  
BUTTE COUNTY,

By:

Name: Josh Jimerfield  
Title: Deputy CAO-OEM

"PID"  
PARADISE IRRIGATION DISTRICT,

By:

Name: Tom Lando  
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](#)

## **Drinking Water Well Principles**

Contains information on the Final Groundwater Management and Drinking Water Well Principles and Strategies including an Implementation Matrix. [Drinking Water Well Principles \(ca.gov\)](#)

## **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 uncharted waters of investing in climate change,

[https://opr.ca.gov/climate/docs/20181106-Keenan\\_Climate\\_Adaptation\\_Finance\\_and\\_Investment\\_in\\_California\\_2018.pdf](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](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](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](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](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](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-uOo0KSGbJboJhqUTrx0fliiU2cdCJQ/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](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2022/eu-map.pdf).