El Dorado County Water Agency

Water Resources Development and Management Plan

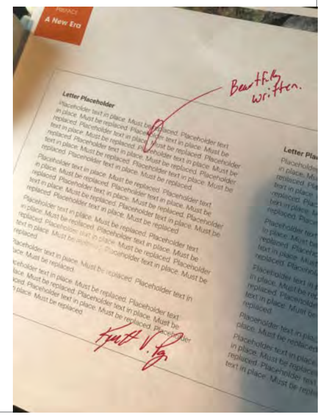
May 22, 2019 DRAFT

Stantec

Mission Statement:

Ensure that El Dorado County has adequate water for today and in the future.

A joint statement from the Board Chair and General Manager



Executive Summary

Through the 1969 El Dorado County Water Agency Act, the El Dorado County Water Agency's (Agency) mission is to ensure that El Dorado County has adequate water for today and in the future. The Agency covers the entire El Dorado County, on both sides of the Sierra Nevada in the Lake Tahoe Basin as well as the West Slope foothill area. This diverse landscape has headwaters and national forests.

This 2019 update of the Water Resources Development and Management Plan (WRDMP) marks a new beginning of the Agency's service to the county. It presents both the Agency's progress toward long-term water security and a renewed focus on advancing countywide water management to realize the vision of the General Plan adopted by the County of El Dorado (County) for economic development, environmental protection, and quality of life for all residents.

A Need for a New Perspective

The recent historic drought from 2012 through 2016 served as a wake-up call for water managers statewide, with the recognition of the severe vulnerabilities we face with our current water management practices. And recent devastating wildfires exposed the pitfalls and weaknesses of forest management and overall headwater management that are critical to climate resiliency in El Dorado County.

California continues to experience rapid growth of its population and economy, and the influence of socioeconomic changes that cross geographic boundaries is becoming more prevalent. Increasing regulatory requirements and rapidly manifesting consequences of climate change also contribute significantly to concerns over long-term water supply reliability and climate resiliency.

The adopted County General Plan lays out a vision that encourages urbanized economics but also preserves the rural and agricultural quality of life in the county. Imbedded in that vision is protection of El Dorado County's rich natural resources for future generations. However, about 45 percent of the land covered by the General Plan for economic development lacks adequate water supply to facilitate realizing that vision, and investments by many local, regional, and federal entities should be better coordinated to create benefits for all communities countywide.

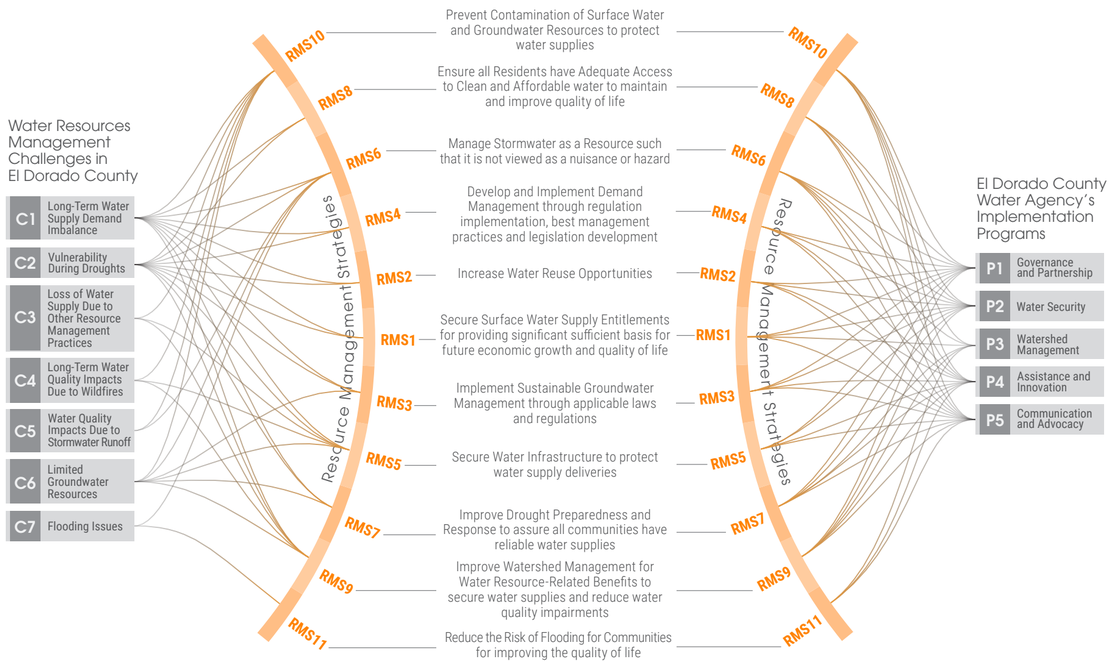
An Integrated and Collaborative Approach to A Better Future

Although the Agency does not currently own any water facilities, it collaborates with water purveyors to develop local water supplies and is contracted with the U.S. Department of the Interior, Bureau of Reclamation (Reclamation) for Central Valley Project water service contract deliveries that support a protion of El Dorado County's domestic uses and economic development.

The Agency's 2016-2020 Strategic Plan calls for improved organization and a renewed focus on a more integrated and comprehensive water management approach to create benefits for the entire El Dorado County, especially for those not served by a water purveyor. This intent is fully reflected in the WRDMP through its collaborative development process involving County departments, water purveyors, stakeholders, and interest parties.

The 2019 WRDMP connects the identified water resource-related challenges to achieving the General Plan vision with the Agency's implementation programs through an array of resource management strategies. Resource management strategies represent strategic directives that may mitigate the identified challenges through coordinated and collective efforts of all responsible parties. Key actions are established, along with the primary responsible agency(ies). More importantly, the Agency's corresponding roles in implementation are also clarified. The Agency's roles in leading, facilitating, or supporting a given activity are consistent with its authority, and are the most advantageous ways for the Agency to create value and benefits for all communities in El Dorado County.

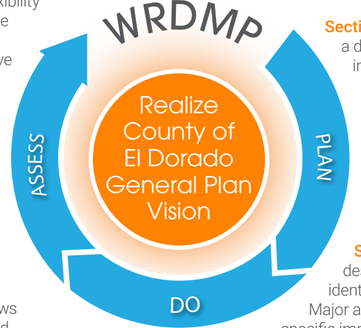
The Water Resources Development and Management Plan includes a comprehensive set of inter-related resource management strategies to address the identified water resource-related challenges in El Dorado County and to form specific implementation programs for the El Dorado County Water Agency that are consistent with its authority and mission to ensure long-term adequate water supply for adequate water for today and in the future for the county.



A Policy-Oriented Planning Practice for Adaptive Management

Consistent with the Agency's renewed focus, preparation of the WRDMP had an emphasis on development of governing policies and guidance that will be required for successful implementation. This concise plan spotlights these policies and guidance as they relate to all actions and investments. The plan provides the necessary flexibility and adaptability to allow the collaborating agencies to devise efficient and effective means to weather the uncertainties of climate change, regulatory environment, geopolitical influences, and social preferences throughout the implementation.

For efficiency of investment and accountability, the Agency prepared this WRDMP as a living document that allows periodic reviews of changed conditions and necessary adjustments in actions and priorities. The Plan-Do-Assess cycle of adaptive management will be implemented through a 5-year update cycle to maintain the WRDMP's relevancy and ensure responsible governance.



Simplified Document Structure for Efficient Updates and Adoption

This 2019 WRDMP focuses on policy directives and adoption, separating those from the evolution of technical data, tools, and analyses that are constantly evolving. Technical details are instead incorporated by reference, where needed. This approach resulted in a concise document with a structure that facilitates future updates.

Section 1: Introduction – This section describes the charge of the Agency and the need for the WRDMP with a new focus. It clarifies that the Agency's goals and collaborative principles in developing the WRDMP.

Section 2: Current Water Management – This section provides a description of land use and environmental protection outlined in the General Plan, current water management practices and responsibilities, and existing major infrastructure that supports the implementation of the General Plan.

Section 3: Challenges Ahead – This section summarizes the identified water resources-related challenges ahead for El Dorado County, recognizing the differences between the the West Slope and the Lake Tahoe Basin, as well as the integrated nature of water resource management.

Section 4: Resource Management Strategies – This section describes the resource management strategies to mitigate for identified water resource-related challenges in El Dorado County. Major actions, primary responsible agency(ies), and the Agency's specific implementation roles are identified, all aiming at an efficient and collaborative approach for collective success.

Section 5: Implementation – This section summarizes the Agency's implementation policies and guidance, and the programs necessary to organize and coordinate the Agency's implementation efforts. For accountability, both recent accomplishments and prioritized actions by program for the next five years are described. Performance matrices and indicators have not been fully developed in this WRDMP but will be an area of focus for the next update, thereby reinforcing the needs for accountability and investment efficiency.

Table of Contents

The Water Resources Development and Management Plan was prepared collaboratively through the contribution of the following groups and individuals.

Plan Advisory Group Members
Brian Mueller – El Dorado Irrigation District
Charlene Carveth (LeeAnne Mila: Alternate) – County of El Dorado
Jodi Lauther – Grizzly Flats Community Services District
Kenneth Payne – El Dorado County Water Agency
Sean Barclay – Tahoe City Public Utility District
Shannon Cotulla (John Thiel: Alternate) – South Tahoe Public Utility District
Steve Palmer (Adam Brown: Alternate) – Georgetown Divide Public Utility District
Tiffany Schmid (Anne Novotny, Brenden Ferry: Alternates) – County of El Dorado

Agricultural Advisory Group Members
Brian Mueller – El Dorado Irrigation District
Charlene Carveth (LeeAnne Mila: Alternate) – County of El Dorado
Christa Campbell – Rainbow Orchards, El Dorado County Chamber of Commerce
Dave Pratt – El Dorado Farm Bureau
Dedrian Kobervig – El Dorado Agricultural Water Quality Management Corporation
Doug Leisz – Citizens for Water; El Dorado County Chamber of Commerce
Greg Boeger – Boeger Winery, El Dorado Wine Grape Growers Association
Jim Abercrombie – El Dorado Irrigation District
Jodi Lauther – Grizzly Flats Community Services District
Kenneth Payne – El Dorado County Water Agency
Lloyd Walker – Walker Vineyard, El Dorado Wine Grape Growers Association
Lynn Wunderlich – UC Cooperative Extension
Steve Palmer – Georgetown Divide Public Utility District

Municipal and Industrial Advisory Group Members
Brian Mueller – El Dorado Irrigation District
Jodi Lauther – Grizzly Flats Community Services District
Kenneth Payne - El Dorado County Water Agency
Sean Barclay (Matt Homolka: Alternate) – Tahoe City Public Utility District
Shannon Cotulla – South Tahoe Public Utility District
Steve Palmer (Adam Brown: Alternate) – Georgetown Divide Public Utility District
Tiffany Schmid (Anne Novotny, Brendan Ferry: Alternates) – County of El Dorado

Topic-Specific Consultations
Greg Stanton – County of El Dorado
Jeffrey Warren – County of El Dorado
Olivia Byron-Cooper – County of El Dorado
Kathryn Jeanfreau – County of El Dorado
Patty Moley-Dunn – County of El Dorado
Frederic Schaefer – El Dorado County Water Agency

Plan Development Team
Kenneth Payne – El Dorado County Water Agency
Maritza Flores Marquez – Stantec
Rebecca Guo – Stantec
Vanessa Nishikawa – Stantec
Yung-Hsin Sun – Stantec

Technical Support
Jose Crummett – County of El Dorado
Raymond Hoang – Stantec
Megan Murray – Stantec
Kimberly Clyma – Stantec
Samuel Price – Stantec
Rick Lind – EN2
Tracey Eden-Bishop – EN2
Kristen Hunter – EN2
Leslie Moulton-Post – ESA
Robert Eckard – ESA
Harriett Ross – ESA
Grant Davids – Davids Engineering
Brandon Ertis – Davids Engineering
Duncan MacEwan – ERA Economics

Abbreviations

Act	El Dorado County Water Agency Act
ACWA	Association of California Water Agencies
Agency	El Dorado County Water Agency
BLM	Bureau of Land Management
Board	Agency's Board of Directors
CABY	Cosumnes, American, Bear, Yuba
County	County of El Dorado
CPUC	California Public Utilities Commission
CSD	Community Services District
CVP	Central Valley Project
DWR	California Department of Water Resources
E. Coli	Escherichia coli
EDCWA	El Dorado County Water Agency
EID	El Dorado Irrigation District
FEMA	Federal Emergency Management Agency
GDPUD	Georgetown Divide Public Utility District
GFCSD	Grizzly Flats Community Services District
GSA	Groundwater Sustainability Agency
IRWM	Integrated Regional Water Management
M&I	Municipal and Industrial
NPDES	National Pollutant Discharge Elimination System
OCA	Other County Area
PCE	Perchloroethylene
Plenary	El Dorado County Plenary for Water
PUD	Public Utility District
RCD	Resource Conservation District
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
RMS	Resource Management Strategies
RWA	Regional Water Authority
SGMA	Sustainable Groundwater Management Act
SMUD	Sacramento Municipal Utility District
SWRCB	State Water Resources Control Board
STPUD	South Tahoe Public Utility District
TAF	Thousand Acre-Feet
TCPUD	Tahoe City Public Utility District
USFS	U.S. Forest Service
West Slope	El Dorado County area west of the Sierra Nevada Crest
WRDMP	Water Resources Development and Management Plan

Photo Credits

Brendan Ferry, County of El Dorado – Page ii
Yung-Hsin Sun, Stantec – Cover, Table of Contents, Pages ES-0. 4, 14, 34, 50

Glossary

The following key terms are listed below for easy reference. Where applicable, existing definitions from the statute and regulations are provided.

Community Services District (CSD) — A form of independent local government used to provide services in unincorporated areas of a county under the Community Services District Law (GC §61000-61850) to provide a wide variety of services including water, wastewater, solid waste, fire protection, and other essential services.

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 described in HSC §116257(i).

Disadvantaged Community — A community with a median household income of less than 80 percent of the statewide average.

Noncommunity Water System — A public water system that is not a community water system.

Non-Potable Reuse — All recycled or reclaimed water applications except those related to water supply augmentation and drinking water.

Nontransient Noncommunity Water System — A public water system that is not a community water system and that regularly serves at least 25 of the same persons over six months per year.

Other County Area (OCA) — Comprised of areas in El Dorado County that fall outside federally-owned/managed land and a water purveyors' service area.

Potable Reuse — Recycled water used to augment drinking water supplies and including both indirect and direct uses.

Public Utility District (PUD) — A PUD is a community-owned, locally-regulated utility authorized to provide electricity, water and sewer services, and wholesale telecommunications. A PUD may provide one or more of these services, depending on the needs of the community.

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 at least 60 days out of the year. A public water system includes the following:

(1) Any collection, treatment, storage, and distribution facilities under control of the operator of the system that are used primarily in connection with the system.

(2) Any collection or pretreatment storage facilities not under the control of the operator that are used primarily in connection with the system.

(3) Any water system that treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

Resource Conservation District (RCD) — A RCD is a local, independent, non-enforcement, non-regulatory district that is self-governed. It advises and assists individual landowners and public agencies in planning and implementing conservation practices for the protection, restoration, or development of land, water, and related natural resources. A RCD has a role in watershed management, water quality management, and stormwater management.

Severely Disadvantaged Community — A community with a median household income of less than 60 percent of the statewide average.

State Small Water System — System for the provision of piped water to the public for human consumption that serves at least five, but not more than 14, service connections and does not regularly serve drinking water to more than an average of 25 individuals daily for more than 60 days out of the year.

Transient Noncommunity Water System — Noncommunity water system that does not regularly serve at least 25 of the same persons over six months per year.

SECTION

1

Introduction

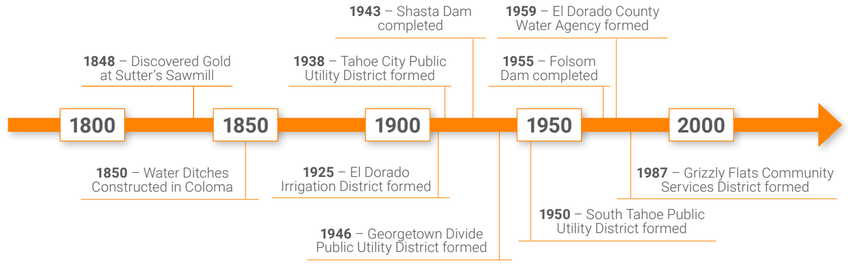
The El Dorado County Water Agency (Agency) was created in 1959 through the El Dorado County Water Agency Act (Act) to ensure that El Dorado County had adequate water to serve its many needs then and into the future. The Agency covers the entire El Dorado County, on both sides of the Sierra Nevada with headwaters and national forests. El Dorado County's diverse landscapes include a portion of the Lake Tahoe Basin that has unique ecological sensitivities, and the vast West Slope foothill area (West Slope) that has urbanized areas where future growth is anticipated. The West Slope also has rural areas where there is a desire to preserve a rural-agricultural way of life, presenting both significant challenges and opportunities for water management.

Although the Agency does not currently own any water facilities, it collaborates with water purveyors to develop local water supplies and is contracted with the U.S. Department of the Interior, Bureau of Reclamation (Reclamation) for Central Valley Project (CVP) water service contract deliveries that support El Dorado County's domestic uses and economic development.

1.1 Needs

The Agency developed its first Water Resources Development and Management Plan (WRDMP) in 1993 to outline its strategy and actions for continued water resources development and management. The WRDMP was subsequently updated in 2007 and 2014 (for West Slope demands only).

The historic drought from 2012 through 2016 left water managers throughout California with changed perspectives regarding their water supply vulnerabilities and the extent of potential impacts from climate change. The Agency was no different. The Agency completed its 2016-2020 Strategic Plan in 2016 that called for improved organization and a renewed focus on a more integrated and comprehensive water management approach to create benefits for the entire El Dorado County, especially for those not served by a water purveyor. This 2019 update of the WRDMP also includes the reevaluation and adjustment, if warranted, of the Agency's current investments and future investment priorities to reflect direction provided in the 2016-2020 Strategic Plan.



1.2 Goals

The primary goal of the 2019 WRDMP is to assist the County of El Dorado (County) in realizing its adopted General Plan through prudent and integrated water management. The County General Plan is unique in several ways:

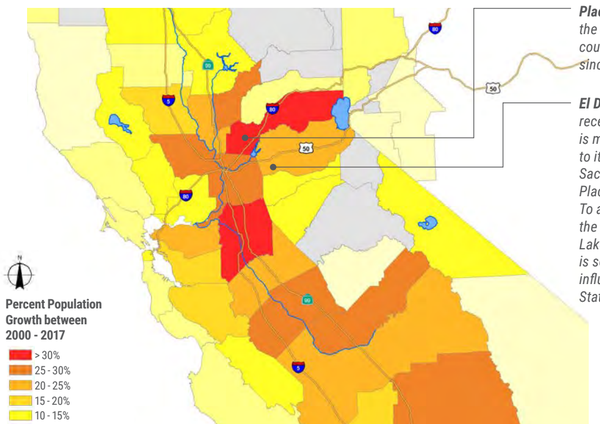
- It contains a land use designation for economic development and integrated natural resource protection and management.
- It plans for the land capacity for all purposes in considering future economic development beyond the typical near-term urbanization focus.
- It contains policies and considerations that allow for urbanization but also preserves the way of life of rural-agricultural communities that residents value significantly.

Additional goals of the WRDMP include to:

- Develop a concise, adaptable, and policy-focused document to be adopted by the Agency's Board that is commensurate with the Agency's role and responsibilities.
- Incorporate an integrated water management approach into sustainable investment strategies and implementation.
- Address changes in countywide water supply conditions, regulations, and the evolving understanding of climate change and its effects.
- Promote transparency and common understanding about the Agency's investment priorities in water resources development and management.

Through the 2019 WRDMP, the Agency developed corresponding resource management strategies based on an integrated water management concept and corresponding investment priorities to fulfill the vision presented in the County General Plan.

In Northern California, economic development and housing challenges in the Bay Area resulted in population growth along major transportation corridors. And El Dorado County is experiencing the pressure to develop. In anticipation of future growth, the County General Plan vision allows for urban development while preserving the way of life on rural-agricultural communities. In 2014, the El Dorado County Board of Supervisors approved a 1.03 percent annual growth rate for the next 20 years.



***Placer County** is the fastest growing county in California since 2000.*

***El Dorado County's** recent development is mostly adjacent to its boundary with Sacramento and Placer Counties. To a less degree the growth in the Lake Tahoe Basin is somewhat influenced by the State of Nevada.*

Source: United States Census, 2000 and 2017 Quickfacts

1.3 Development of the WRDMP

The Agency outlined several principles for its 2019 WRDMP including:

- ***Respect the roles and responsibilities of water purveyors and other local agencies.*** The Agency has broad authority and charge from the Act; however, it considers its greatest value to be promoting countywide broad benefits and focusing on improving water supply and other related resource management issues that are not fully covered by other local agencies.
- ***Promote dialogues among local agencies, economic interests, and stakeholders for mutual understanding.*** The Agency believes the County's long-term vision can only be realized through collaboration, so it formed various advisory groups for WRDMP development and established a foundation for long-term collaborative forums for countywide water management issues. For plan development, the Agency organized a Plan Advisory Group to provide input. This group met monthly and included representatives from County departments and commissions as well as local water purveyors. In addition, an Agriculture Advisory Group and a Municipal and Industrial (M&I) Advisory Group also assisted with demand projections and consistency. It is the Agency's hope that once connected, these entities will continue to collaborate to further resource management in El Dorado County.

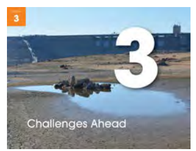
1.4 Organization

The 2019 WRDMP is organized into 5 sections:

- **Section 1: Introduction** describes the charge of the Agency and the need for the WRDMP with a new focus. It clarifies that the Agency's goals and collaborative principles in developing the WRDMP.
- **Section 2: Current Water Management** provides a description of land use and environmental protection outlined in the General Plan, current water management practices and responsibilities, and existing major infrastructure that supports the implementation of the General Plan.
- **Section 3: Challenges Ahead** identifies water resource-related challenges on which the County is facing, recognizing the differences between the West Slope and the Lake Tahoe Basin, as well as the integrated nature of water resource management.
- **Section 4: Resource Management Strategies** describes the resource management strategies to mitigate for identified water resource-related challenges in El Dorado County including corresponding roles and responsibilities for implementation.
- **Section 5: Implementation** describes the Agency's implementation policies and guidance, and the programs necessary to organize and coordinate the Agency's implementation efforts. For accountability, both recent accomplishments and prioritized actions for the next five years are described.

Why We Do It

Who Are Responsible



What is Ahead

How We Do It

What We Do

SECTION
2

Current Water Management

Understanding current water management practices, responsibilities, infrastructure, and commitments is critical to developing water management strategies and investment priorities that will provide opportunities for sustained economic development and help the Agency fulfill the vision in the County General Plan.

2.1 Economic Development

The County General Plan designates lands for economic development and identifies areas where community development and agricultural development may occur. These lands are outside of national forest lands, private timber lands, and other state and federally-managed lands. The County General Plan designates the high-density development in the west side of the County, and along Highway 50, many lands are designated as medium and low-density development that may also allow small farming practices, the predominant agricultural economic development model in El Dorado County.

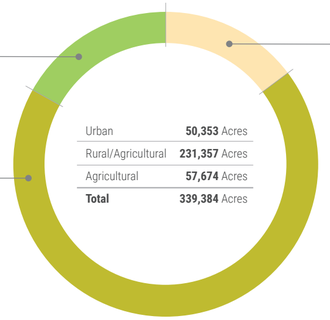
As a result, lands in El Dorado County designed for economic developent (i.e., with M&I or agricultural water demands) are grouped into 3 categories based on the General Plan land use designations and zoning ordinances:

- Urban land (only M&I water demands)
- Rural/agricultural land (both M&I and agricultural water demands)
- Agricultural land (only agricultural water demands)

At present, approximately 31 percent of designated agricultural lands, 90 percent of designated urban lands, and 54 percent of designated rural/agricultural lands are in areas currently served by five public water purveyors. Realizing the vision for sustained economic growth in the remaining areas will depend on development of reliable, long-term water supplies.

GENERAL PLAN LAND USE DESIGN	DEMAND TYPE
Agricultural Land (AL)	Ag

GENERAL PLAN LAND USE DESIGN	DEMAND TYPES
Medium-Density Residential (MDR)	Ag* and M&I
Low-Density Residential (LDR)	Ag* and M&I
Rural Residential (RR)	Ag** and M&I



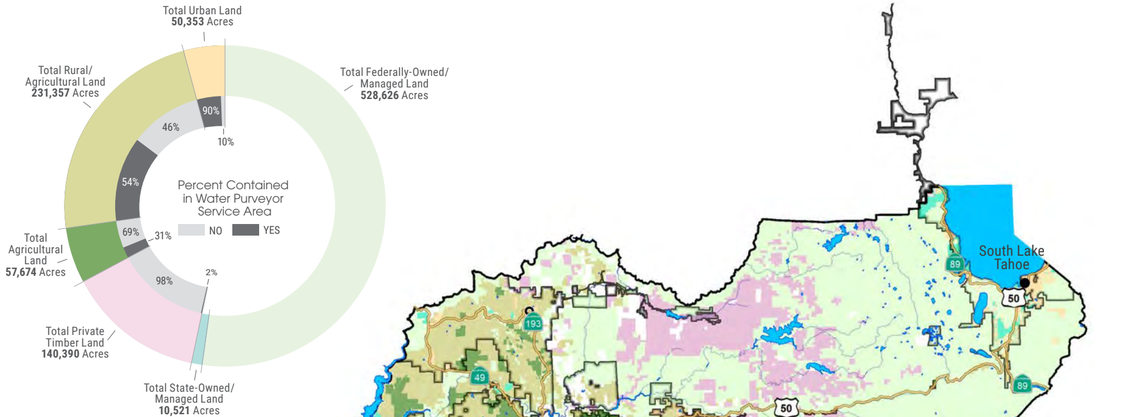
Urban	**50,353** Acres
Rural/Agricultural	**231,357** Acres
Agricultural	**57,674** Acres
Total	**339,384** Acres

GENERAL PLAN LAND USE DESIGN	DEMAND TYPE
Multifamily Residential (MFR)	M&I
High-Density Residential (HDR)	M&I
Commercial (C)	M&I
Research & Development (R&D)	M&I
Industrial (I)	M&I
Public Facilities (PF)	M&I
Tourist Recreational (TR)	M&I

Land Use
- Agricultural
- Rural/Agricultural
- Urban

Key
M&I: Municipal and Industrial
Ag: Agricultural
Ag*: Agricultural (Zones AG, PA, LA, RL, and RE (greater than 10 acres))
Ag**: Agricultural (Zones AG, PA, RL, LA, TPZ (greater than 10 acres), and RE (greater than 10 acres))

Zones per Zoning Ordinances:
AG: Agricultural Grazing
PA: Planned Agricultural
LA: Limited Agricultural
RL: Rural Lands
RE: Residential, Estate
TPZ: Timber Production



Reliable water supplies are foundational to ensure economic development and prosperity into the future. Today, a substantial portion of the land designated for economic development in the County of El Dorado General Plan is not served by a water purveyor.

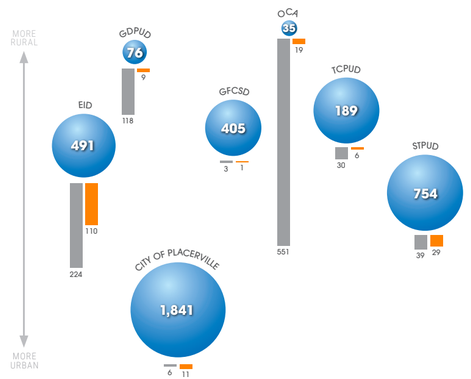
2.2 Roles and Responsibilities in Water Management

Many entities have active water management roles at the local or regional level including the Agency, County, public water purveyors, private water companies, and those that are considered self-supplied. The Agency is charged with developing a countywide water plan and participating in statewide water planning. It can negotiate contracts with the California Department of Water Resources; Reclamation; and other local, state, and federal agencies for water management and facility construction. The Agency works to protect existing uses of water rights on which water purveyors and their customers depend, and it applies for the use of additional water rights as needed for the beneficial use of future customers or to extend service boundaries to include existing landowners.

There are five public water purveyors in El Dorado County. El Dorado Irrigation District (EID), Georgetown Divide Public Utility District (GDPUD), and Grizzly Flats Community Services District (GFCSD) serve surface water in the West Slope. South Lake Tahoe Public Utility District (STPUD) serves groundwater, and Tahoe City Public Utility District (TCPUD) serves water from both groundwater and spring wells to the Lake Tahoe Basin. Additionally, EID wholesales water to the City of Placerville. These purveyors' service areas do not cover the entire El Dorado County. Residents, farms, ranches, and businesses outside the purveyors' boundaries primarily rely on groundwater. In the West Slope, shallow groundwater wells are used, and in the Lake Tahoe Basin, groundwater is extracted from either the Tahoe South or Tahoe West Subbasin.

The Agency collaborates with EID, GDPUD, GFCSD, STPUD, TCPUD, and the City of Placerville in water management. Currently, the Agency represents the Other County Area (OCA), comprised of areas in El Dorado County that fall outside federally-owned/managed land and a water purveyors' service area.

Water purveyors in El Dorado County have different population densities, suggesting their relative urban/rural characteristics. In comparison, the Other County Area (OCA) is the most rural.



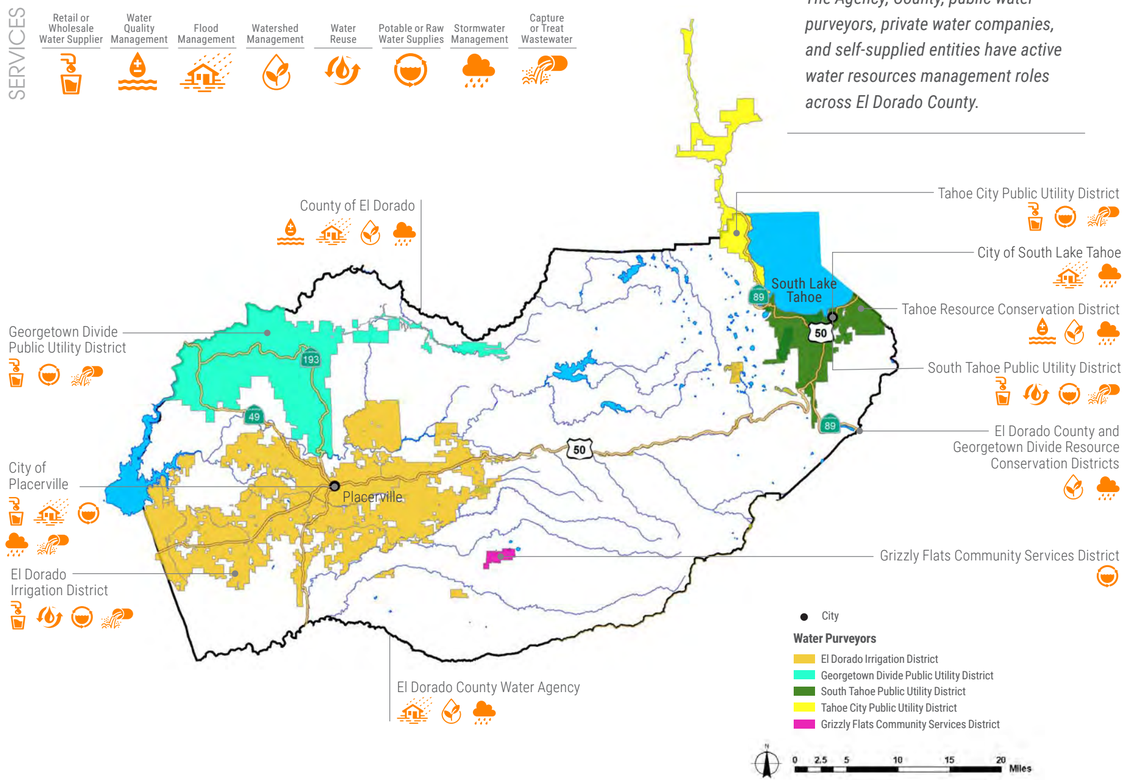
LEGEND AND SOURCES

Population Density (number of persons/square miles)

Total Service Area Including Area Outside El Dorado County (square miles)
(Source: County of El Dorado)

Total Population Including Area Outside El Dorado County (square miles)
(Source: 2015 El Dorado Irrigation District Urban Water Management Plan, 2015 Georgetown Divide Urban Water Management Plan, 2014 Grizzly Flats Community Services District Municipal Service Review, 2015 South Tahoe Public Utility District Urban Water Management Plan, 2015 Tahoe City Public Utility District Urban Water Management Plan, United States Census QuickFacts, City of Placerville Economic Development website)

Key
EID = Eldorado Irrigation District
GDPUD = Georgetown Divide Public Utility District
GFCSD = Grizzly Flats Community Services District
OCA = Other County Area
STPUD = South Tahoe Public Utility District
TCPUD = Tahoe City Public Utility District

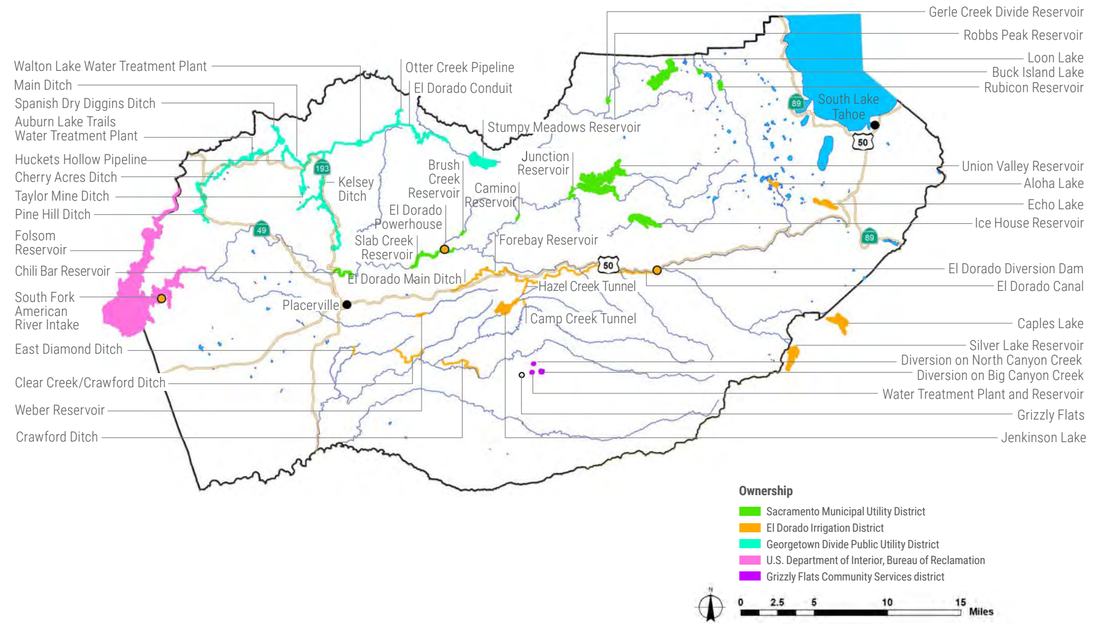


The Agency, County, public water purveyors, private water companies, and self-supplied entities have active water resources management roles across El Dorado County.

2.3 Major Water Infrastructure

The Agency does not own any water facilities at this time. The majority of El Dorado County water supplies originate as runoff from the Sierra Nevada snowpack.

In the West Slope, water is stored and distributed throughout El Dorado County for supply and hydropower generation purposes. Some of the water infrastructure in the Sacramento Municipal Utility District (SMUD) Upper American River Project is located in El Dorado County including 11 dams, 8 powerhouses to meet electricity demands, and Loon Lake (a major water storage reservoir). Folsom Reservoir is



owned and operated by Reclamation as part of the CVP to provide flood control, hydropower, and water supplies. EID owns and operates Jenkinson Lake Reservoir in Pollock Pines and Project 184 including Echo, Aloha, Caples, and Silver Lakes. According to EID's 2013 Integrated Water Resources Master Plan, EID also diverts its CVP contract water from Folsom Reservoir. GDPUD owns and operates Stumpy Meadows Reservoir east of Georgetown in addition to several ditches (GDPUD Ditch Water System Map). GFCSD owns and operates its own reservoir and diverts water from North Canyon Creek and Big Canyon Creek (GFCSD 2017 Water Supply and Demand Update). Some of the infrastructure owned by EID and GDPUD are from the Gold Rush era and consist of several wooden flumes used for conveyance.

In the Lake Tahoe Basin, snowmelt runoff recharges groundwater basins and drains into Lake Tahoe and then to the Truckee River. Water purveyors rely on the groundwater for water supply and lack other major water infrastructure. In the Lake Tahoe Basin, STPUD serves its customers from wells. TCPUD serves its customers from 10 groundwater and 2 spring wells.

Most rural areas in both the West Slope and the Lake Tahoe Basin are served from groundwater wells by either small private water companies or are self-supplied.

2.4 Environmental Protection

The County General Plan includes land use designations for integrated natural resource protection and management. Areas in El Dorado County that the Agency will help protect include several types of conservation areas:

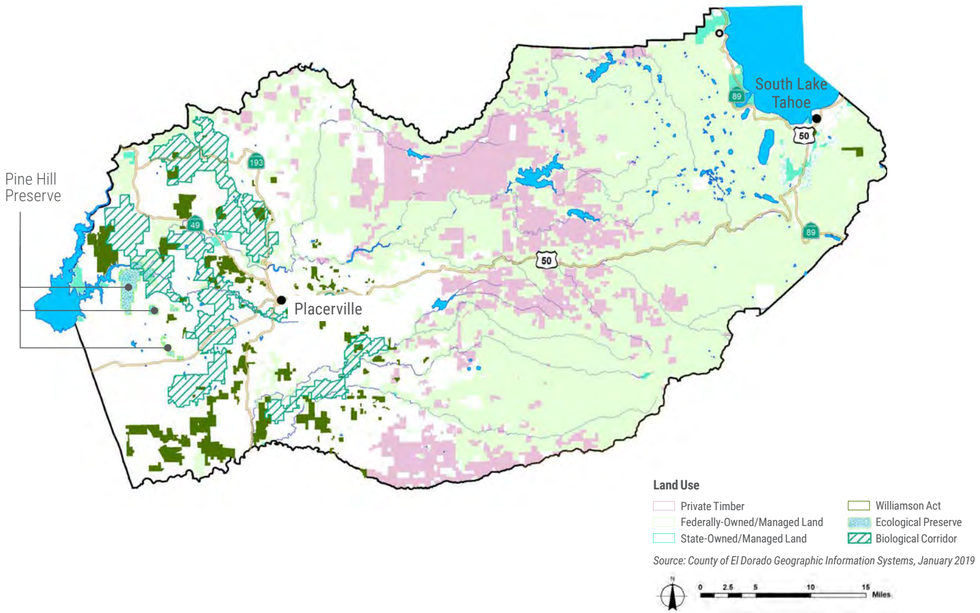
The Williamson Act – Enacted in 1965, this state law enables local governments to enter into contracts with private landowners to restrict specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments that are much lower than normal.

Biological Corridors – The Biological Corridors in El Dorado County apply to lands having high wildlife habitat values because of extent, habitat function, connectivity, and other factors. Biological Corridors are home to large mammals such as mountain lions, bobcats, mule deer, the American black bear, and coyotes.

Ecological Preserves – These lands have been or will be established as habitat preserves for rare or endangered plant and animal species, critical wildlife habitat, and natural communities of high quality or of statewide importance. These lands are in addition to the resources managed by state and federal agencies, such as national forests. Pine Hill Preserve is such an area because of the presence of rare plant species and habitats.

The Agency will also include conservation objectives in its integrated approach to sustainable water management.

The County of El Dorado General Plan recognizes the importance of protecting natural resources contained in the Williamson Act, Biological Corridors, and Ecological Preserves that are not managed by state or federal agencies. The Pine Hill Preserve is managed by the U.S. Department of the Interior, Bureau of Land Management.



SECTION

3

Challenges Ahead

Many have invested considerable time, effort, and funds to ensure continued water reliability and economic prosperity in El Dorado County over the years. But ever-changing conditions—both within and outside the direct control of local government and residents—mean that we must remain attentive and forward-thinking to prepare for the challenges that may lie ahead. Through the "lens" of the Agency's authority, these water resources-related challenges are summarized by category: water supply, water quality, and public health. These three inter-related issues in the West Slope and the Lake Tahoe Basin are shown below separately to highlight the differences in water resource management priority between these two regions. The rest of the section provides more detail.

Water-Resource Related Challenges in the West Slope

Water Supply			Water Quality			Public Safety
C1 Long-Term Water Supply-Demand Imbalance (3.1)	**C2 Vulnerability During Droughts (3.2)**	**C3 Loss of Water Supply Due to Other Resource Management Practices (3.3, 3.4, 3.5)**	**C4 Long-Term Water Quality Impacts Due to Wildfires (3.3)**	**C5 Water Quality Impacts Due to Stormwater Runoff (3.5)**	**C6 Limited Groundwater Resources (3.6)**	**C7 Loss of Life and Property Damages from Flooding (3.7)**
• Expected increase in demands and less reliable supplies from climate change and other factors, means demands are anticipated to exceed available supplies in the future. • The other county area is not serviced by a water purveyor; therefore they are at risk for supply-demand imbalances as they lack interconnections with others that could provide supplies during times of need.	• The other county area is vulnerable during droughts because they are dependent on a single source of water. • The other county area is not covered by existing drought plans. • More than 100 small public water systems are susceptible to the effects of drought.	• Dense forests prevent snow from reaching the ground, thereby decreasing snowpack and the resulting water supply available (snowmelt). • Stormwater is being managed as a hazard and for water quality compliance purposes but not as a potential resource for broader benefits. • Water infrastructure includes historic wooden canals that are susceptible to destruction by fires or landslides. Loss of these major convey-ance structures would hinder water deliveries.	• Increasing frequency and intensity of fires means both temporary and long-term water quality degradation would become more commonplace.	• Stormwater runoff may impact water quality, especially along the highway corridor. Overflow from wastewater treatment plants may impact the quality of surface water supplies, the City of Placerville is susceptible.	• Leakage from septic tanks could affect groundwater quality. Septic tanks and existing agricultural practices pose potential threats to local groundwater quality, although no significant issues have been identified to-date. • Contamination concerns on the West Slope include arsenic.	• Riverine flooding is not a substantial threat in the West Slope.

Level of Concern

High | Moderate High | Moderate Low | Low

Water-Resource Related Challenges in the Lake Tahoe Basin

Water Supply			Water Quality			Public Safety
C1 Long-Term Water Supply-Demand Imbalance (3.1)	**C2 Vulnerability During Droughts (3.2)**	**C3 Loss of Water Supply Due to Other Resource Management Practices (3.3, 3.4, 3.5)**	**C4 Long-Term Water Quality Impacts Due to Wildfires (3.3)**	**C5 Water Quality Impacts Due to Stormwater Runoff (3.5)**	**C6 Limited Groundwater Resources (3.6)**	**C7 Flooding Issues (3.7)**
• Parts of the Lake Tahoe Basin (OCA) are not serviced by a major water purveyor. These areas use the local groundwater supply. • The Lake Tahoe Basin surface water supply is subject to settlement of the Truckee River Operating Agreement and has a limited allocated water right.	• The Lake Tahoe Basin has little to no susceptibility to extended droughts, relying on both surface water and groundwater. • Existing drought ordinances do not provide coverage to the entire Lake Tahoe Basin. • The many small public water systems in the Lake Tahoe Basin are susceptible to the effects of drought such as temporary loss of water supply or decreased water quality.	• Forests continue to increase in density. Dense forests prevent snow from reaching the ground, thereby decreasing snowpack and the resulting water supply available to the Lake Tahoe Basin as groundwater via groundwater recharge. • Stormwater is presently being managed as a hazard and for water quality compliance purposes but not as a potential resource for broader benefits.	• Inappropriate forest management poses a threat of short-term water quality degradation resulting from wildfires.	• Stormwater runoff may impact water quality such as in Lake Tahoe and along the highway corridor.	• Septic tanks are not prevalent in the Lake Tahoe Basin, but leakage could affect groundwater quality. • Much of the Lake Tahoe Basin water supplies stems from regional snowmelt that infiltrates into the groundwater basin. • Perchloroethylene (PCE) contamination has been observed in the South Lake Tahoe Basin.	• Riverine flooding is not a substantial threat in the Lake Tahoe Basin.

Level of Concern

High | Moderate High | Moderate Low | Low

3.1 Water Supply-Demand Imbalance

In California, we live in a Mediterranean-type climate that is highly variable. Our precipitation is seasonal, with most of it occurring between November and March, and in the Sierra Nevada region, annual precipitation totals historically have fluctuated between about 50% to 200% normal from year to year.

Climate change is already underway, affecting heat and precipitation extremes, with long-term warming trends, declining snowpack, and changes in streamflow timing – all harbingers of much larger changes to come that will aggravate the existing water supply-demand imbalance both in El Dorado County and statewide.

On the supply side…

Historically, the ability to save water that comes in the winter for use in the hotter months is critical to California's economy and way of life. Engineered reservoirs can store some of what arrives in the form of rain, but not all of it. Snowpack is a natural water reservoir on which our water system depends. According to the 2018 Climate Change in the Sierra Nevada report, the Sierra Nevada provides more than 60 percent of the water used by communities, agriculture, and industry across the state, with mountain snowpack accounting for about half of this resource.

If nothing is done to address climate change, temperatures in the Sierra Nevada could increase by as much as 10°F (depending on the month and elevation) by the end of the 21st century, compared with 1981–2000. Such a change in temperature would alter the timing of runoff in the future, because warming causes a greater share of precipitation to fall as rain instead of snow, and rain runs off immediately. Warming also causes snow to melt faster.

Such changes mean that by the end of the century, the midpoint of runoff could 50 days earlier, on average, than in 1981–2000. With existing storage facilities and associated operational requirements, much of that water would be not be captured and less surface water would be available going into the summer months. Such reductions in summertime surface water availability place both natural and human communities at great risk, as well as elevate widespread wildfire risks.

> *Earlier, flashier runoff is harder to capture and store than a steady, dependable flow from gradual snowmelt.*

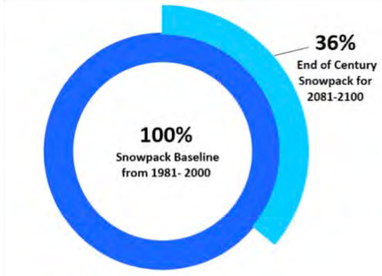
As a result of climate change, the water supplies available for California and the West Slope is anticipated to be less consistent and more difficult to manage. For the Lake Tahoe Basin surface water supply is subject to the settlement of the Truckee River Operating Agreement as it has a limited allocated water right. Under the Truckee River Operating Agreement the water purveyors in the Tahoe Basin have a total cap on their water right entitlement of 23,000 AF per year that is not currently maximized. To maximize their water right entitlement, water purveyors in the Lake Tahoe Basin are seeking to secure groundwater rights consistent with the settlement of the Truckee River Operating Agreement, an action that may prove difficult without the appropriate support.

On the demand side…

There are several components of the County General Plan that contribute to changes in water demands – among them population growth, economic development, agricultural usage, and water-based tourism and recreation. Some of these demand increases are seasonal – we often need more water in the summer months when temperatures are hotter, and our crops and gardens are thirstier – while others such as industrial and commercial uses are more constant year-round. As the ambient temperature further increases with climate change, even more water will be required to sustain those same crops and gardens.

The West Slope's prominent water demands stem from population growth, economic development and agriculture. As shown in Section 2, a large fraction of the West Slope is agricultural with vineyards, apples, miscellaneous deciduous, irrigated pasture and Christmas trees making up 93 percent of the total existing West Slope irrigated area. These crops are a bulk of what is produced, account for the bulk of water used, and are anticipated to have the greatest potential for West Slope agriculture expansion.

The Lake Tahoe Basin's prominent water demands stem from population growth, economic development and water based tourism. The Lake Tahoe Basin attracts a flux of visitors during the weekends and holidays. Therefore, water demands in the Lake Tahoe Basin are sporadic throughout the year as a result of visitors.



Source: UCLA Center of Climate Science, Climate Change in the Sierra Nevada, 2018

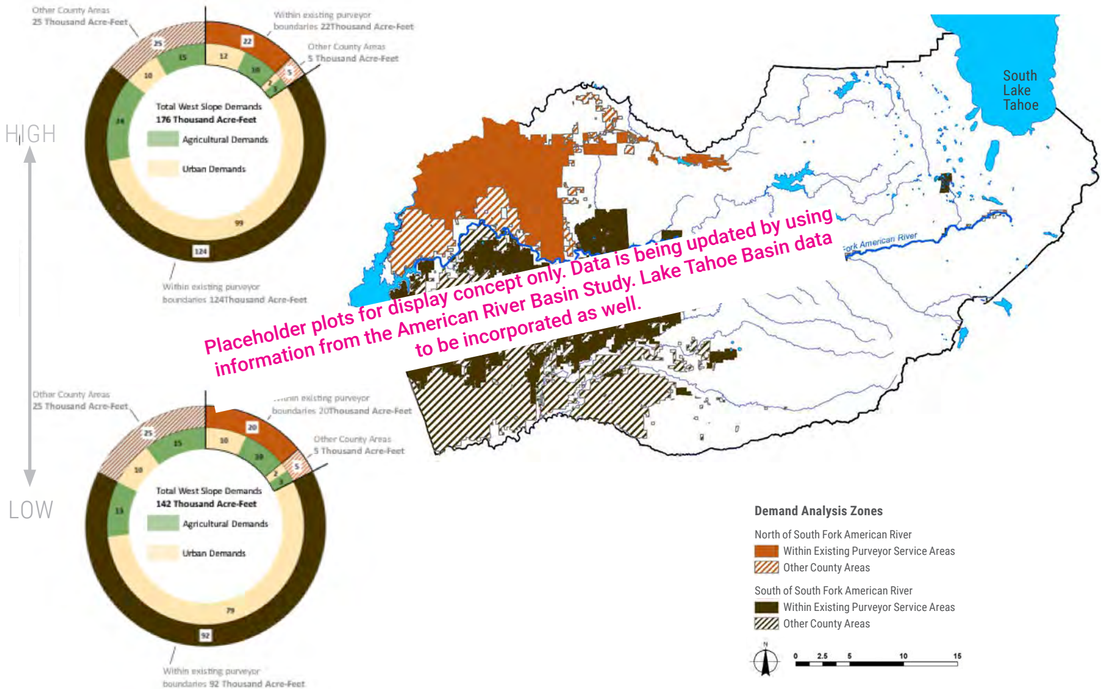
California measures the Sierra snowpack to assess the health of the water year. In the past, April 1 measurement has generally captured the snowpack at its peak, with later measurements reflecting snowmelt and runoff due to the spring thaw. By the end of the century, springtime snowpack on April 1 could be only 36 percent of what it was during an average year in 1981-2000. The most snow would be lost between 5,000 and 8,000 feet, and below 5,000 feet, April 1 snow would disappear almost entirely.

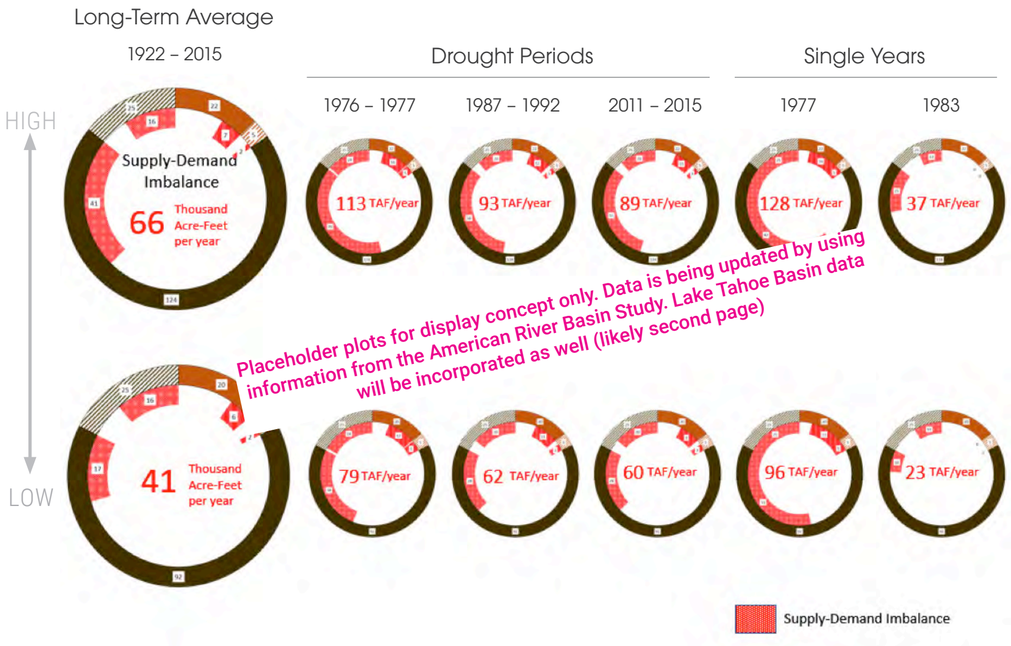
…and water conservation

To improve water conservation and drought planning, the California legislature and governor passed Senate Bill 606 (Hertzberg) and Assembly Bill 1668 (Friedman) into law in 2018. Collectively, these efforts provide a road map for all Californians to work together to ensure that we will have enough water now and in the future.

California Department of Water Resources, the State Water Resources Control Board, and other state agencies are working to further develop data, information, guidelines, and other technical assistance to help realize the bills' intended outcomes. These guidelines and requirements will affect urban water suppliers, small water suppliers and rural communities, and agricultural water suppliers, however many implementation specifics and required changes that may limit water supply availability for various uses are presently unknown.

Although the future can't be predicted, we know that no matter what actions are taken locally, statewide, nationally, and globally, we will experience some level of climate change impacts on water supplies and demands, so it is essential that we take a holistic approach in preparing to adapt.





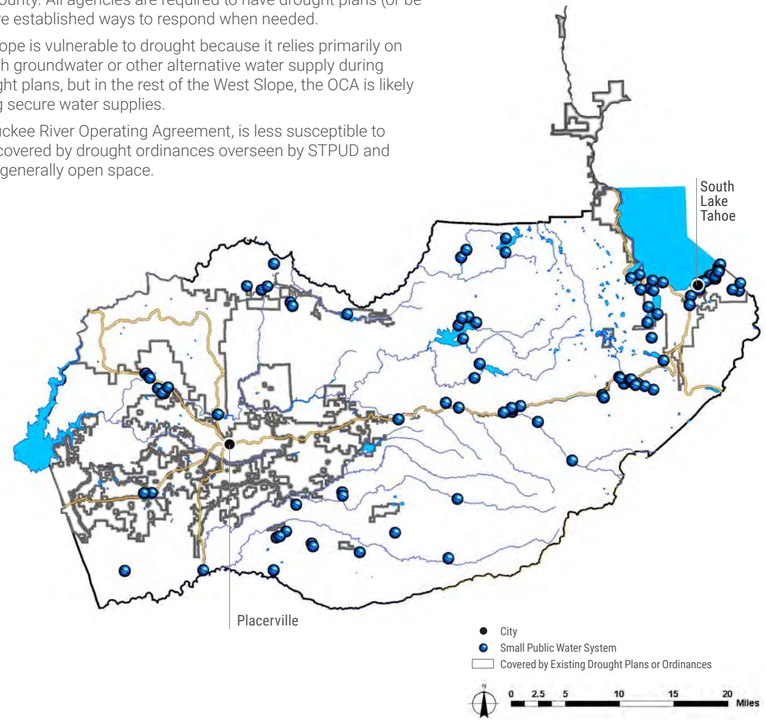
3.2 Vulnerability During Droughts

Water purveyors and agencies continue to actively plan for emergencies and extended droughts, and overall, there is broad coverage throughout El Dorado County. All agencies are required to have drought plans (or be in compliance with drought ordinances) and have established ways to respond when needed.

Through the lens of climate change, the West Slope is vulnerable to drought because it relies primarily on surface water and does not have access to much groundwater or other alternative water supply during drought. GFCSD, EID, and GDPUD oversee drought plans, but in the rest of the West Slope, the OCA is likely to experience hardships as a result of not having secure water supplies.

The Lake Tahoe Basin is managed under the Truckee River Operating Agreement, is less susceptible to drought conditions. The majority of this area is covered by drought ordinances overseen by STPUD and TCPUD, and the OCA in the Lake Tahoe Basin is generally open space.

Currently, the major water purveyors in El Dorado County have either a drought plan or drought ordinances to manage water supply shortages during droughts. However, the OCA is not actively managed by any agency. Many small public water systems permitted by the County in the West Slope are also vulnerable due to potential shortfalls in limited local groundwater supplies during droughts.



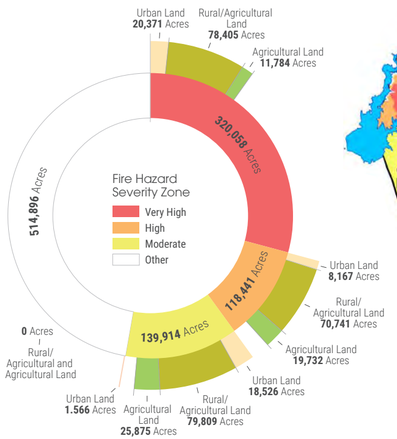
The County's Environmental Management Department oversees 119 small public water systems through the Small Water System Program. Among the the 119 small public water systems consist of 7 Community Water Systems, 10 Nontransient Noncommunity Water Systems, 95 Noncommunity Water Systems, 1 surface water Community Water System, and 6 surface water Noncommunity Water Systems. (See Glossary for definition of these systems.) These small public water systems serve a total population of more than 25,000 in both the West Slope and Lake Tahoe Basin. These small public water systems are often isolated and not connected to larger water purveyors and agencies, even if they are in close proximity. Therefore, these small public water systems have an increased likelihood of water supply impacts during drought conditions as well as reductions in the quality of groundwater when wells are used.

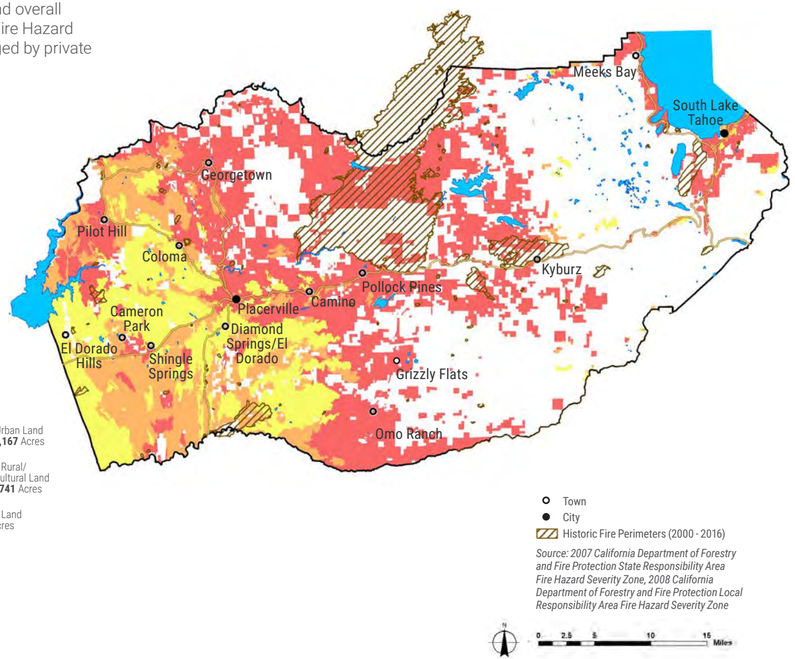
Additional info is under development.

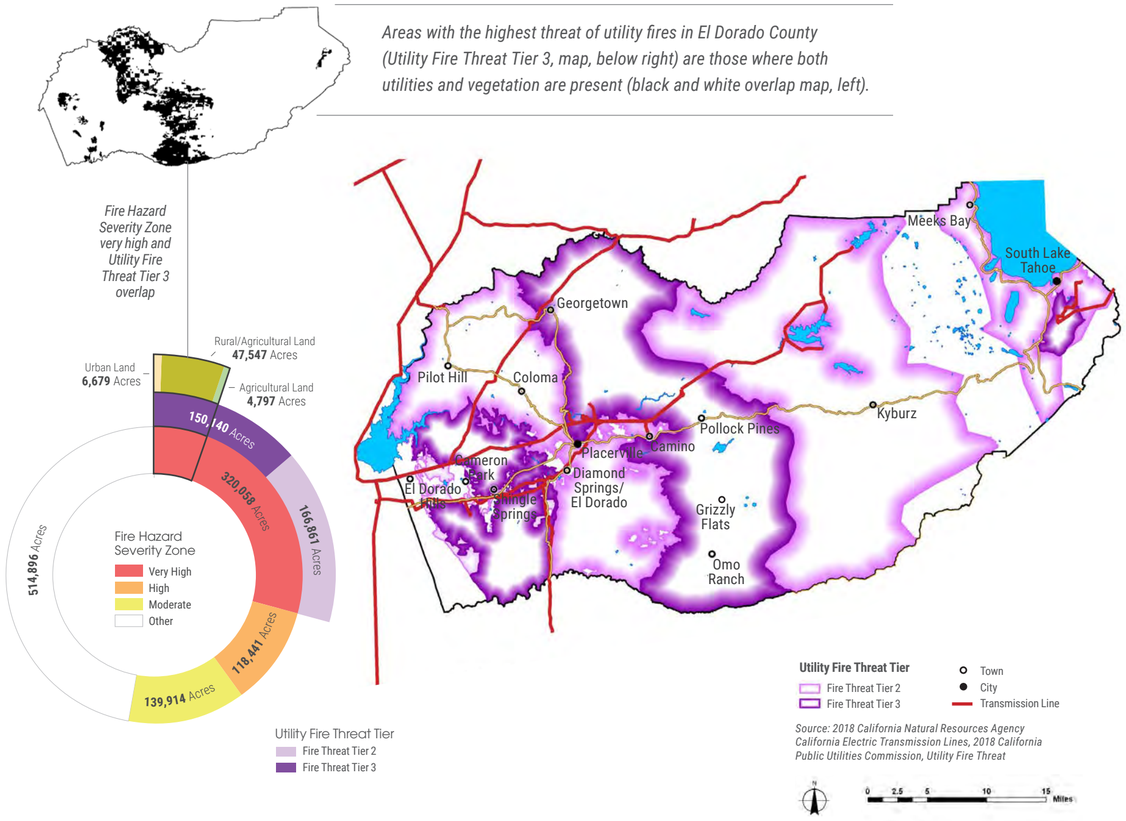
3.3 Wildfire Impacts

Wildfire damages and suppression costs have risen continuously over time. And the frequency, size, and intensity of these fires are expected to grow – another effect of climate change, overly dense forests, and prolonged drought. Loss of life and structures as a direct or proximate result of wildfires is at an all-time high. However, compared to statewide trends, El Dorado County has had fewer occurrences, accumulated acreage burned, and overall damages. Significant areas in the "very high" Fire Hazard Severity Zone are timber lands that are managed by private entities and federal lands in national forests.

Compared to statewide trends, El Dorado County is relatively less damaged by wildfires. However, potentially devastating risks exist for economic activities and human lives.







United States Geological Survey's study on *Historical Patterns of Wildfire Ignition Sources in California Ecosystems*, with continued fire prevention activities, wildfires can be effectively decreased in California, except for those caused by utility or transmission lines. It is in areas with both abundant vegetation (forests, grasses, agricultural activities, etc.) and utility transmission lines where the most devastating fires could occur. In recent years, the majority of wildfires of concern in the state (fires in Mendocino, Santa Barbara/Ventura, Sonoma, and Butte Counties in 2017 and 2018) are reported to be related to falling utilities and transmission lines, although official data on some of these fires are yet to be confirmed. In the past two decades in El Dorado County, only the Latrobe Fire in 2000 was caused by a power line. The Latrobe Fire was in the Tier 3 high hazard zone for utility fires recently published by the California Public Utilities Commission (CPUC).

El Dorado County agencies and residents, however, cannot overlook other potential causes of wildfire as well. As an example, the largest fire in El Dorado County – the 2014 King Fire – was caused by arson. Water resources-related impacts from wildfires can be direct or indirect, with both affecting the ability to reliably deliver water of acceptable quality. In El Dorado County, direct impacts on water supply are from the damage to water supply-related infrastructure (treatment facilities, powerhouses, conveyance, etc.), and indirect impacts include the increased risks for landslides, erosion, water pollution and flooding that can cause damage often realized long after the disaster.

As an unique aspect in El Dorado County, wooden flumes from the Gold Rush era and other delivery structures are particularly vulnerable to both direct impacts (destruction during a fire) and indirect impacts (damage from later mudslides originating at the burned site). These wooden flumes are major water conveyances in the West Slope, the interruption of water supply due to fire damage would be significant.

One critical lessons learned from the past forest wildfires is that the ever-increasing wildfires are also a symptom of improper forest management, and high concentrations of dead trees are often the effects of prolonged droughts (discussed in the next section, *Headwaters Management*).

3.4 Headwaters Management

Headwaters significantly contribute to California's water quality and water supply reliability. But variables such as climate change, increasing wildfires, groundwater overdraft, and reduced snowpack are looming and will threaten headwaters' ability to continue serving that purpose. El Dorado County is in the American River headwaters, and the health of the headwaters and its management could directly affect El Dorado County water supplies, especially in communities relying on local minor streams or springs. Proper managed American River headwaters could also have broader effects on statewide water supply because the American River flows regulated at Folsom Reservoir is a major source of statewide water supply.

Two areas of headwaters management are critical:

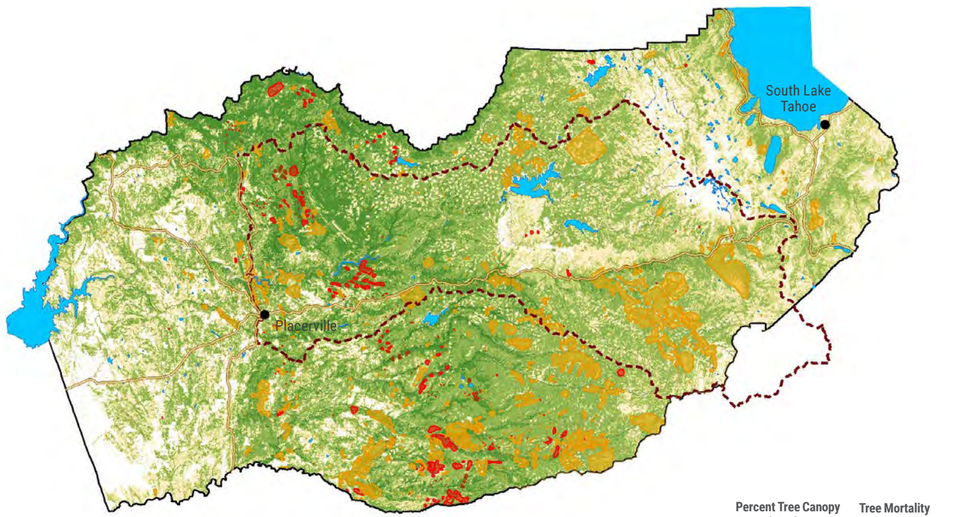
- (1) Meadow health that can affect water retention and water quality
- (2) Forest management to avoid high tree density with significant canopy cover that intercepts snowpack and reduces water retention.

El Dorado County is part of the Cosumnes, American, Bear, Yuba Integrated Regional Water Management region, and these headwaters management issues are included in that effort. However, forest thinning is not often considered or implemented. Decades of improper forest management have resulted in dense forests that not only affect water supply but also increase the threat of wildfires.

Exacerbating fire risk is the increased urban/wildland interface and prolonged drought conditions that have caused pervasive tree mortality across the Central and Southern Sierra Nevada. It is estimated that over 129 million trees have died since 2010, and this number continues to grow. El Dorado County is not immune to this epidemic and declared an emergency for unprecedented tree mortality in March 2016 due to drought conditions and related bark beetle infestations. The emergency declaration is still in effect today.

As part of the U.S. Forest Service-led National Cohesive Strategy for forest fire management, the South Fork American River Cohesive Strategy is being developed and implemented in collaboration with both federal and state management agencies. However, there are still sizeable areas in El Dorado County that need the same level of attention. In separate efforts, Yuba Water Agency and Placer County Water Agency recently launched their corresponding partnership in forest restoration with the US Forest Service, State Conservancy, non-profit organizations, academic research institute, water supply and hydropower owners, and private land owners to restore forest health and resilience and reduce wildfire risks. This activity could generate significant insights to entities in El Dorado County about adequate measures that are suitable for the Sierra Nevada for a sustainable forest management approach on a landscape scale.

The South Fork American River Cohesive Strategy covers the South Fork American River drainage area above the City of Placerville. Significant areas of El Dorado County are without organized efforts to improve conditions.



Percent Tree Canopy Cover (2011)
- 1 - 25%
- 25 - 50%
- 50 - 75%
- > 75%

Tree Mortality (Dead Trees per Acre)
- 5 - 15
- 15 - 40
- 40+

- City
- South Fork American River Cohesive Strategy

Source: 2018 Tree Mortality Task Force, 2011 U.S. Forest Service Percent Tree Canopy Cover

N

0 2.5 5 10 15 Miles

3.5 Stormwater as a Resource

For many years, stormwater was considered a nuisance to be managed to reduce pollution of rivers, lakes, and the ocean. Stormwater runoff tends to have limited water quality impacts in most of El Dorado County, and runoff tends to occur along transportation corridors. However, Lake Tahoe's largest source of pollution is urban stormwater runoff. Stormwater discharges are regulated through the National Pollutant Discharge Elimination System (NPDES) permits.

In El Dorado County, there are some impaired bodies of water on the Clean Water Act 303(d) list because they have high presence of mercury, aluminum, manganese, Escherichia coli (E. coli), invasive toxic species, sediment, or iron. This means that stormwater management is an important issue to protecting water quality and supply.

During intense rain events, wastewater treatment plants could present a risk to water quality if collection lines overflow or leak into nearby water bodies. The City of Placerville is an area where this risk is present.

Recent changes in state water management policy present the opportunity to treat stormwater as a different source of water that can be leveraged for reliability purposes, in particular, for groundwater recharge. In the Lake Tahoe Basin, groundwater recharge from stormwater occurs naturally, but the West Slope is more of a foothill setting with no significant groundwater capacity to realize such a potential benefit. Therefore, stormwater resource planning requires customization for these local conditions, as reflected in recently-completed stormwater resource plans for the West Slope (2018) and Tahoe-Sierra Region (2018). These plans recognize how stormwater can be used as an additional water resource but continued plan implementation efforts are needed.

3.6 Limited Groundwater Resources

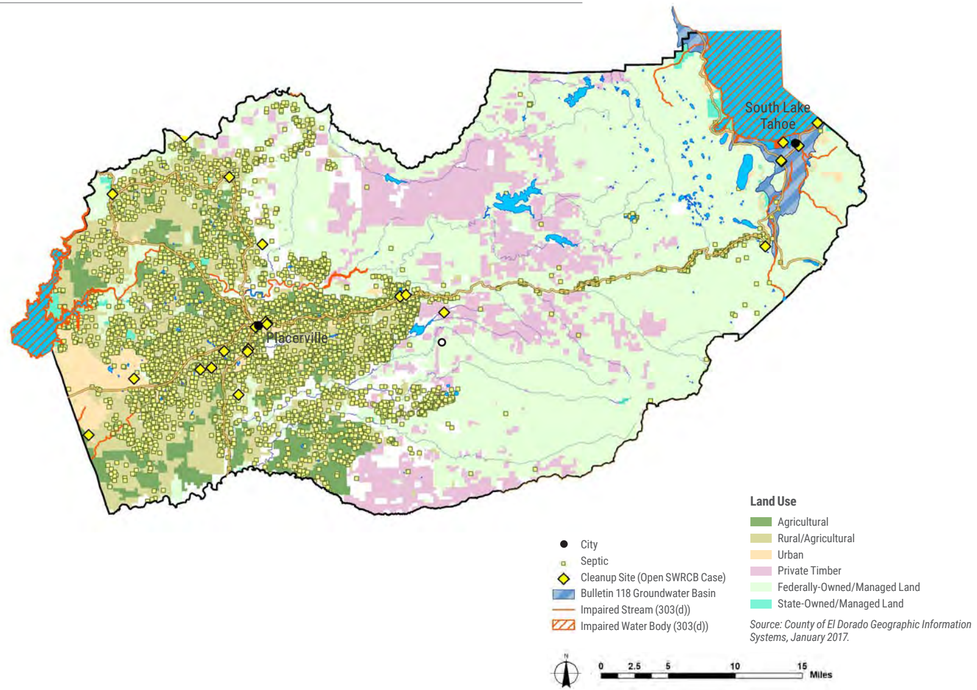
The only recognized groundwater basin in El Dorado County is in the South Lake Tahoe area, where it is the primary source of water supply for STPUD and other local water suppliers (small public water systems). This is the only groundwater basin in El Dorado County that is subject to the requirements and regulatory framework under the Sustainability Groundwater Management Act (SGMA). Currently, STPUD and the Agency are serving as the Groundwater Sustainability Agencies under SGMA for areas in and outside of the STPUD service area. Groundwater is replenished by local snowmelt and stream flows, meaning that recharge is sensitive to snowpack conditions and potential climate change effects.

Groundwater issues in the South Lake Tahoe Basin have included contamination from perchloroethylene (PCE). Since at least the 1980s, there has been a great deal of study on a PCE plume that has been slowly migrating from the "Y" area of South Lake Tahoe towards Lake Tahoe.

In the rest of the Lake Tahoe Basin and the West Slope, groundwater resources are shallow and localized. In these areas, groundwater provides limited water supply to existing agricultural practices and domestic uses from the permitted small public water systems.

This resource becomes potentially vulnerable in prolonged drought conditions and is also susceptible to potential contamination from the many septic tanks and agricultural water use throughout the West Slope along the highway corridor. In the past, there were reported incidents of septic tanks contaminating local water supplies. Although there have not been widespread incidents, it is worthwhile to monitor the water quality of shallow and localized groundwater resources. If there were widespread incidents, a different management approach would be warranted. Mobile home parks and other areas close to water bodies may pose greater contamination threats. In the West Slope, the naturally occurring arsenic can sometimes create water quality concerns, resulting in water supply challenges.

In general, water quality concerns in El Dorado County are low. However, pollution from major transportation corridors, prevailing septic tank use in the West Slope, and local agricultural practices still require close monitoring to protect surface water and groundwater resources.



3.7 Localized Flooding Hazards

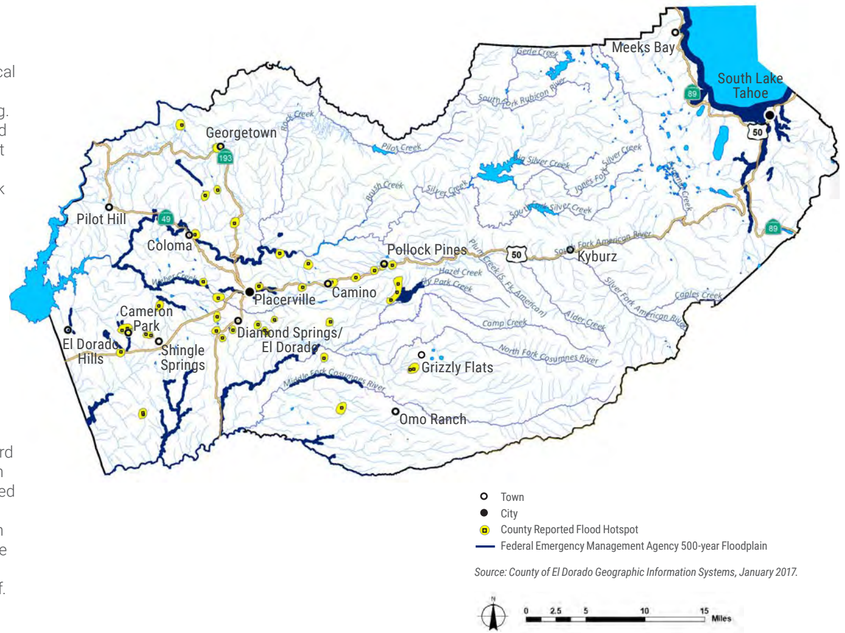
Overall, El Dorado County has a relative low level of flooding risk due to its terrain. The combination of West Slope hydrology, soils, and land-surface slopes means that this area sees more frequent and localized flooding than the Lake Tahoe Basin.

Drainage problems and occasional flooding have occurred in low-lying areas such as Cameron Park and similarly located communities. Any runoff generated is discharged into local creeks and tributaries, and that high flow contributes to occasional flooding. Culverts that are undersized or blocked with debris and sediment intensify that flooding, such as near Slate Creek in the Town of El Dorado and the Sly Park Portal Subdivision in Pollock Pines.

Localized flooding has not been reported in the Lake Tahoe Basin. But when there is both snow and rainfall, runoff is often generated as the rain cannot infiltrate the soil through the layer of snow.

There is a fragmented presence of the Federal Emergency Management Agency (FEMA) 500-year floodplain in El Dorado County. This floodplain is designated as a Moderate Flood Hazard Area, meaning that the areas are not in immediate danger from flooding caused by overflowing rivers or hard rains but are still at risk of floods. The floodplain closely follows some of the West Slope local rivers and streams, Lake Tahoe Basin tributaries, and Lake Tahoe itself.

Because of the terrain, El Dorado County is not at risk for widespread riverine flooding. Most flooding is localized, and hotspots are often related to capacity conveyance issues.

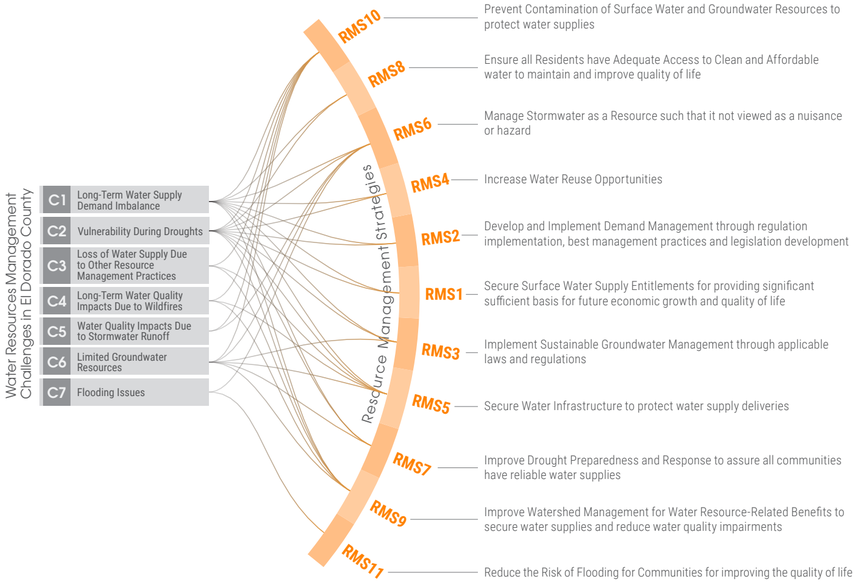


SECTION
4

Resource Management Strategies

Achieving the vision in the County General Plan requires a integrated approach and comprehensive strategies that accommodate continual changes in climate variability, regulatory environment, and progress made in various mitigation and adaptation actions. For an issue as vexing as water management, there is not a 1-to-1 relationship between a challenge and a management strategy or action. Partnerships with other regional/state/federal agencies cannot be overemphasized for successful implementation. However, we, resource managers in the County, have to take the initiatives.

Broad Resource Management Strategies (RMS) have been developed to help address identified water resource-related challenges, as described in Section 3. Each RMS represents ***what*** needs to be done on a broad, strategic level as well as ***who*** is (or are) primarily responsible for making it a reality. Correspondingly, the Agency has different roles and responsibilities that are consistent with the authority and the principles of engagement described in Section 1. The Agency's role may be to **lead**, **facilitate**, or **support** an RMS, or some combination of those roles with specific emphases and focused outcomes.



4.1 RMS1 – Secure Surface Water Supply Entitlements

At its core, water supply planning is about looking at all aspects of available water sources (yield, reliability, quality, infrastructure, cost, etc.). The basis for a surface water supply includes water rights and contract entitlements, and such a supply is subject to increasing hydrologic variability and regulatory constraints. Protecting existing water rights and contract entitlements from further reductions in reliability is as important as securing pending and planned water rights and contract entitlements – planning for robust economic development cannot leverage what doesn't yet exist. One example of such pending contract entitlement is the Public Law 101- 514 (Fazio) CVP Water Supply Contract that has been in-process since 1990.

Primary Challenges Addressed

C1 ***C2*** *C3* *C4* *C5* *C6* *C7*

RMS Actions	West Slope	Lake Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
1a. Secure Central Valley Project service contracts with Reclamation	X		EID, GDPUD, EDCWA	**L** – Complete contract negotiation and execution for 15-TAF CVP (Fazio) Service Contract **S** – Support water purveyors with other CVP contracts in engagement with Reclamation and federal advocacy (as needed)
1b. Secure water rights for projected needs	X	X	EID, GDPUD, GFCSD, STPUD, TCPUD, EDCWA	**L** – Acquire 40-TAF water right and integrate with use of Sacramento Municipal Utility District agreement **S** – Support of water purveyors in corresponding water right proceedings and activities (e.g. surface water and groundwater rights)
1c. Develop water infrastructure to meet projected needs	X	X	EID, City of Placerville, GDPUD, GFCSD, STPUD, TCPUD, EDCWA	**L** – Represent OCA in water supply planning **F** – Coordinate with water purveyors on water supply needs, based on Local Agency Formation Commission's sphere of influence planning area boundaries
1d. Manage and leverage Sacramento Municipal Utility District storage agreement	X		EDCWA	**L** – Administrate and manage Sacramento Municipal Utility District agreement for countywide benefits **F** – Coordinate with water purveyors on water needs , based on projected service needs
1e. Develop operational agreements as needed for flexible use of water supply entitlements	X	X	EID, City of Placerville, GDPUD, GFCSD, STPUD, TCPUD, EDCWA	**L** – Develop of agreement for use of Fazio contract and EDCWA-acquired entitlements **F** – Coordinate with water purveyors on compatible strategy for water use
1f. Determine water purveyors for OCA	X	X	County, EDCWA, El Dorado County Local Agency Formation Commission	**L** – Development of OCA water supply plan

Key

L = Lead – Assuming the responsibility in advancing an RMS
F = Facilitate – Organizing and assisting in advancing an RMS, but not directly responsible
S = Support – Providing as-needed coordination, advocacy, and occasional assistance

4.2 RMS2 – Develop and Implement Demand Management

Water is a precious resource, and it supports multiple beneficial uses directly and indirectly, both in El Dorado County and beyond. Responsible use of this limited resource is a shared duty of all Californians. A comprehensive approach to water use efficiency in M&I and agricultural uses is important to align with the statewide implementation of long-term water conservation policies. At the same time, local implementation of conservation policies should account for El Dorado County's unique conditions, availability of supplemental water, and complementary needs and planning for emergencies (e.g., severe droughts and wildfires).

Primary Challenges Addressed

C1 ***C2*** *C3* *C4* *C5* *C6* *C7*

RMS Actions	West Slope	Lake Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
2a. Review and update demands by incorporating regulatory changes and best management practices	X	X	City of Placerville, EID, GDPUD, GFCSD, STPUD, TCPUD, EDCWA	**L** – Update West Slope agricultural and M&I demands consistent with capacity condition specified in County's General Plan **F** – Coordinate development of countywide agricultural and M&I demands (including Tahoe Basin M&I demand fluctuation due to increasing visitation) consistent with capacity condition specified in the Regional Plan for the Tahoe Basin **S** – Support communications, public information sharing, and advocacy efforts
2b. Engage in development of statewide demand management policies, regulations, and legislation to ensure applicability in foothill and forested/ mountain communities and related to preservation of El Dorado County interests	X	X	City of Placerville, EID, GDPUD, GFCSD, STPUD, TCPUD, EDCWA	**L** – Participate in and contribute to development of state policy, regulation, and legislation **F** – Coordinate consistent messages and approach amongst water purveyors **S** – Support communications, public information sharing, and advocacy efforts

Key

L = Lead – Assuming the responsibility in advancing an RMS
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S = Support – Providing as-needed coordination, advocacy, and occasional assistance

4.3 RMS3 – Implement Sustainable Groundwater Management

SGMA defines sustainable groundwater management as the management of groundwater supplies in a manner that can be maintained during the planning and implementation horizon without causing undesirable results. Although groundwater is primarily used in the South Lake Tahoe area and is limited in other parts of El Dorado County, the principles of sustainable groundwater management apply everywhere it is used, and that is the focus of this strategy. For this strategy, the Agency has an oversight role in the West Slope (outside the STPUD service area) but a less prominent role in the Lake Tahoe Basin.

Primary Challenges Addressed

C1 ***C2*** *C3* *C4* *C5* ***C6*** *C7*

RMS Actions	West Slope	Lake Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
3a. Manage groundwater basin consistent with SGMA and other applicable laws and regulations	X		STPUD, EDCWA	**F** – Coordinate development and implementation of Tahoe Valley South Basin Groundwater Sustainability Plan, working with STPUD as the Groundwater Sustainability Agency in that basin **S** – Support communications and public information sharing
3b. Engage in development of statewide sustainable groundwater management policies, regulations, and legislation related to preservation of El Dorado County interests	X	X	STPUD, EDCWA, County	**F** – Coordinate consistent messages and approach with STPUD and other groundwater users in El Dorado County **S** – Support communications, public information sharing, and advocacy efforts
3c. Conduct groundwater monitoring and condition assessments	X	X	EDCWA, County	**F** – Coordinate with County on groundwater management approach and provide assistance for continued groundwater monitoring and condition assessments (as needed) **S** – Support communications and public information sharing

Key

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F = Facilitate – Organizing and assisting in advancing an RMS, but not directly responsible
S = Support – Providing as-needed coordination, advocacy, and occasional assistance

4.4 RMS4 – Increase Water Reuse

Where possible, water reuse should be considered. In the long run, use of recycled water (water reuse) can be separated into two categories – ***potable reuse*** (recycled water used to augment drinking water supplies and including both indirect and direct uses) and ***non-potable reuse*** (all recycled or reclaimed water applications except those related to water supply augmentation and drinking water). Currently, non-potable reuse in El Dorado County is mostly limited to landscape applications. In the Lake Tahoe Basin, both the terrain and cost effectiveness may limit opportunities to implement water reuse, especially for TCPUD, as wastewater from the portion of its service area in El Dorado County is collected and treated by another agency down slope from TCPUD.

Primary Challenges Addressed

C1 ***C2*** *C3* *C4* *C5* *C6* *C7*

RMS Actions	West Slope	Lake Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
4a. Explore potential for and implement potable reuse	X	X	City of Placerville, EID, STPUD, County	**S** – Support communications, public information sharing, and advocacy efforts **S** – Support state and federal grant applications (where appropriate)
4b. Increase non-potable reuse (including instream flow augmentation)	X	X	City of Placerville, EID, STPUD, County	**S** – Support communications, public information sharing, and advocacy efforts **S** – Support state and federal grant applications (where appropriate)

Key

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S = Support – Providing as-needed coordination, advocacy, and occasional assistance

4.5 RMS5 – Secure Water Infrastructure

The lifespan of any infrastructure is finite, and the consequences of neglected infrastructure can be expensive, wasteful, and harmful. Owners of water infrastructure in El Dorado County must responsibly continue with their ongoing operations, maintenance, repair, and rehabilitation to ensure that existing facilities are working properly, are safe, are free from contaminants, and are cleared of nearby hazards. New infrastructure that augments water supply reliability and flexibility and reduces risks to water supply and quality should also be investigated and developed (where appropriate).

Primary Challenges Addressed

C1 ***C2*** ***C3*** ***C4*** *C5* ***C6*** *C7*

RMS Actions	West Slope	Lake Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
5a. Ensure water infrastructure integrity, operations, and maintenance through agency-specific Capital Improvement Programs	X	X	City of Placerville, EID, GDPUD, GFCSD, STPUD, and TCPUD	**S** – Support advocacy efforts **S** – Support state and federal grant applications (where appropriate)
5b. Develop new high mountain storage to increase water supply reliability	X		EDCWA, County, City of Placerville, EID, GFCSD	**L** – Develop Congressionally-authorized Alder Creek Water Storage and Conservation Project with Reclamation
5c. Reduce vulnerability of water infrastructure to large-scale wildfires	X	X	City of Placerville, EID, GDPUD, GFCSD, STPUD, TCPUD	**F** – Compile list of at-risk water infrastructure based on owner input **S** – Support advocacy efforts; support state and federal grant applications (where appropriate)
5d. Develop post-fire water quality management plan	X	X	City of Placerville, EID, GDPUD, GFCSD, STPUD, TCPUD	**S** – Support communications, information sharing, and advocacy efforts

Key

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S = Support – Providing as-needed coordination, advocacy, and occasional assistance

4.6 RMS6 – Manage Stormwater as a Resource

No longer perceived as a hazard, stormwater is a recognized alternative source of water in the context of integrated water management. Stormwater Resource Plans for the West Slope and Tahoe-Sierra Region were developed as the beginning of this new approach in El Dorado County, thereby providing eligibility for future state financial assistance. Implementation of the new approach requires additional organizational and budgetary support.

Primary Challenges Addressed

C1 ***C2*** *C3* *C4* ***C5*** ***C6*** ***C7***

RMS Actions	West Slope	Lake Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
6a. Update Stormwater Resource Plans	X	X	City of Placerville, County, City of South Lake Tahoe, Tahoe Resource Conservation District	**L** – Update West Slope Stormwater Resource Plan and provide program management support with implementing agencies **F** – Coordinate with implementing agencies on update of Tahoe-Sierra Region Stormwater Resource Plan **S** – Support communications, information sharing, and advocacy efforts **S** – Support state and federal grant applications (where appropriate)
6b. Implement water quality control measures to address runoff from highways, streets, and other priority impervious areas	X	X	City of Placerville, County, City of South Lake Tahoe	**S** – Support communications, information sharing, and advocacy efforts
6c. Implement Stormwater Management Plan (now also as part of the stormwater resource plan), and implement California Municipal Separate Storm Sewer Systems Permits – Phase I (Lake Tahoe Basin) and Phase II (West Slope)	X	X	City of Placerville, County, City of South Lake Tahoe	**S** – Support communications, information sharing, and advocacy efforts

Key

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S = Support – Providing as-needed coordination, advocacy, and occasional assistance

4.7 RMS7 – Improve Drought Preparedness and Responses

California is drought-prone, and climate change could further increase the frequency, duration, and intensity of future droughts. Many small public water systems and rural communities in El Dorado County are extremely vulnerable during extended droughts. Recurring situation assessments and improvements are critical to ensure all county residents have adequate water supplies and preserve options to leverage available state and federal assistance when necessary.

Primary Challenges Addressed

C1 ***C2*** *C3* *C4* *C5* ***C6*** *C7*

RMS Actions	West Slope	Lake Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
7a. Expand current agency-specific drought plans to address drought planning requirements specified in Assembly Bill 1668/Senate Bill 606	X	X	EID, GDPUD, GFCSD, STPUD, TCPUD, EDCWA	**L** – Develop and update plan for OCA (as necessary) **F** – Coordinate consistency of drought planning efforts in El Dorado County **S** – Support communications, information sharing, and advocacy efforts
7b. Include droughts as a hazard in County's Multi-Jurisdictional Hazard Mitigation Plan for emergency response coordination and potential future FEMA assistance	X	X	County	**F** – Coordinate plan development with County's Long Range Planning department **S** – Support communications, information sharing, and advocacy efforts
7c. Conduct vulnerability assessments for small water systems and rural communities	X	X	County, EDCWA	**L** – Develop vulnerability assessments **S** – Support communication, information sharing, and advocacy efforts
7d. Develop countywide plan for addressing drought vulnerability for small public water systems and rural communities	X	X	County, EDCWA	**L** – Develop countywide plan **S** – Support communications, information sharing, and advocacy efforts
7e. Develop West Slope Regional Drought Contingency Plan to coordinate and align all drought plans in West Slope	X		EDCWA	**L** – Develop West Slope Regional Drought Contingency Plan per Reclamation's WaterSMART Program guidance and requirements

Key

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F = Facilitate – Organizing and assisting in advancing an RMS, but not directly responsible
S = Support – Providing as-needed coordination, advocacy, and occasional assistance

4.8 RMS8 – Ensure All Residents Have Water Accessibility and Affordable Water

California led the nation in recognizing the human right to water. As stated in California Water Code Section 106.3, it is "…the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes." The legislative intent is consistent with water management policy in El Dorado County, as reflected in the Agency's mission statement. To protect its residents and foster the economic development, It is essentials that sufficient, safe, acceptable, physically accessible, and affordable water for personal and household use. This also requires collaboration of many departments and agencies. It is also recognized that the provisions in Proposition 218 of 1996 prohibits the public water agencies to providing a subsidized rate for low-income households, creating significant obstacle for the implementation. At the state level, implementation details are currently under development, so it is critical to understand needs throughout the county and continue working with state agencies and other communities to formulate adequate implementation strategies and protocols.

Primary Challenges Addressed

C1 ***C2*** *C3* *C4* *C5* *C6* *C7*

RMS Actions	West Slope	Lake Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
8a. Assess challenges in water accessibility and affordability in El Dorado County (Human Right to Water, California Water Code Section 106.3)	X	X	City of Placerville, County, EID, GDPUD, GFCSD, STPUD, TCPUD	**F** – Coordinate with County to conduct situation assessment **S** – Support communications, information sharing, and advocacy efforts
8b. Participate in statewide efforts to develop policy, regulations, and legislation related to water affordability that is workable for specific communities	X	X	City of Placerville, County, EID, GDPUD, GFCSD, STPUD, TCPUD, EDCWA	**L** – Represent OCA **F** – Coordinate with purveyors as cooperating party to improve affordability and accessibility **S** – Support communications, information sharing, and advocacy efforts

Key

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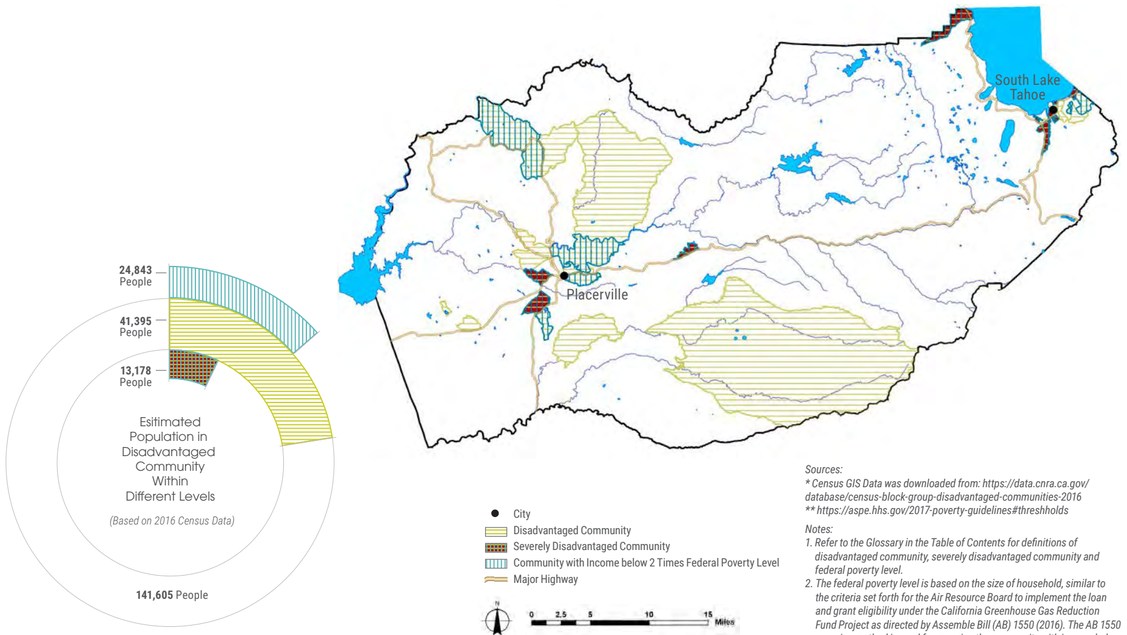
S = Support – Providing as-needed coordination, advocacy, and occasional assistance

The implementation of the 2014 human rights to water legislation is under development. In the draft recommendation to the legislature, the State Water Resources Control Board is proposing households with income below 2 times the federal poverty level to be eligible for the the Low-Income Water Rate Assistance Program. The corresponding communities are mapped together with the Disadvantaged Community and the Severely Disadvantaged Community in El Dorado County.



Sources:
** Census GIS Data was downloaded from: https://data.cnra.ca.gov/database/census-block-group-disadvantaged-communities-2016*
*** https://aspe.hhs.gov/2017-poverty-guidelines#threshholds*

Notes:
1. *Refer to the Glossary in the Table of Contents for definitions of disadvantaged community, severely disadvantaged community and federal poverty level.*
2. *The federal poverty level is based on the size of household, similar to the criteria set forth for the Air Resource Board to implement the loan and grant eligibility under the California Greenhouse Gas Reduction Fund Project as directed by Assemble Bill (AB) 1550 (2016). The AB 1550 mapping method is used for mapping the community with income below 2 times federal poverty line.*

4.9 RMS9 – Improve Watershed Management for Water Resource-Related Benefits

Successful watershed management integrates and coordinates activities that affect a watershed's natural resources and water quality in a comprehensive manner. It requires the expertise, authorities, engagement, and actions of multiple agencies and organizations involved in land use, water management, and related efforts, meaning that no one entity can accomplish it alone. Watershed management is broad in both scope and geographic coverage. Many watershed management actions may have direct (or indirect) effects on water availability and quality; however, while both the County and the Agency will advise and assist with broad watershed management, many state and federal agencies are ultimately responsible for forest and headwater health. As such, collaboration and observation roles and responsibilities are important in implementation of watershed management.

Primary Challenges Addressed
C1 ***C2*** ***C3*** ***C4*** *C5* ***C6*** *C7*

RMS Actions	West Slope	Lake Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
9a. Implement headwater meadow restoration for water retention and quality management	X	X	USFS, CABY and Tahoe Sierra IRWMs implementing agencies	**S** – Participate in and provide funding support to Cosumnes, American, Bear, Yuba (CABY) and Tahoe Sierra Integrated Regional Water Management (IRWM efforts) **S** – Support communications and information sharing efforts
9b. Implement invasive species management	X	X	El Dorado County Noxious Weed Group; Lake Tahoe Basin Weed Coordinating Group	**S** – Support communications and information sharing efforts
9c. Cooperate with US Forest Service (USFS) and Bureau of Land Management (BLM) on improving forest management for water retention and fuel management, including potential forest thinning and dead tree removal	X	X	USFS, BLM	**F** – Participate in the South Fork American River Cohesive Strategy Group and explore feasibility of establishing similar groups for remainder of El Dorado County **F** – Coordinate with other entities for information on water retention and overall water supply benefits from forest thinning in Sierras (Northern portion of California) **S** – Support communications and information sharing efforts
9d. Expand options for utilizing and disposing of woody biomass	X	X	County, EID, GDPUD, STPUD, TCPUD	**F** – Facilitate efforts of implementation agencies
9e. Develop policies, implementation protocols, and possible incentives to assist individual homeowners or landowners with onsite fuel management	X	X	County, EID, GDPUD, STPUD, TCPUD	

Key

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4.10 RMS10 – Prevent Contamination of Surface Water and Groundwater Resources

Overall, El Dorado County's surface water and groundwater are of good quality. But it is critically important to maintain the water quality we currently enjoy. Contamination of water supplies – either surface water or groundwater – can have dire consequences. It can restrict potable uses, exacerbate the existing supply-demand imbalance, be expensive to remediate, have negative effects on the environment, and impact agriculture and recreation thereby endangering economic prosperity in the long run.

Primary Challenges Addressed

C1 ***C2*** *C3* *C4* ***C5*** ***C6*** ***C7***

RMS Actions	West Slope	Lake Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
10a. Implement applicable laws and regulations	X	X	County, EID, GDPUD, STPUD, TCPUD	**S** – Support communications, information sharing, and education efforts
10b. Apply advanced technologies for water quality monitoring (surface water and groundwater), including remote sensing, for areas susceptible to water quality problems	X	X	County, El Dorado County Agricultural Water Quality Management Corporation, EID	**F** – Facilitate innovation and pilot for advanced technology
10c. Monitor septic tanks for potential contamination	X	X	County, GDPUD, EID	**F** – Coordinate with County and City of Placerville on development of regular status summary or website information
10d. Identify potentially vulnerable sewage lines	X	X	City of Placerville, County, EID, GDPUD, STPUD, TCPUD	**S** – Support communications, public information sharing, and advocacy efforts
10e. Manage agricultural practices to reduce potential contamination of local shallow groundwater	X	X	County, RCDs	**F** – Coordinate with County to summarize and potentially visualize information on monitoring data and relevant info **S** – Support communications, public information sharing, and advocacy efforts **S** – Support grant applications for monitoring and best management practices implementation (where appropriate)
10f. Manage and inspect septic tanks to reduce potential groundwater contamination (and/or surface water contamination)	X	X	County, GDPUD, EID	**F** – Coordinate with County to maintain information on monitoring data, and relevant info **S** – Support communications, public information sharing, and advocacy efforts
10g. Conduct public outreach and education activities to encourage prevention of water supply contamination	X	X	City of Placerville, County, EID, GDPUD, STPUD, TCPUD	**S** – Support communications, public information sharing, and advocacy efforts

Key

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4.11 RMS11 – Reduce the Risk of Flooding for Communities

Flooding in El Dorado County is usually localized due to the terrain and headwater location. However, climate change may result in more extreme flooding conditions, with expanded areas of impact and increased severity as well as potential effects on critical infrastructure (including major water facilities). Continued flood management efforts are critical for local communities and may produce additional benefits to downstream communities outside of El Dorado County.

Primary Challenges Addressed

C1 *C2* *C3* *C4* *C5* *C6* ***C7***

RMS Actions	West Slope	Lake Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
11a. Develop inventory of water facilities in El Dorado County at risk of flooding	X	X	County, EID, GDPUD, STPUD, TCPUD	**F** – Coordinate with facility owner to develop a status summary and update regularly
11b. Reduce localized flooding	X		City of Placerville, County	**S** – Support communications, public information sharing, and advocacy efforts
11c. Develop and implement flood risk reduction projects as outlined in the Stormwater Resource Plan	X		City of Placerville, County, City of South Lake Tahoe	**S** – Support communications, information sharing, and advocacy efforts – See RMS6a for relevant actions
11d. Participate in National Flood Insurance Program	X	X	City of Placerville, County, City of South Lake Tahoe	**S** – Support communications, public information sharing, and advocacy efforts
11e. Design and size existing and future infrastructure to be adaptable to climate change	X	X	County, EID, GDPUD, GFCSD, STPUD, TCPUD	**S** – Support communications, public information sharing, and advocacy efforts

Key

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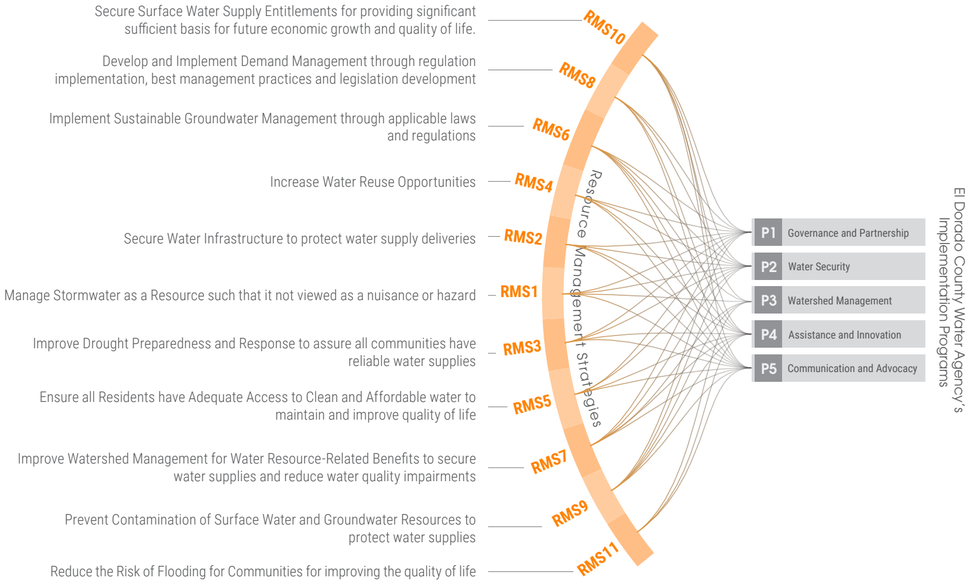
SECTION

5

Implementation

Implementation of the 2019 WRDMP will be a continual, incremental, and adaptive process. Some progress has already been made, other actions will be underway or completed before the next update of the WRDMP in 2024, and still others will require more time to develop and implement, not being finished in the next 20 years.

The RMSs and actions proposed in Section 4 are wide-ranging, and their implementation will be a shared responsibility requiring both organization and coordination. The Agency will play a vital role in advancing actions that are consistent with its authorities and priorities, and it will need to develop policies and guidance for its continued involvement, to evaluate progress, and to focus its efforts. This section delineates the ***how*** and the ***when*** for the Agency's involvement in water resources development and management in El Dorado County. In concert with the efforts of other local/regional and federal entities, the vision in the County General Plan can be fulfilled.



5.1 Implementation Programs

To do its part in furthering the RMSs and actions outlined in the previous section (Section 4), the Agency has created five implementation programs:

- **Governance and Partnership**
- **Water Security**
- **Watershed Management**
- **Assistance and Innovation**
- **Communications and Advocacy**

These programs align with the Agency's authorities are reflective of its levels of engagement in the strategies and actions. Together, the programs encompass the work required of the Agency.

Governance and Partnership Program

The Governance and Partnership Program is focused on how the Agency will function throughout WRDMP implementation. The extent of this program is defined by the Agency's authority in the 1959 Water Agency Act, and it includes the Agency's involvement in progressing RMSs, actions, water sales agreements, coordinated operations, and other water-related efforts. Initial program activities include the strategic formation of a governing body (or authority) for WRDMP implementation and building capacity to support future Agency activities. Although this program is envisioned to be a lesser financial investment than others (i.e., Water Security Program), it is extremely important to taking care of El Dorado County as a whole.

Water Security Program

The Water Security Program focuses on the Agency's effort to prepare El Dorado County for an uncertain water future, and it is the most important program for the Agency. It encompasses the Agency's role in the ongoing water supply and demand gap analysis, water supply development, drought protection and response, developing stormwater as a resource, flood management, and water quality. This program is at the center of the Agency's work, likely requiring the most effort and the greatest financial investment.

The Agency's five implementation programs are mutually supportive and guided by the adopted policies and guidance, providing a focus on outcomes to benefit the communities in El Dorado County.

Watershed Management Program

The Agency has broad authority to engage in water management actions in water supply, water quality and flood management. It is more likely to take a supporting (rather than leading) role in watershed management and primarily in areas with direct correlations to water management. As such, the Agency's Watershed Management Program involves participating in actions that meaningfully contribute to long-term water supply reliability and water quality protection for El Dorado County, in the areas of headwater management, water quality management for rural and agricultural communities, and habitat and other ecosystem function enhancement.

Assistance and Innovation Program

Innovation is the key to continued improvement of both the understanding and management of water resource-related challenges. Through the Assistance and Innovation Program, the Agency aims to encourage the development and use of innovative ideas in water planning and management, as well as provide technical and educational assistance to other entities involved in RMS and action development and implementation. At present, the Agency's ability to provide direct financial assistance is limited, but it may explore alternative mechanisms that are within its authority.

Communications and Advocacy Program

The intent of the Communications and Advocacy Program is to coordinate efforts throughout El Dorado County so they are more consistent, efficient, and effective. It consists of public information, countywide communications, and federal and state advocacy related to water resource issues and management. This program is crucial to WRDMP implementation, and while it will sometimes require a considerable time investment, it will be a lesser financial investment than other programs.

"Ensuring WATER SECURITY at the local level includes efforts to conserve and use water more efficiently, to protect or create habitat for local species, to ensure food security, to recycle water for reuse, to capture and treat stormwater for groundwater recharge and reuse, and to remove salts and contaminants from brackish or contaminated water or from seawater. But, mostly it requires integrating disparate or individual government efforts into one combined regional commitment where the sum becomes greater than any single piece."

– California Water Action Plan, 2016 Update

5.2 Implementation Policies

For the implementation, the Agency's Board of Directors (Board) has adopted the following policies that affirm the purposes of the WRDMP and the adaptive management for its long-term implementation.

- **Policy WRDMP-01:** The WRDMP shall be the countywide water plan to support the realization of the vision established in the County's General Plan.
- **Policy WRDMP-02:** The WRDMP shall include resource management strategies to improve water resources management in El Dorado County, with anticipated economic and public benefits accrued in all communities throughout El Dorado County.
- **Policy WRDMP-03:** The WRDMP shall identify and prioritize the Agency's implementation actions and priorities consistent with the authority and roles provided by the 1959 El Dorado County Water Agency Act.
- **Policy WRDMP-04:** The implementation of the WRDMP shall be based on collaborative principles for developing partnership with regional, state, and federal agencies who share resource management responsibilities and cooperate in creating mutual benefits.
- **Policy WRDMP-05:** The WRDMP shall be updated every 5 years by June 30 in years ending in 4 and 9 to address changed conditions, assess progress of implementation, and realign priorities of the Agency's actions.

The Board also adopted the following guidance for the Agency's implementation of the WRDMP.

- **Guidance WRDMP-01:** The Agency shall convene a chartered Countywide Plenary for Water (Plenary) to foster collaboration on the water resources development and management in El Dorado County. The Agency shall convene the Plenary twice per year with representation from, at a minimum, the County's planning department, cities, water purveyors, and other water-resource related resource management entities.
- **Guidance WRDMP-02:** The Agency shall develop alternative revenue sources to support incentives and innovations to improve countywide water management.
- **Guidance WRDMP-03:** The Agency shall maximize available state and federal technical and financial assistances in implementation actions, where feasible.
- **Guidance WRDMP-04:** The Agency shall allocate cost of project development and implementation fairly among beneficiaries.
- **Guidance WRDMP-05:** The Agency shall leverage significant opportunities for hydropower generation in the county in its project development, where feasible, as a cost-offset mechanism.
- **Guidance WRDMP-06:** The Agency shall consider regional and statewide water market transfers in its project development, where appropriate, as a cost-offset mechanism. No water market transfers can result in water supply impacts within El Dorado County.

5.3 Recent Accomplishments (2017 – 2019 Fiscal Years)

The Agency's completion of its 2016-2020 Strategic Plan marked a pivotal point for water resource management in El Dorado County. This transition is reflected in that plan's vision statement:

> *"Within the next five years, El Dorado County Water Agency will be known as the trusted, countywide leader on water-resource issues, representing the long-term interest of our community, purveyors and residents through a dedicated team of professionals, responsive and accountable to the public we serve."*

Since that time, the Agency has focused on implementing that vision which goes hand-in-hand with helping the County realize the vision of the County General Plan. Accomplishments between 2017 and adoption of this WRDMP in 2019 as well as near-term priority actions (2020 – 2024) are described in this section and the next. In the two years since completion of its 2016-2020 Strategic Plan, the Agency has been in continual transition, while still making significant strides in the planning and management of water resources in El Dorado County.

Governance and Partnership Program

- Participated in CABY IRWM Region for planning and implementation
- Participated with the Regional Water Authority (RWA) on regional collaboration and other collective efforts
- Formed Groundwater Sustainability Agency (GSA) with STPUD to manage groundwater in areas in Tahoe Valley South Subbasin (outside of STPUD's service area)
- Transitioned El Dorado-SMUD Agreement to Agency to integrate with Agency planning activities
- Partnership with Reclamation- American River Basin Study water drought contingency plan

Water Security Program

- Redefined El Dorado Water Reliability Project and issued Notice of Preparation for Environmental Impact Report
- Completed West Slope Stormwater Resource Plan, first annual implementation report, and implementation program in collaboration with County and Placerville
- Participated in regional planning efforts (e.g., North American River Basin Regional Drought Contingency Plan, RWA Regional Water Reliability Plan, and initial development of the Sacramento Regional Groundwater Bank)
- Finalized Fazio contract with Reclamation for CVP water supply of up to 15 TAF per year
- Completed 2019 WRDMP with realigned Agency focus and priority, and revised the agricultural and M&I water demands
- Secured and executed financial assistance awards from federal and state agencies, and participated in studies and projects with other water retailers (e.g. participation in the American River Basin Study)

Watershed Management Program

- Completed initial watershed management scoping

Assistance and Innovation Program

- Sponsored educational effort – El Dorado County Ag in the Classroom
- Sponsored educational effort – Water Education Foundation
- Exhibited at educational event – El Dorado County Kids Expo

Communications Program

- Participated in advocacy efforts with federal agencies and elected officials
- Participated in development of prioritization for policy and project development with federal nexus
- Participated in state advocacy effort on California Department of Water Resources' (DWR) Countywide Drought Planning Advisory Group
- Continued advocacy efforts through RWA, Association of California Water Agencies (ACWA), and other entities

5.4 Near-Term Priority Actions (2020 – 2024 Fiscal Years)

Following adoption of the 2019 WRDMP and through its first update in 2024, the Agency has prioritized several distinct actions. This list of actions is neither exhaustive nor is it static. The Agency expects that it will need to be flexible, adapting to changing conditions and new developments to ensure adequate water for today and in the future.

Governance and Partnership Program

- Participate in CABY IRWM Region for planning and implementation
- Participate with RWA on regional collaboration and other collective efforts
- Collaborate with STPUD as GSA to manage groundwater in areas in Tahoe Valley South Subbasin

Water Security Program

- Lead (where appropriate) and participate in water supply and drought planning efforts such as American River Basin Water Marketing Strategy Project, Upper American River Basin Regional Drought Contingency Plan, El Dorado Reliability Project, Alder Creek Water Conservation and Storage Project Feasibility Study, CABY IRWMP update, utilization plan for CVP (Fazio) Contract, and continued development of the Sacramento Regional Groundwater Bank
- Update West Slope Stormwater Resource Plan, prepare annual progress reports, provide project development assistance to County (where appropriate), and provide State Water Resources Control Board (SWRCB) grant application assistance (where appropriate)
- Conduct assessments on water issues and affordability for disadvantaged communities and small public water systems
- Complete 2024 WRDMP that includes tracking and reporting progress toward and effectiveness of plan implementation
- Support the conduction of a special study for agricultural needs.

Watershed Management Program

- Support local implementation of National Cohesive Wildland Fire Management Strategy, including participating with the South Fork of the American River group and other efforts (as appropriate)
- Participate in resource conservation efforts related to forest management, watershed conservation, and meadow restoration (as appropriate)

Assistance and Innovation Program

- Explore development of potential grant application assistance program
- Develop formal assistance criteria and priorities (where needed and appropriate)

Communications And Advocacy Program

- Conduct Countywide Plenary for Water (a forum for water management)
- Continue advocacy efforts (as needed)
- Provide information to public (as needed)

Final

MAKING WATER CONSERVATION A CALIFORNIA WAY OF LIFE

Primer of 2018 Legislation on Water Conservation and Drought Planning
Senate Bill 606 (Hertzberg) and Assembly Bill 1668 (Friedman)

PREPARED BY

California Department of Water Resources

AND

State Water Resources Control Board

NOVEMBER 2018

Table of Contents

GLOSSARY

The following key terms are listed below for easy reference. Where applicable, existing definitions from the statute and regulations are provided. Additional terms that are relevant to the 2018 legislation and its implementation are introduced in the document where appropriate. However those terms are not defined in the current statute or regulation and may be modified throughout implementation.

agricultural water supplier

(For agricultural water management plan) A water supplier or contractor for water, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water, as defined in CWC §10608.12(a).

(For farm-gate delivery reporting) A water supplier or contractor for water, either publicly or privately owned, providing 2,000 acre-feet or more of surface water annually for agricultural purposes or serving 2,000 or more acres of agricultural land, as defined in CWC §531(b).

drought risk assessment

A method that examines water shortage risks based on the driest five-year historic sequence for the agency's water supply, as described in CWC §10635(b), as defined in CWC §10612.

irrigable land

Undefined in the legislation; to be defined through implementation.

irrigated land

Undefined in the legislation; to be defined through implementation.

performance measures

Actions to be taken by urban retail water suppliers that will result in increased water use efficiency by commercial, institutional and industrial (CII) water users. Performance measures may include, but are not limited to, educating CII water users on best management practices, conducting water use audits, and preparing water management plans. Performance measures do not apply to process water, as defined in CWC §10608.12(n)).

potable reuse

Direct potable reuse, indirect potable reuse for groundwater recharge, and reservoir water augmentation, as defined in CWC §13561, as defined in CWC §10608.12(o).

process water

Water used by industrial water users for producing a product or product content or water used for research and development, as defined in CWC §10608.12(p).

recycled water

Water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource, as defined in CWC §13050(n), as defined in CWC §10608.12(q).

urban retail water supplier

A water supplier, either publicly or privately owned, that directly 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 for municipal purposes, as defined in CWC §10608.12(t)

urban water supplier

The combination of urban retail or wholesale water suppliers, defined by CWC §10608.12(t) and §10608.12(w), respectively; the term is also defined by CWC §10617.

urban water use efficiency standards

The standards effective through CWC §10609.4 (indoor residential use) or adopted by State Water Board (outdoor residential, water loss, and CII outdoor irrigation of landscape areas with dedicated meters) pursuant to CWC §10609.2.

urban water use objective

An estimate of aggregate efficient water use for the previous year based on adopted water use efficiency standards and local service area characteristics for that year, as described in CWC §10609.20, as defined in CWC §10608.12(u).

urban wholesale water supplier

A water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes, as defined CWC §10608.12(w).

water loss

The total of apparent losses and real losses (California Code of Regulations, title 23, §638.1(a) and §638.1(k), respectively) in an urban water supplier's system. Apparent losses means losses due to unauthorized consumption and/or nonphysical (paper) losses attributed to inaccuracies associated with customer metering or systematic handling errors. Real losses means the physical water losses from the pressurized potable water system and the supplier's potable water storage tanks, up to the point of customer consumption.

water shortage contingency plan

A document that incorporates the provisions detailed in CWC §10632(a) and is subsequently adopted by an urban retail water supplier, as defined in CWC §10617.5.

water supply and demand assessment

A method that looks at current year and one or more dry year water supplies and demands for determining water shortage risks per CWC §10632.1, as defined in CWC §10618.

ACRONYMS AND ABBREVIATIONS

2017 Framework	*Making Water Conservation a California Way of Life, Implementing Executive Order B-37-16*
AB	Assembly Bill
AWMP	Agricultural Water Management Plan
CDFA	California Department of Food and Agriculture
CEC	California Energy Commission
CII	Commercial, industrial, and institutional
CPUC	California Public Utilities Commission
CWC	California Water Code
DRA	Drought Risk Assessment
DWR	California Department of Water Resources
GPCD	gallons per capita daily
Legislature	California State Legislature
MWELO	Model Water Efficient Landscape Ordinance
SB	Senate Bill
SGMA	Sustainable Groundwater Management Act
State Water Board	State Water Resources Control Board
UWMP	Urban Water Management Plan
WSCP	Water Shortage Contingency Plan

USEFUL LINKS

- Executive Order B-37-16, Making Water Conservation a California Way of Life: https://www.gov.ca.gov/wp-content/uploads/2017/09/5.9.16_Attested_Drought_Order.pdf
- Senate Bill 606, as chaptered: http://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB606
- Assembly Bill 1668, as chaptered: http://leginfo.ca.gov/pub/15-16/bill/asm/ab_1651-1700/ab_1668_bill_20160927_chaptered.pdf
- Senate Bill X7-7, as chaptered: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200920107SB7
- DWR Water Use and Efficiency Program: https://water.ca.gov/Programs/Water-Use-And-Efficiency
- State Water Board Water Conservation Portal: https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/

PHOTOGRAPHY CREDITS

John Chacon, DWR – Pages 19, 45

Carl Costa, DWR – Table of Contents

Kelly Grow, DWR - Page 2

Paul Humes, DWR - Page 27

Dale Kolke, DWR – Pages 4, 35, 53

Florence Low, DWR - Pages i, 4

Steve Payer, DWR – Pages 31

Yung-Hsin Sun, Stantec – Cover, pages 1, 26

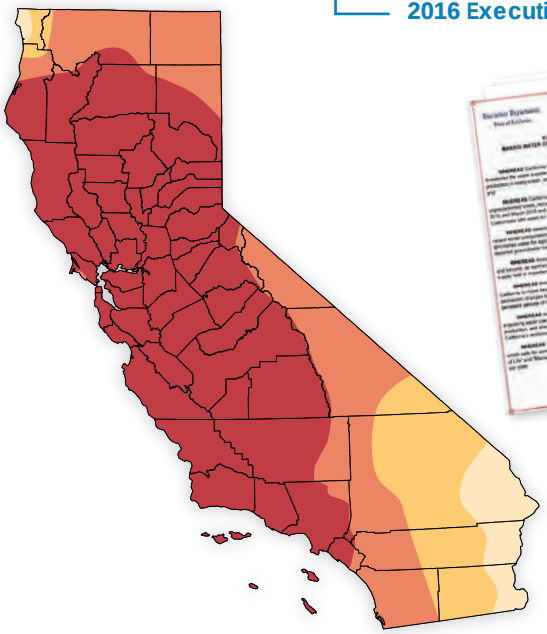
Introduction

01 Introduction

In 2018, the California State Legislature (Legislature) enacted two policy bills, (Senate Bill (SB) 606 (Hertzberg) and Assembly Bill (AB) 1668 (Friedman)), to establish a new foundation for long-term improvements in water conservation and drought planning to adapt to climate change and the resulting longer and more intense droughts in California. These two bills amend existing law to provide expanded and new authorities and requirements to enable permanent changes and actions for those purposes, improving the state's water future for generations to come.

SB 606 and AB 1668 are direct outcomes of Governor Brown's Executive Order B-37-16 issued in May 2016. The recommendations in the April 2017 report entitled ***Making Water Conservation a California Way of Life, Implementing Executive Order B-37-16*** (2017 Framework) and subsequent extensive legislative outreach efforts informed the development of SB 606 and AB 1668. The 2017 Framework was prepared by the California Department of Water Resources (DWR), State Water Resources Control Board (State Water Board), California Public Utilities Commission (CPUC), California Department of Food and Agriculture (CDFA), and California Energy Commission (CEC) in response

California Drought 2012-2016



2016 Executive Order B-37-16

2017 Framework Report to Implement Executive Order B-37-16

2018 Legislation

- Recommendations for New and Expanded Authorities → SB 606
- Activities Under Existing Authorities → AB 1668

to Executive Order B-37-16 to establish a long-term framework for water conservation and drought planning. The 2017 Framework built on the conservation realized during the recent drought, as well as implementation of the Governor's California Water Action Plan.[1] The resulting 2017 Framework outlined a suite of actions that can be implemented under existing authorities and, where necessary, recommended additional actions that can be implemented with new or expanded authorities given by the Legislature. To that end, the Legislature enacted SB 606 and AB 1668, which provide complementary authorities and requirements that affect water conservation and drought planning for urban water suppliers, agricultural water suppliers, and small water suppliers and rural communities.

As an initial implementation action, DWR and the State Water Board prepared this primer to summarize the authorities, requirements, and schedules included in the new legislation. Where appropriate, roles and responsibilities of State agencies, water suppliers, and other parties are highlighted. During the implementation process, DWR, the State Water Board, and other State agencies will further develop data, information, guidelines, and other technical assistance to help realize the bills' intended outcomes. These agencies will solicit broad stakeholder and public participation throughout implementation.

The content of this primer is organized by the four primary goals in Executive Order B-37-16 and the 2017 Framework: (1) use water more wisely, (2) eliminate water waste, (3) strengthen local drought resilience, and (4) improve agricultural water use efficiency and drought planning. The majority of the new and expanded authorities relate to achieving the goal of using water more wisely, with the addition of a chapter in the California Water Code (CWC), Chapter 9 (commencing with §10609) of Part 2.55 of Division 6. The table on the following page presents major new and expanded authorities provided by SB 606 and AB 1668. For ease of reference, relevant law citations are included in the discussion, and applicable authorizing bills, SB 606 (SB)and AB 1668 (AB), are identified. Descriptions of new requirements and authorities are presented along with milestones and legislated deadlines. Callout boxes are used to highlight specific details or topics. Corresponding statutory roles and responsibilities are noted, where appropriate.

This document does not address actions described in the Executive Order B-37-16 and the 2017 Framework that rely on existing authorities other than to the extent necessary to describe changes made by SB 606 and AB 1668.

[1] The California Water Action Plan was first released in 2014 and then updated in 2016.

Making Water Conservation a California Way of Life – Major Areas of Coverage in SB 606 and AB 1668 of 2018

Primary Goals	Major Areas of Coverage in SB 606 (SB) and AB 1668 (AB)
Use Water More Wisely	• Water budget-based method for quantifying urban water use objectives • Urban retail water use efficiency standards adoption and water use objectives • Urban retail water use objective implementation, reporting, and enforcement • Expanded civil liability for violations
Eliminate Water Waste	• Affirmation for continued implementation of existing requirements enacted by SB 555 of 2015 for setting urban retail water loss standard, methodology, and reporting requirements • Recommendations to Legislature on expanding water loss reporting requirements for urban wholesale water suppliers
Strengthen Local Drought Resilience	• Emergency declaration based on local water shortage • Urban water shortage contingency planning, methodology, reporting, and enforcement • Amendments to existing urban water management reporting and enforcement • Countywide drought planning for small water suppliers and rural communities
Improve Agricultural Water Use Efficiency and Drought Planning	• Water budget-based method for quantifying agricultural water use efficiency • Amendments to existing agricultural water delivery reporting and requirements • Drought resiliency and response planning, and requirements for agricultural water use

Use Water More Wisely

02 Use Water More Wisely

SB 606 and AB 1668 do not change existing implementation of the Water Conservation Act of 2009[2] through 2020. Rather, the legislation provides new and expanded authorities needed for implementation of a water budget-based approach to conservation and water use efficiency as recommended in the 2017 Framework. This approach is described in a new CWC chapter (commencing with §10609) related to the urban water use objective and water use reporting, to be realized through new urban water use efficiency standards to be adopted by the State Water Board, in coordination with DWR, by June 30, 2022. The approach aims at advancing the State's goals to mitigate for and adapt to climate change.

Most new authorities and requirements for urban water use efficiency are in AB 1668, with a few supplemental provisions in SB 606. The resulting CWC §10609 requires DWR and the State Water Board to establish standards for (1) indoor residential use; (2) outdoor residential use; (3) outdoor CII use with dedicated irrigation meters; and (4) water losses. The legislation also requires DWR and the State Water Board to establish performance measures for CII water use and appropriate variances for unique uses that can have a material effect on water use of an urban retail water supplier. The Legislature recognizes the substantial diversity of businesses and institutions throughout the state, and requires collection of additional data as part of implementation.

The legislation also requires urban retail water suppliers to calculate and report their urban water use objectives following adoption of the new standards. New State policies reflected in these CWC amendments could have substantial effects on long-term urban water use and management by urban water suppliers. For this reason, the legislation requires a thorough review of the progress, outcomes, and effects of near-term implementation. In addition, the legislation requires DWR and the State Water Board to seek broad stakeholder and public input throughout implementation.

In this primer, the significant CWC amendments that provide new authorities and requirements for using water more wisely are grouped by six major topics: (1) urban water use efficiency standards and urban water use objective; (2) CII performance measures; (3) State-provided data; (4) reporting requirements; (5) compliance, enforcement, and legislative oversight; and (6) streamlining data reporting. All new requirements associated with urban water use efficiency standards are addressed in **USE WATER MORE WISELY** with the exception of the water loss standard that is included in **ELIMINATE WATER WASTE.**

*An **urban water use efficiency standard** is a numeric standard for each category in CWC §10609.2, as set by the Legislature (indoor residential, see §10609.4) or as set by the State Water Board, in coordination with DWR (outdoor residential, water loss, and CII outdoor irrigation of landscape with dedicated meters, see §10609.2).*

*An **urban water use objective** is an estimate of aggregate efficient water use for the previous year based on adopted water use efficiency standards and local service area characteristics for that year (CWC §10608.12(u) AB).*

*An **urban retail water supplier** is a water supplier, either publicly or privately owned, that directly 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 for municipal purposes (CWC §10608.12(t) AB).*

[2] Also known as SB X7-7; commencing with CWC §10608.

URBAN WATER USE EFFICIENCY STANDARDS AND WATER USE OBJECTIVE

The legislation sets standards for indoor residential use and requires the State Water Board, in coordination with DWR, to adopt efficiency standards for outdoor residential use, water losses, and CII outdoor landscape areas with dedicated irrigation meters, as described in this section. These volumetric standards apply to an urban retail water supplier that will use the efficiency standards to calculate its urban water use objective, which is later compared with its actual aggregate water use for reporting purposes.

The Legislature deemed the State Water Board's actions for adopting and implementing water use efficiency standards to be Class 8 actions for protecting the environment, as defined in Section 15308 of Title 14 of the California Code of Regulations. Therefore, these actions are categorically exempt from provisions of the California Environmental Quality Act (CWC §10609.34 SB).

All new requirements for urban water use objectives are effective after June 2022 when the State Water Board adopts urban water use efficiency standards, performance measures, and variances. The legislation does not modify the current statewide goal of a 20 percent reduction in urban per capita water use by 2020 (i.e., suppliers' 2020 targets) as established under the Water Conservation Act of 2009[3]. AB 1668 requires that implementation of the new authorities and requirements result in statewide conservation exceeding current statewide targets[3] (CWC §10609.2(d) AB). The following provides details on the legislated requirements for developing and adopting water use efficiency standards, applications of the standards in urban water use objective calculations, and additional implementation oversight.

Urban Water Use Efficiency Standards

SB 606 and AB 1668 contain specific requirements for developing and adopting water use efficiency standards. The legislation:

- Requires DWR, in coordination with the State Water Board, to conduct necessary studies and investigations and authorizes the agencies to recommend to the Legislature efficiency standards for indoor residential use that include benefit and impact assessments for applying such standards by January 1, 2021. These jointly-recommended standards may more appropriately reflect the best practices for indoor residential water use than the

[3] AB 1668 requires the long-term water use efficiency standards be set at a level designed so that the aggregate water use objectives, "...together with other demands excluded from the long-term standards such as CII indoor water use and CII outdoor water use not connected to a dedicated landscape meter..." will exceed the 2020 statewide conservation targets (CWC §10609.2(d) AB).

default standards set by the Legislature in CWC §10609.4(a) AB. DWR will develop these recommendations in coordination with the State Water Board and collaboratively with stakeholders (CWC §10609.4(b) AB).

- Requires DWR, in coordination with the State Water Board, to conduct necessary studies and investigations and develop recommendations to the State Water Board by October 1, 2021 for:
  - Standards for outdoor residential water use that apply to residential irrigable lands, including provisions for swimming pools, spas, and ornamental water features that are artificially supplied with water, and incorporating principles of the Model Water Efficient Landscape Ordinance (MWELO)[4] (CWC §10609.6 AB).
  - Standards for CII outdoor irrigation of landscape areas with dedicated irrigation meters or other means of measurement, and shall incorporate principles of the MWELO (CWC §10609.8 AB).
  - Appropriate variances for unique uses that can have a material effect on an urban retail water supplier's urban water use objective and the corresponding thresholds of significance (CWC §10609.14 AB).
  - Guidelines and methodologies that identify how an urban retail water supplier calculates its urban water use objective (CWC §10609.16 AB).
- Requires the State Water Board, in coordination with DWR, to adopt long-term standards for outdoor residential water use, outdoor irrigation with dedicated irrigation meters in connection with CII water use, and a volume for water loss by June 30, 2022. Before adoption, the State Water Board shall make proposed standards and identified potential effects available for public comment by May 30, 2022 (CWC §10609.2 AB).
- Requires the State Water Board to adopt appropriate variances, guidelines, and methodologies for calculating urban water use objectives (CWC §10609.2(e) AB).
- Requires the State Water Board, in coordination with DWR, to adopt water loss standards for urban retail water suppliers no earlier than January 1, 2019, and no later than July 1, 2020, pursuant to CWC §10608.34[5] (CWC §10609.12 AB). See **ELIMINATE WATER WASTE** for additional related requirements.

*Different from other water use efficiency standards, DWR and the State Water Board may develop recommendations to the Legislature on standards for indoor residential use. On the **water supplier level**, effective standards will follow provisions in CWC §10609.4(a) AB:*

- *55 gallons per capita daily (GPCD) until January 1, 2025*
- *The greater of 52.5 GPCD or a standard recommended by DWR and the State Water Board for the 2025 standard from January 1, 2025, through December 31, 2029*
- *The greater of 50 GPCD or a standard recommended by DWR and the State Water Board for the 2030 standard after January 1, 2030*

These standards do not require reporting or measurements on the customer level.

For efficiency standards related to outdoor residential irrigation and outdoor CII landscape areas with dedicated meters, "principles of the model water efficient landscape ordinance" means those provisions of the MWELO applicable to the establishment or determination of the amount of water necessary for efficient landscape irrigation. These provisions include, but are not limited to, the following (CWC §10609.9 AB):

- *Evapotranspiration adjustment factors, as applicable*
- *Landscape area*
- *Maximum applied water allowance*
- *Reference evapotranspiration*
- *Special landscape areas, including provisions governing evapotranspiration adjustment factors for different types of water used for irrigating landscape*

[4] Adopted by DWR pursuant to the Water Conservation in Landscape Act of 2017 (commencing with CWC §65591).

[5] Enacted by SB 555 of 2015.

AB 1668 requires that when adopting water use efficiency standards, the State Water Board shall consider the effects of the proposed standards on local wastewater management, developed and natural parklands, and urban tree health (CWC §10609.2(c)[AB]).

An urban retail water supplier may have certain unique uses that can have a material effect on its urban water use objective. DWR will recommend appropriate variances and, for each variance, the associated threshold of significance for consideration in adoption by the State Water Board. Appropriate variances may include, but are not limited to, the following (CWC §10609.14 [AB]):

1. *Significant use of evaporative coolers*
2. *Significant populations of horses and other livestock*
3. *Significant fluctuations in seasonal populations*
4. *Significant landscaped areas irrigated with recycled water having high levels of total dissolved solids*
5. *Significant use of water for soil compaction and dust control*
6. *Significant use of water to supplement ponds and lakes to sustain wildlife*
7. *Significant use of water to irrigate vegetation for fire protection*
8. *Significant use of water for commercial or noncommercial agricultural use*

Each urban retail water supplier should request and may receive approval from the State Water Board for use of adopted variances in calculating its urban water use objective. The State Water Board shall make the approved variances by urban retail water supplier and associated supporting data available on its website.

To accommodate unforeseen circumstances of individual urban retail water suppliers, SB 606 allows the State Water Board to waive urban water use efficiency standard requirements for a period of up to five years. However, the permissible conditions are limited to an urban retail water supplier with deliveries that are significantly affected by changes in water use because of damages from a disaster. The State Water Board is also required to consider the breadth of the damage and the time necessary for the damaged areas to recover from the disaster (CWC §10609.38 [SB]).

Urban Water Use Objective

SB 606 establishes a method to estimate the aggregate amount of water an urban retail water supplier would have used in the previous year if all that water had been used in compliance with adopted efficiency standards. The aggregate amount, or "urban water use objective," is an estimate of aggregate efficient water use from the previous calendar or fiscal year based on adopted water use efficiency standards and local service area characteristics for that year, as described in CWC §10609.20 (CWC §10608.12(u)[AB]). More specifically, the annual urban water use objective is the sum of the following (CWC §10609.20(c)[SB])[6]:

1. Aggregate estimated efficient indoor residential water use.
2. Aggregate estimated efficient outdoor residential water use.
3. Aggregate estimated efficient outdoor irrigation of landscape areas with dedicated irrigation meters or equivalent technology in connection with CII water use.
4. Aggregate estimated efficient water losses.
5. Aggregate estimated water use for approved variances.

By comparing the amount of water actually used in the previous year with the urban water use objective for that year, an urban retail water supplier can determine if it has achieved the required level of water use efficiency for the previous year. With this comparison, local urban retail water suppliers will be in a better position to help eliminate unnecessary use of water, that is, water used in excess of that needed to accomplish the intended beneficial use (CWC §10609(a)[AB]).

Emphasis on the aggregate amount of all categories of urban water use in meeting the urban water use objective provides an urban retail water supplier with flexibility[7] in promoting and implementing water conservation measures in its own service area. This emphasis also means that urban water use efficiency requirements are applicable on the water supplier

[6] The allowable bonus incentive for potable water reuse is discussed separately later in this subsection.

[7] That the urban water use objective may be calculated on either a fiscal or calendar year provides flexibility, as does the ability to determine what measures are to be implemented.

level and not on the individual customer level. An urban retail water supplier that does not meet its objective may be required by the State Water Board to enact policies and programs that result in additional water savings.

To maintain consistency with State policy encouraging potable reuse[8], SB 606 allows a bonus incentive for an urban retail water supplier that delivers water from a groundwater basin, reservoir, or other source that is augmented by potable reuse water. The bonus incentive is to adjust the supplier's urban water use objective by the volume of potable reuse water delivered to residential customers and landscape areas with dedicated irrigation meters in connection with CII water use. The bonus incentive shall be limited in accordance with one of the following: (A) the bonus incentive shall not exceed 15 percent of the urban water supplier's water use objective for any potable reuse water produced at an existing facility; and, (B) the bonus incentive shall not exceed 10 percent of the urban water supplier's water use objective for any potable reuse water produced at any facility that is not an existing facility. An existing facility is defined as one with a completed environmental review on or before January 1, 2019, that becomes operational on or before January 1, 2022, and that uses microfiltration and reverse osmosis technologies to produce the potable reuse water (CWC §10609.20(d)SB). See **REPORTING REQUIREMENTS** for more information on annual reporting of urban water use and calculation of urban water use objective.

CII PERFORMANCE MEASURES

AB 1668 requires DWR, in coordination with the State Water Board, to conduct necessary studies and investigations to develop recommendations on performance measures for CII water use by October 1, 2021, for consideration in adoption by the State Water Board (CWC 10609.10(a)AB). Prior to recommending performance measures for CII water use, DWR is required to solicit broad public participation from stakeholders and other interested parties related to the following considerations (CWC §10609.10(b)AB):

- CII water use classification system.
- Minimum size thresholds for converting mixed CII meters to dedicated irrigation meters.
- Technologies that could be used in lieu of requiring dedicated irrigation meters.
- Best management practices including water audits and water management plans for CII customers above a certain size, volume of use, or other threshold.

DWR's recommendations shall be consistent with the October 21, 2013, report to the Legislature by the CII Task Force titled, *Water Use Best Management Practices*[9], including the technical and financial feasibility recommendations provided in that report, and shall support the economic productivity of CII sectors (CWC §10609.10(c)AB).

For the studies, investigations, and report related to a standard for indoor residential water use that DWR will conduct in coordination with the State Water Board, AB 1668 requires collaboration with and input from a broad group of stakeholders. That group includes, but is not limited to, environmental groups; experts in indoor plumbing; and water, wastewater, and recycled water agencies (CWC §10609.4(b)(2)AB).

[8] Potable reuse includes direct and indirect reuse, as defined in CWC §13561.

[9] See https://www.water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Files/CII-Volume-I-july-2014.pdf and https://www.water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Files/CII-Volume-II-july-2014.pdf

STATE-PROVIDED DATA

AB 1688 recognizes the need for studies and investigations to support development of urban water use efficiency standards. As part of DWR's implementation efforts, it will conduct these studies and investigations in coordination with the State Water Board and in collaboration with stakeholders. AB 1688 specifically identifies the need for landscape area data that are required for the analysis of residential outdoor water use, and other supporting data required by urban retail water suppliers to calculate their urban water use objectives:

- Requires DWR, by January 1, 2021, to provide urban retail water suppliers with data regarding the area of residential irrigable lands to calculate aggregated outdoor residential use. The data should be reasonably accurate for the intended uses, taking into consideration California's diverse landscapes and community characteristics (CWC §10609.6(b) and (c)SB).
- Requires DWR to provide landscape area data and other data for calculating an urban water use objective at a level of detail sufficient to allow an urban retail water supplier to verify its accuracy at the parcel level (CWC §10609.20(e)SB).
- Requires DWR to provide or otherwise identify data related to unique local conditions to support calculation of an urban water use objective (CWC §10609(b)(2)(C)AB).

DWR, in collaboration with stakeholders, is conducting a statewide residential landscape area measurement study for California's urban retail water suppliers. The study includes pilots to develop a reliable method for estimating irrigable landscape areas for residential outdoor use. DWR will provide the landscape area data to suppliers by January 1, 2021 (CWC §10609.6(b) and (c)AB).

REPORTING REQUIREMENTS

To support implementing urban water use efficiency standards and meeting urban water use objectives, SB 606 and AB 1668 include schedule and content provisions for a critical reporting requirement – the annual water use report. The legislation also includes changes in Urban Water Management Plan (UWMP) preparation requirements. See **Related Requirements for Urban Water Management Plan Preparation, ELIMINATE WATER WASTE,** and **STRENGTHEN LOCAL DROUGHT RESILIENCE** for related requirements.

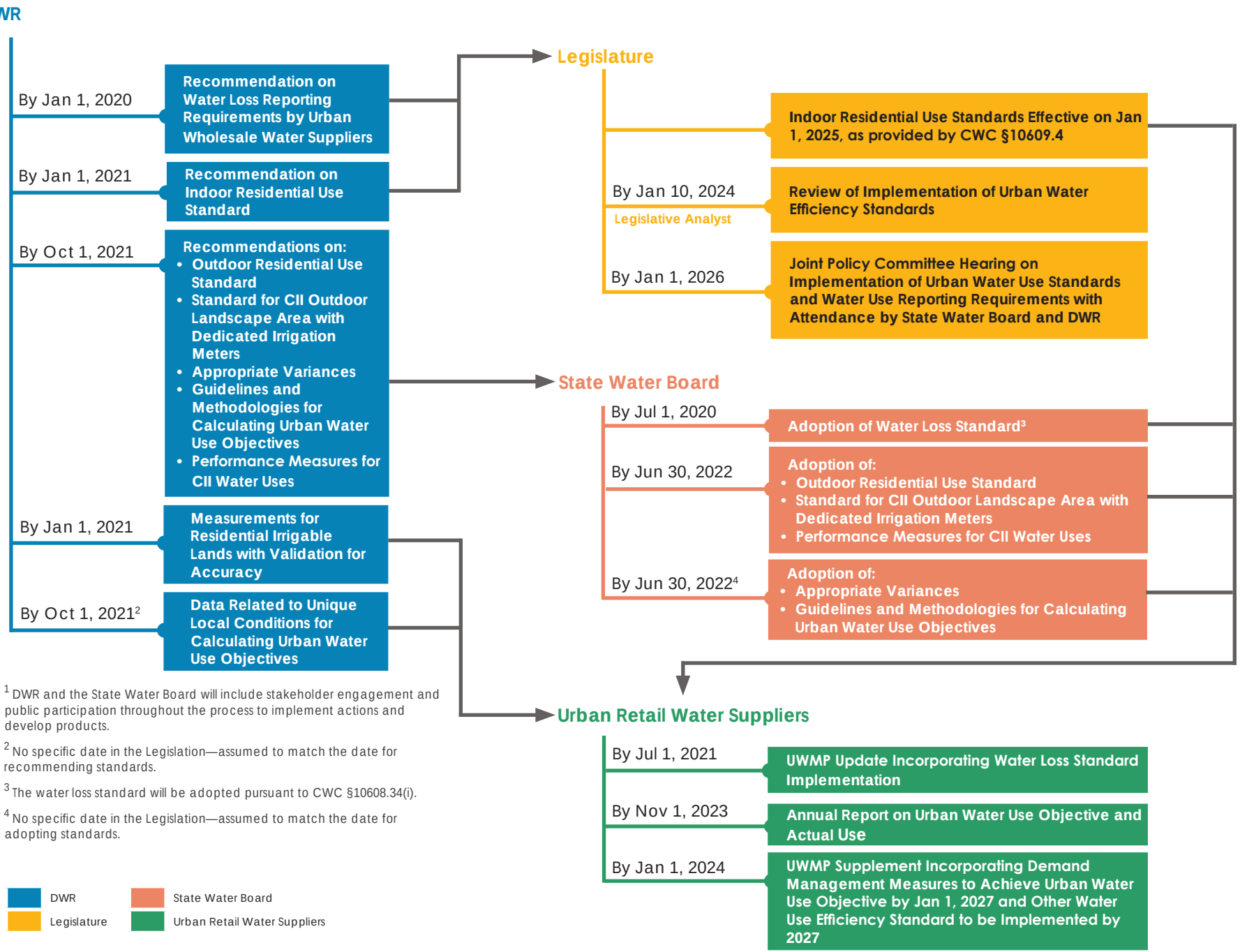
Annual Water Use Report

SB 606 and AB 1668 require each urban retail water supplier, by November 1, 2023, and by November 1 every year thereafter, to:

- Calculate its urban water use objective including estimated indoor residential water use, outdoor residential water use, outdoor irrigation of landscape areas with dedicated irrigation meters or equivalent technology in connection with CII water use, water losses, water use in accordance with approved variances, and applicable bonus incentive for potable reuse (CWC §10609.20SB and §10609.14AB).
- Calculate its actual water use including residential water use, outdoor irrigation of landscape areas with dedicated irrigation meters in connection with CII water use, and water losses (CWC §10609.22SB).

In addition to the annual water use report required under CWC §10609.24(a)SB, SB 606 authorizes the State Water Board to issue a regulation or informational order requiring urban wholesale and retail water suppliers to provide monthly reports related to water production, water use, or water conservation (CWC §10609.28 SB). This provision provides the State Water Board direct authority to readopt a reporting requirement established in the recent drought emergency to ensure continuation of certain reporting.

Major Actions and Products Required to Implement Water Use Efficiency Standards and Urban Retail Water Supplier's Annual Reporting Requirements[1]



[1] DWR and the State Water Board will include stakeholder engagement and public participation throughout the process to implement actions and develop products.

[2] No specific date in the Legislation—assumed to match the date for recommending standards.

[3] The water loss standard will be adopted pursuant to CWC §10608.34(i).

[4] No specific date in the Legislation—assumed to match the date for adopting standards.

Summary of Urban Retail Water Supplier's Urban Water Use Objective Calculation

Urban Retail Water Supplier's Urban Water Use Objective (CWC §10609.20(c))

Aggregate estimated efficient indoor residential water use

+

Aggregate estimated efficient outdoor residential water use

+

Aggregate estimated efficient outdoor irrigation of landscape areas with dedicated irrigation meters or equivalent technology in connection with CII water use

+

Aggregate estimated efficient water losses

+

Aggregate estimated water use for variances approved by the State Water Board

+

Allowable Bonus Incentive Adjustments (CWC §10609.20(d)), which shall be limited in accordance with one of the following:

- Volume of potable reuse water from existing facility, with completed environmental review by Jan 1, 2019, that becomes operational by Jan 1, 2022, not to exceed **15% of urban water use objective**
- Volume of potable reuse water from new facility, not to exceed **10% of urban water use objective**

=

Urban Retail Water Supplier's Urban Water Use Objective, Adjusted For Bonus Incentive, for annual reporting purposes and comparison to the actual water use in the previous year

- Submit an annual report to DWR on the previous year's urban water use (CWC §10609(b)(2)(E)AB; and §10609.24SB).

For the preparation of an annual water use report for the previous year, SB 606 and AB 1668 also provide several specific requirements, flexibility, and clarifications. The legislation:

- Requires the calculated urban water use objective, actual urban water use, documentation of implementation of performance measures for CII water use, description of progress made towards meeting an urban water use objective, and relevant supporting data (CWC §10609.24SB).
- Provides the flexibility for reporting urban water use objective and actual water use on a calendar or fiscal year basis (CWC §10609.20(b) and §10609.22(b)SB).
- Allows calculation of an urban water use objective using landscape area and other provided data by DWR or alternative data, if demonstrated to be equivalent or superior in quality and accuracy to DWR's data. DWR may provide technical assistance to an urban retail water supplier to determine the appropriateness of using alternative data for this purpose (CWC §10609.20(e)SB).

Related Requirements for Urban Water Management Plan Preparation

Following the State Water Board's adoption of urban water use efficiency standards, an urban retail water supplier shall adopt and submit to DWR, by January 1, 2024, a supplement to its adopted 2020 UWMP that includes a narrative describing water demand management measures that the supplier plans to implement to achieve its urban water use objective by January 1, 2027, pursuant to urban water use efficiency standards and their implementation. This supplement is exempt from the public notice, hearing, and adoption requirements associated with UWMP updates and amendments (CWC §10621(f)(2) and §10631(e)(1)(B)SB).

There are additional provisions related to the preparation and adoption of a UWMP by an urban retail water supplier. See **ELIMINATE WATER WASTE** and **STRENGTHEN LOCAL DROUGHT RESILIENCE** for more UWMP requirements that a water supplier should consider in streamlining its efforts to comply with UWMP preparation, adoption, and submittal requirements.

SB 606 contains a provision that could affect reporting requirements and enforcement during emergency conditions. SB 606 extends the effective period of such an emergency regulation adopted by the State Water Board in response to drought conditions or Governor's proclamation of a state of emergency from 270 days to one year after its adoption (CWC §1058.5(c)SB).

Reporting requirements and enforcement for urban water use objectives are always on the water supplier level (CWC §10609(a)AB) and not on the individual customer level. An urban retail water supplier can determine its own implementation priorities and adequate actions to achieve its urban water use objective.

COMPLIANCE, ENFORCEMENT, AND LEGISLATIVE OVERSIGHT

SB 606 and AB 1668 allow for the imposition of civil liability for inefficient water use, provide progressive authority for the State Water Board's enforcement of annual water use reporting, and provide a right for urban retail water suppliers to petition the State Water Board to reconsider its water right orders related to water use efficiency. Details are provided below.

Civil Liability

SB 606 authorizes civil liability to be imposed by local public agencies for violations of certain new water conservation requirements that will be developed through formal rule-making processes (CWC §377 SB).

SB 1668 authorizes civil liability for an urban retail water supplier that violates an order or regulation issued by the State Water Board under Chapter 9 (commencing with CWC §10609) of Part 2.55 of Division 6. Civil liability however, for violation of a regulation only applies to violations occurring after November 1, 2027.

Progressive Enforcement for Annual Urban Water Use Reporting

SB 606 provides the State Water Board with new authorities for enforcing the annual urban water use reporting requirement:

- Allows issuance of an informational order or conservation order to, or imposition of civil liability on, an urban water supplier for failure to submit an annual water use report (CWC §10609.24 SB).
- Allows for specific State Water Board enforcement actions on a legislatively-defined time table, see the figure on page 17 (CWC §10609.26 SB).

Water Right Protection

As the State Water Board also exercises oversight of the State's water rights system, both SB 606 and AB 1668 provide conditions for the State Water Board to adopt and implement water use efficiency standards. The legislation:

- Clarifies the State Water Board's adoption and implementation of water use efficiency standards are to have no effects on water rights or the applicability of CWC §1010 and §1011 related to water right holders' right to conserved water (CWC §10609.36(a) SB).
- Clarifies the conservation orders issued by the State Water Board for compliance with annual water use reporting requirements should not contain any actions to curtail or otherwise limit the exercise of a water right of the supplier or other water right holders (CWC §10609.26(d) SB).

- Extends existing rights to seek reconsideration of State Water Board decisions and orders to decisions and orders made under Part 2.55 (commencing with CWC §10608) of Division 6.

Legislative Oversight

In light of the new authorities and requirements for adopting and implementing urban water use efficiency standards, the Legislature imposed the following legislative oversight that:

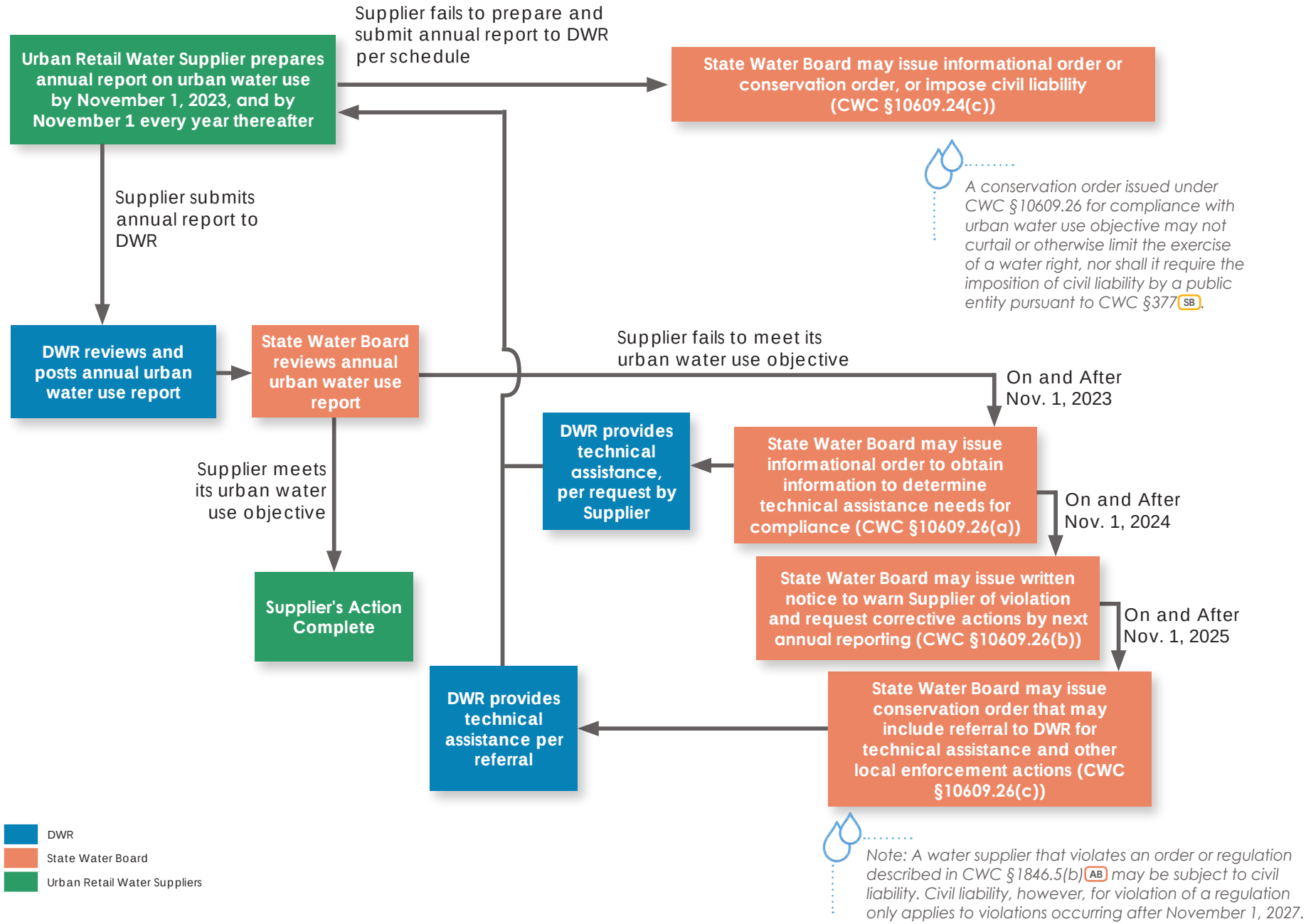
- Clarifies the need for a separate authorization from the Legislature for the State Water Board to update and amend the initially adopted urban water use efficiency standards after 2022 (CWC §10609.36(b) SB).
- Requires the Legislative Analyst, by January 10, 2024, to conduct a review of implementation of the urban water efficiency standards (CWC §10609.30 SB).
- Requires DWR and the State Water Board to appear before the appropriate policy committees of both houses of the Legislature on or around January 1, 2026, and report on implementation of the urban water use standards and water use reporting requirements (CWC §10609.32 SB).

STREAMLINING DATA REPORTING

SB 606 and AB 1668 include additional requirements for DWR and the State Water Board to identify opportunities for streamlining water data reporting and making data and their intended use accessible by the public. The legislation:

- Requires the State Water Board to post on its website a list of all urban retail water suppliers with approved variances, the specific variance or variances, and the data supporting approvals (CWC §10609.14(e) AB).
- Requires DWR and the State Water Board to identify urban water reporting requirements shared by both agencies to help streamline water data reporting, and post on each agency's website how the data are used for planning, regulatory, or other purposes (CWC §10609.15(a) AB).
- Requires DWR and the State Water Board to publish data pertaining to urban water use objective reporting requirements collected by both agencies and implement actions to improve data publication and public accessibility according to the principles and requirements of the Open and Transparent Water Data Act of 2016 (CWC §10609.15(c) AB).
- Requires DWR to post on its website annual urban water use reports and information received from urban retail water suppliers (CWC §10609.24(b) SB).

Urban Retail Water Supplier's Annual Urban Water Use Reporting Requirements and Corresponding Actions by DWR and State Water Board



Milestone Schedule: Use Water More Wisely

2020	*Jan 1 – DWR may update MWELO or make finding that no update is warranted.*
	Dec 31 – Urban water use targets cumulatively result in a 20-percent reduction from the baseline daily per capita water use.
2021	Jan 1 – DWR/State Water Board may submit recommendation on indoor residential water use standard to Legislature.
	Jan 1 – DWR provides residential irrigable land areas to urban water retailers.
	Jul 1 – Urban water suppliers submit UWMPs to DWR within 30 days of adoption.
	Oct 1 – DWR recommends standards for outdoor residential use, CII dedicated landscape irrigation, and unique urban water use variances.
	Oct 1 – DWR develops guidelines and methodologies for calculating urban water use objectives.
	Oct 1 – DWR recommends performance measures for CII water use.
2022	May 30 – State Water Board identifies long-term standards for efficient use of water and proposed standards' effects.
	Jun 30 – State Water Board adopts long-term standards for efficient use of water and related methodology and guidance.
	Jun 30 – State Water Board adopts performance measures for CII water use.
	Jul 1 – DWR submits UWMPs report to Legislature.
2023	*Jan 1 – DWR may update MWELO or make finding that no update is warranted.*
	Nov 1 – Urban water suppliers submit annual water use report to DWR on urban water use objective, actual urban water use, implementation of CII water use performance measures, and progress towards urban water use objective.
	Nov 1 forward – State Water Board may issue informational order to urban retail water supplier that is not meeting its urban water use objective.
2024	Jan 1 – Urban water suppliers adopt and submit to DWR supplement to adopted 2020 UWMPs on water demand management measures to be implemented by 2027 to achieve urban water use objective.
	Jan 10 – Legislative Analyst reports to Legislature and public on evaluation of implementation of water use efficiency standards and water use reporting.
	Nov 1 – Urban water suppliers submit annual water use report to DWR.
	Nov 1 forward -- State Water Board may issue a written notice (warning) to urban retail water supplier that is not meeting its water use objective.
2025	Nov 1 forward – State Water Board may issue conservation order to urban retail water supplier that is not meeting its water use objective.
	Nov 1 – Urban water suppliers submit annual water use report to DWR.
2026	*Jan 1 – DWR may update MWELO or make finding that no update is warranted.*
	Jul 1 – Urban water suppliers submit UWMPs to DWR within 30 days of adoption.
	Nov 1 – Urban water suppliers submit annual water use report to DWR.
2027	Jan 1 – Urban water suppliers achieve water use objective.
	Jul 1 – DWR submits UWMPs report to Legislature.
	Nov 1 – Urban water suppliers submit annual water use report to DWR.

Throughout this document, a milestone schedule for implementation by primary goal required by SB 606 and AB 1668 was compiled for easy reference (shown in **blue**). For completeness, other relevant requirements are also included (shown in ***dark grey***). In all milestone schedules, only the lead agency is noted for each item. See **Appendix A** for details on additional coordination and collaboration requirements.


Eliminate Water Waste

03 Eliminate Water Waste

Under the second primary goal in Executive Order B-37-16, Eliminate Water Waste[10], the 2017 Framework included three recommendations without need for new authorities: (1) the State Water Board to open a rulemaking process to establish permanent prohibitions on wasteful water practices, (2) the State Water Board and DWR to continue implementing CWC §10608.34 (enacted by SB 555 of 2015) to minimize urban retail water loss, and (3) the CEC to evaluate options for certification of innovative water loss and control technologies. SB 606 and AB 1668 require one new study by DWR, in coordination with the State Water Board, for extending water loss reporting requirements to urban wholesale water suppliers. (See **USE WATER MORE WISELY** for application of the water loss standard in the urban water use objective and associated reporting requirements.)

AFFIRMING EXISTING REQUIREMENTS FOR WATER LOSS STANDARD AND REPORTING

Both SB 606 and AB 1668 affirm the directive for water loss standard adoption and implementation to follow the existing requirements and process set forth in CWC §10608.34 (CWC §10631(d)(3)(A)SB and §10609.12AB). CWC §10608.34 requires the State Water Board to adopt standards for urban retail water loss no earlier than January 1, 2019, and no later than July 1, 2020. It also contains reporting requirements. Consequently, SB 606 requires each urban retail water supplier, by July 1, 2021, to adopt and submit to DWR its 2020 UWMP with additional information related to compliance with adopted water loss standards (CWC §10631(d)(3)(C)SB). The State Water Board will adhere to the procedures and requirements for stakeholder engagement and public participation in the rule making process. The water loss standard adoption by July 1, 2020, will satisfy the AB 1668 schedule for the State Water Board to adopt the long-term urban retail water use efficiency standards for water loss by June 30, 2022 (CWC §10609.2AB).

FEASIBILITY STUDY FOR EXTENDING WATER LOSS REPORTING REQUIREMENTS

SB 606 requires that DWR, in coordination with the State Water Board, investigate the feasibility of extending the water loss reporting requirement to urban wholesale water suppliers. Targeted urban wholesale water suppliers include private and public entities that provide more than 3,000 acre-feet of water annually for potable municipal purposes at a wholesale level. The legislation requires DWR to make a recommendation to the Legislature by January 1, 2020 (CWC §10608.35 SB). In developing its recommendation, DWR will solicit broad public participation from stakeholders and other interested persons.

Milestone Schedule: Eliminate Water Waste

2020	Jan 1 – DWR submits to Legislature recommendation on feasibility of developing and enacting water loss reporting requirements for urban wholesale water suppliers. *July 1 – State Water Board adopts rules requiring urban retail water suppliers to meet performance standards for the volume of water loss.*
2021	Jul 1 – Water Suppliers adopt their 2020 UWMPs and show if they have met adopted water loss standard.
2022	Jun 30 – Standards for volume of water loss adopted by State Water Board, pursuant to CWC §10608.34, are used for calculation of urban water use objective.

[10] Discussion of water loss in this section follows the categorization of action in Executive Order B-37-16 and the 2017 Framework. The section headings in this document do not in any manner affect the scope, meaning or intent of the actual statutory language discussed herein.

Strengthen Local Drought Resilience

04 Strengthen Local Drought Resilience

One of the major lessons learned from the historic 2012 through 2016 drought was that urban water suppliers, small water suppliers, and rural communities must strengthen both local drought resilience and the communication of response actions among various agencies and affected communities. Many urban water suppliers had implemented effective measures to minimize impacts from the drought; however, this outcome was not consistent throughout the state. SB 606 and AB 1668 provide new and expanded authorities and requirements to address these needs, as recommended in the 2017 Framework.

Under the new authorities and requirements, each urban wholesale and retail water supplier must prepare, adopt, and submit a Water Shortage Contingency Plan (WSCP) and conduct a Drought Risk Assessment (DRA) every five years in addition to conducting an annual water supply and demand assessment.[11]

Small water suppliers and rural communities are often more vulnerable during droughts because of their limited institutional and financial capacities to adapt to changed conditions. However, in recognition of potential diversity and jurisdictional complexities associated with drought planning in these areas, the 2017 Framework recommended allowing State agencies to work with local agencies, stakeholders, and communities on the development of more specific, functional recommendations. The new legislation requires DWR, in consultation with the State Water Board and stakeholders, to identify small suppliers and rural communities at risk of drought and water shortage vulnerability, and to develop by January 2020, recommendations to the Governor and Legislature for improving drought planning for those areas.

These new authorities and requirements for urban water suppliers and for small water systems and rural communities are summarized separately below.

URBAN WATER SUPPLIERS

Primarily through amending the Urban Water Management Planning Act (commencing with CWC §10610), SB 606 provides new and expanded authorities and requirements to strengthen local drought resilience for urban water suppliers, including wholesale and retail water suppliers, as well as public and private water suppliers. These are the same urban water suppliers required to submit UWMPs; that is, urban water suppliers providing either more than 3,000 acre-feet of water annually or with more than 3,000 urban connections.

[11] The annual water supply and demand assessment is the basis for the urban water supplier's annual water shortage assessment report.

Recognizing the needs for consistent and streamlined reporting requirements, SB 606 and AB 1668 include amendments for establishing consistent reporting requirements. As an example, SB 606 amends an existing UWMP requirement for a water supply reliability description for multiple dry years to be for a period of drought lasting five consecutive years, consistent with the methodology for the DRA (CWC §10631(f)[SB] and §10635[SB]).

New and Expanded Authorities

There are two categories of new and expanded authorities: one related to local planning requirements, and another related to coordinated implementation with delineated roles and responsibilities. Specifically, the legislation:

- Requires each urban water supplier to prepare, adopt, and periodically review a WSCP as part of its UWMP to describe the method, procedures, response actions, enforcement, and communications during six levels of water supply shortage conditions (CWC §10620(d)(2) and §10632[SB]).
- Requires each urban water supplier to conduct a DRA as part of its UWMP to assess water supply reliability (or vulnerability) for a period of drought lasting five consecutive water years starting the year following when the assessment is conducted, and considering both historical drought hydrology and reliability of each source of supply (CWC §10635(b)[SB]).

SB 606 recognizes that a regional approach to urban water management planning reduces costs and maximizes potential contributions to conservation, efficient water use, and improved local drought resilience. However, it emphasizes that each urban water supplier shall develop its own WSCP (CWC §10620(d)[SB]), consistent with the UWMP requirement (CWC §10620(a)[SB]).

To encourage an urban water supplier to remain vigilant as to its drought risks, SB 606 allows an urban water supplier to update its DRA within the 5-year cycle between UWMP updates (CWC §10635(b)[SB]).

Reporting Requirements

SB 606 adds new requirements and amends some existing requirements for urban water suppliers to prepare UWMPs to streamline the process and provide consistency with other provisions in SB 606 and AB 1668, as well as with other recent legislation (e.g., Sustainable Groundwater Management Act (SGMA), commencing with CWC §10720). The legislation:

- Requires each urban water supplier to update and submit its UWMP, by July 1 in years ending in 1 and 6, incorporating updated and new information from the 5 years preceding the plan update (CWC §10621(a)[SB]). The Legislature instituted several major changes in UWMP requirements for each supplier to:
    - Include in its UWMP a simple layperson's description of its water supply reliability conditions and its strategy for meeting future water supply reliability needs to provide a general understanding of its plan for overall urban water management (CWC §10630.5[SB]).
    - If groundwater is identified as an existing or planned source of water supply and the underlying groundwater basin is subject to SGMA, include the current version of any groundwater sustainability plan or alternative adopted for SGMA compliance and actions taken by the supplier in coordination with groundwater sustainability agencies or groundwater management agencies to maintain or achieve sustainable groundwater conditions (CWC §10631(b)(4)[SB]).

- Submit an updated WSCP to DWR within 30 days of its adoption (CWC §10644(b) SB). This requirement is made consistent with that for an adopted UWMP.
- Make the adopted WSCP available for public review within 30 days after submitting a copy to DWR. DWR is subject to the same requirement after receiving the WSCP (CWC §10645(b) SB). This requirement is made consistent with that for an adopted UWMP.

- Requires an urban water supplier, by June 1 of each year, to conduct an annual water supply and demand assessment pursuant to CWC §10632(a), and submit to DWR an annual water shortage assessment report with information on anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions as described in the WSCP. An urban water supplier that relies on imported water from the State Water Project or U.S. Department of the Interior, Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocation, or by June 1 of each year, whichever is later (CWC §10632.1 SB).

Coordinated Implementation

SB 606 provides complementary authorities and coordinated roles among different jurisdictions for implementation:

- Urban Water Suppliers:
  - Shall declare a water shortage emergency condition when available water supply is insufficient for human consumption, sanitation, and fire protection within its service area (CWC §350 SB).
  - Shall follow prescribed procedures and implement determined shortage response actions in its adopted WSCP where feasible and appropriate, or take reasonable alternative actions that are not specified in its WSCP, if needed, without amending its UWMP or WSCP, provided they are included in its annual water shortage assessment report (CWC §10632.2 SB).
- CPUC:
  - Shall request an urban water supplier include its most recent UWMP and WSCP as part of its general rate case filing (CWC §10621(c) SB).
- State Water Board:
  - Defer to implementation of locally-adopted WSCPs, to the extent practicable, during a state of emergency[12] based on drought conditions (CWC §10632.3 SB).

SB 606 specifies WSCP content requirements as the following (CWC §10632 SB):

- *Analysis of water supply reliability*
- *Procedures used for conducting an annual water supply and demand assessment*
- *Six standard water shortage levels or equivalent*
- *Shortage response actions*
- *Communication protocols and procedures*
- *Customer compliance, enforcement, appeal, and exemption procedures*
- *Legal authority*
- *Financial consequence*
- *Monitoring and reporting requirements and procedures*
- *Reevaluation and improvement procedures*

UWMP and WSCP adoption should follow applicable public notice, hearing, and adoption requirements. SB 606 encourages an urban water supplier to engage diverse social, cultural, and economic elements of the population within the service area when preparing its UWMP and WSCP (CWC §10641 and §10642 SB).

[12] Declared under the California Emergency Services Act (commencing with § 8550, Chapter 7 of Division 1 of Title 2 of the Government Code).

DWR will provide recommendations on how countywide drought and water shortage contingency plans can be included in county local hazard mitigation plans or otherwise integrated with complementary existing planning processes. DWR will also provide guidance that outlines goals of the countywide drought plans and WSCPs and recommend components including, but not limited to, all of the following (CWC 10609.42(b) AB):

1. *Assessment of drought vulnerability*
2. *Actions to reduce drought vulnerability*
3. *Response, financing, and local communication and outreach planning efforts that may be implemented in times of drought*
4. *Data needs and reporting*
5. *Roles and responsibilities of interested parties and coordination with other relevant water management planning efforts*

- DWR:
  - May adopt regulations deemed necessary or desirable to implement the Urban Water Management Planning Act and its subsequent amendments (CWC §10657 SB).
  - Shall prepare and submit to the State Water Board, by September 30 of each year, an annual report on implementation summarizing (1) submitted water supply and demand assessment results and reported water shortage conditions, (2) regional and statewide analyses of water supply conditions developed by DWR, and (3) urban water supplier-specific information regarding various shortage response actions implemented as a result of annual water shortage assessments (CWC §10644(c)(1)(B) SB).

Legislative Oversight

SB 606 imposes additional legislative oversight by requesting DWR prepare and submit to the Legislature, by July 1 in years ending in 2 and 7, a report summarizing the adoption status of UWMPs and WSCPs (CWC §10644(c)(1)(A) SB). In addition, upon request by the Legislature, DWR shall prepare additional reports and data to support the Legislature in future hearings to review the effectiveness of UWMPs and WSCPs (CWC §10644(c)(1)(A) SB).

SMALL WATER SUPPLIERS AND RURAL COMMUNITIES

As demonstrated in the recent drought, small water systems and rural communities often are more vulnerable during droughts or other stressed water supply conditions because of their limited options and financial means. These small water systems and rural communities have vast diversity of geography, resources, and other characteristics. Therefore, to improve their drought resilience, they need to be anchored by and integrated with the capacity, function, and authority of the appropriate local jurisdictions for long-term effectiveness of drought preparedness and response measures.

The Legislature found that counties can have a significant role in improving drought planning for small water suppliers and rural communities. As a result, AB 1668 directs DWR, in consultation with the State Water Board, to develop recommendations and guidance to propose to the Governor and Legislature for addressing drought planning needs of small systems and rural communities throughout the state by January 1, 2020. As part of the recommendations development process, DWR shall use available data, in consultation with the State Water Board and other relevant state and local agencies and stakeholders, to identify water supply risks and vulnerabilities for small water suppliers and rural communities, and notify the public, counties, cities, and groundwater sustainability agencies of its findings (CWC §10609.42 AB).

Milestone Schedule: Strengthen Local Drought Resilience

2020	Jan 1 – DWR identifies small water suppliers and rural communities at risk of drought and water shortage vulnerability, and makes notifications. Jan 1 – DWR proposes development and implementation of countywide drought and WSCPs for small water suppliers and rural communities to Governor and Legislature.
2021	Jul 1 – Urban water suppliers submit UWMP update with DRA and WSCP to DWR within 30 days of adoption.
2022	Jun 1[1,2] – Urban water suppliers submit annual water shortage assessment report[3] to DWR. Jul 1 – DWR submits UWMPs/WSCPs status report to Legislature. Sep 30 – DWR submits annual report to State Water Board.
2023	Jun 1[1,2] – Urban water suppliers submit annual water shortage assessment report[3] to DWR. Sep 30 – DWR submits annual report to State Water Board.
2024	Jan 1 – Urban water suppliers adopt and submit to DWR supplement to adopted 2020 UWMPs on water demand management measures to be implemented. Jun 1[1,2] – Urban water suppliers submit annual water shortage assessment report[3] to DWR. Sep 30 – DWR submits annual report to State Water Board.
2025	Jun 1[1,2] – Urban water suppliers submit annual water shortage assessment report[3] to DWR. Sep 30 – DWR submits annual report to State Water Board.
2026	Jun 1[1,2] – Urban water suppliers submit annual water shortage assessment report[3] to DWR. Jul 1[1,2] – Urban water suppliers submit UWMP update with DRA and WSCP to DWR within 30 days of adoption. Sep 30 – DWR submits annual report to State Water Board.
2027	Jun 1[1,2] – Urban water suppliers submit annual water shortage assessment report[3] to DWR. Jul 1 – DWR submits to Legislature UWMPs/WSCPs status progress report. Sep 30 – DWR submits annual report to State Water Board.

NOTE:

[1] For urban water suppliers that receive imported water, the due date is June 1 or 14 days after final allocation from State Water Project or U.S. Department of the Interior, Bureau of Reclamation, whichever is later.

[2] The inclusion of 2022 as the starting year is to match the availability of WSCPs that are to be adopted by urban water suppliers. DWR encourages urban water suppliers to conduct such assessments prior to 2022 and they may submit their information to DWR.

[3] The annual water supply and demand assessment is the basis for the urban water supplier's annual water shortage assessment report.

Improve Agricultural Water Use Efficiency and Drought Planning

05 Improve Agricultural Water Use Efficiency and Drought Planning

Agricultural communities were severely impacted in the recent drought, resulting in unsustainable groundwater use in some areas. Based on recommendations in the 2017 Framework, AB 1668 provides new authorities to add requirements for improving agricultural water use efficiency and drought planning by requiring a water budget-based approach to water management that is consistent with SGMA implementation, and by requesting the addition of a drought plan as part of an agricultural water supplier's agricultural water management plan (AWMP).

The schedule for an agricultural water supplier to complete, adopt, and submit its AWMP was changed to April 1 in years ending in 1 and 6. Agricultural water suppliers that are subject to AWMP and other reporting requirements are those providing water to more than 10,000 irrigated acres (excluding acreage irrigated with recycled water). However, as stated in CWC §10853, an agricultural water supplier that provides water to less than 25,000 irrigated acres, excluding recycled water, shall not be subject to the requirements unless sufficient funding has specifically been provided to that water supplier for the purpose of compliance with AWMP requirements. DWR will solicit input and feedback from stakeholders during the development of guidelines for preparation of AWMPs.

AGRICULTURAL WATER MANAGEMENT PLANS

As part of its AWMP, AB 1668 requires an agricultural water supplier to:

- Develop an **annual water budget** based on the quantification of all inflow and outflow components for the agricultural water supplier's service area. DWR is to provide tools and resources to assist agricultural water suppliers in developing and quantifying the components necessary to develop a water budget (CWC §10826(c) AB).
- Identify water management objectives based on the water budget and develops, prioritizes, and implements actions to meet those objectives and reduce water loss (CWC §10826(f) AB).
- Quantify the efficiency of agricultural water use in the service area using one of four methods published in DWR's 2012 report to the Legislature entitled "A Proposed Methodology for Quantifying Efficiency of Agricultural Water Use" (CWC §10826(h) AB).
- Include a drought plan for periods of limited water supply that contains resilience planning and drought response planning components describing actions by the agricultural water supplier for drought preparedness and management of water supplies and allocations during drought conditions (CWC §10826.2 AB).

Milestone Schedule: Improve Agricultural Water Use Efficiency and Drought Planning

2019	Apr 1 – Agricultural water suppliers submit annual farm-gate delivery data to DWR.
2020	Apr 1 – Agricultural water suppliers submit annual farm-gate delivery data to DWR.
2021	Apr 1 – Agricultural water suppliers submit annual farm-gate delivery data to DWR. Apr 1 – Agricultural water suppliers update AWMPs and submit no later than 30 days after adoption. Dec 31 - DWR submits status report on efficient water management practices to Legislature.
2022	Apr 1 – Agricultural water suppliers submit annual farm-gate delivery data to DWR. Apr 30 – DWR submits status report on AWMPs to Legislature.
2023	Apr 1 – Agricultural water suppliers submit annual farm-gate delivery data to DWR.
2024	Apr 1 – Agricultural water suppliers submit annual farm-gate delivery data to DWR.
2025	Apr 1 – Agricultural water suppliers submit annual farm-gate delivery data to DWR.
2026	Apr 1 – Agricultural water suppliers submit annual farm-gate delivery data to DWR. Apr 1 – Agricultural water suppliers update AWMPs and submit no later than 30 days after adoption. Dec 31 – DWR submits status report on efficient water management practices to Legislature.
2027	Apr 1 – Agricultural water suppliers submit annual farm-gate delivery data to DWR. Apr 30 – DWR submits status report on AWMPs to Legislature.

AB 1668 specifies content requirements of an agricultural water supplier's drought plan as the following (CWC §10826.2 AB):

- *Resilience planning*
  - *Data, indicators, and information needs*
  - *Methods and procedures for vulnerability assessment*
  - *Opportunities and constraints for improving resilience planning*
- *Drought response planning*
  - *Policies and a process for water shortage declaration*
  - *Methods and procedures for enforcement, appeal of, or exemption from triggered shortage response actions*
  - *Methods and procedures for monitoring and evaluation of plan effectiveness*
  - *Communication protocols and procedures*
  - *Revenue stabilization measures*

REPORTING REQUIREMENTS

AB 1668 adds additional specifications on the farm-gate delivery reporting for agricultural water suppliers that provide 2,000 acre-feet or more of surface water annually for agricultural purposes or serve 2,000 or more acres of agricultural land, as defined in CWC §531(b). Specifically, AB 1668 requires each agricultural water supplier to:

- Submit to DWR, by April 1 of each year, annual aggregated farm-gate delivery data organized by groundwater basin or sub-basin, if applicable, using electronic standardized formats specified by DWR (CWC §531.10 AB).

AB 1668 also amends reporting requirements for agricultural water suppliers that provide water to 10,000 or more irrigated acres, excluding recycled water. The legislation requires each agricultural water supplier to:

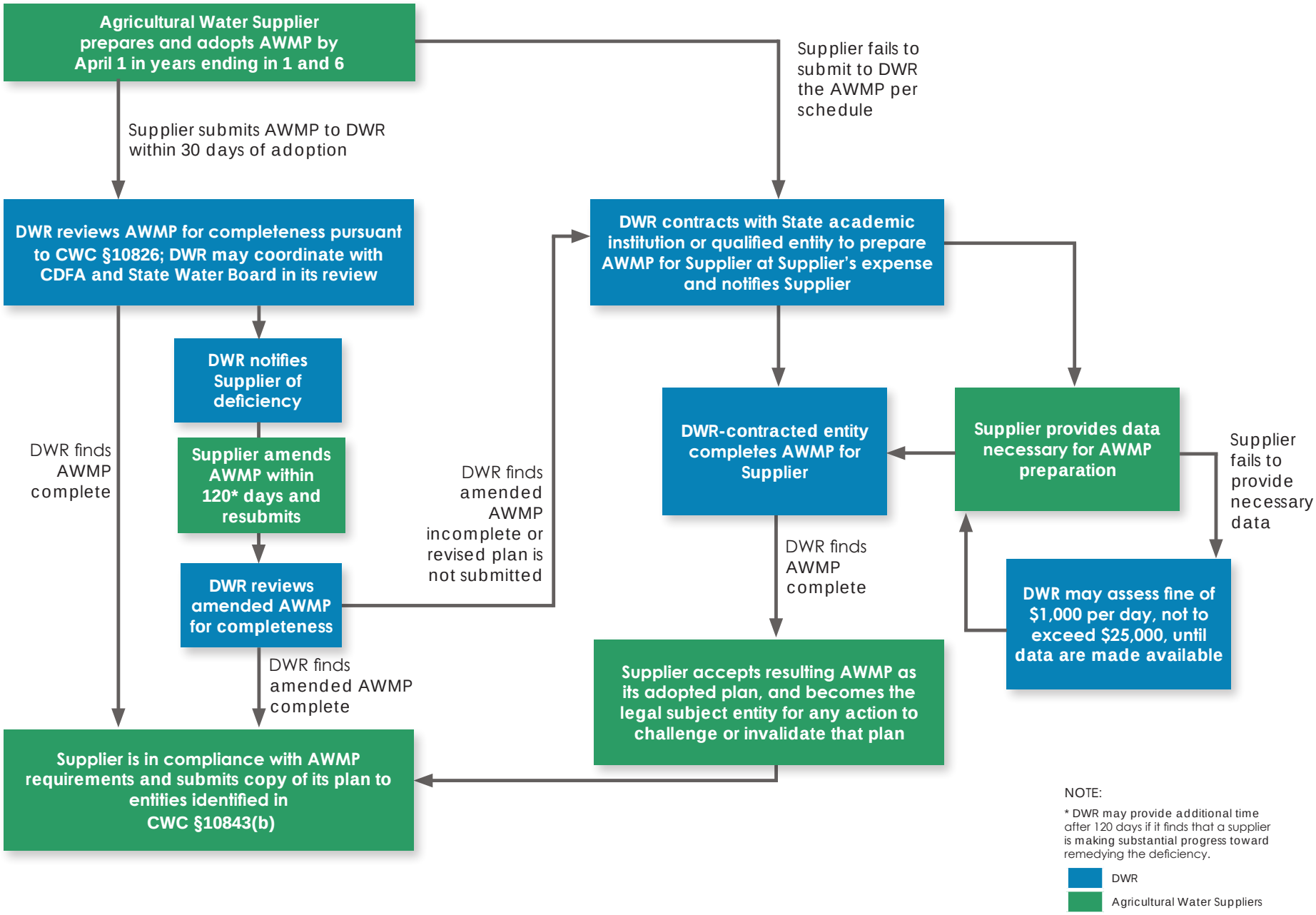
- Use a standardized form specified by DWR to report implemented efficient water management practices as requested by existing law (CWC §10608.48(e) AB).
- Adopt its AWMP, by April 1 in years ending in 1 and 6, with additional provisions for submission, review, and enforcement as depicted in the flowchart on the following page (CWC §10820 AB). The next deadline for adoption of an updated AWMP that satisfies the new requirements is April 1, 2021.

To accommodate the AWMP adoption deadline change, AB 1668 modifies DWR's reporting requirement to submit a report summarizing the status of AWMP adoptions by April 30, 2022, and thereafter in the years ending in 2 and 7 (CWC §10845 AB).

ADOPTION, REVIEW, AND ENFORCEMENT

AB 1668 provides new authorities and requirements for adoption and review of AWMPs, and for enforcement actions against non-compliant agricultural water suppliers. Under AB 1668, an agricultural water supplier shall submit its adopted AWMP to DWR no later than 30 days after adoption. Based on DWR's review, certain enforcement actions may be imposed by compelling data submittal with penalty or by referring to another entity to prepare the AWMP at the water supplier's expense (CWC §10820 AB). The flowchart on the following page shows the process for AWMP adoption, review, and enforcement.

Requirements for Agricultural Water Management Plan Preparation and Adoption by Agricultural Water Suppliers, and DWR's Review and Potential Enforcement Actions (CWC §10820 AB)



Implementation Schedule

06 Implementation Schedule

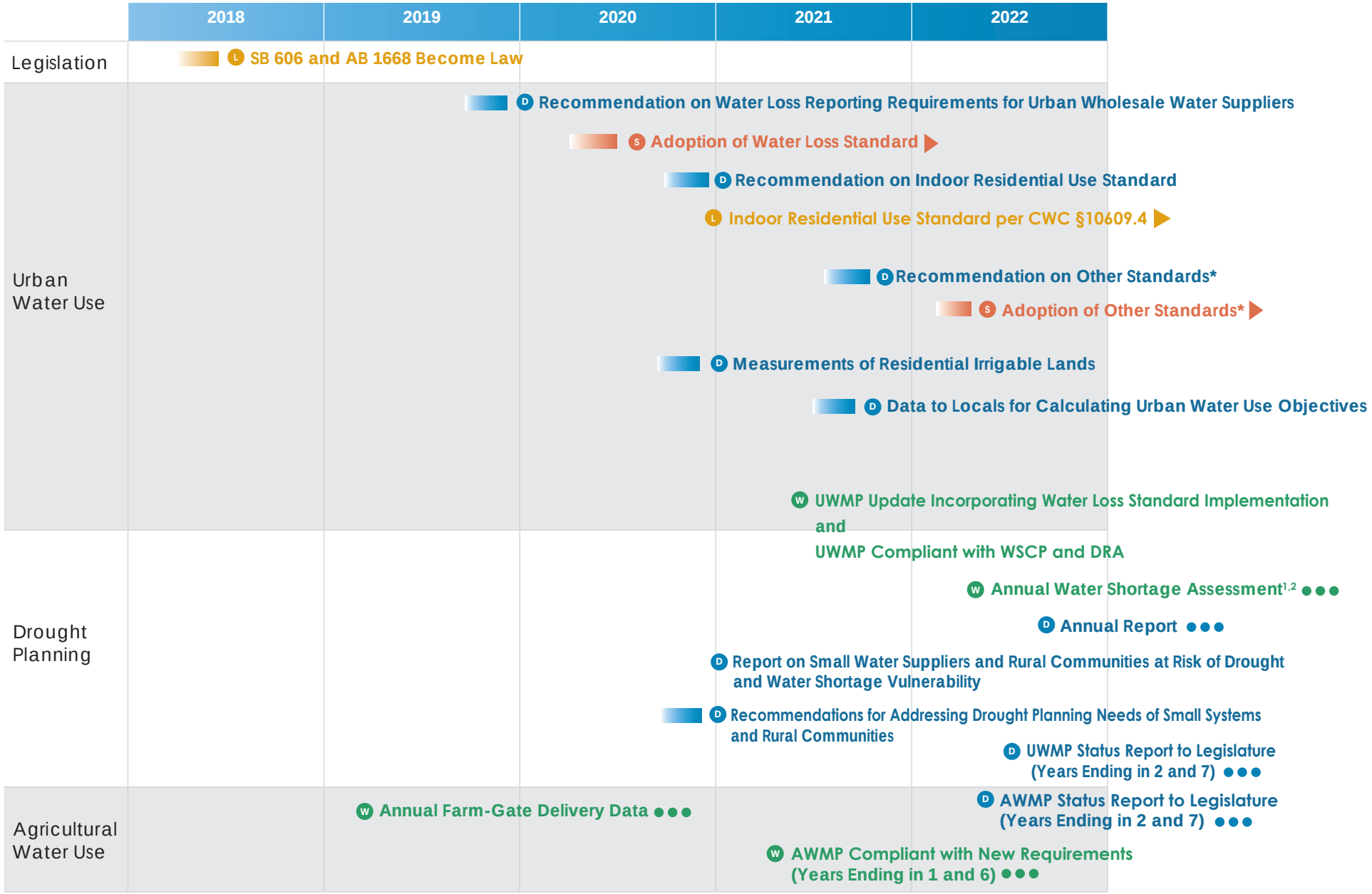
SB 606 and AB 1668 provide new and expanded authorities and requirements for long-term water conservation. A high-level schedule of major milestones established in SB 606 and AB 1668 is presented on the following pages. **Appendix A** includes additional details on the mandated schedule, requirements, milestones, and corresponding roles and responsibilities.

Appendix B includes a list of major State agency tasks to meet the new requirements associated with implementing SB 606 and AB 1668. **Appendix C** includes a list of major water supplier tasks to meet the new requirements associated with implementing SB 606 and AB 1668.

DWR and the State Water Board continue to implement existing requirements under SB X7-7 and SB 555. To satisfy SB 606 and AB 1668, DWR, in coordination with the State Water Board, is formulating a work and communication plan for developing datasets, information, guidance, and recommendations that are required by the legislation over the next few years. This work and communication will include (1) broad stakeholder engagement, (2) enhancement of DWR and the State Water Board's organizational capacities to accommodate the expanded scopes and responsibilities related to both technical and as-needed compliance assistance, and (3) collaboration and coordination with other State agencies for implementing the 2018 legislation.

SB 606 and AB 1668 include requirements for public access to data and their use, as well as related studies, reports, and investigations. Both DWR and the State Water Board currently provide public access to data and information and will continue to do so.

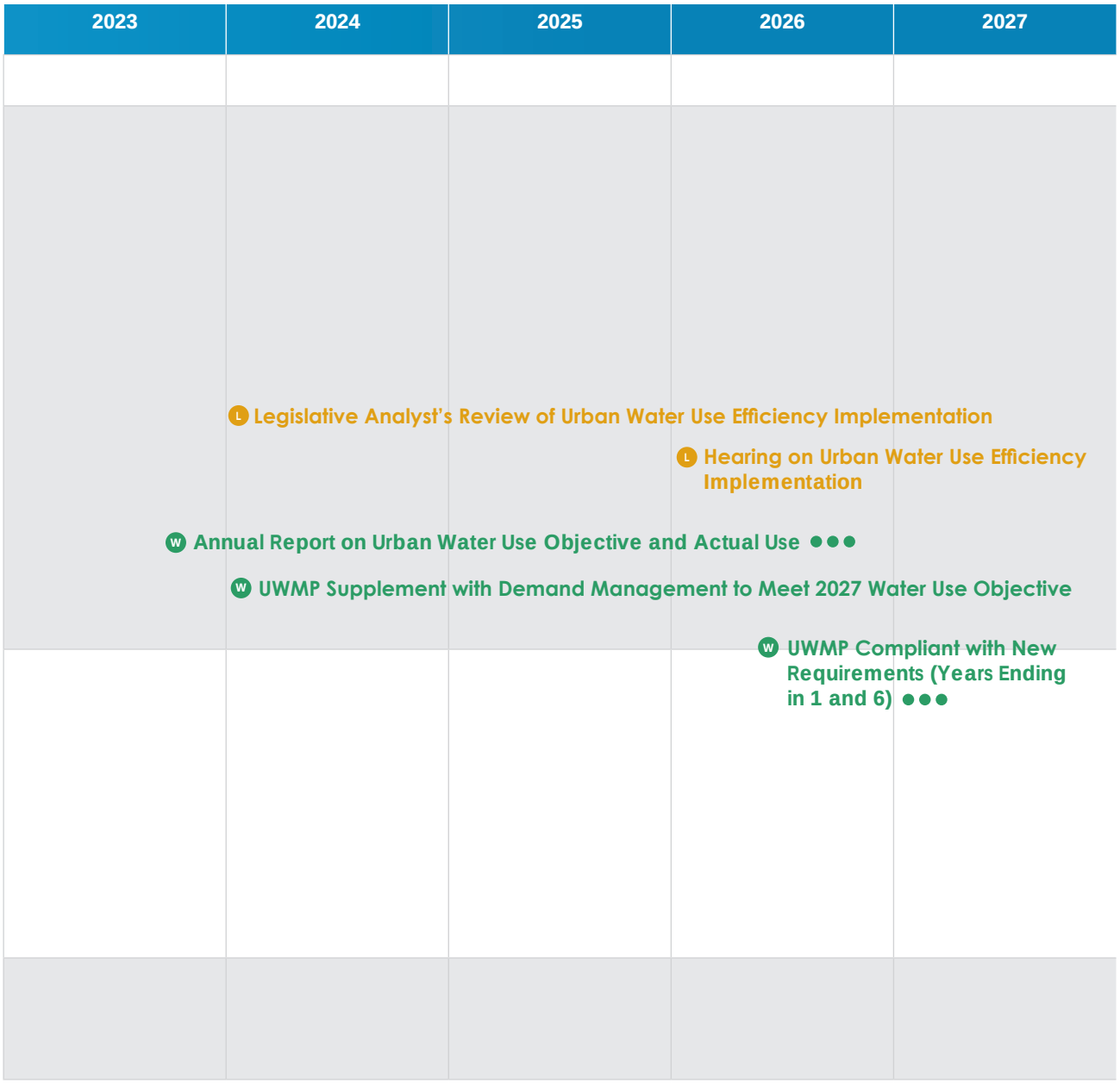
High-Level Schedule of Major Milestones Established in SB 606 and AB 1668



NOTE:

[1] For urban water suppliers that receive imported water, the due date is June 1 or 14 days after final allocation from State Water Project or U.S. Department of the Interior, Bureau of Reclamation, whichever is later. The inclusion of 2022 as the starting year is to match the availability of WSCPs that are to be adopted by urban water suppliers.

[2] DWR encourages urban water suppliers to conduct such assessments prior to 2022 and submit their information to DWR.



LEAD ENTITY LEGEND

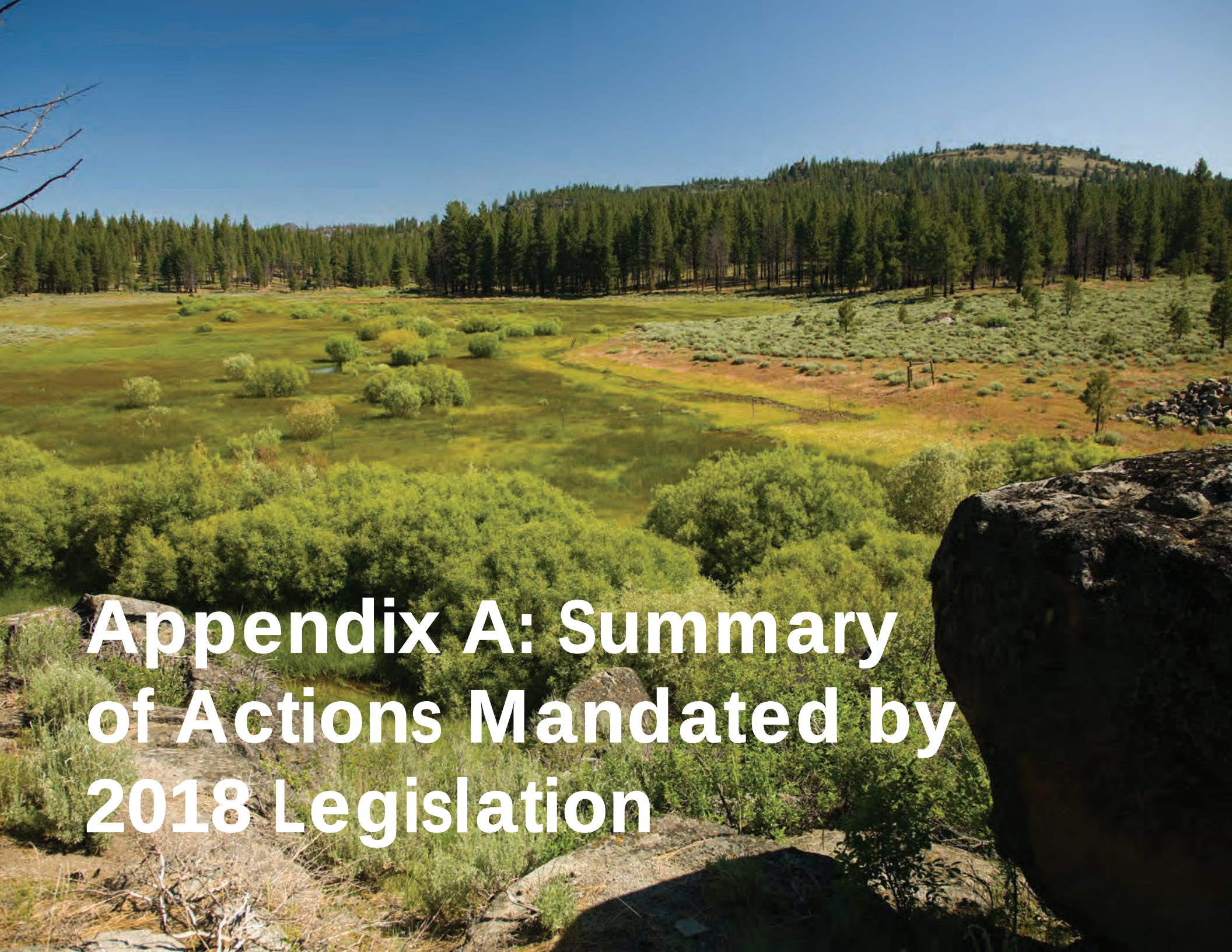
- L Legislature
- D DWR
- S State Water Board
- W Water Supplier

ACTIVITY LEGEND

- Coordination and Engagement (Length not to scale)
- Action/Submittal/Product
- Continued Implementation
- ●●● Repeated Requirements

NOTE:

* Other standards means:
  - Outdoor residential use standard
  - Standard for CII outdoor landscape area with dedicated irrigation meters
  - Performance measures for CII water use
  - Appropriate variances
  - Guidelines and methodologies for calculating urban water use objectives



Appendix A: Summary of Actions Mandated by 2018 Legislation

Appendix A **Summary of Actions Mandated by 2018 Legislation**

The following table identifies actions and entities with roles that are specified in Senate Bill (SB) 606 (Hertzberg) and Assembly Bill (AB) 1668 (Friedman). The California Department of Water Resources (DWR) and State Water Resources Control Board (State Water Board) recognize that stakeholder engagement, participation, coordination, and collaboration will be needed for development and implementation of mandated actions. The 2018 legislation includes many actions without a specific due date and some are sequentially dependent. The actions in this table are sorted chronologically with sequentially-dependent actions grouped together. The legislation also requires broad stakeholder and public participation during implementation. However, this table only includes "PP" (public participation) where those stakeholder interactions are explicitly called out in the legislation.

- **L** = Lead agency; Lead agency is responsible for implementing action.
- **CR** = Coordinating agency; Lead agency will coordinate with this particular agency to implement action.
- **CS** = Consulting agency; Lead agency will consult with this particular agency to implement action.
- **PP** = Public participation; Lead agency will solicit broad public and stakeholder participation throughout implementation.

Due Date	Action	CWC Section	Role of Entity						Related Existing Authorities and Requirements
			DWR	State Water Board	Legislative Analyst	Urban Retail Water Supplier	Agricultural Water Supplier	Stakeholders/ Public	
USE WATER MORE WISELY									
Jan 1, 2021	DWR, in coordination with the State Water Board, shall conduct the necessary studies and investigations to develop recommendations to the Legislature on standards for indoor residential use that include benefit and impact assessments for applying such standards. The studies and investigations shall be conducted with input from a broad group of stakeholders.	10609.4(b)	L	CR				PP	None.
Jan 1, 2021	DWR shall report the results of the studies and investigations on indoor residential water use to each house of the Legislature. DWR and the State Water Board may jointly recommend a new standard for indoor residential water use to the Legislature.	10609.4(b)	L	L	PP			PP	None.
Jan 1, 2021	DWR shall provide urban retail water suppliers with data regarding the area of residential irrigable lands with sufficient validation for accuracy for implementation of the residential outdoor standards.	10609.6(b); 10609(c)	L						None.

Due Date	Action	CWC Section	Role of Entity						Related Existing Authorities and Requirements
			DWR	State Water Board	Legislative Analyst	Urban Retail Water Supplier	Agricultural Water Supplier	Stakeholders/ Public	
Oct 1, 2021	DWR, in coordination with the State Water Board, shall conduct necessary studies and investigations to develop recommendations for standards for outdoor residential water use that incorporate the MWELO. The standards shall apply to residential irrigable lands and include provisions for residential water features.	10609.6; 10609.9	L	CR					None.
Oct 1, 2021	DWR, in coordination with the State Water Board, shall conduct necessary studies and investigations to develop recommendations for standards for outdoor irrigation of landscape areas with dedicated irrigation meters or other means of calculating outdoor irrigation use in connection with CII water use for adoption by the State Water Board. The standards shall incorporate the MWELO principles and exclude commercial agricultural use.	10609.8; 10609.9	L	CR					Section 10608.20(a)(2)(C)
Oct 1, 2021	DWR, in coordination with the State Water Board, shall conduct necessary studies and investigations on performance measures for CII water use. DWR, in coordination with the State Water Board, shall conduct broad public participation from stakeholders on the following: CII water use classification system, minimum size thresholds for converting mixed CII meters to dedicated irrigation meters, technologies that can be used in lieu of required dedicated irrigation meters, and CII water use best management practices.	10609.10(a) and (b)	L	CR				PP	Section 10608.20(a)(2)(C)
Oct 1, 2021	DWR, in coordination with the State Water Board, shall recommend performance measures for CII water use that includes a CII water use classification system for significant water uses, the thresholds for requirement of a dedicated irrigation meter, and best management practices.	10609.10(a)	L	CR				PP	Section 10608.20(a)(2)(C)

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Due Date	Action	CWC Section	Role of Entity						Related Existing Authorities and Requirements
			DWR	State Water Board	Legislative Analyst	Urban Retail Water Supplier	Agricultural Water Supplier	Stakeholders/ Public	
Jun 30, 2022	State Water Board, in coordination with DWR, shall adopt CII water use performance measures.	10609.10(d)(1)	CR	L					Section 10608.20(a)(2)(C)
After Jun 30, 2022[1]	Urban retail water suppliers shall implement the CII performance measures adopted by the State Water Board.	10609.10(d)(2)				L			Section 10608.20(a)(2)(C)
Oct 1, 2021	DWR, in coordination with the State Water Board, shall develop appropriate variances for unique uses that can have a material effect on an urban retail water supplier's urban water use objective and the corresponding thresholds of significance for each recommended variance.	10609.14	L	CR					None.
Not Specified	State Water Board, in coordination with DWR, shall adopt by regulation variances recommended by DWR.	10609.2(e)	CR	L					None.
Not Specified	State Water Board shall post on its website a list of urban retail water suppliers with approved variances, the specific variance or variances approved for each urban retail water supplier, and the data supporting approvals of each variance.	10609.14(e)		L					None.
Not Specified	Urban retail water agencies shall request and receive approval by the State Water Board prior to including any specific variances in calculating an urban retail water agency's water use objective.	10609.14(d)		L		L			None.

NOTE:

[1] Action will be implemented after performance measures for CII water use are adopted by the State Water Board. Pursuant to Section 10609.10(d)(1), the State Water Board shall adopt performance measures for CII water use on or before June 30, 2022.

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Due Date	Action	CWC Section	Role of Entity						Related Existing Authorities and Requirements
			DWR	State Water Board	Legislative Analyst	Urban Retail Water Supplier	Agricultural Water Supplier	Stakeholders/ Public	
Not Specified	DWR and the State Water Board shall publicly publish the urban water use reporting requirements commonly required by both agencies and implement actions for improved data publication and public accessibility, including the following: how each agency can integrate various datasets in a publicly accessible location, and identify and implement priority actions.	10609.15	L	L					Section 10608.52(a)
Oct 1, 2021	DWR, in coordination with the State Water Board, shall develop guidelines and methodologies that identify how an urban retail water supplier calculates its urban water use objective.	10609.16	L	CR					None.
Not Specified	DWR shall provide, or otherwise identify, data related to unique local conditions to support the calculation of an urban water use objective.	10609(b)(2)(C)	L						None.
Not Specified	State Water Board, in coordination with DWR, shall adopt by regulation guidelines and methodologies recommended by DWR pertaining to the calculation of an urban retail water supplier's urban water use objective.	10609.2(e)	CR	L					None.
Nov 1, 2023, and annually thereafter	Each urban retail water supplier shall calculate its urban water use objective no later than November 1, 2023 and November 1 each year thereafter.	10609.20				L			None.
May 30, 2022	State Water Board, in coordination with DWR, shall identify the proposed standards for 1) outdoor residential water use, and 2) outdoor irrigation of landscape areas with dedicated irrigation meters in connection with CII water use for public comments. State Water Board, in coordination with DWR, shall consider the proposed standards' potential effects on local wastewater management, developed and natural parklands, and urban tree health.	10609.2(b)(3) and (c)	CR	L				PP	None.

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Due Date	Action	CWC Section	Role of Entity						Related Existing Authorities and Requirements
			DWR	State Water Board	Legislative Analyst	Urban Retail Water Supplier	Agricultural Water Supplier	Stakeholders/ Public	
Not Specified	State Water Board shall hold at least one public meeting before taking any action on any standard/variance recommended by DWR.	10609.18		L				PP	None.
Jun 30, 2022	State Water Board, in coordination with DWR, shall adopt urban water use standards, performance measures (CII only), and related methodology and guidance.	10609.2(a) and (b); 10609.10(d)(1); 10609.16	CR	L					Section 10608.20(a)(2)(C)
Not Specified	DWR may adopt regulations regarding definitions of water, water use, and reporting periods. DWR shall solicit broad public participation to develop the definitions.	10657	L					PP	None.
Nov 1, 2023, and annually thereafter	Urban water suppliers shall submit annual reports to DWR by November 1, 2023 and by November 1 of each year thereafter on urban water use objectives, actual urban water use, implementation of CII water use performance measures, and progress towards urban water use objective.	10609.24(a)				L			None.
Nov 1, 2023, and annually thereafter	DWR shall post annual urban water use reports and information received from urban retail water suppliers.	10609.24(b)	L						None.
On or after Nov 1, 2023	State Water Board may issue an informational order on water production, water use, and water conservation to urban retail water suppliers not meeting their water use objective in order to identify technical assistance needs.	10609.26(a)(1); 10609.24(c)		L					None.
Jan 1, 2024	Urban water suppliers shall adopt and submit to DWR a supplement to their adopted 2020 UWMPs on implementation of demand management measures to achieve their urban water use objective.	10621(f)(2); 10631(e)(1)(B)				L			None.

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Due Date	Action	CWC Section	Role of Entity						Related Existing Authorities and Requirements
			DWR	State Water Board	Legislative Analyst	Urban Retail Water Supplier	Agricultural Water Supplier	Stakeholders/ Public	
On or after Nov 1, 2024	State Water Board may issue a written warning notice to urban retail water suppliers not meeting their water use objective.	10609.26(b)		L					None.
On or after Nov 1, 2025	State Water Board may issue a conservation order to urban retail water suppliers not meeting their water use objective. The order may consist of referral to DWR for technical assistance, requirements for education and outreach, requirements for local enforcement, and other efforts to assist urban retail water suppliers in meeting their water use objective.	10609.26(c)		L					None.
On or around Jan 10, 2024	Legislative Analyst shall provide a report to both houses of the Legislature and the public a report evaluating the implementation of the water use efficiency standards and water use reporting. DWR and the State Water Board shall provide the necessary data to the Legislative Analyst for the report.	10609.30	CR	CR	L				None.
Jan 1, 2026	DWR Director and State Water Board Chairperson shall appear before the appropriate policy committees of both houses of the Legislature and report on implementation of the urban water use standards and water use reporting requirements.	10609.32	L	L					None.
Jan 1, 2027	Urban retail water suppliers shall achieve urban water use objectives by Jan 1, 2027.	10631(e)(1)(B)				L			None.

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Due Date	Action	CWC Section	Role of Entity						Related Existing Authorities and Requirements
			DWR	State Water Board	Legislative Analyst	Urban Retail Water Supplier	Agricultural Water Supplier	Stakeholders/ Public	
ELIMINATE WATER WASTE									
Jan 1, 2020	DWR, in coordination with the State Water Board, shall conduct studies and investigations and make recommendation to Legislature on the feasibility of developing and enacting water loss reporting requirements for urban wholesale water suppliers. DWR, in coordination with the State Water Board, shall solicit broad stakeholder participation.	10608.35	L	CR				PP	Section 10608.34
Jun 30, 2022	Standards for volume of water loss adopted by State Water Board, in coordination with DWR, pursuant to CWC §10608.34, are used for calculation of urban water use objective.	10609.2(a)	CR	L					Section 10608.34
Jul 1, 2021, and each update thereafter	Urban retail water suppliers shall include in their UWMPs information on whether the supplier met its distribution loss standards.	10631(d)(3)(C)				L			Section 10631
STRENGTHEN LOCAL DROUGHT RESILIENCE									
July 1, 2021, and every five years thereafter	Urban water suppliers shall update, adopt, and submit to DWR UWMPs by July 1 in years ending in six and one. If regulated by the California Public Utilities Commission, most recent plan and WSCP to be included in supplier's general rate case filings. UWMPs must include a drought risk assessment for water service area.	10621(a); 10621(c); 10635(b); 10642				L		PP	Section 106.21(a); Section 10631
Jan 1, 2024	Urban water suppliers shall adopt and submit to DWR a supplement to the adopted 2020 UWMPs on water demand management measures to be implemented and compliance.	10621(f)(2)				L			None

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Due Date	Action	CWC Section	Role of Entity						Related Existing Authorities and Requirements
			DWR	State Water Board	Legislative Analyst	Urban Retail Water Supplier	Agricultural Water Supplier	Stakeholders/ Public	
Jun 1, 2022[2], and annually thereafter	Urban water suppliers shall conduct annual water supply and demand assessment by June 1 of each year and submit annual water shortage assessment report to DWR. If receiving water from the State Water Project or the Bureau of Reclamation, urban water suppliers shall submit annual water supply and demand assessment within 14 days of receiving its final allocations, or by June 1 of each year, whichever is later.	10632.1				L			None.
Jan 1, 2020	DWR, in consultation with the State Water Board, shall identify small water suppliers and rural communities that may be at risk of drought and water shortage vulnerability. DWR, in consultation with the State Water Board, shall notify counties/ groundwater sustainability agencies and make information available to the public on its website.	10609.42(a)	L	CS				CS	None.
Not Specified	Urban water suppliers shall include WSCP in UWMPs. Urban water suppliers may work with others participating in area-wide, regional, watershed, or basin-wide UWMP, AWMP, or groundwater sustainability plan development.	10620(d)(2); 10632(a)				L			Section 10632

NOTE:

[2] The inclusion of 2022 as the starting year is to match the availability of WSCPs that are to be adopted by urban water suppliers. DWR encourages urban water suppliers to conduct such assessments prior to 2022 and submit their information to DWR.

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Due Date	Action	CWC Section	Role of Entity						Related Existing Authorities and Requirements
			DWR	State Water Board	Legislative Analyst	Urban Retail Water Supplier	Agricultural Water Supplier	Stakeholders/ Public	
Jan 1, 2020	DWR, in consultation with the State Water Board, shall propose to the Governor and Legislature development and implementation of countywide drought and WSCPs for small water suppliers and rural communities. DWR, in consultation with the State Water Board, shall recommend how to include countywide drought and WSCPs in county local hazard mitigation plans or other processes. DWR's guidelines, developed in consultation with the State Water Board, shall outline goals of countywide drought and WSCPs and recommend components for the plan.	10609.42 (b)	L	CS				PP	None.
Jul 1, 2022, and every five years thereafter	DWR must include WSCPs in a report on status of UWMP adoption to the Legislature, and submit the report on or before July 1 in years ending in seven and two. DWR, in coordination with the State Water Board, shall provide a copy of the report to each urban retail water supplier concerned. DWR shall also prepare a report and provide data for any Legislative hearings, on request.	10644(c)(1)(a)	L						Section 10231.5
Sept 30, 2022, and annually thereafter	DWR must prepare and submit an annual report to the State Water Board summarizing water supply and demand assessment results, reported water shortage conditions, and regional and statewide analysis of water supply conditions by September 30 of every year.	10644(c)(1)(b)	L						None.

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Due Date	Action	CWC Section	Role of Entity						Related Existing Authorities and Requirements
			DWR	State Water Board	Legislative Analyst	Urban Retail Water Supplier	Agricultural Water Supplier	Stakeholders/ Public	
IMPROVE AGRICULTURAL WATER USE EFFICIENCY AND DROUGHT PLANNING									
Apr 1, 2019, annually thereafter	Agricultural water suppliers shall submit an annual report to DWR summarizing aggregated farm-gate delivery data on a monthly or bimonthly basis organized by basin by April 1 of each year.	531.10(a)(1)					L		Section 531.10.(a)
Annually	DWR shall post all aggregated farm-gate delivery reports on its website in a timely manner.	531.10(a)(3)	L						Section 531.10.(a)
Apr 1, 2021, and every five years thereafter	Agricultural water suppliers shall update AWMPs with newly required content and submit AWMPs to DWR by April 1, 2021. AWMPs shall be updated thereafter in years ending in six and one. Prior to adopting AWMPs, the agricultural water supplier shall make the proposed plan available for public inspection, and shall hold a public hearing on the plan.	10820(a)(2)(A) and (B); 10826.2; 10841					L		Section 18020; Section 10826
Every five years	DWR shall review submitted AWMPs, in coordination with the California Department of Food and Agriculture and the State Water Board, and notify non-compliant suppliers and identify specific deficiencies. The supplier shall have 120 days to remedy an identified deficiency. DWR, in coordination with the State Water Board, shall take action against and penalize suppliers either not submitting a plan or submitting a non-compliant plan and failing in revisiting it.	10820(b)	L	CR					None.

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CS = Consulting agency; Lead agency will consult with this particular agency to implement action

Due Date	Action	CWC Section	Role of Entity						Related Existing Authorities and Requirements
			DWR	State Water Board	Legislative Analyst	Urban Retail Water Supplier	Agricultural Water Supplier	Stakeholders/ Public	
Apr 30, 2022, and every five years thereafter	DWR shall submit a report on the status of AWMP adoption to the Legislature due April 30, 2022 and thereafter in the years ended in seven and two. DWR shall provide a copy of the report to each agricultural water supplier concerned, and shall also prepare reports and provide data for legislative hearings on request.	10845(a)	L						Section 10845(a)

KEY:

AWMP = Agricultural Water Management Plan

Bureau of Reclamation = U.S. Department of the Interior, Bureau of Reclamation

CII = commercial, industrial, and institutional

CR = Coordinating agency; Lead agency will coordinate with this particular agency to implement action

CS = Consulting agency; Lead agency will consult with this particular agency to implement action

CWC = California Water Code

DWR = California Department of Water Resources

L = Lead agency; Lead agency is responsible for implementing action

Legislature = California State Legislature

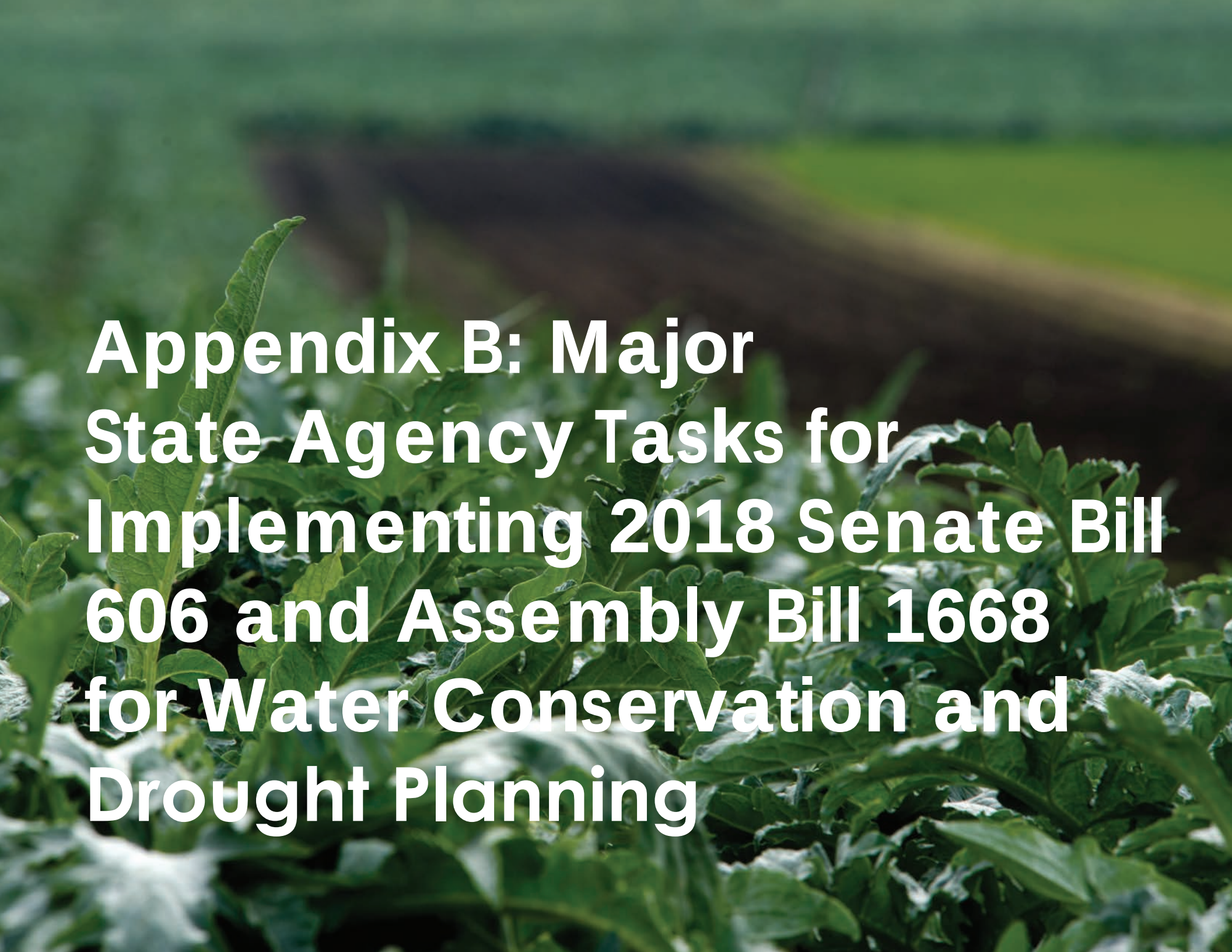
MWELO = Model Water Efficient Landscape Ordinanc

PP = Public participation; Lead agency will solicit broad public and stakeholder participation throughout implementation

State Water Board = State Water Resources Control Board

UWMP = Urban Water Management Plan

WSCP = Water Shortage Contingency Plan



Appendix B: Major State Agency Tasks for Implementing 2018 Senate Bill 606 and Assembly Bill 1668 for Water Conservation and Drought Planning

Appendix B Major State Agency Tasks for Implementing 2018 Senate Bill 606 and Assembly Bill 1668 for Water Conservation and Drought Planning

The California Department of Water Resources (DWR) and State Water Resources Control Board (State Water Board) have compiled a list of major tasks with deliverables and products to meet the new requirements associated with implementing Senate Bill (SB) 606 (Hertzberg) and Assembly Bill (AB) 1668 (Friedman) (see Table B-1). Table B-1 only includes deadlines that are specified in the legislation. In other instances, "TBD" is listed. Table B-2 presents the State Water Board's actions related to compliance and enforcement and drought planning.

DWR and the State Water Board will solicit input and feedback from stakeholders during task execution through the formation and conduct of advisory groups as well as other public venues. More information on these groups and venues will be available during implementation.

In chronological order by topic, the major tasks for DWR and the State Water Board, include:

Table B-1. SB 606 and AB 1668
Major Tasks[1] for DWR and State Water Board

Task #	Description	Deadline	Agency(ies)	CWC Section
Urban Water Use and Drought Planning				
1	May adopt regulation on monthly report relating to water production, water use or water conservation.	No date specified; After Jan 1, 2019	State Water Board	10609.28 SB
2	Streamline water suppliers' data reporting and make submitted data publicly available and accessible.	No date specified; begin data review and analysis Jul 2019	State Water Board and DWR	10609.15 AB
3	Recommend to Legislature feasibility of extending water loss reporting requirements to urban wholesale water suppliers.	Jan 1, 2020	DWR in coordination with State Water Board	10608.35(a) SB
4	Adopt water loss standard for urban retail water suppliers.	Jul 1, 2020	State Water Board	10631(d)(3)(C) SB; 10609.2 AB
5	Update UWMP Guidebook and Templates for new water shortage contingency planning, drought risk assessment, and other requirements (e.g., water loss standard implementation if not updated previously).	No date specified; TBD, prior to Jul 2021	DWR	10632 SB; 10631(d)(3) SB

NOTES:

[1] The list of major tasks includes tasks with major deliverables and products required by the new legislation, and other tasks deemed by DWR and the State Water Board necessary to implement the legislation. The detailed requirements on coordination with other state and local government agencies and stakeholders are not elaborated in the list but will be incorporated in task execution.

Table B-1. SB 606 and AB 1668 Major Tasks[1] for DWR and State Water Board				
Task #	Description	Deadline	Agency(ies)	CWC Section
Urban Water Use and Drought Planning (Continued)				
6	Recommend to Legislature indoor residential water use efficiency standards based on indoor residential water use study.	Jan 1, 2021	DWR in coordination with State Water Board	10609.4(b)(1) AB
7	Provide residential irrigable landscape area measurement to urban retail water suppliers.	Jan 1, 2021	DWR	10609.6(b) AB
8	Provide data regarding unique local conditions to support calculation of urban water use objective, including CIMIS dataset improvement and population data.	No date specified; TBD, prior to Oct 1, 2021, to match date for recommending standards	DWR	10609(b)(2)(c) AB
9	Develop and recommend to State Water Board outdoor residential water use efficiency standards.	Oct 1, 2021	DWR in coordination with State Water Board	10609.6(a)(1) AB
10	Develop and recommend to State Water Board CII water use standard for outdoor irrigation of landscapes with dedicated meters.	Oct 1, 2021	DWR in coordination with State Water Board	10609.8(a) AB
11	Develop and recommend to State Water Board on CII performance measures.	Oct 1, 2021	DWR in coordination with State Water Board	10609.10(a) AB
12	Develop and recommend to State Water Board on variances.	Oct 1, 2021	DWR in coordination with State Water Board	10609.14(a) AB
13	Develop and recommend to State Water Board guidelines and methodologies for water use objective calculation.	Oct 1, 2021	DWR in coordination with State Water Board	10609.16 AB
14	Identify potential effects of standards on wastewater management, parklands, and urban tree health.	May 30, 2022	State Water Board	10609.2(c) AB
15	Develop guidelines, forms, and web portal for annual water supply and demand assessment report.	No date specified; TBD, prior to Jun 1, 2022	DWR	10632.1 SB
16	Adopt water use efficiency standards for outdoor residential water use and outdoor irrigation of landscape areas with dedicated irrigation meters in connection with CII water use and CII water use performance measures[2].	Jun 30, 2022	State Water Board in coordination with DWR	10609.2 AB; 10609.10(d) AB

NOTES:

[1] The list of major tasks includes tasks with major deliverables and products required by the new legislation, and other tasks deemed by DWR and the State Water Board necessary to implement the legislation. The detailed requirements on coordination with other state and local government agencies and stakeholders are not elaborated in the list but will be incorporated in task execution.

[2] The standard for a water loss volume will be adopted in 2020 (see task #4).

Table B-1. SB 606 and AB 1668 Major Tasks[1] for DWR and State Water Board				
Task #	Description	Deadline	Agency(ies)	CWC Section
Urban Water Use and Drought Planning (Continued)				
17	Adopt guidelines and methodologies for water use objective calculation, and variances[3].	No date specified; TBD, prior to Jun 30, 2022, to match standard adoption and allow sufficient time for water suppliers to prepare their annual report by Nov 1, 2023	State Water Board	10609.2 AB
18	Prepare and submit to Legislature a report summarizing status of UWMP adoption.	Jul 1, 2022	DWR	10644(c)(1)(C) SB
19	Submit report to State Water Board on results of urban annual water supply and demand assessments and DWR analysis of regional and statewide water supply conditions.	Annually on Sep 30; starting 2022	DWR	10644(c)(1)(B) SB
20	Provide data to the Legislative Analyst Office for developing the review on implementation of urban water use efficiency standards for submitting to the Legislature .	No date specified; TBD, prior to Jan 10, 2024, in advance of Legislative Analyst report to Legislature	State Water Board and DWR	10609.30 SB
21	Chairperson of the State Water Board and Director of DWR Report on the implementation of the water use efficiency standards and water use reporting to the Legislature in the hearing before the appropriate policy committees of both houses.	On or around Jan 1, 2026	State Water Board and DWR	10609.32 SB
Small Water Systems and Rural Communities				
22	Develop report on small water suppliers and rural communities at risk of drought and water shortage vulnerability with website publication and notification to corresponding counties and groundwater sustainability agencies.	Jan 1, 2020	DWR in consultation with State Water Board and other relevant state agencies and local government and stakeholders	10609.42(a) AB
23	Recommend to Governor and Legislature for addressing drought planning needs of small water systems and rural communities.	Jan 1, 2020	DWR in consultation with State Water Board	10609.42(b) AB

NOTES:

[1] The list of major tasks includes tasks with major deliverables and products required by the new legislation, and other tasks deemed by DWR and the State Water Board necessary to implement the legislation. The detailed requirements on coordination with other state and local government agencies and stakeholders are not elaborated in the list but will be incorporated in task execution.

[3] State Water Board may continue to adopt additional acceptable variances afterward, if warranted.

Table B-1. SB 606 and AB 1668 Major Tasks[1] for DWR and State Water Board				
Task #	Description	Deadline	Agency(ies)	CWC Section
Agricultural Water Use				
24	Develop agricultural farm-gate delivery data submittal guidelines for annual report.	No date specified; TBD, prior to Apr 1, 2019, reporting deadline	DWR	531.10(a)(1) AB
25	Develop tools and resources to assist agricultural water suppliers in developing and quantifying components necessary to develop water budgets.	No date specified; TBD, prior to Apr 2021 reporting deadline	DWR	10826(c) AB
26	Develop tools to help agricultural water suppliers quantify efficiency of agricultural water use within their service areas.	No date specified; TBD, prior to Apr 2021 reporting deadline	DWR	10826(h) AB
27	Develop standardized reporting form for implementation of efficient water management practices and online submittal tool.	No date specified; TBD, prior to Apr 2021 reporting deadline	DWR	10608.48(e) AB
28	Update AWMP Guidebook.	No date specified; TBD, prior to Apr 2021 reporting deadline	DWR	10820(a)(2) AB
29	Prepare and submit to the Legislature a report on implementation of agricultural efficient water management practices.	Dec 31, 2021	DWR in consultation with State Water Board	10608.48(g) AB
30	Prepare and submit to Legislature a report summarizing status of AWMPs adopted.	Apr 30, 2022	DWR	10845(a) AB

NOTES:

[1] The list of major tasks includes tasks with major deliverables and products required by the new legislation, and other tasks deemed by DWR and the State Water Board necessary to implement the legislation. The detailed requirements on coordination with other state and local government agencies and stakeholders are not elaborated in the list but will be incorporated in task execution.

KEY:

AB = Assembly Bill
AWMP = Agricultural Water Management Plan
CII = commercial, industrial, and institutional
CIMIS = California Irrigation Management Information System
CWC = California Water Code
DWR = California Department of Water Resources
Legislature = California State Legislature
SB = Senate Bill
State Water Board = State Water Resources Control Board
TBD= To Be Determined
UWMP = Urban Water Management Plan
AB = AB 1668
SB = SB 606

Table B-2. Compliance and Enforcement Actions for State Water Board to Implement Water Conservation Provisions in SB 606 and AB 1668			
Item #	Description	Deadline	CWC Section
1	Provide progressive enforcement: May issue informational orders.	On or after Nov 1, 2023	10609.26(a)(1) SB
2	Provide progressive enforcement: May issue written notices.	On or after Nov 1, 2024	10609.26(b) SB
3	Provide progressive enforcement: May issue conservation orders.	On or after Nov 1, 2025	10609.26(c)(1) SB
4	Provide progressive enforcement: May impose civil liability (fine) for a violation of regulation.	After Nov 1, 2027	1846.5(b)(2) AB

KEY:

AB = Assembly Bill
CWC = California Water Code
DWR = California Department of Water Resources
SB = Senate Bill
State Water Board = State Water Resources Control Board
AB = AB 1668
SB = SB 606

Appendix C: Major Water Supplier Tasks for Implementing 2018 Senate Bill 606 and Assembly Bill 1668 for Water Conservation and Drought Planning

Appendix C Major Water Supplier Tasks for Implementing 2018 Senate Bill 606 and Assembly Bill 1668 for Water Conservation and Drought Planning

The California Department of Water Resources (DWR) and State Water Resources Control Board (State Water Board) have compiled a list of major tasks for urban and agricultural water suppliers to meet new requirements associated with implementing Senate Bill (SB) 606 (Hertzberg) and Assembly Bill (AB) 1668 (Friedman). These major tasks are as mandated in the 2018 legislation. Table C-1 presents the major tasks for urban retail water suppliers. Table C-2 presents the major tasks for urban wholesale water suppliers. Table C-3 presents the tasks for agricultural water suppliers. All tasks are presented in chronological order.

Table C-1. SB 606 and AB 1668
Major Tasks for Urban Retail Water Suppliers

Task #	Description	Deadline	CWC Section
1	Update and adopt UWMP and submit to DWR. If regulated by CPUC, include most recent plan in general rate case filings.	Jul 1, 2021, and every five years thereafter	10621(a) SB; 10621(c) SB
2	Prepare and adopt WSCP and DRA as part of UWMP[1]. If regulated by CPUC, include WSCP in general rate case filings.	Jul 1, 2021, and every five years thereafter	10621(c) SB; 10632(a) SB; 10635(b) SB
3	Prepare and submit to DWR annual water shortage assessment report[2].	Jun 1, 2022, and annually thereafter[3]	10632.1 SB
4	Submit annual report to DWR on urban water use objectives, actual urban water use, implementation of CII water use performance measures, and progress towards urban water use objective.	Nov 1, 2023, and annually thereafter	10609.24(a) SB
5	Adopt and submit to DWR supplement to adopted 2020 UWMP on implementation of demand management measures to achieve their urban water use objective.	Jan 1, 2024	10621(f)(2) SB

NOTES:

[1] If an urban water supplier revises its WSCP, the supplier must submit a copy of the revised WSCP to DWR not later than 30 days after adoption (CWC § 10644(b)).

[2] For urban water suppliers that receive imported water, the due date is June 1 or 14 days after final allocation from State Water Project or Bureau of Reclamation, whichever is later. The inclusion of 2022 as the starting year is to match the availability of WSCPs that are to be adopted by urban water suppliers. DWR encourages urban water suppliers to conduct such assessments prior to 2022 and submit their information to DWR.

[3] The annual water supply and demand assessment is the basis for the urban water supplier's annual water shortage assessment report.

KEY:

CII =	Commercial, industrial, and institutional	**DWR** =	California Department of Water Resources
CPUC =	California Public Utilities Commission	**UWMP** =	Urban Water Management Plan
DRA =	Drought Risk Assessment	**WSCP** =	Water Shortage Contingency Plan

Table C-2. SB 606 and AB 1668
Major Tasks for Urban Wholesale Water Suppliers

Task #	Description	Deadline	CWC Section
1	Update and adopt UWMP, and submit to DWR. If regulated by CPUC, include most recent plan in general rate case filings.	Jul 1, 2021, and every five years thereafter	10621(a) SB; 10621(c) SB
2	Prepare and adopt WSCP and DRA as part of UWMP[1]. If regulated by CPUC, include WSCP in general rate case filings.	Jul 1, 2021, and every five years thereafter	10621(c) SB; 10632(a) SB; 10635(b) SB; 10640(a) SB
3	Prepare and submit to DWR annual water shortage assessment report[2].	Annually on Jun 1; starting 2022[3]	10632.1 SB

NOTES:

[1] If an urban water supplier revises its WSCP, the supplier must submit a copy of the revised WSCP to DWR not later than 30 days after adoption (CWC § 10644(b)).

[2] For urban water suppliers that receive imported water, the due date is June 1 or 14 days after final allocation from State Water Project or Bureau of Reclamation, whichever is later. The inclusion of 2022 as the starting year is to match the availability of WSCPs that are to be adopted by urban water suppliers. DWR encourages urban water suppliers to conduct such assessments prior to 2022 and submit their information to DWR.

[3] The annual water supply and demand assessment is the basis for the urban water supplier's annual water shortage assessment report.

KEY:

CPUC = California Public Utilities Commission
DRA = Drought Risk Assessment
DWR = California Department of Water Resources
UWMP = Urban Water Management Plan
WSCP = Water Shortage Contingency Plan

Table C-3. SB 606 and AB 1668
Major Tasks for Agricultural Water Suppliers

Task #	Description	Deadline	CWC Section
1	Submit annual report to DWR summarizing aggregated farm-gate delivery data on a monthly or bimonthly basis organized by basin.	Apr 1, 2019, and annually thereafter	531.10(a) AB
2	Update AWMP with newly required content, including development of drought plan, and submit to DWR.	Apr 1, 2021, and every five years thereafter	10820(a)(2)(A) and (B) AB

KEY:

AWMP = Agricultural Water Management Plan
DWR = California Department of Water Resources

California Department of Water Resources

State Water Resources Control Board