El Dorado Water Agency

Water Resources Development and Management Plan

October 4, 2024 DRAFT

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Mission Statement

Ensure that El Dorado County has adequate and affordable water to maintain economic prosperity, protect the environment, and support the rural-agriculture way of life for today and in the future.

Board of Directors

Lori Parlin, Chair, El Dorado County Supervisor, District IV

Wendy Thomas, El Dorado County Supervisor, District III

George Turnboo, El Dorado County Supervisor, District II

Nick Haven, South Tahoe Public Utility District

Pat Dwyer, El Dorado Irrigation District

General Manager

Rebecca Guo, P.E.

Best Regards,

Lori Parlin
Board Chair
El Dorado Water Agency and
El Dorado County Supervisor, District IV

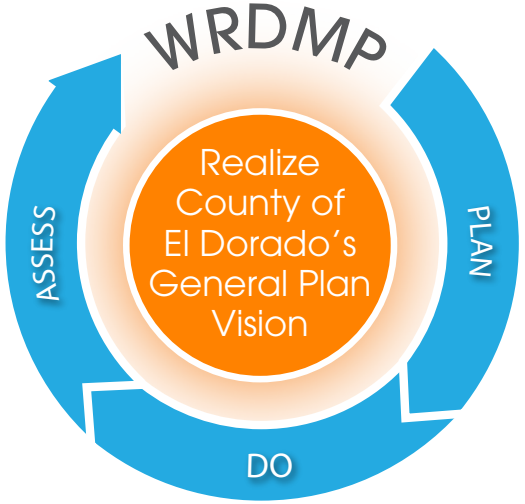
Rebecca Guo, P.E.
General Manager
El Dorado Water Agency

Executive Summary

The Water Resources Development and Management Plan (WRDMP) is the cornerstone document for the Agency's actions and investment and is subject to periodic updates in years ending in 4 and 9. The WRDMP was formulated to be a policy document with durable policies and guidance for long-term implementation to support sustainable and responsible water resources planning and economic prosperity in El Dorado County per the Agency's authorizing act, 1959 El Dorado County Water Agency Act (Act). It is also the countywide water plan that satisfies the requirements of Ordinance 5096 adopted by the County of El Dorado (County).

Coordination, Collaboration, and Cooperation for Countywide Benefits

The 2019 WRDMP reflected a major change in the Agency's priorities to refocus the actions and investment of the El Dorado Water Agency (Agency) to be consistent with its countywide charges provided by the 1959 Act. This change also allows the Agency to assist the County in realizing the vision of its adopted General Plan in terms of long-term water resources planning and management, and to support County's efforts for associated growth development, environmental protection, and maintaining the preferred rural-agricultural way of life. At the same time, the Agency has taken a role in participating and facilitating regional collaboration and transparency to create countywide benefits and respect the role and responsibilities of each partner during implementation. The resulting WRDMP is a policy document with durable resource management strategies and flexible implementation with periodic updates to reflect changed conditions. To support long-term and stable implementation, the Agency's Board of Directors (Board) adopted specific policies and guidance, as well as streamlined its business practices for consistent investments in five programs: Governance and Partnership, Water Security, Watershed Management, Assistance and Innovation, and Communication and Advocacy.

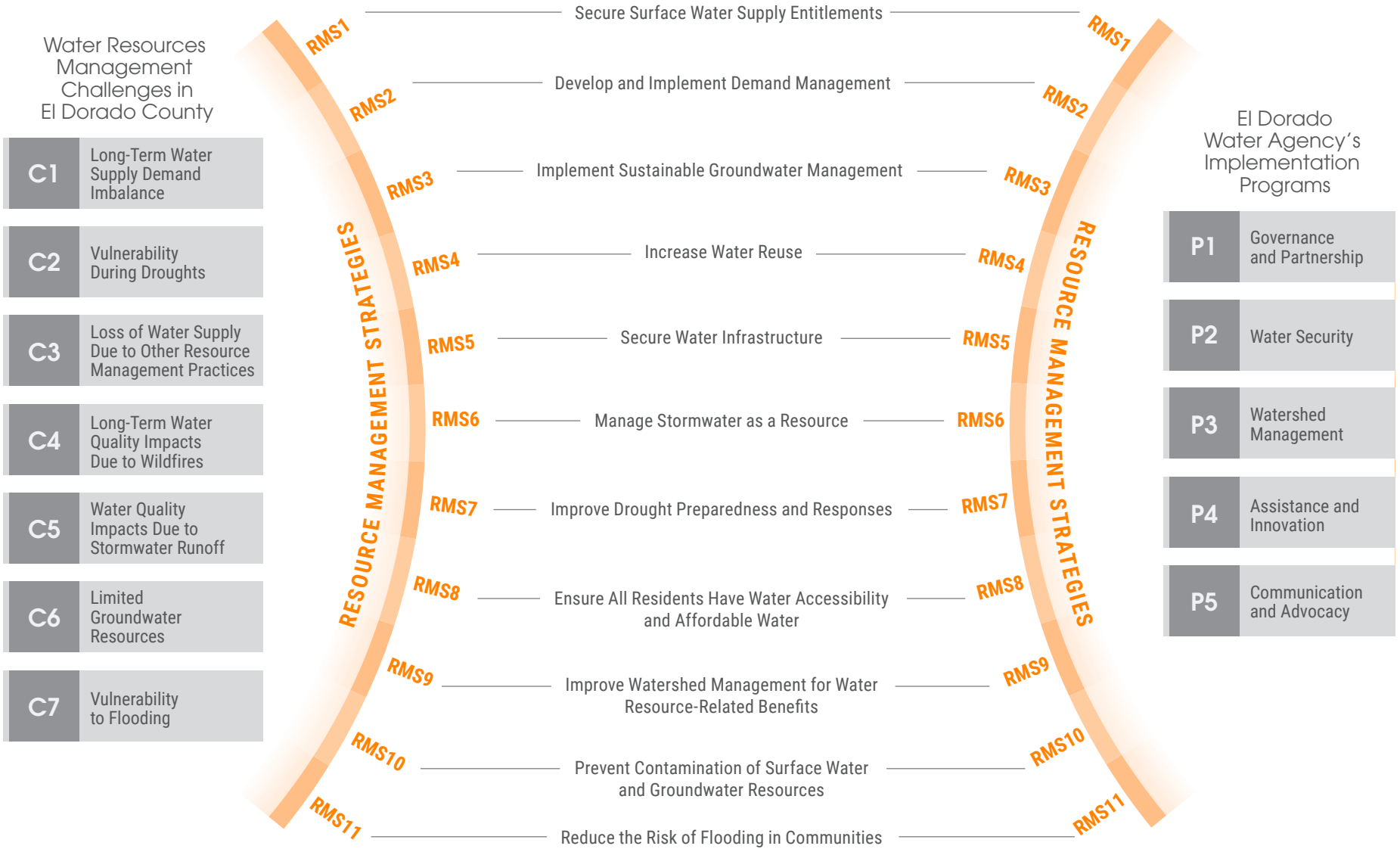


The success of 2019 WRDMP development rested on a collaborative approach and transparency, which were carried forward in the subsequent collective implementation and coordinated advocacy for our unique conditions. The Countywide Plenary for Water, as part of the Agency's implementation, also further strengthened the partnership and extent of collaboration to shape our common future. In 2023, the Agency also facilitated the completion of the Programmatic Watershed Plan (PWP) for the upper American River watershed through the Upper American River Watershed Group. The PWP is an important support to WRDMP implementation because successful and sustainable water resource management is not possible without a healthy watershed and resilient community.

The Plan-Do-Assess cycle of adaptive management through the 5-year updates of the WRDMP will keep the RMS and associated management actions relevant to emerging and changed needs. By design, the supporting PWP is also subject to a 5-year update in years ending 3 and 8, providing a process and synergy for timely input and continued progress in watershed management that we need to successfully implement the WRDMP.

The WRDMP 2024 update (WRDMP24) will follow the same principles that supported the 2019 WRDMP development and subsequent collective implementation, including respecting the role and responsibility of each responsible party and implementation agency, an efficient, concise format for policy directive, and a delineation of the Agency's role and potential actions in implementation.

The resource management strategies with focused actions identified in the Water Resources Development and Management Plan align with the water resource-related challenges in El Dorado County and the El Dorado Water Agency's existing and future implementation programs.



WRDMP24 Focus

The focus of the WRDMP24 is to evaluate the need to update countywide resource management strategies and management actions to address changed conditions. The land use and zoning designations under the adopted County General Plan have remained stable since 2019; however, El Dorado County experienced many changes in natural resource and social conditions including the COVID-19 pandemic and impacts from severe droughts and associated emergency regulations, as well as from the destruction caused by the 2021 Caldor Fire and 2022 Mosquito Fire. Many major changes in law and regulations as responses to these disasters on a temporary or permanent basis (e.g., senior water right curtailments, efficient urban water use regulations) and state and federal climate and equity policies have significant effects on future water resource management in El Dorado County.

As a result of cohesive coordination of agencies within El Dorado County, progress has been made to collectively advance the resource management strategies (RMS) identified in the 2019 WRDMP, including the following major accomplishments:

- Execution of the Central Valley Project Water Service Contact with U.S. Department of the Interior, Bureau of Reclamation (Reclamation) after 19 years of delay,
- Completion of the American River Basin Study with Reclamation and regional partners to set forth climate adaptation portfolios that address unique basin conditions and needs,
- Approval by California Department of Water Resources for the Alternative Plans for managing the Tahoe South Subbasin,
- Acceleration of on-the-ground project implementation through funding from the federal American Rescue Plan Act of 2021, Federal Emergency Management Agency, and State of California for needed water infrastructure recovery and improvements,
- Completion of the Upper American River Basin Regional Drought Contingency Plan to improve regional collaboration and support for drought resilience and set foundations for assistance to rural communities served by small water suppliers and domestic wells,
- Convening of the Upper American River Watershed Group to develop a Programmatic Watershed Plan (PWP) for the upper American River watershed to support the WRDMP's water resource management strategies and align broader resource management strategies for a healthy watershed and resilience community, and
- Coordination of purposeful federal and state advocacy among parties in El Dorado County, and the Sacramento and Tahoe regions for countywide benefits and recognition of unique conditions and needs.

Adaptation for Climate Resilience and Continued Economic Prosperity

The WRDMP24 refreshes our awareness and assessments of water resource-related challenges that we must overcome to achieve the County General Plan vision and the preferred way of life, including the needed economic prosperity and community resilience for areas currently not served by public water purveyors that are commonly referred to as the Other County Areas. Based on these findings, the WRDMP24 also updates the RMS, which represent strategic directives to mitigate the identified challenges through coordinated and collective efforts of partners with implementation responsibilities. Key management actions for each RMS are also reviewed for effectiveness and relevancy with identified primary implementation agency(ies), and corresponding Agency's roles in leading, facilitating, or supporting contributing actions and activities consistent with the Act and its intent to create direct value and benefits for all communities in El Dorado County.

The effect of climate change continues to manifest into every part of resources management and economic outlooks, as well as our way of life. The interaction and mutual influence among related resource managements and disciplines are intertwined more so than ever. A cooperative approach with forward planning and increased capacity for adaptation by all responsible parties are essential for building a community that is climate resilient and economically prosperous.

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Acknowledgment

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

Plan Advisory Group Members

Sean Barclay,* Tahoe City Public Utility District
Adam Brown,* Georgetown Divide Public Utility District
Adrian Combes,* South Tahoe Public Utility District
Elena DeLacy, American River Conservancy
Mark Egbert, El Dorado and Georgetown Divide Resource Conservation Districts
Shiva Frentzen,* El Dorado Local Agency Formation Commission
Karen Garner,* County of El Dorado, Planning and Building Department
Rebecca Guo,* El Dorado Water Agency
Kim Gustafson,* Grizzly Flats Community Service District
Carla Haas, County of El Dorado, Chief Administrative Office
Charles Mansfield, El Dorado Wine Grape Growers Association
Rafael Martinez, County of El Dorado, Department of Transportation
Tom Meyer, County of El Dorado, Office of Wildfire Preparedness and Resilience
LeeAnne Mila,* County of El Dorado, Agricultural Commissioner
Brian Mueller,* El Dorado Irrigation District
Michael Ranalli,* El Dorado County Farm Bureau
Pierre Rivas, City of Placerville
Hardeep Singh, UC Agriculture and Natural Resources
Jeffrey Warren, County of El Dorado, Environmental Management Department

Topic-Specific Consultations

Karen Bender,* County of El Dorado, Environmental Management Department
Matt Homolka,* Tahoe City Public Utility District
Kristen Hunter, City of Placerville
Dan Kikkert, County of El Dorado, Department of Transportation – Tahoe Engineering
Jon Money,* El Dorado Irrigation District
Cathy Mueller, American River Conservancy
Robert Peters,* County of El Dorado, Planning and Building Department
Amy Phillips, County of El Dorado, Stormwater Coordinator – West Slope
Mark Seelos, South Tahoe Public Utility District
Russell Wigart, County of El Dorado, Stormwater Coordinator - Tahoe Basin

* Also member of Water Supply-Demand Imbalance Subgroup

Plan Development Team

Rebecca Guo, El Dorado Water Agency
Kenneth Payne, Payne Environmental
Yung-Hsin Sun, Sunzi Consulting

Facilitation and Graphic Support

Orit Kalman, a sole proprietor
Ben Wiley, Wiley Designs, llc

Technical Support

Kyle Ericson and Hannah Romero, El Dorado Water Agency
Ibrahim Khadam, Khadam Consulting
Jeff Meyer and Jared Emery, Western Hydrologics
Samuel Price, Dynamic Geospatial Solutions
Veola Sun and Julien Sun, Sunzi Consulting

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Paul Cockrell, American River Conservancy – Page i (Greenwood Creek at Lewis Ranch)
El Dorado Irrigation District – Page 41 (EID's Flume 30 near Kyburz); Page 75 (Outingdale Dam)
Yung-Hsin Sun, Sunzi Consulting – Cover, Back Cover, Page ES1, and Page 17 (Union Valley Reservoir); Page 1 (El Dorado Hills); Page 7 (Lava Cap Winery); Page 65 (Echo Lake); Page 81 (South Fork American River near Mosquito Bridge)
Tami Scowcroft, El Dorado Water Agency, Page 79 (2024 El Dorado County Farm Day)
Tahoe City Public Utility District – Page 72 (West Lake Tahoe Regional Water Treatment Plant; drone photos courtesy of When Crocs Fly)

Abbreviations and Acronyms

AB ..... Assembly Bill
Act ..... El Dorado County Water Agency Act
Agency ..... El Dorado Water Agency, a public agency created under the 1959 El Dorado County Water Agency Act
BLM ..... U.S. Department of the Interior, Bureau of Land Management
Board ..... El Dorado Water Agency's Board of Directors
Cal OES ..... California Governor's Office of Emergency Services
County ..... County of El Dorado
CSD ..... Community Service District
CVP ..... Central Valley Project
CW3E ..... Center for Western Weather and Water Extremes, Scripps Institution of Oceanography at University of California, San Diego
CWC ..... California Water Code
DWR ..... California Department of Water Resources
EDDR ..... El Dorado Designed Representative for the 2005 El Dorado-SMUD Cooperation Agreement
EDWA ..... El Dorado Water Agency
EDCWA ..... El Dorado County Water Agency, the Agency's official name as provided by the Act
EID ..... El Dorado Irrigation District
EMD ..... Environmental Management Department
FEMA ..... Federal Emergency Management Agency
FRA ..... Federal Responsibility Area
FSC ..... Fire Safe Council
GDPUD ..... Georgetown Divide Public Utility District
GFCSD ..... Grizzly Flats Community Services District
GSA ..... Groundwater Sustainability Agency
GSP ..... Groundwater Sustainability Plan
LAFCO ..... Local Agency Formation Commission
LRA ..... Local Responsibility Area
M&I ..... Municipal and Industrial
OCA ..... Other County Areas
OWPR ..... Office of Wildfire Preparedness and Resilience
PAG ..... Plan Advisory Group
Plenary ..... El Dorado Countywide Plenary for Water
PG&E ..... Pacific Gas and Electric Company
PWP ..... Programmatic Watershed Plan for the upper American River watershed
Reclamation ..... U.S. Department of the Interior, Bureau of Reclamation
RMS ..... Resource Management Strategy(ies)
RWA ..... Regional Water Authority
SAFCA ..... Sacramento Area Flood Control Agency
SB ..... Senate Bill
SGMA ..... Sustainable Groundwater Management Act
SMUD ..... Sacramento Municipal Utility District
SRA ..... State Responsibility Area
STPUD ..... South Tahoe Public Utility District
SWRCB ..... State Water Resources Control Board
TAF ..... thousand acre-feet
Tahoe Basin ..... El Dorado County area east of the Sierra Nevada Crest
TCPUD ..... Tahoe City Public Utility District
TROA ..... Truckee River Operating Agreement
TRPA ..... Tahoe Regional Planning Agency
USFS ..... U.S. Forest Service
USGS ..... U.S. Geological Survey
West Slope ..... El Dorado County area west of the Sierra Nevada Crest
WRDMP ..... Water Resources Development and Management Plan
WRDMP24 ..... WRDMP 2024 Update
WUI ..... Wildlife-Urban Interface

SECTION

1

Introduction

The El Dorado Water Agency (Agency or EDWA) was created in 1959 through the El Dorado County Water Agency Act (Act) to ensure countywide water resources management for the conservation, development, control, and use of water for the public good and for the protection of life and property in El Dorado County. The Agency's authority covers the entire El Dorado County, on both sides of the Sierra Nevada including both headwaters and national forests. This authority differentiates the Agency from water districts, municipalities, and water conservation districts that have authorities within portions of the county. The Agency's authorities address hydroelectric energy; controlling flood and stormwater; storing, conserving, and managing water resources; and procuring additional water supplies. To plan and develop priorities, the Agency cooperates with local water purveyors, federal, state and local agencies, and others to carry out its responsibilities.

El Dorado County's diverse landscapes include a portion of the Tahoe Basin located on the east of the Sierra Nevada Crest, which has unique governance and ecological sensitivities. The vast West Slope foothill area (West Slope) is located to the west of the Sierra Nevada Crest in El Dorado County. The West Slope has some urbanized areas along the boundary with Sacramento County, although the majority has a rural-agricultural setting, reflecting the preferred way of life for residents.

The Agency does not own or operate any water facilities. It collaborates with special districts, such as water purveyors and conservation districts, to develop water resource management programs and activities. The Agency holds a Central Valley Project (CVP) water service contract with the U.S. Department of the Interior, Bureau of Reclamation (Reclamation) to supplement water supply needs for continued economic growth and prosperity in the West Slope. The 1959 Act provides the Agency the charge of a water resource manager for El Dorado County that is parallel to the County of El Dorado's (County) land use and administrative authorities. It provides the Agency to lead collaboration with federal, state and local agencies and interests to promote sustainable and responsible water resource development and management for countywide benefits that are often beyond the capacity of individual water purveyors.

1.1 Purposes of the Water Resources Development and Management Plan

The Water Resources Development and Management Plan (WRDMP) is the Agency's cornerstone document to outline its role and responsibilities for fulfilling the charges provided by the 1959 Act. It further contains long-term strategies and short-term actions to improve countywide water resources development and management with a set of implementation policies and guidance adopted by the Agency's Board of Directors (Board). The WRDMP and associated adopted implementation policies and guidance provide direction to the Agency's actions and investments, in collaboration with federal, state, and local agencies and interested parties, to implement water resource management actions through five distinct but interconnected programs to promote sustainable countywide benefits. These five programs are Governance and Partnership, Water Security, Watershed Management, Assistance and Innovation, and Communication and Advocacy.

The Agency developed its first WRDMP in 1993 to outline its strategy and actions for water resources development and management in El Dorado County. The 2007 update of the WRDMP brought forth emerging issues including climate change. In 2014, the Agency completed an update that was limited to only the West Slope water use demands. With heightened awareness during the 2012-2016 drought, equity in water supplies and climate change resiliency became a key priority for related resource management in El Dorado County. Thus, the Agency modernized the WRDMP in its 2019 update, in close collaboration with local jurisdictions, and interested parties, to include principles of integrated water management and measures for climate resilience and sustainable countywide benefits.

As a countywide water plan, the WRDMP also serves additional functions needed by local government and agencies for consistent and cohesive water planning. In 2018, the County and the Agency entered into an MOU to outline their roles and responsibilities in the preparation of a countywide water management plan through the capacity conditions of County General Plan and facilitate coordination among public water purveyors in their preparation of Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). The primary purpose of the MOU is to align water resources planning with land use, environmental management, and economic sustainability activities within the county. The WRDMP met the intent of a countywide water management plan described in the MOU, County Ordinance No. 5096, and the Agency's role as a countywide water agency. County and the Agency amended the MOU in 2024 to strengthen the collaboration and leverage of the Agency's expertise in water resource planning and authority.

1.2 Goals

The primary goal of the WRDMP is to coordinate long-term strategic and short-term tactical water resource planning and management actions to support the County to realize its adopted General Plan through prudent and integrated land use and water resources management. The County's adopted General Plan is unique in several ways in that it:

- Contains policies and land uses that support economic growth and integrated natural resource protection and management
- Plans for land capacity for all purposes by considering future economic growth beyond the typical near-term urbanization focus.
- Incorporates policies and considerations that allow for urbanization but also preserve the rural-agricultural way of life that residents value significantly.

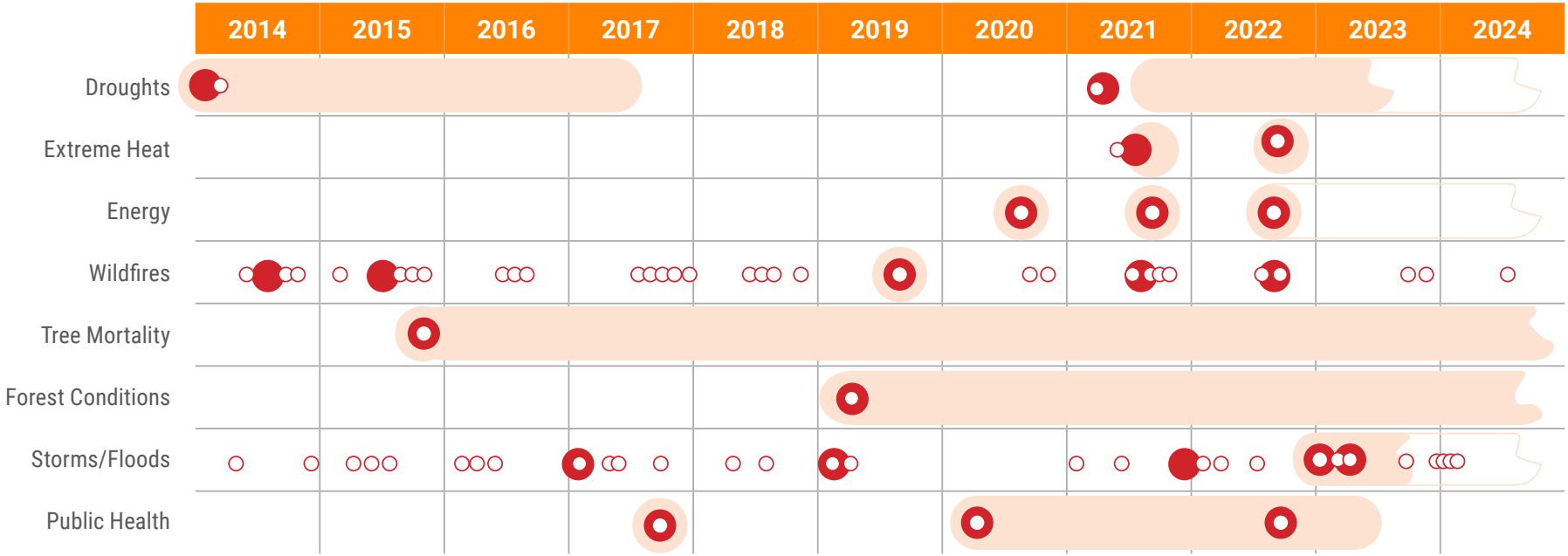
Additional goals of the WRDMP include:

- Develop a concise, adaptable, and policy-focused plan with actions that are commensurate with the Agency's role and responsibilities.
- Incorporate an integrated countywide, long-term water management approach into sustainable investment strategies and implementation.
- Address changes in countywide water supply conditions, regulations, as well as the evolving understanding of climate change and its effects.
- Promote transparency and common understanding of the Agency's investment priorities in water resources development and management.

Through the 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.

El Dorado Water Agency established five programs internally to support the WRDMP implementation. These 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.

The compounded effects from increasing extent and severity of natural disasters and emergencies in the past decade that affect El Dorado County in a fundamental way, signaling that county's water future to be managed in an integrated and holistic manner and through broad collaboration to address the underlying interrelated issues and symptoms.



Affected Area by Governor's Proclamation of a State of Emergency

- Counties other than El Dorado
- Counties including El Dorado
- Statewide
- Statewide with certain active status or selective areas

Notes:

1. Not all end dates of emergency are noted. Emphases were on droughts, forest conditions, and public health for context.
2. Periods of emergency were compiled based on Governor's Office of Emergency Services, Executive Orders, and communications from Governor's Office. Sometimes, Governor may not issue a proclamation terminating an emergency timely (e.g., extreme heat) or retain the emergency in part (e.g., drought).

1.3 Principles for Plan Development

The Agency established several key principles for 2019 WRDMP development, and subsequently expanded their applications in implementation and subsequent updates. The WRDMP24 will adhere to these principles, 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 water 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 the WRDMP development and established a foundation for long-term collaborative forums for countywide water management issues.

The Agency established a Plan Advisory Group (PAG) to collaborate in the WRDMP 2024 update (WRDMP24), extending the same successful approach used in the 2019 WRDMP and continued in the Countywide Plenary for Water hosted by the Agency per Board Policy E-1001 adopted for implementing the WRDMP. The PAG consists of representatives from multiple departments of the County, Agricultural Commissioner, Tribes, public water purveyors, business interests, and environmental interests. In addition, a subgroup to the PAG, the Water Supply-Demand Imbalance Subgroup, was organized to assist in demand projections, water supply-demand imbalance projections, and consistency with participation from County planning department and agricultural commissioner, public water purveyors, business interests and academic representatives. The collaboration reflects the above principles for WRDMP development and implementation.

1.4 Focus of WRDMP24

The Agency's Board formalized a 5-year update cycle for the WRDMP to address changed conditions and maintain focus on its investments to result in sustainable countywide benefits. Since completion of 2019 WRDMP, major emergencies and natural disasters that affect El Dorado County and beyond occurred in an unprecedented manner, including the 2020-2022 drought, 2020-2023 COVID pandemic, major wildfire events (2021 Caldor Fire and 2022 Mosquito Fire), and over 20 atmospheric events hitting California from December 2022 through March 2023. New laws and regulatory changes in response to these rapidly emerging threats have also significantly impacted the future of water management in the county and demand significant resources to expand and refine management programs and actions.

The 2019 WRDMP was intentionally developed with durable yet adaptable resource management strategies (RMS) and management actions to address identified water resource-related challenges. Although the overall strategies are not significantly changing, some tactical actions to address near-term needs and preserve future options are included in this WRDMP24. In addition, the Agency incorporated applicable RMS and management actions from the 2023 Programmatic Watershed Plan (PWP) for the upper American River watershed. The PWP was completed by the Upper American River Watershed Group (UARWG) convened by the Agency under its Watershed Program. The PWP identified watershed-scale challenges and the corresponding RMS and management actions to improve watershed health and community resilience. Many of these RMS augment the water resource-related RMS in the 2019 WRDMP and hence were included in the WRDMP24, where appropriate. The Agency's Board also adopted Policy E-1002 to guide the Agency's actions to support the UARWG's implementation of the PWP.

The WRDMP and PWP complete a holistic management construct on a watershed level that are mutually supportive. As the 2023 PWP informs the WRDMP24, the WRDMP24 will inform the PWP update in 2028. This planning process with alternating progression is to ensure the Agency maintains unwavering attention to its role and responsibilities, as well as fostering efficiency in managing scope, workflow, and partnership.

1.5 Organization

The WRDMP is organized into 5 sections:

- **Section 1: Introduction** describes the charge of the Agency and the purpose of the WRDMP, including clarification of the Agency's goals and collaborative principles.
- **Section 2: Current Water Management** provides a description of land use and environmental protection outlined in the County General Plan, current water management practices and responsibilities, and existing major infrastructure that supports the implementation of the County General Plan.
- **Section 3: Challenges Ahead** identifies water resource-related challenges and recent changes that El Dorado County is facing, recognizing the differences between the West Slope and the Tahoe Basin, as well as the integrated nature of water resource management.
- **Section 4: Resource Management Strategies** describes resource management strategies to mitigate identified water resource-related challenges in El Dorado County including corresponding roles and responsibilities for implementation. Specific roles and responsibilities for the Agency are highlighted as appropriate and consistent with its authority.
- **Section 5: Implementation** describes the Agency's implementation policies and guidance, and the programs necessary to organize and coordinate the Agency's implementation efforts. Per request of County in its Ordinance 5096, consistent water supply and resilience planning in both countywide and purvey-specific levels are also assessed and reported. For accountability, both recent accomplishments and prioritized actions for the next five years are described.

Why We Do It

Who Is Responsible

What Is Ahead

How We Do It

What We Do

SECTION

2

Current Water Management

An understanding of current water management practices, responsibilities, capital improvements, and commitments is critical to developing water management strategies and investment priorities that will provide opportunities for sustained economic prosperity. This understanding forms the basis of the Agency's efforts in assisting the County in fulfilling the vision in its adopted General Plan.

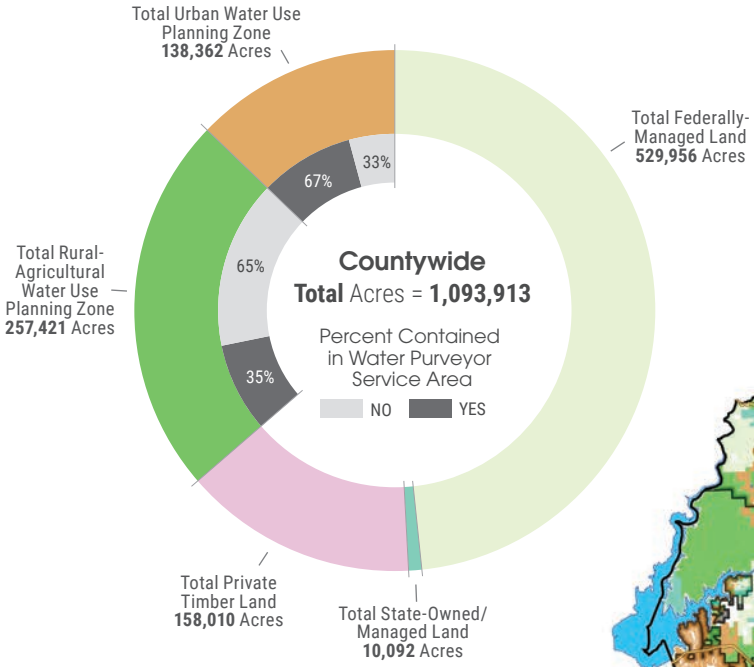
2.1 County's Economic Future and Water Use Planning

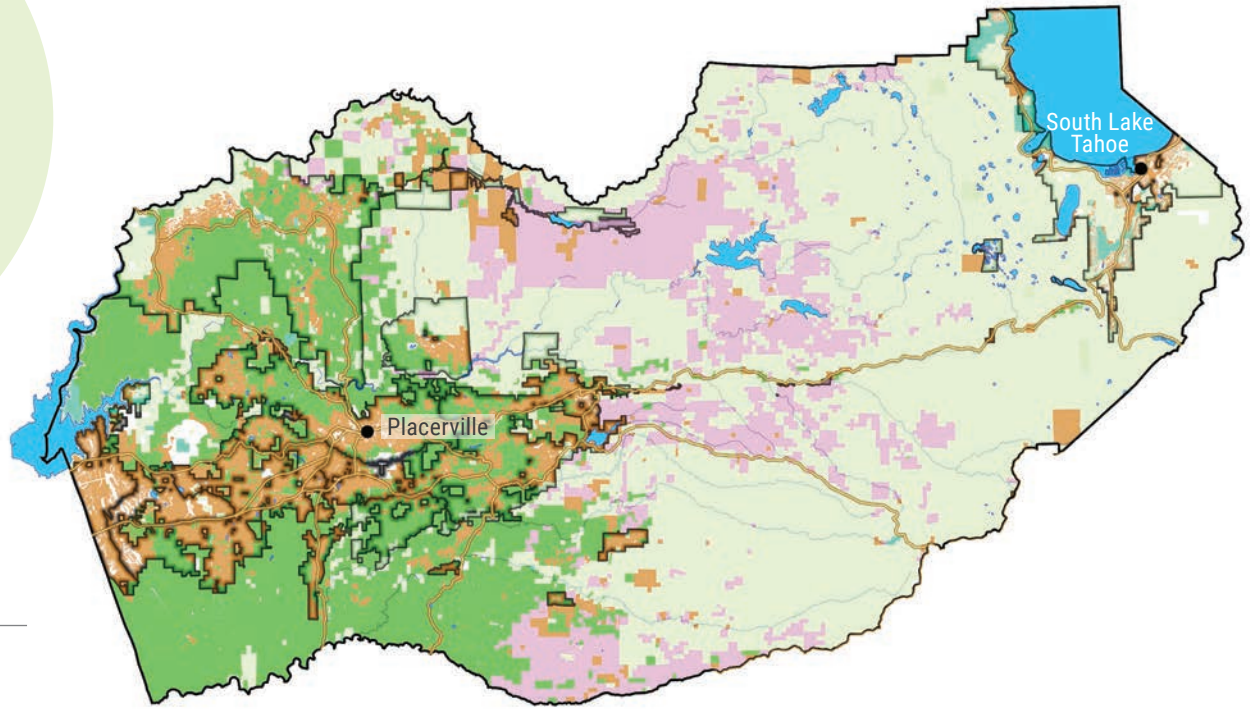
The County General Plan designates lands for economic growth and identifies areas where community and agricultural development may occur. These lands are outside of national forest lands, private timber lands, and other state and federally managed lands. The County shares responsibility for land use regulation in the Tahoe Basin with the Tahoe Regional Planning Agency (TRPA), established through the Congressionally ratified Bi-State Compact between the states of California and Nevada. The resulting Tahoe Regional Plan is intended to provide orderly growth and development in the Tahoe Basin that is consistent with that area's environmental carrying capacity. The County General Plan reflects the intended coordination and alignment of land use. All projects in the Tahoe Basin area must be consistent with the Tahoe Regional Plan including TRPA and County codes and regulations. Decades of planning and development have resulted in the Tahoe Basin's economy being more "mature" compared to the West Slope that is experiencing new growth.

For the West Slope, the County General Plan lays out a rural-agricultural dominated landscape with high density urban development concentrated in areas adjacent to Sacramento County and along Highway 50 using a combination of land use designation, zoning ordinance designation, and policies. Constrained by the terrain, commercial farming operations in El Dorado County are small in comparison to the Central Valley, on average less than 3 acres; large corporate farming operations do not exist in El Dorado County. For planning purposes, two water use planning zones are established, consistent with the County General Plan:

- **Urban water use planning zone**: Lands for economic growth where the County General Plan allows only M&I water use. The delineation of this zone is relatively straightforward.
- **Rural-agricultural water use planning zone**: Lands for economic growth where the County General Plan allows both M&I use (including rural domestic use) and agricultural use. The delineation of this zone is more complex because the presence of M&I use and agricultural use may vary based on the County General Plan land use designation. For example, parcels within the Low-Density Residential land use designation are for residential use, resulting in M&I water use (i.e., primary use). However, the County General Plan also permits agricultural practices on larger residential parcels, resulting in agricultural water use (i.e., adjoining use). Similarly, a parcel designated as Agricultural Lands is dedicated to agriculture, resulting in agricultural water use (i.e., primary use). A farmhouse with domestic water use could also be permitted to complement the intended farming operation, resulting in M&I water use (i.e., adjoining use). The preferred rural-agricultural way of life means that permitted agricultural practices in El Dorado County include both commercial and non-commercial purposes where non-commercial practices are for household consumption and limited local farmer's market sales.

These zones reflect the foundational policies in the County General Plan in terms of where and what water use may occur, and why. These policies do not guarantee water demands will be realized, as that requires consideration of other conditions such as physical constraints (e.g., slope and soil types), preferences (e.g., community centers and agricultural districts), management strategies (e.g., water use efficiency and applied technology), and overall reliability and affordability for the water services.





Reliable water supplies are foundational to ensure economic growth and prosperity into the future. In the West Slope, a substantial portion of the land designated for economic growth in the County of El Dorado General Plan is not currently served by any major water purveyor. Approximately 67 percent of the urban water use planning zone and 35 percent of the rural-agricultural water use planning zone are served by a public water purveyor. In the Tahoe Basin, urban water use is completely within the existing service areas of public water purveyors and there are no agricultural practices.

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. Under the 1959 Act, 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 (DWR), Reclamation, and other local, state, and federal agencies for water management, facility construction and water wholesale. The Agency supports actions to protect existing uses of water rights on which water purveyors and their customers depend and applies additional water rights as needed to augment water supply for beneficial uses in El Dorado County.

County is the authority of land use in El Dorado County, which translates into water supply and its reliability needs. The Agency provides expertise to assist the County in water resource planning and management issues per 2018 MOU and its 2024 amendment, as well as other project/program-specific MOU and agreements. With the expanded collaboration, the County and the Agency are strengthening communication and coordination for efficiency and mutually supported functions.

The Agency collaborates with six public water purveyors in El Dorado County for water management. El Dorado Irrigation District (EID), Georgetown Divide Public Utility District (GDPUD), City of Placerville, and Grizzly Flats Community Services District (GFCSD) provide water service in the West Slope using surface water. The City of Placerville receives wholesale treated water from EID and provides retail services within the city limits. EID's service area also includes lands of the Shingle Springs Band of Miwok Indians, a federally recognized tribe, and a small, planned development area in the City of Folsom located south of U.S. Highway 50, next to the county boundary.

In the Tahoe Basin, South Lake Tahoe Public Utility District (STPUD) uses groundwater to serve their customers in and near the City of South Lake Tahoe. STPUD and the Agency have an MOU to manage the underlying groundwater basin. Tahoe City Public Utility District (TCPUD) uses both groundwater and spring wells to serve the areas spanning both Placer and El Dorado counties on the west shore of Lake Tahoe. With the completion of its West Lake Tahoe Regional Water Treatment Plant, TCPUD will begin using surface water in 2025 to serve portions of its service areas in both counties on the west shore of Lake Tahoe.

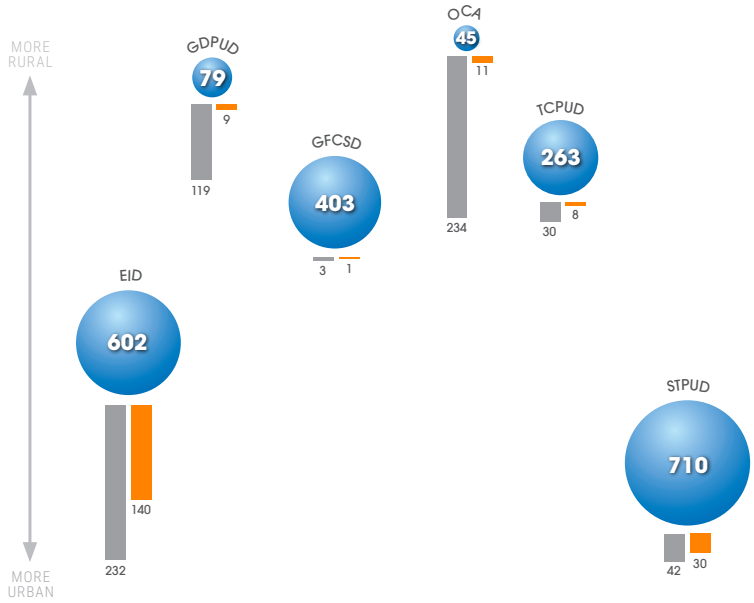
EID, GDPUD, STPUD and TCPUD are considered urban water suppliers per California Water Code (CWC) Section 10617; GFCSD and City of Placerville are considered small water suppliers per CWC Section 10609.51(k). The aggregated service area of these six public water purveyors does not cover the entire El Dorado County. Currently, the Agency represents the Other County Areas (OCA), which comprises areas managed by El Dorado County General Plan that currently fall outside of the service areas of the above six public water purveyors, private timber land, and state and federally managed land.

Residents, farms, ranches, and businesses located outside of major water purveyor jurisdictions often rely on domestic wells or other small water systems for their consumptive use. In the Tahoe Basin, groundwater is extracted from either the Tahoe South or Tahoe West Subbasins in and near the service areas of STPUD and TCPUD, respectively. Per the regulatory requirements of the 2014 Sustainable Groundwater Management Act (SGMA), STPUD and the Agency assumed the roles of Groundwater Sustainability Agencies (GSA) for the Tahoe South Subbasin in areas within and outside of the STPUD service area, respectively. DWR determined that the Tahoe West Subbasin is of a very low priority per the SGMA, requiring neither a GSA nor a Groundwater Sustainability Plan (GSP).

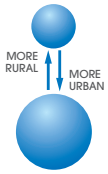
In the West Slope, the shallow groundwater wells draw from a fractured rock formation. Water-bearing areas in a fractured rock formation are not recognized as groundwater basins in California due to their unreliable and inconsistent water storage characteristics. It is worth noting that the spheres of influence (SOI) of GDPUD and EID include a significant portion of the OCA that are south and north of the South Fork American River. Currently, long-term planning for the OCA in the West Slope is limited. Due to relatively low projected growth rates within the OCA, systematic planning for future water use has only received adequate attention starting with the 2019 WRDMP. Extending service to the SOI areas is evaluated on a case-by-case basis as needed, and largely based on existing infrastructure capacities. Changes to improve or develop water services in the OCA will require a review by the El Dorado Local Area Formation Commission (LAFCO).

It is challenging to differentiate between stormwater management and flood management. In general, stormwater management refers to managing the drainage onsite associated with certain development and major infrastructure (e.g., highways); flood management refers to managing the water received from elsewhere in a hazardous way, including considerations for reducing chance of flooding (i.e., the traditional concept of flood control) and for reducing consequences of flooding (i.e., floodplain management). The scale of the matter is an important consideration but not a sole determinant, and these two categories of water resource management are also subject to different rules and regulations. California policies also encourage managing stormwater and flood for multi-benefit outcomes, creating additional nexus to water supply, water quality, and even habitat and environmental benefits. In El Dorado County, the County, the cities of Placerville and South Lake Tahoe, the Agency, and some selective CSDs have roles and responsibilities in stormwater and flood management.

The differences in population density of public water purveyor's service area suggest their relative urban/ rural characteristics. In comparison, the Other County Area is the most rural.



LEGEND AND SOURCES



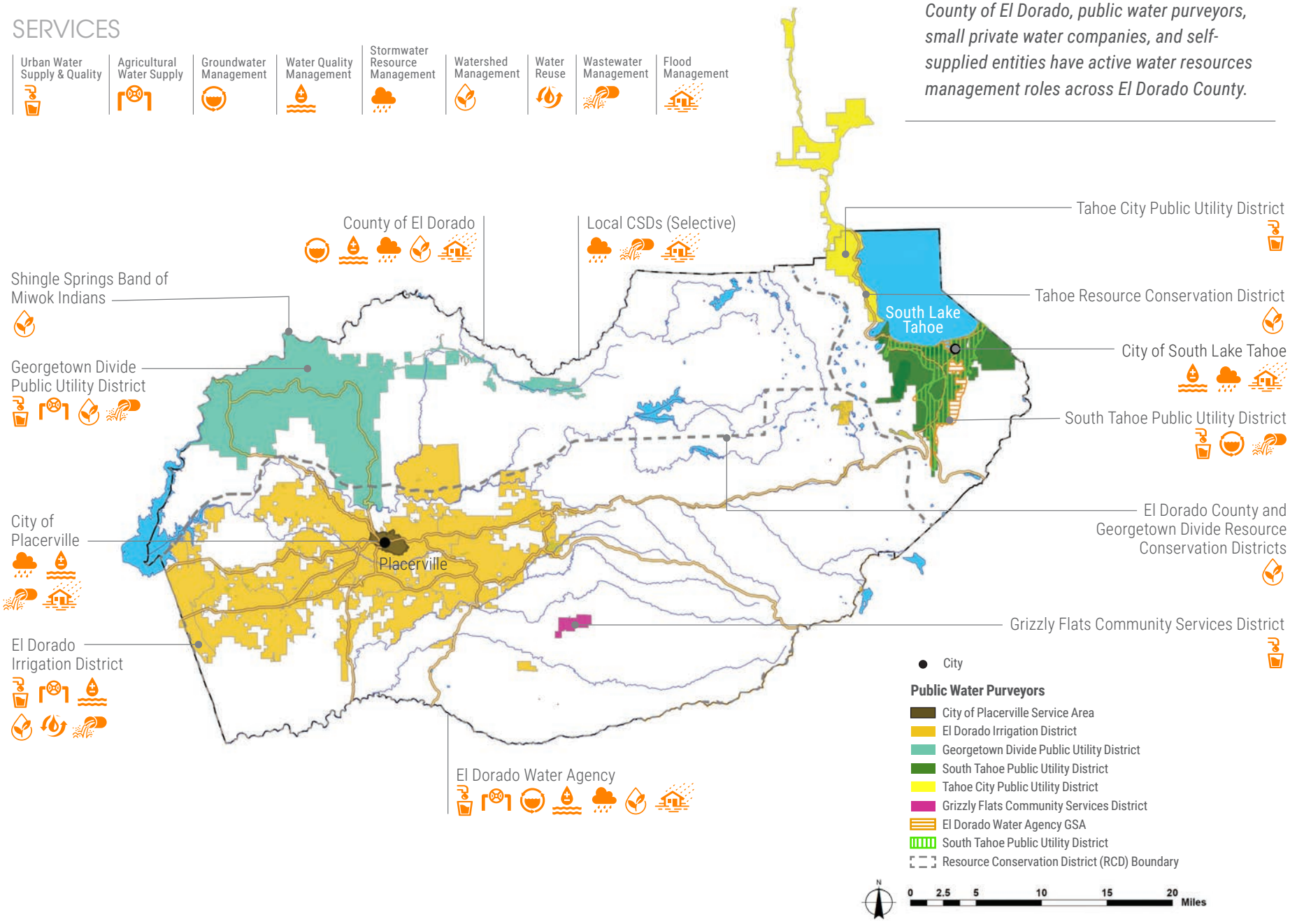
Population Density (number of persons/square miles)

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

Population (1,000 persons)
(Sources: 2020 El Dorado Irrigation District Urban Water Management Plan, 2020 Georgetown Divide Urban Water Management Plan, 2021 Grizzly Flats Community Services District Municipal Service Review, 2020 South Tahoe Public Utility District Urban Water Management Plan, 2020 Tahoe City Public Utility District Urban Water Management Plan, 2020-2023 United States Census Bureau County and City Population Estimates)

Key
EID = El Dorado Irrigation District (including City of Placerville)
GDPUD = Georgetown Divide Public Utility District
GFCSD = Grizzly Flats Community Services District (pre-Caldor fire)
OCA = Other County Area
STPUD = South Tahoe Public Utility District
TCPUD = Tahoe City Public Utility District

El Dorado County Water Agency, cities and the County of El Dorado, public water purveyors, small private water companies, and self-supplied entities have active water resources management roles across El Dorado County.



2.3 Major Built Water Infrastructure

Water supplies in El Dorado County originate as runoff from the Sierra Nevada snowpack that replenishes the rivers and lakes, as well as groundwater, on both sides of the mountain ridge. Assembly Bill (AB) 2480 of 2016 recognizes that headwaters are part of the overall water supply infrastructure for the state. The UARWG's 2023 PWP supports this recognition that both natural and built water supply infrastructure are needed to support continued economic prosperity of our communities.

The Agency has collaborated with water purveyors within El Dorado County to develop funding, secure permits or agreements, planning, acquisitions for water supplies, water infrastructure and other related assets. Historically, the Agency did not retain any ownership or responsibility associated with the acquired assets, but deferred to corresponding water purveyors. As a result, the Agency does not own any physical assets. Only recently, the Agency acquired and retained the entitlement of the CVP contract with Reclamation. This practice provides the Agency a greater capacity and flexibility to facilitate countywide benefits, including the continued economic growth in the OCA.

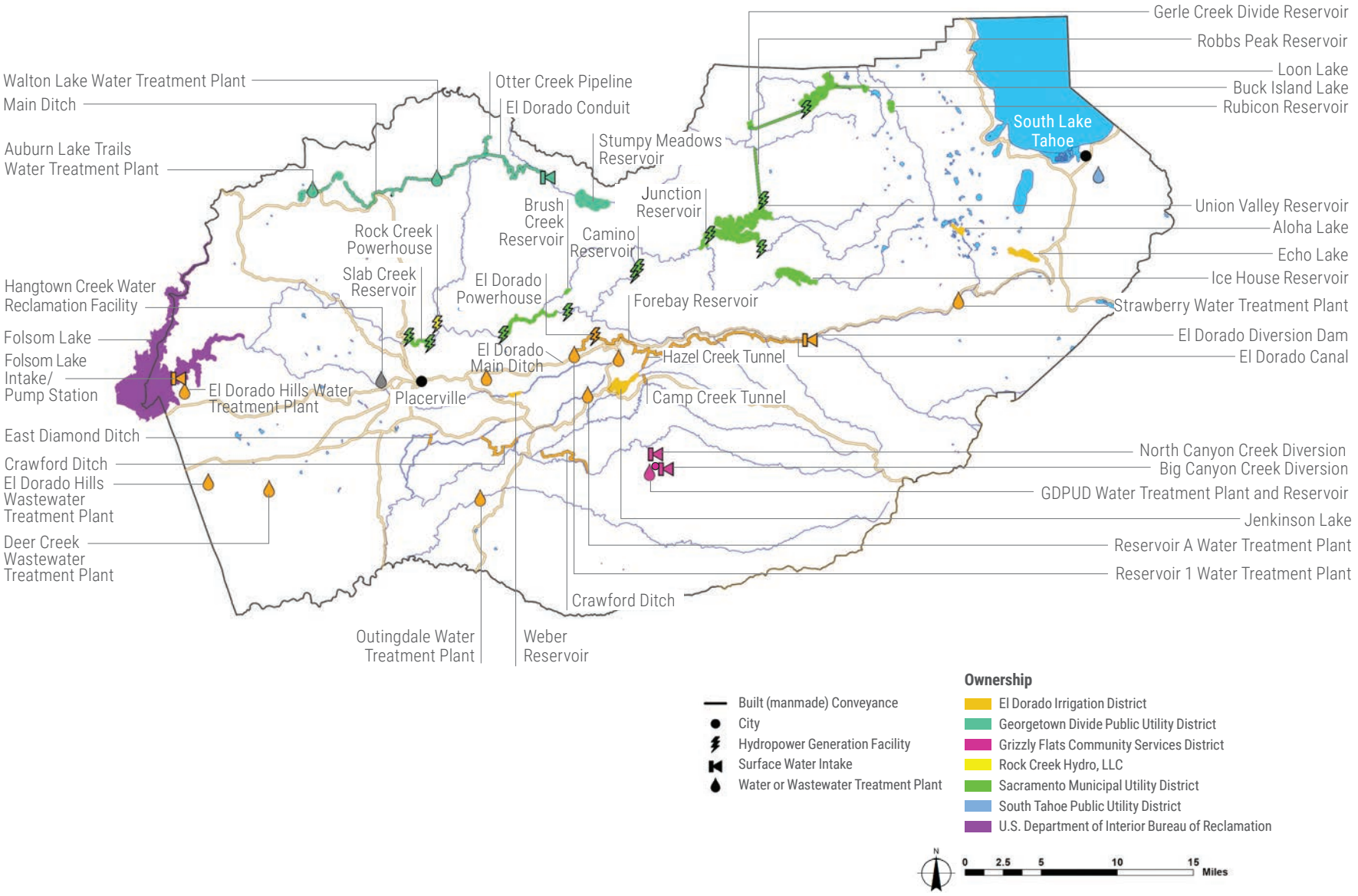
In the West Slope, water is stored and distributed throughout El Dorado County for supply and hydropower generation purposes. Most of the water infrastructure in the Sacramento Municipal Utility District (SMUD) Upper American River Project (UARP) is in El Dorado County including 11 dams, 8 powerhouses to meet electricity demands, and Loon Lake (a major water storage reservoir). SMUD operates the UARP to meet energy demands in its service area in Sacramento County and its hydropower operation is a major component of water management in El Dorado County. As part of the hydropower license conditions from Federal Energy Regulatory Commission (FERC), SMUD entered into a settlement agreement with parties in El Dorado County in 2005 to collaborate management actions and operations to create benefits for residents in El Dorado County. Under the terms of the 2005 El Dorado-SMUD Cooperation Agreement, the Agency (under its official name, El Dorado County Water Agency or EDCWA) is the El Dorado Designed Representative (EDDR) for the El Dorado Parties, which includes the County, the Agency, EID, and GDPUD. In addition to SMUD, EID and other small producers also have hydropower facilities in El Dorado County. Facilities previously owned by Pacific Gas & Electricity (PG&E), other than its transmission system, were sold and transferred to different parties.

At the western edge of the county, Folsom Reservoir is owned and operated by Reclamation as part of the CVP to provide flood control, hydropower, and water supplies. The Agency acquired a CVP water service contract with Reclamation in 2019 to provide additional water supply to support continued economic growth in the western portions of El Dorado County. Other water storage reservoirs are owned and operated by EID, GDPUD, and GFCSD. EID owns and operates Jenkinson Lake Reservoir in Pollock Pines with imported water from the Cosumnes River and Project 184 on the South Fork American River, including Echo, Aloha, Caples, and Silver Lakes. EID also diverts its CVP contract water from Folsom Reservoir to serve the demands in El Dorado Hills and adjacent areas. GDPUD owns and operates the Stumpy Meadows Reservoir east of Georgetown in addition to several ditches used for conveyance. Some of the infrastructure owned by EID and GDPUD are from the Gold Rush era and consist of dams, reservoirs, canals and wooden flumes for conveyance. Many of these facilities were impacted by recent wildfires and rebuilt for improved durability and wildfire resistance. With a much smaller service area compared with EID and GDPUD, GFCSD owns and operates its own reservoir and diverts water from North Canyon Creek and Big Canyon Creek.

In the Tahoe Basin, snowmelt runoff recharges groundwater basins and drains into Lake Tahoe, which is the source of the Truckee River. Water purveyors rely on the groundwater for water supply and lack other major water infrastructure. In the Tahoe Basin, STPUD and TCPUD serve their customers from wells although both have surface water rights managed by the California State Water Resources Control Board (SWRCB). Specifically, TCPUD uses groundwater in lieu of surface water diversions and will begin using surface water in 2025. STPUD does not currently divert or use surface water.

Most rural areas in both the West Slope and the Tahoe Basin are served from groundwater wells by either small private water companies or are self-supplied. In addition to the major water purveyors, there are many small water systems owned and operated by various entities and communities that provide water supply with mostly groundwater from generally low-yield fractured rock aquifers.

Wastewater services are limited in El Dorado County due to its associated costs and the prevalent use of septic tank systems in a rural-agricultural setting. EID is the largest wastewater service provider in West Slope, serving El Dorado Hills, Cameron Park, Diamond Spring/El Dorado and other smaller unincorporated areas. Recycled water from Deer Creek and El Dorado Hills Wastewater Treatment Plants is used for outdoor irrigation of residential and commercial properties, including recreation facilities such as golf courses. STPUD has the only wastewater facility in South Lake Tahoe and exports recycled water to Alpine County due to regulatory constraints for in-basin discharge. The City of Placerville provides wastewater services but no recycled water use. Onsite disposals (e.g., septic tank systems) are prevalent in El Dorado County and is discussed in Section 3.


Gerle Creek Divide Reservoir
Robbs Peak Reservoir
Loon Lake
Buck Island Lake
Rubicon Reservoir
South Lake Tahoe
Union Valley Reservoir
Aloha Lake
Echo Lake
Ice House Reservoir
Strawberry Water Treatment Plant
El Dorado Diversion Dam
El Dorado Canal
North Canyon Creek Diversion
Big Canyon Creek Diversion
GDPUD Water Treatment Plant and Reservoir
Jenkinson Lake
Reservoir A Water Treatment Plant
Reservoir 1 Water Treatment Plant
Walton Lake Water Treatment Plant
Main Ditch
Auburn Lake Trails Water Treatment Plant
Otter Creek Pipeline
El Dorado Conduit
Stumpy Meadows Reservoir
Junction Reservoir
Brush Creek Reservoir
Camino Reservoir
Rock Creek Powerhouse
Slab Creek Reservoir
El Dorado Powerhouse
Forebay Reservoir
Hangtown Creek Water Reclamation Facility
Folsom Lake
Folsom Lake Intake/ Pump Station
El Dorado Hills Water Treatment Plant
Placerville
El Dorado Main Ditch
Hazel Creek Tunnel
Camp Creek Tunnel
East Diamond Ditch
Crawford Ditch
El Dorado Hills Wastewater Treatment Plant
Deer Creek Wastewater Treatment Plant
Crawford Ditch
Outingdale Water Treatment Plant
Weber Reservoir
Built (manmade) Conveyance
City
Hydropower Generation Facility
Surface Water Intake
Water or Wastewater Treatment Plant
Ownership
El Dorado Irrigation District
Georgetown Divide Public Utility District
Grizzly Flats Community Services District
Rock Creek Hydro, LLC
Sacramento Municipal Utility District
South Tahoe Public Utility District
U.S. Department of Interior Bureau of Reclamation
N
0
2.5
5
10
15
Miles

2.4 Environmental Conservation

The County General Plan includes land use designations and policies for integrated natural resource protection and management. Federal, state, and non-profit organizations (e.g., American River Conservancy) also contribute to environmental conservation. These include the following:

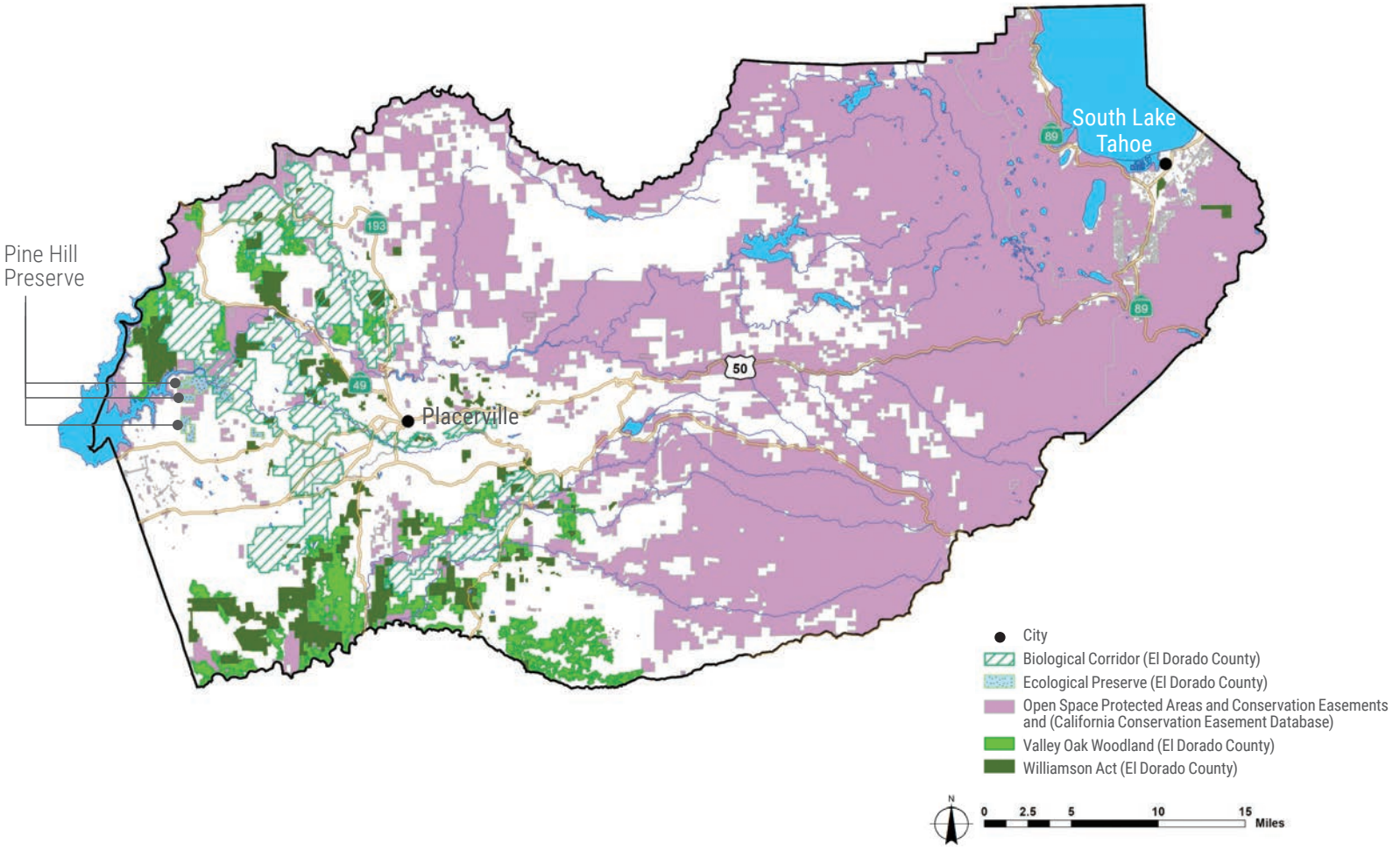
The Williamson Act – Enacted in 1965, this state law enables local governments to enter into contracts with private landowners to restrict specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments that are much lower than normal.

Biological Corridors – 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, the only Ecological Preserve in El Dorado County, has rare plant species and habitats. The County General Plan identifies necessary mitigation for the planned growth with specific mitigation requirements, if applicable. Ecological Preserves are areas classified as Mitigation Area 0, which do not allow any level of development as described in the County's Zoning Ordinance 130.71.030.

Through the implementation of the WRDMP and PWP, the Agency incorporates considerations of these conservation efforts in water use planning to promote integrated approach to sustainable water management for envisioned economic growth.

The County of El Dorado General Plan recognizes the importance of protecting natural resources contained in the Williamson Act, biological corridors, and ecological preserves for long-term environmental protection and ecological needs, adding to those managed by state and federal agencies. The Pine Hill Preserve is an example of such policy implementation and is currently managed by the U.S. Department of the Interior, Bureau of Land Management.



SECTION

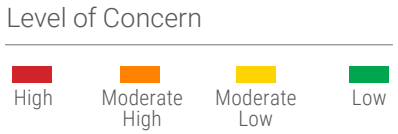
3

Challenges Ahead

Many have invested considerable time, effort, and funds over the years to ensure continued water reliability and economic prosperity in El Dorado County. 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 safety. These three inter-related issues in the West Slope and the Tahoe Basin are shown separately to highlight the differences in water resource management priorities between the two regions. The rest of the section provides more detail.

Water-Resource Related Challenges in the West Slope

Water Supply			Water Quality			Public Safety
Long-Term Water Supply-Demand Imbalance	**Vulnerability During Droughts**	**Loss of Water Supply Due to Other Resource Management Practices**	**Long-Term Water Quality Impacts Due to Wildfires**	**Water Quality Impacts Due to Stormwater Runoff**	**Concerns Over Groundwater Contamination**	**Vulnerability to Flooding**
• Expected increase in demands and less reliable supplies due to limited availability of groundwater from local fractured rock aquifers and changes in surface water availability. • Climate change-impacted hydrology and loss of snowpack result in long-term reduction in reliable water supply. • The Other County Area is not serviced by a water purveyor and therefore may lack reliable water supply for planned economic growth	• There is no meaningful groundwater supply in the region and water supply can be vulnerable due to reliance on a single source of water (surface water). • Small water systems and domestic wells are vulnerable to water shortage due to drought or other contributing factors including power shutoff during extreme weather conditions. • Increasing agricultural well permitting requests in small residential parcels served by public water purveyors create administrative challenges and increase drought vulnerability	• Dense forests prevent snow from reaching the ground, resulting in a reduction in water supply availability. • Stormwater is managed as a hazard and for water quality compliance purposes but not as a potential resource for broader benefits. • Water infrastructure includes historic dams, canals, and wooden flumes that are susceptible to destruction by fires or landslides. Loss of these major conveyance structures would hinder water deliveries.	• Increasing frequency and intensity of wildfires result in both temporary and long-term water quality degradation on a landscape scale. • Increase in sediment, turbidity and algae growth in source water due to lack of trees after wildfires.	• Stormwater runoff may impact water quality, especially along the highway corridor and recreation and other use areas. • Wastewater discharges or spills from damaged facilities located near surface water could create water quality concerns.	• Septic tank systems and pollution from runoff pose potential threats to local groundwater quality, although no significant issues have been identified to-date. • Natural occurrence of arsenic in the West Slope could affect water quality in certain areas.	• Riverine flooding is not a substantial threat in the West Slope; however, localized flooding is common in some communities with chronic drainage problems and increase in storm intensity. • Runoff patterns due to long-term climate change and short-term wildfire impacts can overwhelm local drainage systems.



Water-Resource Related Challenges in the Tahoe Basin

Water Supply			Water Quality			Public Safety
Long-Term Water Supply-Demand Imbalance	**Vulnerability During Droughts**	**Loss of Water Supply Due to Other Resource Management Practices**	**Long-Term Water Quality Impacts Due to Wildfires**	**Water Quality Impacts Due to Stormwater Runoff**	**Concerns Over Groundwater Contamination**	**Vulnerability to Flooding**
• The planned economic growth areas are covered by the existing service areas of major water purveyors, although many small water systems exist. • The growth restrictions and land use in the Tahoe Regional Plan significantly reduce the risk of water supply-demand imbalance • Emerging needs of using surface water due to groundwater contamination threat • Uncertain outcomes of ongoing water right proceeding for the California's share of Truckee River	• The Tahoe Basin is less susceptible to extended droughts, relying on both surface water and groundwater. • Existing drought ordinances do not provide coverage to the entire Tahoe Basin, although most areas have human consumption. • Small water systems and domestic wells are susceptible to water shortage due to drought or other contributing factors including power shutoff during extreme weather conditions.	• Dense forests prevent snow from reaching the ground, resulting in reduced water supply available to the Tahoe Basin as groundwater via recharge. • Stormwater is presently being managed as a hazard and for water quality compliance purposes but not as a potential resource for broader benefits. • Water quality impacts form historical and emerging contamination in groundwater basin restricts existing water supply.	• Increasing frequency and intensity of wildfires result in both temporary and long-term water quality degradation.	• Stormwater runoff may impact water quality in Lake Tahoe, groundwater resource, and water bodies along highway corridors.	• Septic tanks are not prevalent in the Tahoe Basin, but leakage could affect groundwater quality. • Long-term groundwater availability is less of a concern because runoff and snowmelt, even under climate change, are adequate for recharge. • Historical contamination of Perchloroethylene, Methyl tert-butyl ether, uranium, and natural occurring arsenic, and emerging PFAS/PFOA contamination.	• Riverine flooding is not a substantial threat in the Tahoe Basin; however, rain on snow often causes extensive street flooding in certain areas. • Inflow and infiltration during flooding may overload the sewer system and prevent access sewer lines running through low-lying meadows.

Level of Concern

High | Moderate High | Moderate Low | Low

3.1 Water Supply-Demand Imbalance

The economic prosperity that balances urbanization and the rural-agricultural way of life envisioned in the County General Plan requires clean, affordable, and reliable water supplies. Moving into the future, continued economic growth, climate change effects, technological advancements, and regulatory changes may affect both demand and water supply outlooks, resulting in a potential "water supply-demand imbalance" (an aggregated outcome of these changing factors).

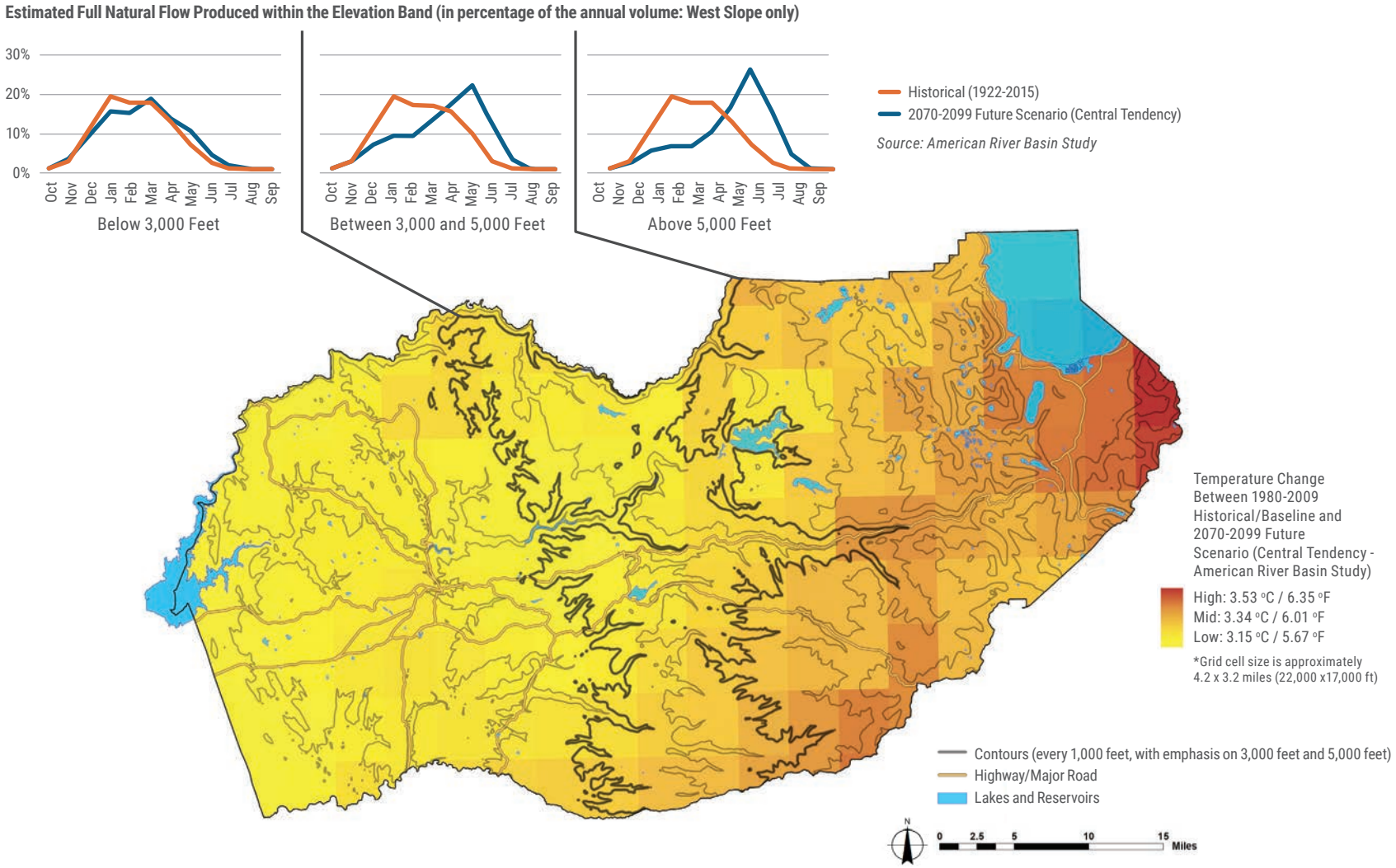
To assist the County in realizing the vision of its General Plan, a water supply-demand imbalance assessment was completed at the capacity level defined in the County General Plan. The capacity level is generally considered to extend beyond a 50-year planning horizon. The water supply-demand imbalance assessment does not analyze interim or nearer-term conditions (e.g., the next 20 years as required for an UWMP).

Changes and Adaptation

Many state, federal, and regional entities, including the Agency, are engaged in activities to improve individual and shared understanding of the potential water supply-demand imbalance, and update or develop policies and their corresponding short-term response and long-term mitigation actions to lessen the impacts and adapt to the changed conditions. The concepts of safe yield and firm yield and any perceived assurance of water availability from senior water rights or major infrastructure are gradually fading into the past. Investment decisions in structural and non-structural measures should consider integration of resource management with institutional arrangements to reduce both individual and collective vulnerabilities over a broad range of future scenarios. This approach has proven to be a more effective and financially sustainable way to weather the vast uncertainties from numerous influencing factors.

The history of conflicts in the Tahoe Basin was settled under 1990 Truckee-Carson-Pyramid Lake Water Rights Settlement Act (Settlement Act) (Public Law 101-618), and a negotiated agreement known as the Truckee River Operating Agreement (TROA). TROA provides a watershed approach to guide the use of Truckee River by all parties from its headwaters at Lake Tahoe to its terminus at Pyramid Lake. TRPA and other regional collaborations prioritized actions and aligned focus for investment needs. Significant federal and state resources are dedicated to improving the understanding of and implementing actions to protect the unique ecosystem and associated communities.

Conditions in the West Slope are very different. Expansive federal and state managed lands are present along with significant private timber lands. The OCA that covers a significant area in El Dorado County are without a public water purveyor. Regional collaboration to improve water management has improved since the Agency's adoption and implementation of the 2019 WRDMP update; however, its long-term success also needs the support of sustainable watershed management. The Agency's effort in convening UARWG to develop the 2023 PWP highlights the importance of maintaining watershed health to enable water and other resources to continue benefiting county residents and beyond.



Climate change will likely result in increased runoff during winter months and reduced snowmelt in spring months for water supply. The existing facilities, which were designed and operated based on historical hydrology, will be overwhelmed and unable to provide adequate flood protection or water supply for all beneficial uses. The projected changes in hydrology vary between different elevation bands signaling potential significant impacts on the way of life in foothill communities particularly in areas above 3,000 ft in elevation.

The Agency, in partnership with Reclamation and other regional agencies, completed the American River Basin Study to evaluate potential effects of climate change and develop adaptation strategies for the American River Basin, of which the upper watershed is mostly within the West Slope. Projected climate change through 2100 is expected to reduce snowpack (the primary source of water for the West Slope communities and downstream Sacramento region) due to more precipitation falling as rain instead of snow.

Projected increases in temperature will increase agricultural and urban outdoor water needs. More importantly, the seasonal distribution of precipitation will shift – the runoff midpoint (when 50 percent of the total annual runoff has occurred) may shift from March to between 30 and 35 days earlier according to the mid-century and end-of-century, respectively, projections although the total volume of runoff may remain about the same. This shift will result in "flashier" hydrology that could overwhelm existing facilities for water supply and flood management that were designed and are operated according to historical hydrology.

Changing climate conditions have already impacted water use by residents and resulted in agricultural cultivation practices to migrate upward in elevation. Losing snowpack, which is the predominant water storage for El Dorado County and the state, is particularly troublesome for the West Slope due to limited opportunities for alternative water supplies from fractured rock formation or water reuse. Expanding conjunctive use in the lower American River basin can help attenuate the changing hydrology in Sacramento region but is not a viable source of water for this upper watershed due to the thousands of feet in elevation difference. Thus, the American River Basin Study also identifies a specific adaptation portfolio for the upper watershed; the Alder Creek Storage and Conservation Portfolio consists of a high-elevation, off-stream storage that is modest in size but provides necessary storage to preserve water supply reliability in the upper watershed and support operational flexibility of Folsom Reservoir. The portfolio also includes the basic elements of continued water conservation and forest management which are included in all portfolios. The Agency plays a key role in the forest management element (more in Headwaters Management).

Water management in California adjusts its trajectory after each major drought. In the short but intense 1977-78 drought, statewide demands for water supply and environmental protection were still relatively low. Changes in water management were mostly reflected in operations and continued implementation of major water infrastructure projects. The persistent 1987-92 drought, and subsequent endangered species protection needs, drastically changed water system operational priorities and increased conflicts in providing for all beneficial uses, resulting in substantial reductions in yields from both the federal CVP and California's State Water Project. Positive outcomes from this period, however, included (1) emergence of market-based water management tools such as water banking and water transfers, which public water purveyors in West Slope have historically limited participation in, and (2) interest in integrated regional water management incentivized by state policies and financial assistance. Technological advancements resulted in increased water use efficiency, operational efficiency, and opportunities to diversify sources of water (e.g., water reuse). However, the Sacramento-San Joaquin Rivers system continues to experience ecosystem collapse, prompting the call for additional environmental protection and water conservation to support the continued economic growth and prosperity.

Despite the improvements, the increasing frequency and severity of extreme conditions continue testing the limits of water management throughout the state. California experienced two back-to-back severe droughts in 2012-16 and 2020-22, both with record-breaking persistence and intensity that stressed and overwhelmed the Sacramento and San Joaquin Rivers system. While the larger water purveyors in the county had sufficient water stored in their local reservoirs to meet customer demand, some smaller water systems and domestics wells had springs and groundwater wells run dry. Furthermore, under emergency drought declarations during these two droughts, the SWRCB implemented unprecedented curtailments of senior water rights and statewide mandatory water conservation that impacts communities throughout the state including El Dorado County.

Regulatory changes related to environmental protection and other public benefits will push water managers to improve efficiency and effectiveness in managing limited water supplies for all beneficial uses and the overall water supply and demand. The SWRCB recently adopted efficient urban water use standards, variances, and performance measures per Senate Bill (SB) 606 and AB 1668 of 2018. The budget-based water conservation requirements, termed as "Making Conservation a California Way of Life," replaced the volume-based water conservation approach as required in SB X7-7 of 2009. In El Dorado County, EID, GDPUD, STPUD, and TCPUD are among the urban retail water suppliers who are subject to the new requirements effective on January 1, 2025.

Representing the collective interests of the county, the Agency has engaged with DWR and SWRCB throughout the recommendation development and rulemaking process. This adopted regulation left many implementation details unresolved, imposing significant uncertainties on water demands and supply reliability. The resources needed for developing individual bottom-up water budgets for distinct uses are likely significant. There is a large amount of detailed data needed to estimate allowable water budget on a purveyor-level because most does not manage water use in such a refined manner. Separately, additional details are also needed to capture unique water use as variances for approval by the SWRCB; outdoor residential water use, small farm operations in rural residential areas, and seasonal populations are among the primary identified challenges for El Dorado County. Continued conservation is necessary and beneficial; however, it also hardens demands, requiring more robust drought preparedness and response actions.

Other concurrent state policies – such as the SGMA implementation, and voluntary and mandatory water system consolidation – also actively promoted to enhance regional self-reliance and more rigorous drought protection efforts, especially as they relate to vulnerable populations and rural communities. SB 552 of 2021 also provides further requirements for certain small water systems and counties to improve drought planning and resilience. Such significant changes in practices will be critical to planning for future water supply needs. More discussions are included later in this section.

One unique challenge in the Tahoe Basin is the pending water rights actions by the SWRCB per the Settlement Act and TROA. The Settlement Act provides for the permanent allocation of water between the States of California and Nevada in the Lake Tahoe, Truckee River, and Carson River Basins. For the Tahoe Basin, the Settlement Act provides that the total gross diversions for use within the basin in the State of California, from all natural sources, including groundwater, and under all water rights shall not exceed 23,000 acre-feet per year. As the SWRCB administers surface water rights and groundwater rights differently, reconciliation of the different institutional requirements and limitations must be a high priority for affected Tahoe Basin public water purveyors (TCPUD, STPUD, and North Tahoe Public Utility District) to ensure long-term water supply reliability. Both TCPUD and STPUD hold surface water rights and have pending applications for new water rights and/or petitions for changes to their existing rights. However, with only some exceptions for TCPUD, both public water purveyors met their demands via groundwater using conjunctive use accounting due to the SWRCB's moratorium on processing water rights applications and change petitions as a result of the Settlement Act and TROA.

Imbalance Assessment

Supporting the vision of the County General Plan requires that land use, at the capacity level, be consistent with the policies, requirements, and conditions in the adopted County General Plan. Section 2.1 (see page 8) sets forth the eligibility criteria for certain water uses based on land use and zoning designations. While a given parcel may be identified as eligible for a certain water use, it does not imply that demands will be realized because additional factors will affect the owner's decision and County's approval to incur certain demands such as:

- Physical conditions (e.g., soil types, slopes)
- Setting (e.g., access roads, limits in dwelling density, preferences in agricultural districts or community center designations)
- Economic growth potential (e.g., agritourism, commercial agriculture)
- Other policies in the County General Plan and associated regulations and permitting requirements (e.g., the total population cap)

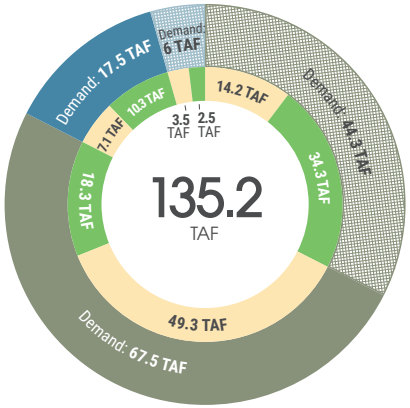
These factors can be used to screen parcels to inform the demand estimate, where applicable economic activities, demand management practices, use of technology, and other water management strategies are also considered. Such an assessment must be updated regularly to reflect changing conditions and new information, re-evaluate risks and uncertainties, and account for the lengthy lead time to go from planning to implementation of an action or infrastructure.

It is recognized that the economic growth opportunities would be further constrained by water availability, costs for water infrastructure (including operations and maintenance cost), and financing capacity with potential state and federal assistance. The imbalance analysis provides a converging view of the mutual connected managing policies and practices of responsible parties, as well as external influencing forces, for identifying the gaps and formulating necessary management actions in response.

For the WRDMP24, the Agency coordinated with public water purveyors and interested parties to conduct an update of projected water supply-demand imbalance. The findings are summarized below and subsequent infographics in following pages.

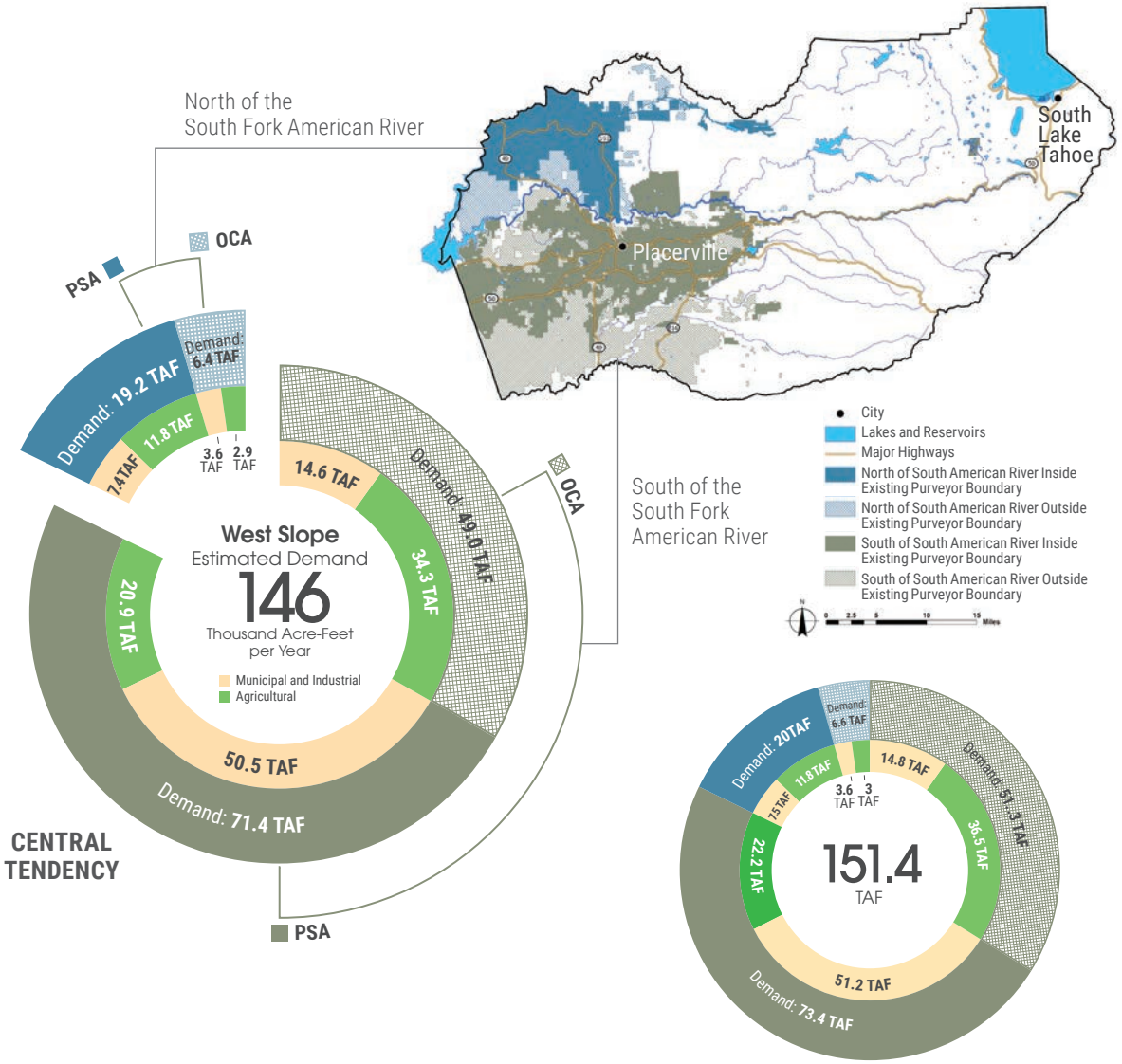
West Slope. The assessment integrates a demand update that includes the full implementation of urban water conservation requirements, and market-informed economic growth potential for commercial agricultural practices and agritourism. The imbalance assessment was conducted using projected 2070 hydrology, precipitation, and evaporation potential under climate change conditions. A refined operation model that is configured and built consistently with the CalSim 3 model used in the American River Basin Study but with more refined temporal and spatial resolutions was used to allow a more customized and detailed review of potential imbalance. The findings suggested that existing facilities and operations are likely to be less effective in providing flood protection that is also used for capturing needed water supply. As a result, a substantial water supply-demand imbalance is likely to occur at the capacity level defined in the County General Plan. The imbalance is expected to be intensified during drought conditions. These findings are consistent with those in 2019 WRDMP and American River Basin Study that identified the need for additional long-term water supply to sustain countywide socioeconomics, and to provide adequate drought protection with updates and refined details. Additional hydrologic conditions (e.g., 2040 hydrology developed by the State) were also used for improved understanding; however, as the projected year is not consistent with the long-term planning horizon for the WRDMP, the results are not detailed here.

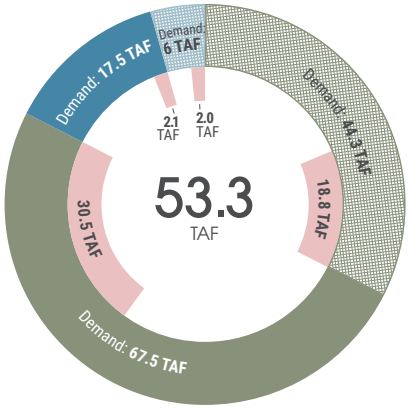
Tahoe Basin. The ongoing assessment integrates interim findings from both the pending water right entitlement discussion and demand evaluation. Tahoe Basin demands are based on population projection including seasonal populations, economic growth and water based tourism. A unique consideration in this area is the considerable fluctuation in water use – both seasonally, and during the weekends and holidays – with the influx of tourists. Transient water demands due to seasonal populations present a challenge to implementing water management strategies effectively and a major consideration for variance process under the new urban water use efficiency standards adopted by SWRCB in 2024. Fortunately, the water supply-demand imbalance is likely to be minimal in the Tahoe Basin because projected demands are relatively low in comparison to the available snowpack, even under climate change conditions. Groundwater recharge is expected to continue, irrespective of the form of precipitation. Any imbalance is likely to be tempered by both groundwater accessibility and the limitations on growth and other uses imposed by the TRPA. Tahoe Basin water purveyors will need to secure the water rights under the TROA, allowing alternative water supply for concerns over emerging groundwater contamination.



WARM-WET TENDENCY

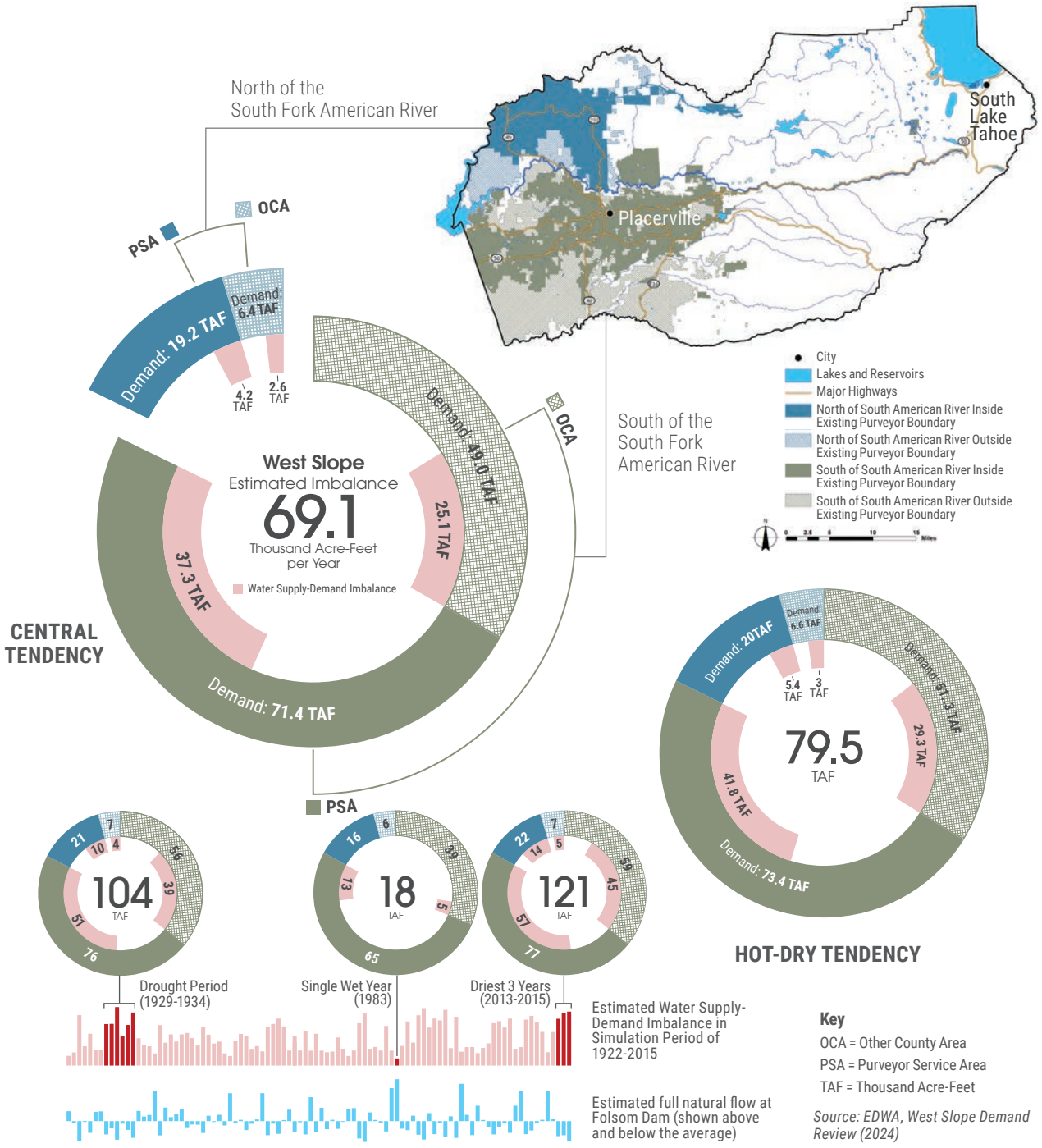
The estimated water demands in the West Slope projected in 2070 reflects the realization of economic growth and preferred way of life envisioned in the County of El Dorado General Plan at capacity. The revised demand estimates incorporates the long-term efficient urban water use standards adopted by the State Water Resources Control Board and the Agency's economic-informed agricultural development opportunity study. The resulting water demand estimates over the 1922 to 2015 simulation period vary year by year mostly due to agricultural demand adjustments based on annual hydrologic conditions as projected by the American River Basin Study climate scenarios.





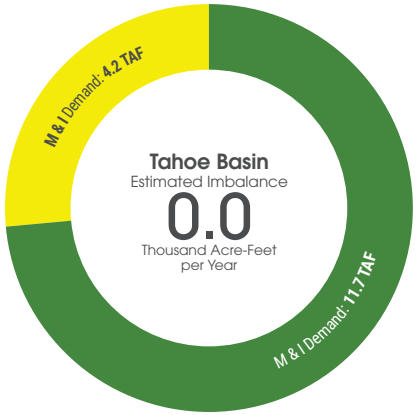
WARM-WET TENDENCY

The estimated water supply-demand imbalance for realizing the vision of the County of El Dorado General Plan is significant under the climate change conditions in 2070 and varies greatly in different hydrologic conditions. Drought resilience is limited throughout the West Slope with varying degrees of imbalance during the 1922 to 2015 simulation period based on existing facilities and regulatory framework, projected hydrology from the American River Basin Study climate scenarios and the subsequently refined upstream watershed operation model.

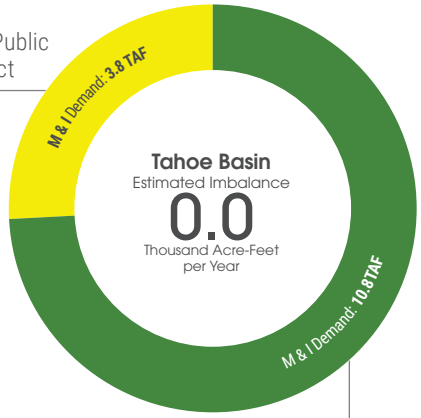


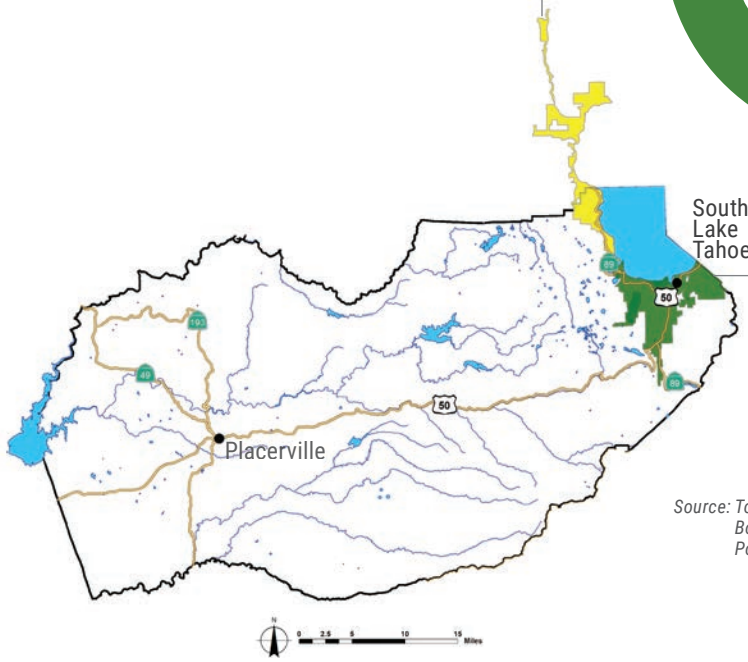
The Tahoe Basin is unlikely to have a water supply-demand imbalance because of the relatively low demands in comparison with the available snowpack and runoff, even under climate change conditions; however, seasonal populations are one of the major challenges in demand projection. Both STPUD and TCPUD are conducting continued reviews to refine their demand estimates, which are expected to be fully accommodated by California's share of 23,000 acre-feet per year along with other legal water uses.

Demand Estimate Based on Historical Trend with More Changed Conditions



Demand Estimate Based on Historical Trend with Limited Changed Conditions





Demand Estimate Based on Historical Trend Only

Source: Total District Water Production Requirements within the Boundaries of the Public Utility Districts located in the California Portion of the Lake Tahoe Basin (Kennedy Jenks, 2020)

3.2 Limited Groundwater Resources

There are two recognized groundwater basins in El Dorado County: Tahoe Valley South Subbasin and Tahoe Valley West Subbasin; both in the Tahoe Basin. Groundwater in the Tahoe Basin is replenished by local snowmelt and stream flows, meaning that recharge is sensitive to snowpack conditions and potential climate change effects.

Tahoe Valley South Subbasin is the source of water supply for STPUD and other local water suppliers (small public water systems) on the south shore of Lake Tahoe. This subbasin is of medium priority under SGMA regulations. STPUD and the Agency are serving as the Groundwater Sustainability Agencies (GSA) for areas in and outside of the STPUD service area, respectively, with an approved Alternative to a Groundwater Sustainability Plan (GSP) developed by STPUD in coordination with the Agency. The majority of TCPUD's water supply is from deep wells in the Tahoe Valley West Subbasin, which is located in between El Dorado County and Placer County; mostly in Placer County. This subbasin is of very low priority and thus requires no GSA or GSP under SGMA.

In the rest of the Tahoe Basin and the West Slope, localized groundwater resources are often shallow and unreliable in fractured rock formation. In these areas, groundwater provides limited water supply to existing agricultural practices and domestic uses from the permitted small water systems or domestic wells that could be vulnerable during prolonged droughts and other factors causing water shortage conditions (e.g., power shutoffs during severe weather conditions). The County EMD administrates well permits. The records suggest that there were more than 14,000 wells in El Dorado County; however, well use changed as more areas were served by public water purveyors with more reliable water supplies. Domestic well drilling has been limited to parcels greater than or equal to four and one-half (4.5) acres since 1977 and greater than or equal to five (5) acres since the adoption of the 2004 General Plan. Recently, the County EMD also experienced administrative challenges with/regarding agricultural well permit applications for small residential parcels in the West Slope. Although allowed by zoning on face value, commercial agricultural practices are not likely to be developed due to the limited developable area for agricultural use. However, the agricultural well application requires no supporting agricultural development plan nor concurrence by the Agricultural Commissioner. This situation does not only create administrative challenges, but also increases drought vulnerability and potential confusion in overall water management and land use policies.

Groundwater is also susceptible to pollution from runoff or contamination from highways, urban development, and agricultural practices. In the Tahoe Basin, the Tahoe Valley South Subbasin has historical contamination of perchloroethylene and methyl tert-butyl ether near the intersection of Highways 50 and 89 (i.e., the South Lake Tahoe Y Area) since the 1980s, and naturally occurring uranium and arsenic have resulted in the shutdown of affected wells. Recently, emerging contamination of per-and polyfluoroalkyl substances has been detected in the STPUD system and thus, STPUD is exploring the potential use of surface water to mitigate for the lost groundwater resources.

In the West Slope, naturally occurring arsenic can sometimes create water quality concerns, resulting in water supply challenges. The extensive agricultural practices in the West Slope are of low toxicity and pose a limited risk of groundwater contamination. In rural areas, spreading and leach field discharges are used by EID's Camino Heights Wastewater Treatment Plant and Gold Ridge Forest Wastewater Treatment Facility under the regulatory oversight of the Central Valley Regional Water Quality Control Board.

There have been reported incidents of contamination from the septic tank systems found throughout the West Slope along the highway corridor. Although there is no current prevailing problem of polluted runoff or septic tank systems impacting the limited groundwater resources, it is worthwhile to monitor the water quality of shallow and localized groundwater resources. Mobile home parks and other areas close to water bodies may pose greater contamination threats. The County EMD is responsible for permit issuance and administration of septic tank systems in El Dorado County. There are two onsite maintenance districts or zones in El Dorado County: Auburn Lake Trails (managed by GDPUD) and Greenstone Estate Mobile Home Park. Separately, Greenstone CSD oversees the septic tank systems in its service area boundaries.

3.3 Vulnerability During Droughts

Water purveyors and agencies continue to actively plan for emergencies and extended droughts. The Agency was previously proactive in sponsoring regional drought plans to provide overall broad coverage throughout El Dorado County. Historical drought response in El Dorado County has been positive. For example, after the 1976-1977 drought, water meters were installed to improve water management. There were no widespread water shortages during recent droughts (e.g., 2012-2016 and 2022-2022). The additional implementation of emergency regulations and mandatory water conservation that intend to address statewide challenges created confusion in foothill communities because their water supply conditions were generally adequate for existing use although inherited vulnerability exists, particularly for rural communities and small water systems.

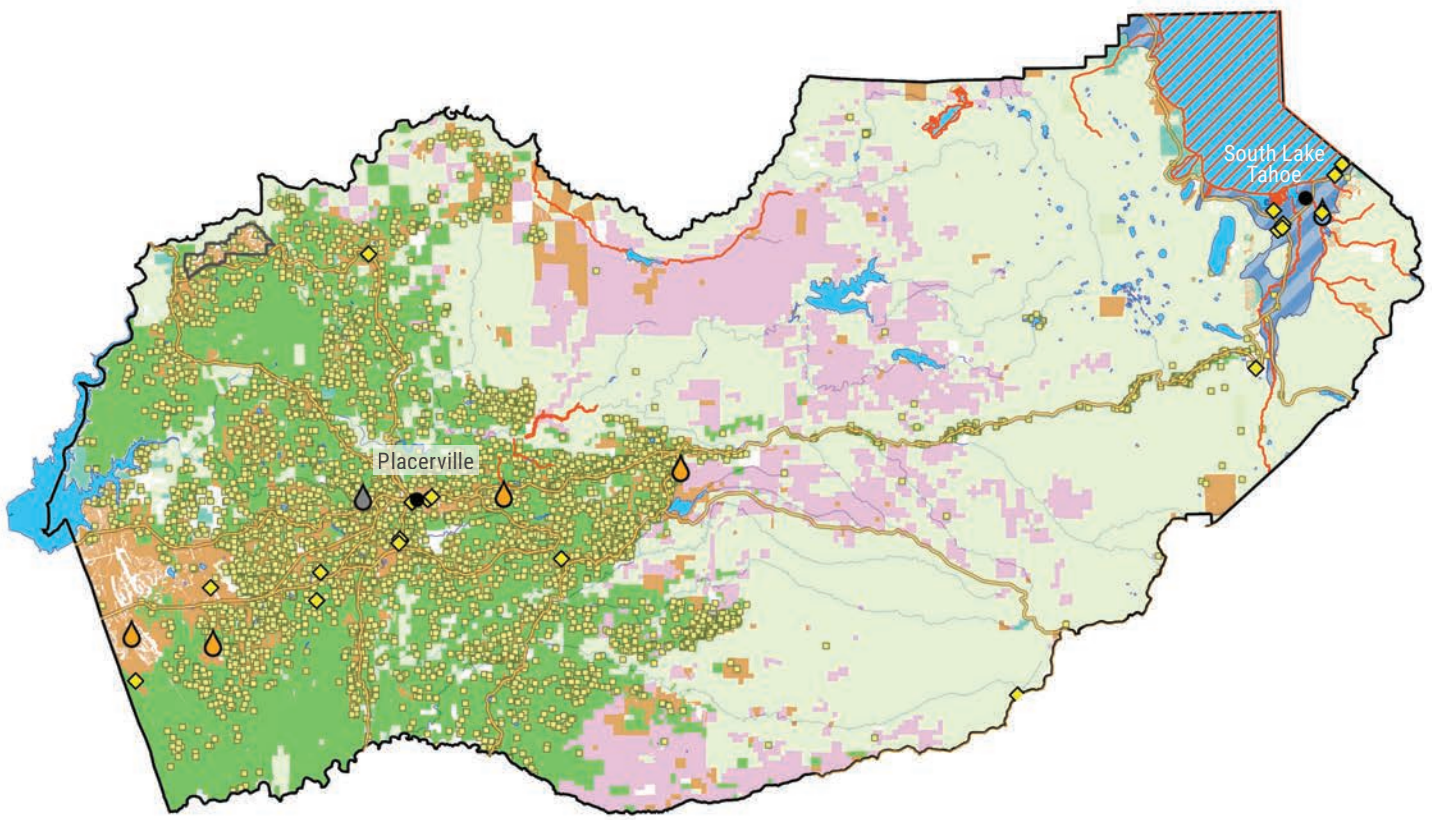
The West Slope is vulnerable to drought because it relies primarily on surface water and the underlying fractured rock formation does not provide reliable groundwater. Water reuse is limited and challenging for rural foothill communities. EID and STPUD are two public water purveyors who have portions of their service area that are conducive for recycled water use. The current water reuse is for outdoor landscape irrigation. EID's recycled water system is nearing buildout and the economic feasibility to expand the system is not justified in consideration of the additional capital costs of the infrastructure, long term operational costs, and sufficient potable water supplies already exist. EID had completed a master plan in 2024 to identify the system improvement needs for using recycled water from its Deer Creek and El Dorado Hills Wastewater Treatment Plants. Due to the stringent discharge requirements in the Tahoe Basin, STPUD exports all of the recycled water from its wastewater treatment facility to Alphine County; water not used for the alfalfa operation is sent to six downstream ranchers.

Per requirements under SB 606, urban water suppliers like EID, GDPUD, STPUD, and TCPUD were required to update their UWMP and develop a Water Shortage Contingency Plan (WSCP) to improve drought preparedness. In the Tahoe Basin, water suppliers are less susceptible to drought conditions and are managed under TROA. Most of this area is covered by drought ordinances overseen by STPUD and TCPUD, and the OCA in the Tahoe Basin is primarily open space. In the West Slope, the OCA and small water suppliers are likely to experience hardships as a result of not having secure water supplies or lack of backup supplies. GFCSD is the largest small water system in the West Slope and oversees its own drought plan. In the recent droughts, residents with dry wells obtained needed water supplies from EID's bulk water stations.

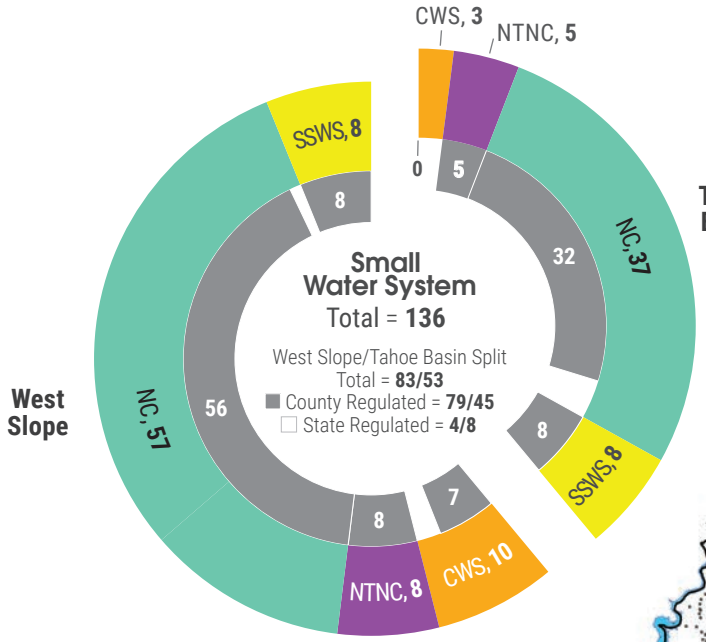
Through a Local Primary Agency agreement with the SWRCB, the County EMD oversees 108 small public water systems. With the delegated authority from the County Health Officer, EMD also oversees 16 state small water systems. Larger public water systems (e.g., water systems of major water purveyors) are overseen by the SWRCB directly. These small public water systems and state small water systems are often isolated – not connected to larger water purveyors and agencies, even if they are in close proximity – increasing the likelihood of water supply impacts during drought conditions as well as reductions in the quality of groundwater when wells are used. Most of the small public water systems in El Dorado County serve transient populations. There are thousands of domestic wells providing domestic water use as well.

Small water suppliers (i.e., small public water systems, state small water systems, and domestic wells) are often less resilient to natural disasters, such as drought and fire, have more difficulty adjusting to regulatory changes, and may struggle to fund infrastructure maintenance and replacement due to poor economies of scale and lack of staff. To improve drought resilience, the SWRCB encourages water system partnerships and voluntary consolidation, and SB 88 of 2015 further authorizes the SWRCB to require certain water systems that consistently fail to provide safe drinking water to consolidate with, or receive an extension of service from, another public water system. The County EMD has worked with water purveyors and small public water system owners on potential consolidations to achieve better water supply reliability and public health under the SWRCB's water system partnerships and voluntary consolidation program. The successful cases are mostly in the Tahoe Basin. The substantial infrastructure needed for a small water system to overcome the difficult terrain and extensive distance to connect to a major public water purveyor is often cost prohibitive. Even if federal or state governments provide financial assistance to cover initial infrastructure costs for connection, the long-term operation and maintenance costs are likely unaffordable for most rural communities.

To improve the understanding of drought impacts in the West Slope and develop response and mitigation actions on a regional level, the Agency completed an Upper American River Basin Regional Drought Contingency Plan (UARB RDCP) in 2023 in collaboration with Reclamation, County, public water purveyors, and interested parties. The Agency is currently expanding the planning efforts to develop an El Dorado County Drought Resilience Plan (CDRP) for the County to cover the requirements by SB 552 of 2021 to improve drought planning for small water suppliers. Going beyond SB 552 requirements, the Agency's CDRP will include a water shortage vulnerability assessment and identified response and mitigation actions for all small water suppliers to ensure equity and comprehensive coverage. In addition, the Agency also worked with the Office of Emergency Services under the County Sheriff Office to update the drought component of the Multi-Jurisdictional Hazard Mitigation Plan to further improve alignment, leveraging information from the UARB RDCP and CDRP.

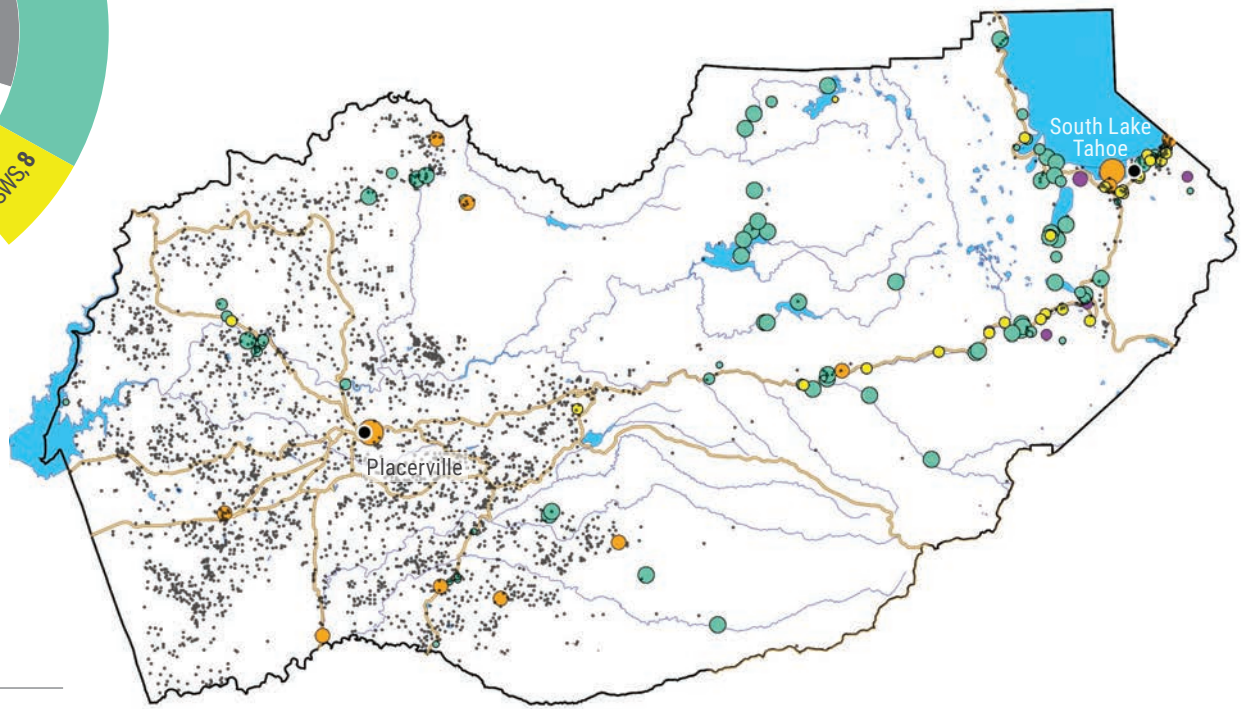


In general, water quality concerns in El Dorado County are low. However, monitoring to protect surface water and groundwater resources from pollution should continue.



Key

CWS = Community Water System
NC = Transient, Non-Community Water System
NTNC = Non-Transient, Non-Community Water System
SSWS = State Small Water System



- City
- Wells Permitted after 1992 (County of El Dorado, 2024)

State Classification

- Community Water System
- Transient, Non-Community Water System
- Non-Transient, Non-Community Water System
- State Small Water System

Service Connections

- <5
- 5–14
- 15–999
- 1,000–2,999

N

0 2.5 5 10 15 Miles

Upon completion of the County Drought Resilience Plan per SB 552, El Dorado County will have complete drought planning coverage for all residents. Based on County's records, around 5,600 domestic wells are active in El Dorado County.

3.4 Impacts of Wildfires

Wildfire damage and suppression costs have risen continuously over time. In addition, the frequency, size, and intensity of these fires are expected to continue to grow – a combined effect of climate change with prolonged droughts, development and improper vegetation management in the Wildland-Urban Interface (WUI), decisions and actions of past decades for forest management and species protection. Loss of life and structures as a direct or proximate result of wildfires is at an all-time high. The significant high wildfire risks highlighted in 2019 WRDMP unfortunately became reality in 2021 Caldor Fire and 2022 Mosquito Fire. FEMA recently published its National Risk Index system, which suggests that El Dorado County is over 91 percentile in the nation for wildfire risk and over 32 percentile in California when considering expected annual loss, social vulnerability, and community resilience.

Fire protection is divided between Federal, State and Local responsibility. Within the State and Local Responsibility Areas, the California Department of Forestry and Fire Protection (CAL FIRE) identifies Fire Hazard Severity Zones (FHSZ) that are likely to experience increased fire hazards. Although equivalent information is not available for the Federal Responsible Area, the corresponding fire hazard in these areas is considered high because of the accumulation of biomass in the national forest areas.

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 implemented in collaboration with both federal and state management agencies. Recognizing sizeable areas in El Dorado County are without this level of attention, the County established the Office of Wildfire Preparedness and Resilience (OWPR) after the Caldor Fire to organize local agencies and communities to provide resources, outreach, project coordination, and planning support to foster coherent and coordinated mitigation to wildfire risk and fire adapted and resilient communities. OWPR is also leading the effort to update the Western El Dorado County Community Wildfire Protection Plan in collaboration with community-based Fire Safe Councils and partner agencies and organizations to evaluate current fire hazards and risks throughout the West Slope, align wildfire planning efforts across agencies, identify mitigation projects and activities needed to protect communities from the risk of wildfire, and provide a framework for local communities, organizations, and agencies to take action. In July 2024, El Dorado County achieved placement on the California Board of Forestry and Fire Protection's Fire Risk Reduction Community List, which recognizes local agencies within a State Responsibility Area or very high fire hazard severity zone that meet best practices for local fire planning per Public Resources Code Section 4290.1. Prior, TCPUD was named in the inaugurating 2022 list.

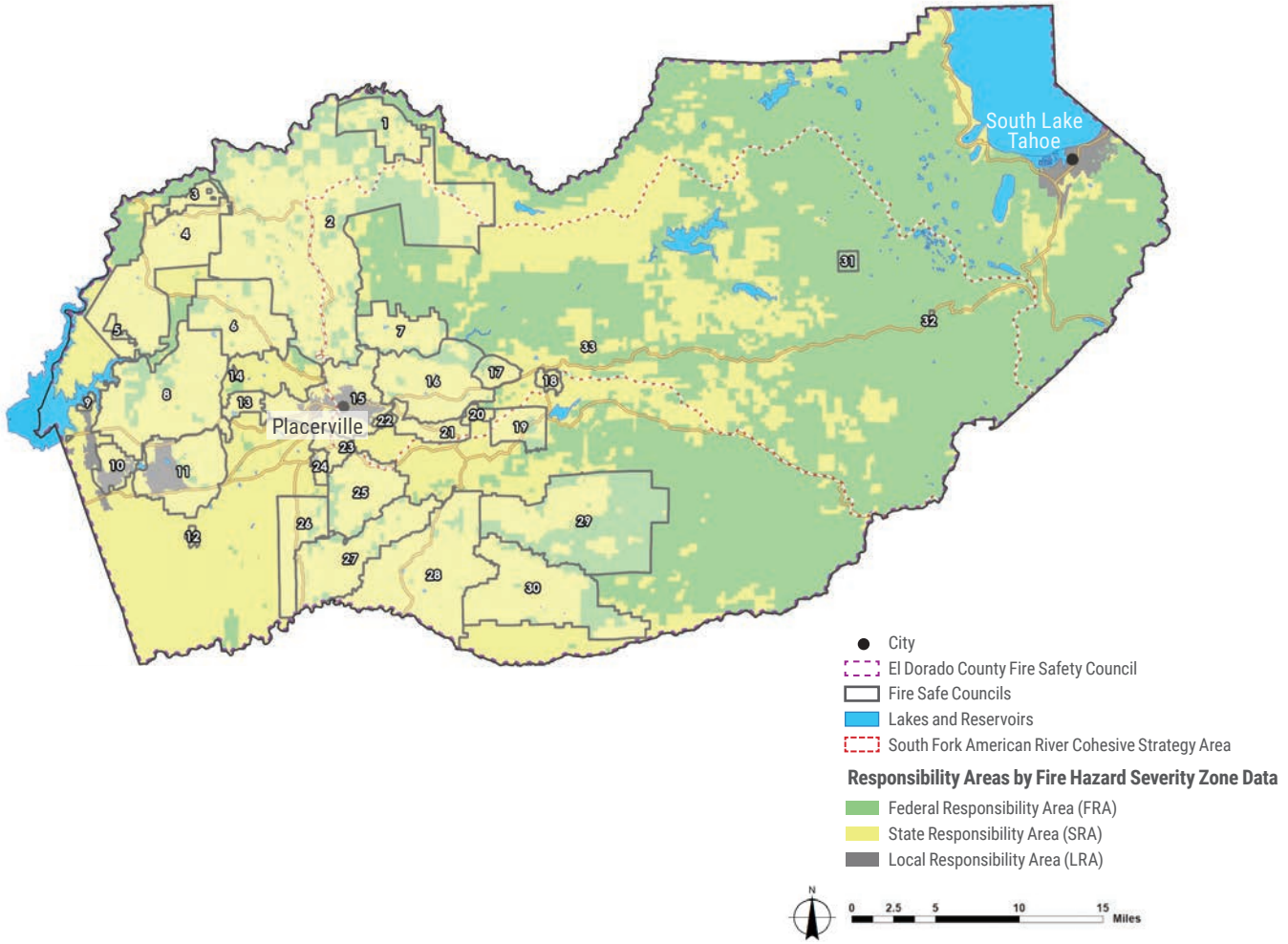
The FHSZ delineation is based on relevant factors such as fuels, terrain, and weather and are described according to their potential for ignition to buildings. The fire hazard severity zones also relate to building codes designed to reduce ignition to buildings. New buildings associated with the anticipated economic growth in El Dorado County in the State and Local Responsibility Area must comply with the Wildland Urban Interface Codes designed to ensure that structures are built with fire resistant material that minimize damage to those structures during a wildfire. A large fraction of the areas in the "very high" FHSZ are timber lands that are managed by private entities and federal lands in national forests.

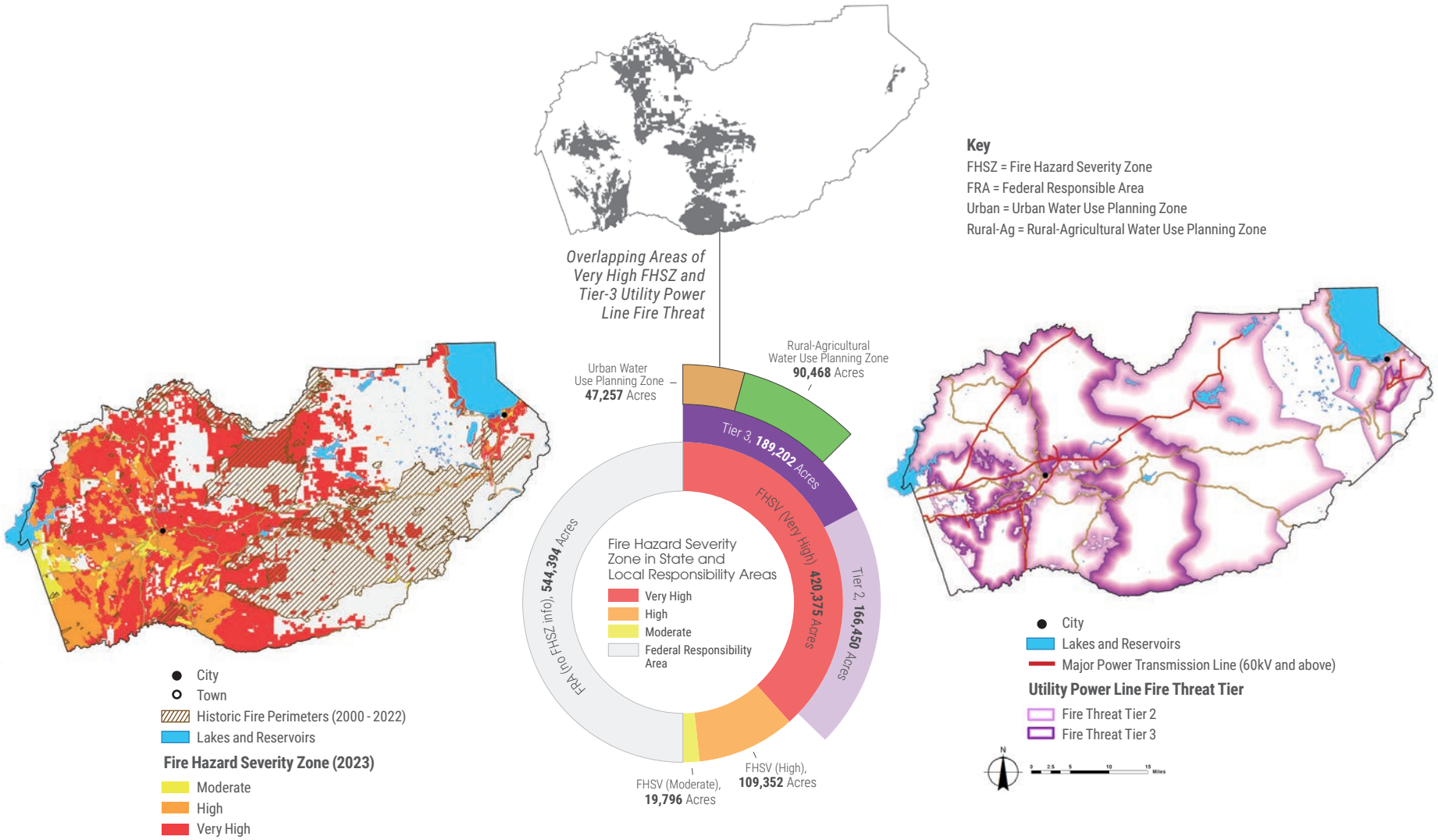
The U.S. Geological Survey's 2018 study on Historical Patterns of Wildfire Ignition Sources in California Ecosystems, indicates that wildfires can be effectively decreased in California, except for those caused by utility power or transmission lines. It states that the most devastating fires may occur in areas with both abundant vegetation (forests, grasses, agricultural activities, etc.) and utility power transmission lines. In recent years, most wildfires of concern in the state (fires in Mendocino, Santa Barbara/Ventura, Sonoma, and Butte Counties in 2017 and 2018) were reported to have been related to falling utility power transmission lines, although official data on some of these fires are yet to be confirmed. California Public Utility Commission publishes risk maps with different tiers for public awareness. In El Dorado County, the 2000 Latrobe Fire and 2016 Emerald Fire were caused by utility power line issues. The 2022 Mosquito Fire may be another example, but the determination is not final.

The prevalent utility fires resulted in significant liabilities on utilities at fault; even with the State's assistance, this resulted in major energy rate hikes by PG&E, which also is the primary energy purveyor in El Dorado County, raising challenges in affordability in rural communities. In response, Pioneer Community Energy began its service in El Dorado County as a local community choice aggregate in 2022. The concern over wildfires caused by utility facilities also resulted in Public Safety Power Shutoffs in severe weather conditions by utilities. Without backup power, rural communities cannot use groundwater pumps for basic water supplies, creating a water shortage condition independent of drought.

Wildfires do not observe jurisdictional boundaries and communities with mixed responsible parties need to take leadership in coordinating implementation of mitigation actions. That is why community-based planning and efforts need to be integrated as part of regional wildfire management which is divided among federal, state and local agencies. The County's Office of Wildfire Preparedness and Resilience plays an important role in bridging this coordination.

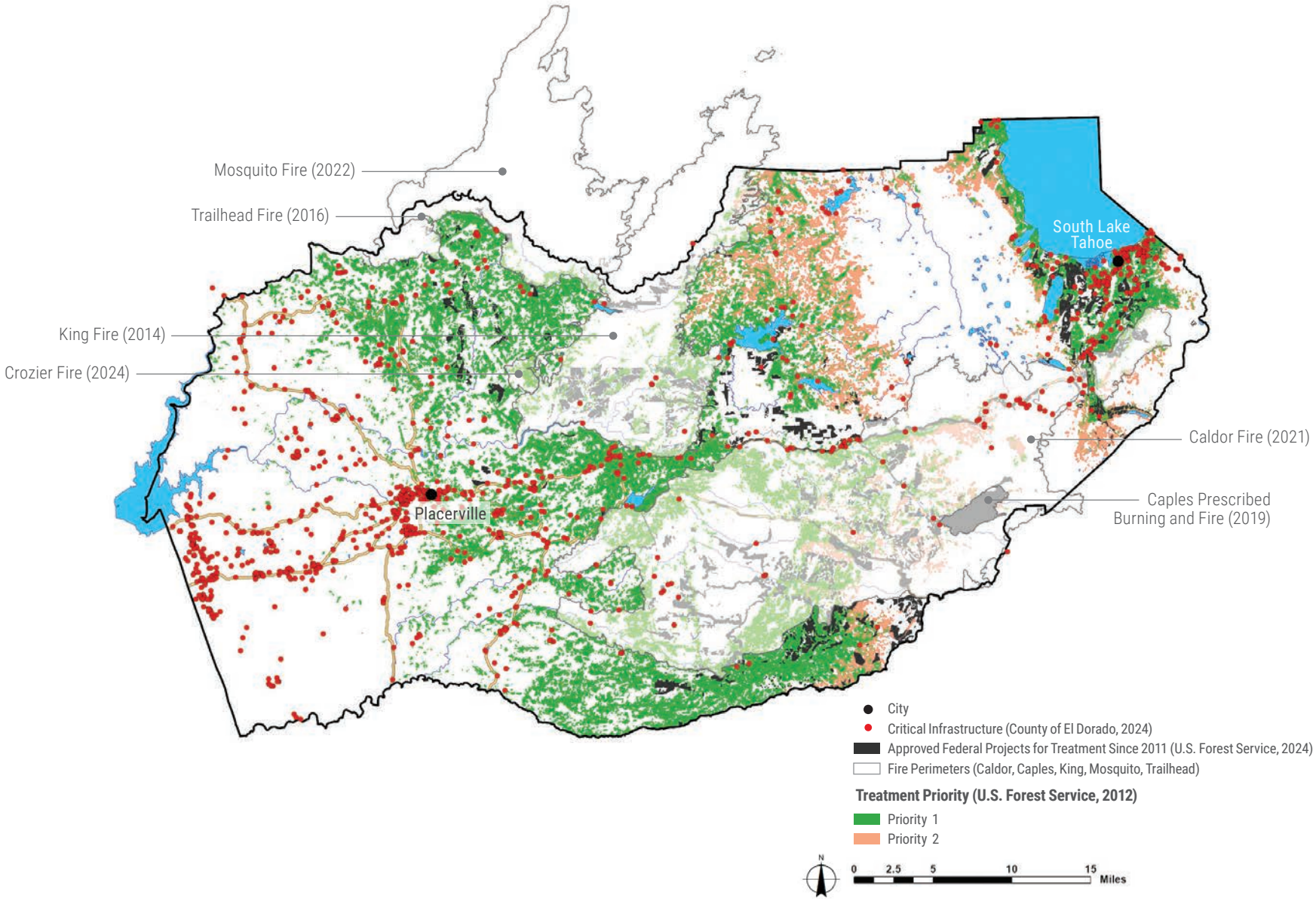
Label	Fire Safe Council (FSC)
1	Volcanoville FSC
2	Georgetown FSC
3	Auburn Lake Trails FSC
4	Cool-Pilot Hill FSC
5	Gallagher Land Owners FSC
6	Coloma-Lotus FSC
7	Mosquito FSC
8	Rescue Community FSC
9	Lakehills FSC
10	Serrano FSC
11	Greater Cameron Park Area FSC
12	Royal Equestrian FSC
13	Greenstone FSC
14	Gold Hill Estates FSC
15	Placerville FSC
16	Camino FSC
17	Cedar Grove FSC
18	Gold Ridge Forest FSC
19	Sierra Springs Regional FSC
20	Rancho Del Sol FSC
21	Fort Jim FSC
22	Texas Hill FSC
23	Diamond Springs FSC
24	Patterson Ranch FSC
25	Oak Hill FSC
26	Logtown FSC
27	Sandridge FSC
28	Aukum Fairplay FSC
29	Grizzly Flats FSC
30	Omo Ranch FSC
31	Wrights-Dark Lake FSC
32	Strawberry FSC
33	El Dorado County FSC





The overlapped areas of the Very High Fire Hazard Severity Zone and Tier 3 Utility Power Line Fire Threat area are of the most concern in the West Slope with planned development shown by water use planning zone designations. There is also a small overlapping area in the Tahoe Basin.

Overly dense forests reduce water yield and increase wildfire risks to the communities and critical infrastructure. Approved forest treatments need to be at an increased pace to prevent additional catastrophic wildfire events, especially in the Georgetown-Quintette area.



Another unique aspect in El Dorado County is that the wooden flumes and canals from the Gold Rush era and other delivery structures are particularly vulnerable to both direct impacts (destruction during a wildfire) and indirect impacts (damage from later mudslides and trees falling, originating at the burned site). In many cases, unlined ditches and canals are also subject to indirect impacts from wildfires. EID's wooden flume system was heavily damaged in 2021 Caldor Fire, impacting one third of its water supply. GDPUD's canals were impacted by landslides caused by 2022 Mosquito Fire. The public water purveyors have made efforts to reduce the reliance of unlined canals and historic wooden flumes for water conveyance.; more efforts are needed to mitigate the significant risks of interrupted water supply and improve resilience of these built infrastructure.

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 from the damage to water supply-related infrastructure (treatment facilities, powerhouses, conveyance, etc.), and indirect impacts (such as increased risks for landslides, erosion, water pollution and flooding that can cause damage) are often realized long after the disaster. Vegetation management can be important for minimizing the direct and indirect impacts from wildfires. EID and GFCSD have observed an increase in sediments and turbidity in their source water, as well as more algae growth due to lack of tree covers after the Caldor Fire. GDPUD only reported an increase in sediments and turbidity after the Mosquito Fire. On the other hand, GFCSD also reported increased summer flow post-Caldor Fire at the springs in its watershed that provide water supply to the wildfire-battered Grizzly Flats community. The threats for future wildfires can be addressed through support for effective forest management, and removal of the high concentrations of dead trees, which can be attributed to the prolonged droughts and accumulated biomass. These compounded effects support the need for a more holistic approach to headwaters management.

3.5 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 directly affect El Dorado County water supplies, especially in communities relying on local minor streams or springs. Properly managed American River headwaters could also have broader effects on statewide water supply because the American River flows regulated at Folsom Reservoir are a major source of statewide water supply.

Two areas of headwaters management are critical:

(1) Meadow health which can affect water retention and water quality

(2) Forest management, to address both high tree density with significant canopy cover that intercepts snowpack and post-wildfire forest density reduction because both reduce water retention and increase evapotranspiration, resulting in less water supply.

Decades of improper forest management have resulted in dense forests that not only affect water supply but also increase the threat of wildfires. According to the 2011 Forests and Water in the Sierra Nevada: Sierra Nevada Watershed Ecosystem Enhancement Project, first-order estimates based on average climate information suggest that reducing forest cover by 40 percent of the maximum levels across a watershed can potentially increase water yields by 9 percent.

Other factors exacerbating wildfire risks include the increase in development in the urban/wildland interface and pervasive tree mortality due to prolonged drought conditions across the Central and Southern Sierra Nevada. It is estimated that over 129 million trees have died across the state 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 of 2016 due to drought conditions and related bark beetle infestations. The emergency declaration is still in effect today.

El Dorado County was part of the Cosumnes, American, Bear, Yuba Integrated Regional Water Management region, and these headwaters management issues were included in the plan; however, implementation was limited due to lack of funding for these low population areas and the plan being not vertically integrated with local jurisdictions. The 2019 WRDMP and 2023 PWP were intended to correct these deficiencies. The series of changes have gained recognition and attention from state and federal managing agencies.

The Agency convened the UARWG to develop the PWP in 2023 to develop a cohesive and comprehensive plan for managing the upper American River watershed for long-term sustainability and promote resilience of the communities within. The holistic approach to leverage natural, built, and social capitals to create and reinforce the expansion of natural, built, and

social capacities in the watershed. The Agency is currently working closely with U.S. Forest Service, RCDs, and other partners to promote changes in management and project implementation on a landscape level.

California Department of Finance published its new 2060 population projection in March 2024 showing consistent decline of rural communities across all headwater regions and increase into the dangerous floodplains in the Central Valley. This is unavoidably contributed in part due to the unrelenting wildfire incidents and other natural disasters, increasing regulatory requirements in urban wildland interface areas, and unaffordable or unavailable home insurance. Recovery of wildfire-impacted communities like Grizzly Flats is slow and challenging. The overall management of headwaters must change and fit regional needs and unique conditions. Recently, the Agency further developed a first-ever watershed-level valuation of ecosystem goods and services to support the implementation of the PWP. The anticipated utility of this new information is to facilitate state and federal policy changes and develop innovative funding mechanisms that are durable and equitable for maintaining healthy forests and rural communities.

3.6 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 has limited water quality impacts in most of El Dorado County, and runoff tends to occur along transportation corridors. Urban stormwater runoff is the largest source of pollution in Lake Tahoe. Stormwater discharges are regulated through National Pollutant Discharge Elimination System permits.

In El Dorado County, there are some impaired bodies of water on the Clean Water Act 303(d) list because they have a high presence of mercury, aluminum, manganese, Escherichia coli, invasive toxic species, sediment, or iron. This means that stormwater management is an important issue in 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 cities of Placerville and South Lake Tahoe are areas where this risk exists.

Recent changes in state water management policy present an opportunity to treat stormwater as a source of water that can be leveraged for reliability purposes, in particular, for groundwater recharge. In the Tahoe Basin, groundwater recharge from stormwater occurs naturally to serve as a reliable water supply, but the West Slope is sitting on a fractured rock formation with no significant groundwater capacity to realize such a benefit. Stormwater resource planning requires customization for these local conditions, as reflected in the stormwater resource plans for the West Slope and Tahoe-Sierra Region which recognize stormwater as an additional water resource that will require continued efforts for implementation.

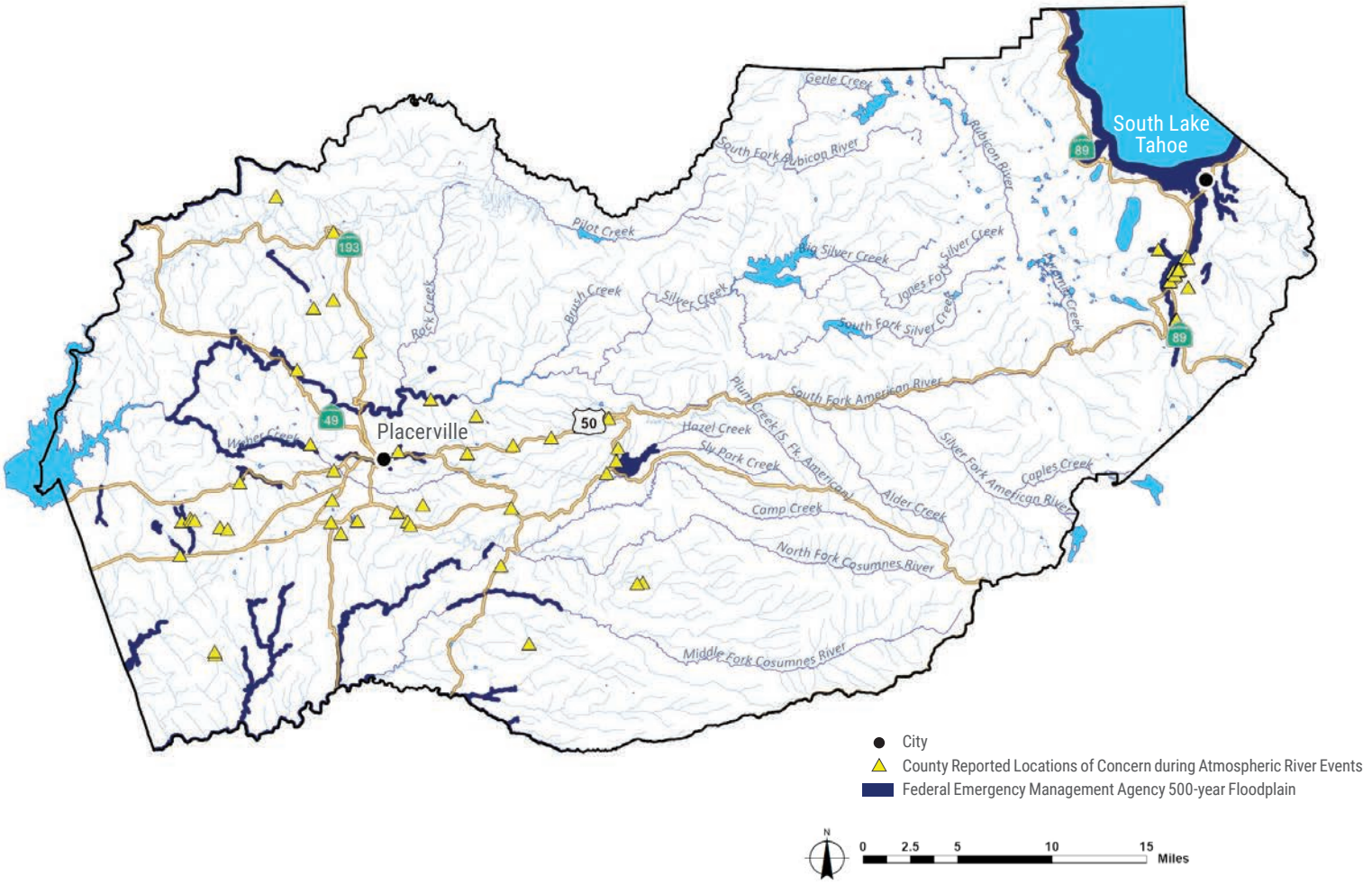
3.7 Vulnerability to Flooding

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

The combination of West Slope hydrology, soils, and land-surface slopes means that it generally experiences infrequent and localized flooding. Chronic drainage problems and resulting occasional flooding have occurred in low-lying areas of established communities. Runoff that is discharged into local creeks and tributaries can also be constrained by culverts that are undersized or are blocked with debris and sediment, which intensify that flooding. The increase in rainfall intensity under climate change could overwhelm aged system designs in some communities. More than 10 atmospheric river events with intense precipitation during the early months of 2023 created localized flooding in some neighborhoods.

Flooding reported in the Tahoe Basin is mostly from rainfall on snow events. Residential areas and roads plowed for snow removal are likely to experience flooding during rain events when runoff cannot infiltrate through the snow layer or the impermeable plowed surfaces.

Most flooding in the West Slope is localized and often constrained by drainage conveyance capacity. In the Tahoe Basin any flooding generally results from rain-on-snow events. In addition to the floodplain information used for Federal Emergency Management Agency's National Flood Insurance Program, County's Department of Transportation also identified locations of concern that the local drainage systems could be overwhelmed during intense atmospheric river events. Atmospheric rivers are narrow bands of concentrated water vapor in the atmosphere, typically extending from the tropics to mid- and high latitudes. In California, up to 50 percent of total annual precipitation and streamflow can come from a few intense atmospheric rivers during fall and winter.



SECTION

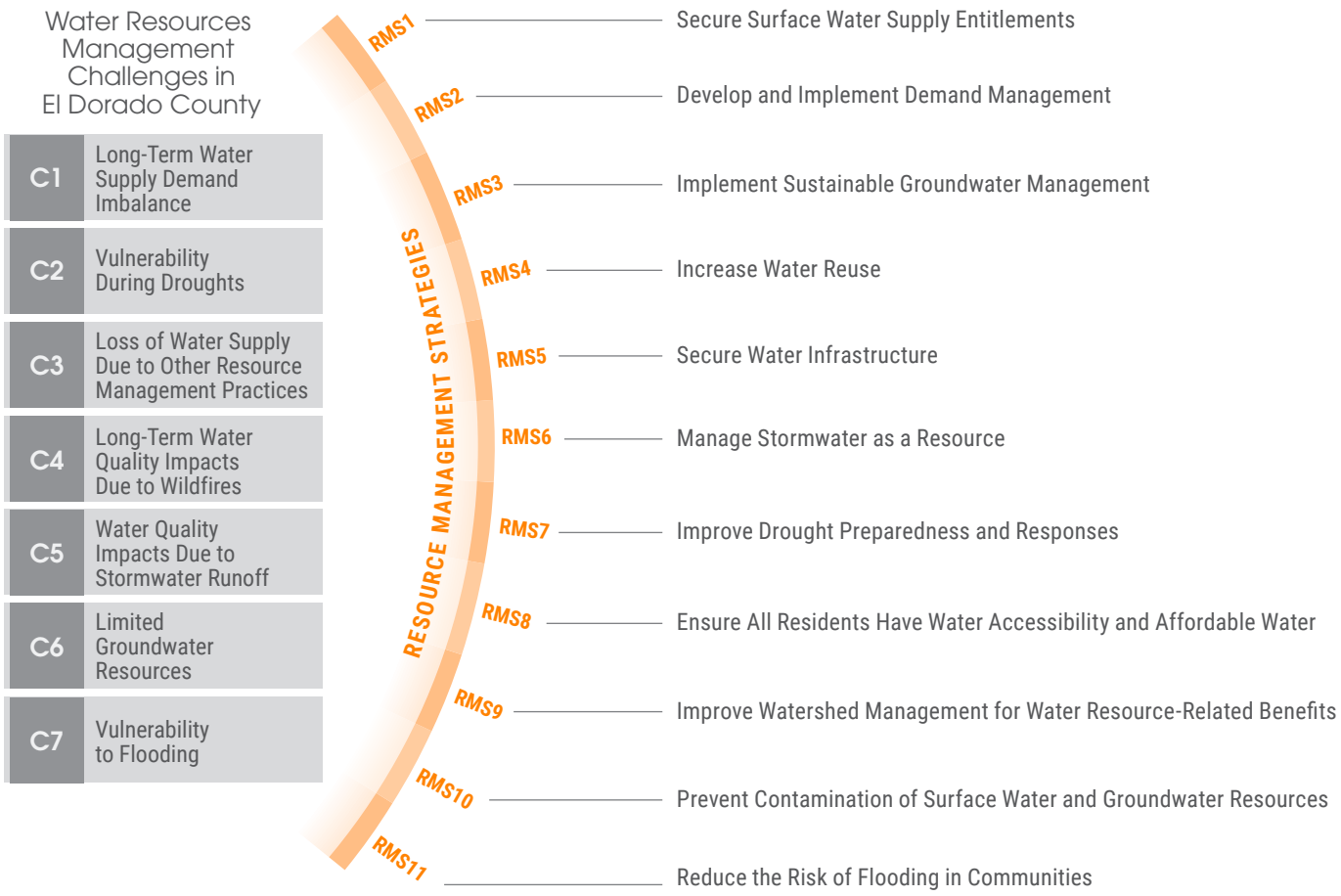
4

Resource Management Strategies

Achieving the vision in the County General Plan requires an integrated approach and comprehensive strategies that accommodate continual changes in climate variability, regulatory environment, and progress made in various mitigation and adaptation actions. Although partnerships with other regional/state/federal agencies cannot be overemphasized for successful implementation, we, as resource managers in El Dorado County, must take the initiative. Broad Resource Management Strategies (RMS) were developed to help address identified water resource-related challenges described in Section 3. For an issue as complex as water resource management, an identified challenge may be mitigated with the combination of multiple RMS. Similarly, an RMS may contribute to improvements of multiple identified challenges.

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 for identified management actions to advance a RMS. 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, consistent with its authority and the principles of engagement (described in Section 1).

As implementation continues, RMS and associated management actions need to be updated and refreshed to reflect changed conditions, emerging threats, and the elevated foundation built on our accomplishments to date. Particularly, the WRDMP24 incorporates RMS and management actions identified in the PWP relevant to water resource management to reinforce the mutual support and consistency in implementation.



4.1 RMS1 – Secure Surface Water Supply Entitlements

At its core, water supply planning is about looking at all aspects of available water sources (e.g., 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 hydrological 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 growth cannot leverage what does not yet exist.

Primary Challenges Addressed

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

RMS Actions	West Slope	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
1a. Secure and protect water rights for projected needs	**X**	**X**	EDWA, EID, GDPUD, GFCSD, STPUD, TCPUD	**L** – Acquire 40-TAF water right and integrate with use of Sacramento Municipal Utility District storage agreement, and other opportunities that could contribute to long-term water supply reliability **S** – Support water purveyors in SWRCB water right process for implementing the TROA. **S** – Support and coordinate water purveyors and users in advocacy and federal and state engagement for protecting senior and area-of-origin water rights
1b. Manage and leverage the collaboration and provisions in the El Dorado- Sacramento Municipal Utility District Settlement Agreement	**X**		EDCWA as EDDR, SMUD	**L** – Administrate and manage the El Dorado-Sacramento Municipal Utility District Settlement Agreement for countywide benefits, and in coordination with water purveyors, lead the development of the plan and actions for greater benefits within El Dorado County **L** – Develop management strategies for strategic use in coordination with water purveyors and other potential water users
1c. Develop regional water master plan or equivalent to identify management and built infrastructure investments needed to demonstrate the beneficial uses of available water rights and contract entitlements in an integrated and efficient manner for projected needs and climate resilience	**X**	**X**	City of Placerville, County, EDWA, EID, GDPUD, GFCSD, STPUD, TCPUD	**L** – Represent OCA in water planning efforts **L** – Lead the collaborative development of a regional water master plan in the West Slope to accommodate the collective projected needs including the agricultural development opportunities identified to advance County General Plan implementation. **S** – Coordinate with Tahoe Basin water purveyors on master planning efforts and collaboration with TRPA **S** – Support communications, information sharing and advocacy efforts

RMS1 – (Continued)

The Agency secured the Public Law 101- 514 (Fazio) CVP Water Supply Contract in 2019 and continues to pursue additional area-of-origin water rights and facilities as climate adaptation strategies.

RMS Actions	West Slope	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
1d. Determine water purveyors for OCA	**X**		County, EDWA, El Dorado LAFCO	**L** – Develop work plan and actions in collaboration with County for option development, and coordinate with El Dorado LAFCO for approval process
1e. Develop operational agreements as needed for flexible use of collective water rights and contract entitlements to promote countywide benefits	**X**	**X**	City of Placerville, EDWA, EID, GDPUD, GFCSD, STPUD, TCPUD	**L** – Develop additional agreements with water purveyors and regional partners for use of Agency's CVP contract, as well as Agency's water rights, once acquired **F** – Coordinate with water purveyors on compatible strategy for water use within El Dorado County **S** – Support complementary regional water management strategies in areas adjacent to El Dorado County that create benefits to water purveyors or broad countywide benefits **S** – Support communications, information sharing and advocacy efforts

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

County = County of El Dorado
CVP = Central Valley Project
EDDR = El Dorado Designated Representative
EDCWA = El Dorado County Water Agency (a.k.a., EDWA)

EID = El Dorado Irrigation District
EDWA = El Dorado Water Agency
GDPUD = Georgetown Divide Public Utility District
GDFSD = Grizzly Flats Community Services District
LAFCO = Local Agency Formation Commission

OCA = Other County Areas
STPUD = South Tahoe Public Utility District
SWRCB = State Water Resources Control Board
TROA = Truckee River Operating Agreement
TCPUD = Tahoe City Public Utility District

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 efficient 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 water conservation policies should account for El Dorado County's unique conditions, affordability of implementation, 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	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
2a. Review and update capacity-level demand projection by incorporating regulatory changes, best management practices, and climate change information	**X**	**X**	City of Placerville, County, EDWA, EID, GDPUD, GFCSD, STPUD, TCPUD	**L** – Update West Slope agricultural and M&I demands consistent with the County General Plan and applicable efficient water use standards and best management practices **S** – Support the update of M&I demands in the Tahoe Basin **S** – Support communications, information sharing and advocacy efforts
2b. Develop implementation strategy and plan to address the needs for compliance with regulatory requirements per efficient urban water use standards, variances and performance measures.	**X**	**X**	City of Placerville, EDWA, EID, GDPUD, STPUD, TCPUD	**L** – Coordinate with the state in developing data and tools to support urban water supplier's use for reporting purposes, and developing applicable variances (e.g., seasonal populations, commercial/noncommercial agricultural use, and animal use) **S** – Support communications, information sharing and advocacy efforts **S** – Support acquisition of state and federal assistance (where appropriate)
2c. Engage in the continued development and implementation of statewide long-term water conservation policies, regulations, and legislation to ensure applicability in foothill and forested/ mountain communities and preserve countywide interests	**X**	**X**	City of Placerville, County, EDWA, EID, GDPUD, GFCSD, STPUD, TCPUD	**L** – Participate in state-led compliance studies and process for implementing newly adopted efficient urban water use regulations, and engage in the development of climate resilience-related state policy, regulation, and legislation **F** – Coordinate consistent messages and approach amongst water purveyors, and regional and statewide organizations **S** – Support communications, information sharing and advocacy efforts

Key

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

County = County of El Dorado
EDCWA = El Dorado County Water Agency
EID = El Dorado Irrigation District
GDPUD = Georgetown Divide Public Utility District
GFCSD = Grizzly Flats Community Services District

M&I = Municipal and Industrial
STPUD = South Tahoe Public Utility District
TCPUD = Tahoe City Public Utility District
TRPA = Tahoe Regional Planning Agency

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. Groundwater use is prevalent throughout El Dorado County; the principles of sustainable groundwater management apply everywhere it is used. In Tahoe Basin, groundwater use is drawn from groundwater basins regulated under SGMA. However, in West Slope, groundwater use is from fractured rock formation that could be vulnerable under climate changes and hydrological variability. The strategy needs to reflect the sustainability principles and regional unique conditions.

Primary Challenges Addressed

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

RMS Actions	West Slope	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
3a. Implement sustainable groundwater management in the SGMA-regulated groundwater basins consistent with the approved plan and best practices		**X**	EDWA, STPUD, TCPUD	**L** – Collaborate with STPUD to manage the Tahoe Valley South Subbasin and provide as-needed support as the GSA for the area outside of the STPUD service area. **S** – Support TCPUD in groundwater monitoring for the Tahoe Valley West Subbasin and provide as-needed support. **S** – Support communications, information sharing and advocacy efforts
3b. Engage in the development of statewide sustainable groundwater management policies, regulations, and legislation related to the preservation of El Dorado County interests	**X**	**X**	County, EDWA, STPUD	**F** – Coordinate consistent messages and engagement approach with STPUD and other groundwater users in El Dorado County **S** – Support communications, information sharing and advocacy efforts
3c. Enhance alignment in groundwater management, drought resilience, and well permitting practices	**X**	**X**	County, EDWA, STPUD, TCPUD	**F** – Coordinate with County and STPUD to explore potential ordinances to enhance coordination with GSAs (i.e., STPUD and the Agency) **F** – Coordinate with County for well permitting process in the Tahoe Basin for consistency with the applicable management plan or settlement agreement and avoid impacts to existing groundwater users. **F** – Coordinate with County to explore potential ordinances to strengthen consistency with land use management and avoid increase in drought vulnerability in areas of fractured rock formation. **S** – Support communications, information sharing and advocacy efforts

RMS3 – (Continued)

In the West Slope, the understanding of the water bearing fractured rock formation is limited, hindering the formulation on effective and actionable management actions. The additional collaboration with County in data development and sharing is an important step toward this goal. This can be further enhanced with partnership with USGS, DWR, University of California, Agricultural and Natural Resource (UCANR), and other academic institutes and agencies to improve the overall understanding of groundwater in fractured rock formation and contribute to the effectiveness assessment of broader watershed actions in forest management and meadow restoration (see RMS9).

RMS Actions	West Slope	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
3d. Improve understanding of groundwater conditions and long-term sustainability in fractured rock formation	**X**	**X**	County, EDWA	**F** – Explore data sufficiency and adequacy in collaboration with County for groundwater monitoring and condition assessment and coordinate efforts for improving understanding as appropriate **F** – Integrate data and information for countywide coverage with emphasis on small water suppliers and domestic wells, identify gaps and potential assistance needs (see RMS7d). **S** – Promote education and advanced technology available to agricultural communities in coordination with UCANR, RCD, and other organizations and institutes. **S** – Support communications, information sharing and advocacy efforts

Key

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

County = County of El Dorado
EDWA = El Dorado Water Agency
GSA = Groundwater Sustainability Agency
RCD = Resource Conservation District

SGMA = Sustainable Groundwater Management Act
STPUD = South Tahoe Public Utility District
TCPUD = Tahoe City Public Utility District
UCANR = University of California, Agricultural and Natural Resource

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 includes 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). SWRCB has approved the regulations for direct potable reuse in 2023 and approved provisions in favor of potable reuse to meet the efficient urban water use standards in 2024. Currently, water reuse in El Dorado County is for landscape irrigation in El Dorado Hills and EID's service area. In the Tahoe Basin, stringent regulatory requirements for discharge resulted in the use of regional facility outside of the service area (e.g., TCPUD) or exporting recycled water outside of the Tahoe Basin due to stringent in-basin discharge requirements (e.g., STPUD).

Primary Challenges Addressed

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

RMS Actions	West Slope	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
4a. Increase implementation of cost-effective and financially responsible water reuse to improve drought resilience and benefit compliance with efficient urban water use regulations where possible.	**X**	**X**	City of Placerville, EID, STPUD	**S** – Support communications, information sharing and advocacy efforts **S** – Support acquisition of state and federal assistance (where appropriate)
4b. Explore the feasibility of non-potable reuse for instream flow augmentation or nonrestricted irrigation use with third parties.		**X**	STPUD	**S** – Support communications, information sharing and advocacy efforts **S** – Support state and federal grant applications (where appropriate)
4c. Encourage greywater reuse and rainfall harvest practices on household and individual facility level	**X**	**X**	City of Placerville, County, EID, GDPUD, GFCSD, STPUD, TCPUD	**S** – Support communications, information sharing and advocacy efforts **S** – Support state and federal grant applications (where appropriate)

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EID = El Dorado Irrigation District
GDPUD = Georgetown Divide Public Utility District

GFCSD= Grizzly Flats Community Services District
STPUD = South Tahoe Public Utility District
TCPUD = Tahoe City Public Utility District

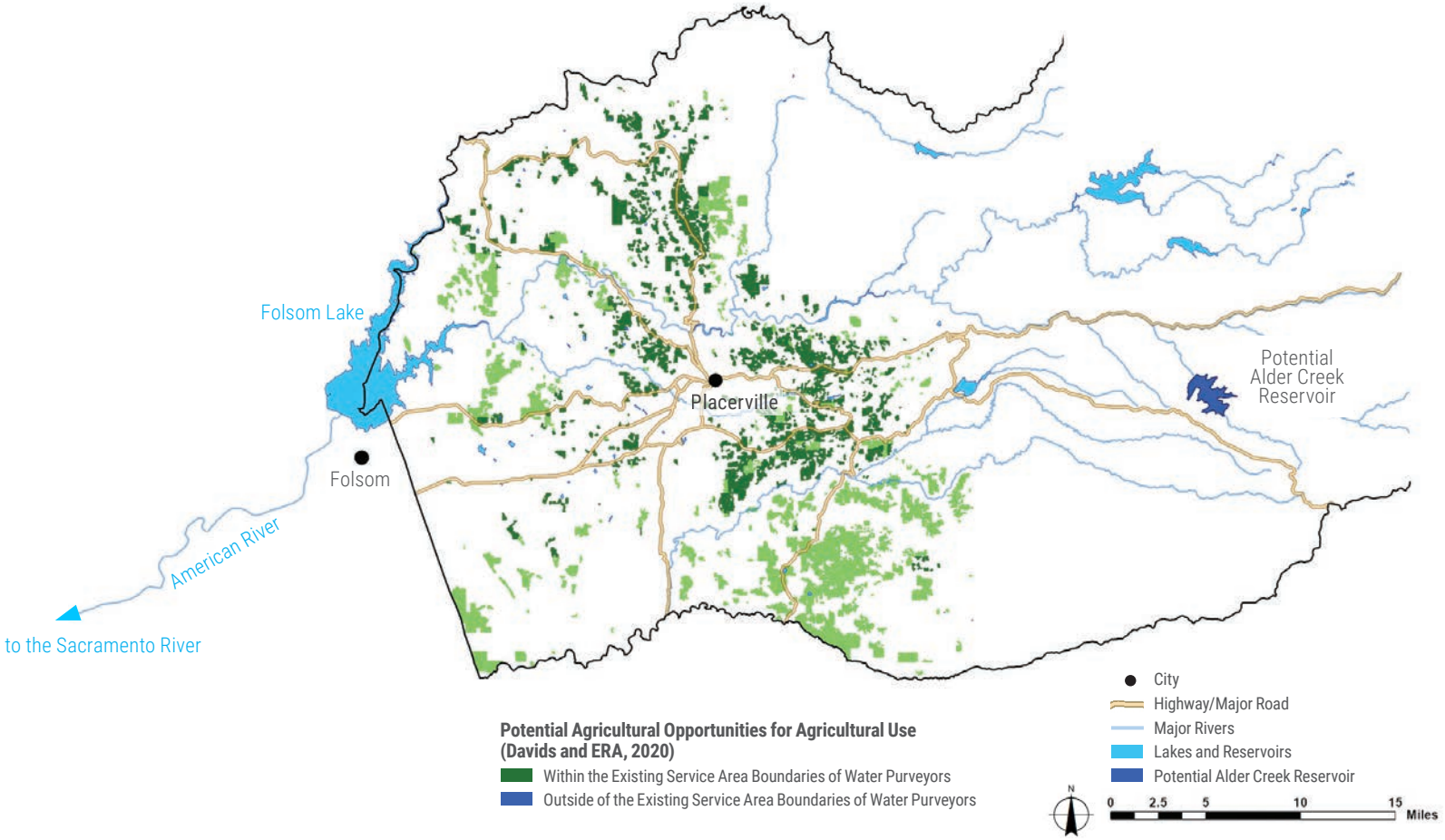
4.5 RMS5 – Secure Water Infrastructure

The lifespan of any infrastructure is finite, and the consequences of neglected infrastructure can be expensive, wasteful, and harmful. Owners of existing water infrastructure in El Dorado County must responsibly continue their ongoing operations, maintenance, repair, and rehabilitation to ensure that facilities are working properly, safe, free from contaminants, and cleared of nearby hazards.

Primary Challenges Addressed

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

RMS Actions	West Slope	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, TCPUD	**s** – Support communication, information sharing and advocacy efforts **S** – Support acquisition of state and federal assistance (where appropriate)
5b. Develop new high-elevation, off-stream storage to replace lost snowpack and increase water supply reliability as a climate adaptation strategy	**X**		County, City of Placerville, EDWA, EID, GFCSD	**L** – Develop Alder Creek Water Storage and Conservation Project Feasibility Study with Reclamation for countywide and regional benefits consistent with 2004 Public Law 108-361, Section 202. **L** – Collaborate with regional partners and organizations to advocate for a climate adaptation measure that could serve equivalent functions as the snowpack, which was historically the primary storage and source of water in the West Slope
5c. Reduce vulnerability of water infrastructure to wildfires	**X**	**X**	City of Placerville, County, EID, GDPUD, GFCSD, SMUD, STPUD, TCPUD	**L** – Develop hazard mitigation and recovery guide for water purveyors, small water suppliers and domestic wells **F** – Coordinate with County in updating and synthesizing wildfire risk information and develop a list of at-risk water infrastructure in coordination with facility owners **S** – Support communications, public information sharing and advocacy efforts **S** – Support acquisition of state and federal assistance (where appropriate)



The high-elevation, off-stream Alder Creek Storage and Conservation project can help our vulnerable headwater communities, which rely on the snowpack for water supply to adapt to a changing climate. Conceptually described in the American River Basin Study with a storage of up-to 168,000 acre-feet (18 percent of Folsom Lake), the potential Alder Creek Reservoir of could provide needed water supply under a changing hydrology to accommodate agricultural development opportunities, generate affordable hydropower to reduce the energy cost burden in foothill communities, and contribute to flood risk reduction for local communities and downstream metropolitan areas. It offers additional opportunities for Reclamation to enhance its operational flexibility of Folsom Reservoir by satisfying CVP water contract delivery to El Dorado contractors and potentially the City of Folsom in most years. The Agency is collaborating with Reclamation to initiate a feasibility study that was previously authorized by Congress in 2005.

RMS5 – (Continued)

New infrastructure that augments water supply reliability and operational flexibility and improves climate resilience should also be investigated and developed based on collaborative principles and multi-benefit considerations. Prosperity of agricultural economy is critical for sustaining the desired rural-agricultural way of life. Additional water supply and infrastructure needs to support the identified agricultural opportunities require active planning and development as the lead time for implementation can be more than a decade.

RMS Actions	West Slope	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
5d. Update emergency response and communication plans regularly, including consideration of wildfires and potentially extended power shutoffs	**X**	**X**	EDSO, City of Placerville, EID, GDPUD, GFCSD, STPUD, TCPUD; small water systems, domestic wells	**F** – Integrate and streamline response actions and their implementation per individual Water Shortage Contingency Plans, Regional Drought Contingency Plan, and the County Drought Resilience Plan (see RMS7d) **S** – Support communications, information sharing and advocacy efforts
5e. Assess the regional infrastructure needs to support the implementation of a regional water and drainage master plans or equivalent	**X**		City of Placerville, County, EDWA, EID, GDPUD, GFCSD	**L** – Represent OCA in water planning efforts **L** – Lead the collaborative development of a regional infrastructure assessment in the West Slope to accommodate the collective projected needs including agricultural development opportunities identified to support County General Plan vision (see RMS1c) **S** – Support communications, public information sharing and advocacy efforts

Key

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County = County of El Dorado
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EDWA = El Dorado Water Agency
EID = El Dorado Irrigation District
GDPUD = Georgetown Divide Public Utility District
GFCSD = Grizzly Flats Community Services District
LAFCO = Local Agency Formation Commission
OCA = Other County Areas
STPUD = South Tahoe Public Utility District
TCPUD = Tahoe City Public Utility District

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.

Primary Challenges Addressed

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

RMS Actions	West Slope	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
6a. Update Stormwater Resource Plans to address changed conditions and unique foothill characteristics and needs.	X	X	City of Placerville, City of South Lake Tahoe, County, EDWA, RCD	**L** – Update West Slope Stormwater Resource Plan and provide program management support with implementing agencies **F** – Coordinate with implementing agencies on the update of the Tahoe-Sierra Region Stormwater Resource Plan **F** – Support communications, information sharing and advocacy efforts **S** – Support acquisition of state and federal assistance (where appropriate)
6b. Develop implementation strategy to finance program implementation align state policy implementation, and improve project readiness, as appropriate, for capitalizing on funding opportunities	X	X	City of Placerville, City of South Lake Tahoe, County, EDWA	**F** – Collaborate with implementation agencies to identify priority of implementation and actions for advancing project readiness **F** – Facilitate considerations of partnership and project collaboration opportunities with water purveyors for multi-benefit outcomes **S** – Support communications, information sharing and advocacy efforts **S** – Support acquisition of state and federal assistance (where appropriate)
6c. Implement water quality control measures and best management practices to address runoff from highways, streets, and other priority impervious areas	X	X	City of Placerville, City of South Lake Tahoe, County	**S** – Support communications, information sharing and advocacy efforts

RMS6 – (Continued)

Implementation of this new approach requires additional organizational and budgetary support. The Stormwater Resources Plans are one of the several methods for implementing agencies to prioritize their projects and support funding decisions to implement stormwater projects.

RMS Actions	West Slope	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
6c. Implement water quality control measures and best management practices to address runoff from highways, streets, and other priority impervious areas	**X**	**X**	City of Placerville, City of South Lake Tahoe, County, RCD	**S** – Support communications, information sharing and advocacy efforts

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County = County of El Dorado
EDWA = El Dorado Water Agency
RCD = Resource Conservation District

4.7 RMS7 – Improve Drought Preparedness and Responses

California is drought-prone, and climate change may further increase the frequency, duration, and intensity of future droughts. Legal and regulatory changes require urban water suppliers to prepare a Water Shortage Contingency Plan to accompany their UWMP that includes the definition of drought stages and corresponding actions. To elevate drought planning in the West Slope to match the Tahoe Basin, the Agency collaborated with water purveyors, the County, and tribes to develop a Regional Drought Contingency Plan. Additionally, small water systems and rural communities in El Dorado County are particularly vulnerable during extended droughts.

Primary Challenges Addressed

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

RMS Actions	West Slope	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
7a. Convene a long-standing County Drought and Water Shortage Task Force to facilitate drought and water shortage preparedness for small water suppliers and rural communities, and provide consistency for countywide drought planning	**X**	**X**	County, EDWA	**L** – Convene the County Drought and Water Shortage Task Force to address drought planning and mitigation needs in coordination with County **F** – Facilitate drought awareness and information sharing through a drought application on the Agency's portal **S** – Support communications, information sharing and advocacy efforts
7b. Implement and update the Regional Drought Contingency Plan and urban water supplier-specific Water Shortage Contingency Plans	**X**	**X**	EDWA, EID, GDPUD, GFCSD, STPUD, TCPUD	**L** – Coordinate the implementation and update of the Upper American River Basin Regional Drought Contingency Plan (including the West Slope) and represent the OCA in drought planning **F** – Coordinate consistency of drought planning efforts in El Dorado County **S** – Support Tahoe Basin drought planning in coordination with water purveyors **S** – Support communications, information sharing and advocacy efforts

RMS7 – (Continued)

The Agency was heavily involved in developing state policies and implementation programs that consider the unique conditions of rural counties and foothill communities. Also, the County requested the Agency support the establishment and convening of a long-standing County Drought and Water Shortage Task Force and the development of the County Drought Contingency Plan to comply with the requirements of SB 552. Recurring situation assessments and improvements are critical to ensure all residents in El Dorado County have adequate water supplies and to preserve options for leveraging available state and federal assistance when necessary.

RMS Actions	West Slope	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
7c. Update drought component in El Dorado County's Multi-Jurisdictional Hazard Mitigation Plan for emergency response coordination and potential future FEMA assistance	**X**	**X**	County, EDWA, EDSO	**F** – Coordinate with County OES for updates on drought and flood elements within the County MHMP to be consistent with various drought plans and applicable regulatory changes in drought planning and mitigation **S** – Contribute to County long-range planning as appropriate **S** – Support communications, information sharing and advocacy efforts
7d. Develop and implement County Drought Resilience Plan for addressing water shortage vulnerability for small water suppliers and rural communities	**X**	**X**	County, EDWA, EID, El Dorado LAFCO GDPUD, STPUD, small water suppliers, TCPUD	**L** – Develop and update the County Drought Resilience Plan to address changed conditions and unique vulnerability of foothills communities and the intent to cover all small water suppliers and domestic wells beyond the requirements of SB 552 **F** – Facilitate collaborative implementation of the County Drought Resilience Plan among small water systems, domestic wells, County and other interested parties including water purveyors, emergency services and state and federal managing agencies **S** – Advocate continued state and federal assistance needs for sustainability of rural communities and small water systems **S** – Support communications, information sharing and advocacy efforts

Key

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County = County of El Dorado
EDSO = El Dorado County Sheriff Office
EDWA = El Dorado Water Agency
EID = El Dorado Irrigation District
FEMA = Federal Emergency Management Agency
GDPUD = Georgetown Divide Public Utility District

GFCSD = Grizzly Flats Community Services District
LAFCO = Local Agency Formation Commission
MHMP = Multi-Jurisdictional Hazard Mitigation Plan
OCA = Other County Areas
OES = Office of Emergency Services
STPUD = South Tahoe Public Utility District
TCPUD = Tahoe City Public Utility District

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

California leads 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 the water management policy in El Dorado County, as reflected in the Agency's mission statement. To protect residents and foster economic growth in El Dorado County, it is essential that sufficient, safe, acceptable, physically accessible, and affordable water be available for personal and household uses, requiring collaboration of many local government agencies, as well as community groups and organizations, for substantial and lasting progress.

It is also recognized that the provisions in Proposition 218 of 1996 prohibit public water agencies from providing a subsidized rate for low-income households, creating a significant obstacle to water accessibility and affordability. However, it is possible for water purveyors (e.g., STPUD) to provide assistance using an alternative revenue source. At the state level, implementation details are currently under development, so it is critical to understand needs throughout El Dorado 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*

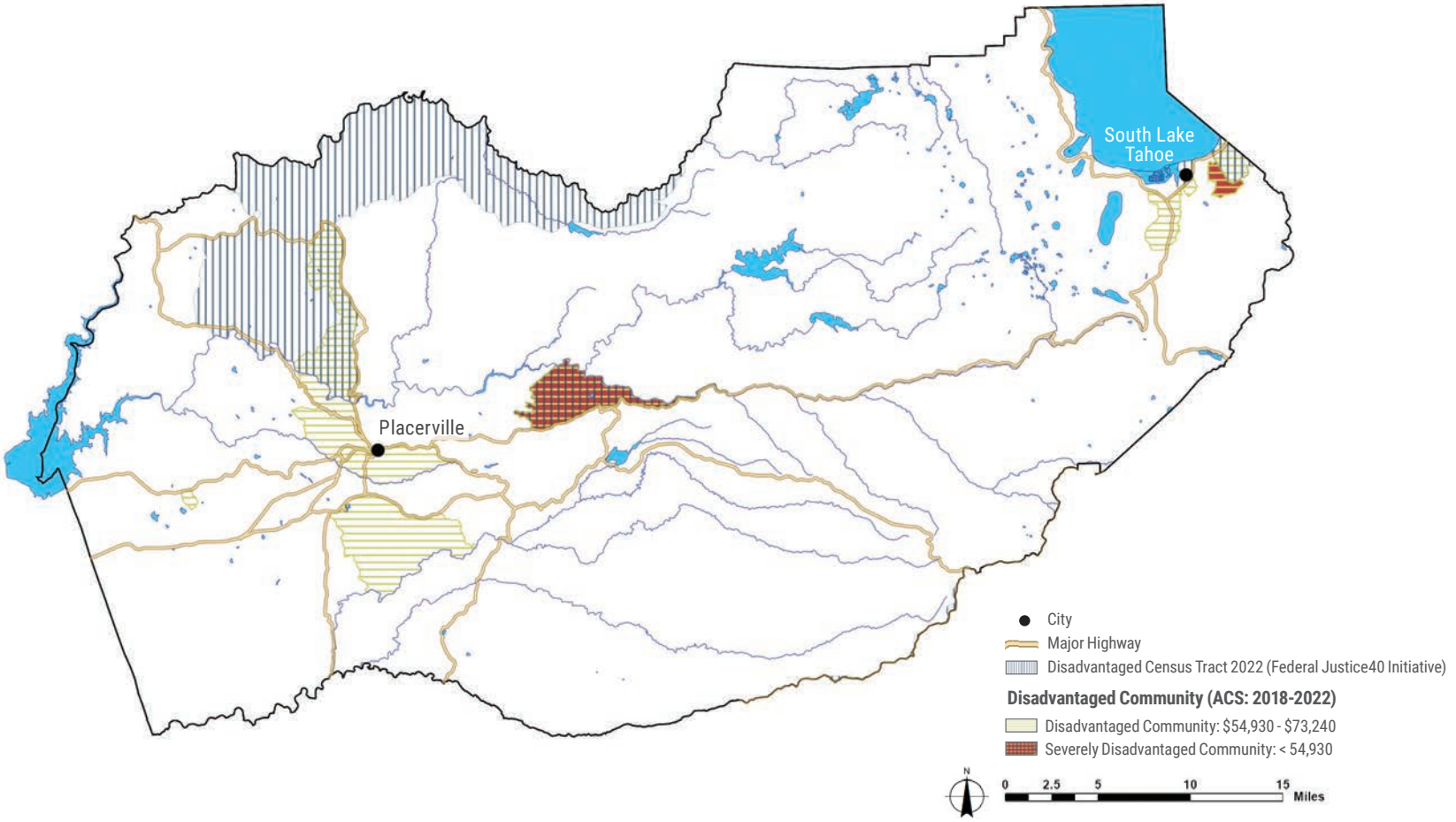
RMS Actions	West Slope	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
8a. Assess challenges in water accessibility and affordability in El Dorado County (Human Right to Water, California Water Code Section 106.3)	**X**	**X**	City of Placerville, County, EID, El Dorado LAFCO, GDPUD, GFCSD, STPUD, TCPUD	**F** – Coordinate with County to conduct situation assessment **S** – Support communications, information sharing and advocacy efforts
8b. Assess viability assessment for water system consolidation and implementation challenges to support advocacy and acquisition of state and federal assistance	**X**	**X**	City of Placerville, County, EID, El Dorado LAFCO, GDPUD, GFCSD, STPUD, TCPUD	**F** – Coordinate with County to conduct viability assessment **F** – Coordinate with County and interested parties and organizations in advocacy and funding acquisition **S** – Support communications, information sharing and advocacy efforts
8c. 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, EDWA, EID, GDPUD, GFCSD, STPUD, TCPUD	**L** – Represent OCA **F** – Coordinate with purveyors as cooperating party to improve affordability and accessibility **S** – Support communications, information sharing and advocacy efforts

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

County = County of El Dorado
EDWA = El Dorado Water Agency
EID = El Dorado Irrigation District
GDPUD = Georgetown Divide Public Utility District
GFCSD = Grizzly Flats Community Services District

LAFCO = Local Agency Formation Commission
OCA = Other County Areas
STPUD = South Tahoe Public Utility District
TCPUD = Tahoe City Public Utility District



A keen awareness of eligibility criteria is essential for securing available state and federal assistance to improve accessibility and affordability of water for all residents in El Dorado County. Priorities and reservation of certain portion of funding for qualified disadvantaged communities are reflected in many recent state programs and funding opportunities with increasing emphasis on equity. Similar practices were taken by federal agencies per the Justice40 initiative starting in 2021.

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 have direct (or indirect) effects on water availability and quality and contribute to public safety.

Primary Challenges Addressed

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

RMS Actions	West Slope	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
9a. Improve hydrological and meteorological data acquisition to support planning needs and improve short-term flood and seasonal water supply forecasting.	X	X	EDWA, EID, GDPUD, SMUD, STPUD, TCPUD	**L** – Collaborate with implementing agencies, state and federal agencies (e.g., DWR, Reclamation, USGS) to develop strategy and implementation plan to improve watershed-scale water hydrometeorological data acquisition and sharing. **F** – Coordinate with implementing agencies, SAFCA, state and federal agencies (e.g., DWR, Reclamation, NWS), regional partners (e.g., PCWA), and research institutes (e.g., CW3E) to improve forecast skills to improve operations for water and power generation benefits in the El Dorado County as part of the American River Watershed Forecast-Informed Reservoir Operation Program (see RMS11e) **S** – Support communications, information sharing and advocacy efforts **S** – Support acquisition of state and federal assistance (where appropriate)
9b. Expand knowledge base and coordinate policy development to address equity for investments in watershed health	X	X	EDWA, County, RCD, EID, GFCSD, GDPUD, Tribes, El Dorado County Farm Bureau, TCPUD, STPUD, City of Placerville, City of South Lake Tahoe	**L** – Coordinate with implementing agencies and relevant state and federal managing agencies (e.g., California Natural Resource Agency and USFS to develop special investigations based on EGS values to characterize fully the impacts of wildfire, value of water produced from headwaters, and other topics. **F** – Explore potential alternative funding mechanisms for watershed health that are more sustainable and equitable and incorporate considerations of EGS values in coordination with other headwater regions and organizations **S** – Support communications, information sharing and advocacy efforts
9c. Maintain and update a common platform that is publicly accessible for sharing water resource-related data and analytical tools, to avoid duplicate investments in their development and promote transparency	X	X	EDWA, EDC, RCD	**L** – Coordinate with implementing agencies in collaboration with County to maintain and update a common platform for water resource-related data and information sharing **F** – Coordinate with Tahoe-Central Sierra Initiative and other agencies, where applicable, to streamline project tracking to provide consistent and timely updated information **S** – Support communications, information sharing and advocacy efforts

RMS9 – (Continued)

The benefits of a healthy watershed go beyond the scope of water resource management and the beneficiaries of a watershed's ecosystem goods and services go significantly beyond the footprint of the watershed. For sustainable watershed management, collaboration commensurate with individual's roles and responsibilities and shared financial and implementation burdens equitably throughout beneficiaries are critical. RMS9 is the most expanded RMS in the 2023 PWP including three subcategories to cover the multi-facet watershed management. For the context of the WRDMP, only closely relevant to water resource management were incorporated and refined. The implementation of RMS9 within the WRDMP needs to be in concert with PWP implementation to maximize the overall benefits.

RMS Actions	West Slope	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
9d. Develop a cultural heritage management strategy in collaboration with Tribes, including protocols for collaboration and consultation.	**X**	**X**	County, Tribes, EDWA	**F** – Coordinate with Shingle Springs Band of Miwok Indians, County and other local, state, and federal agencies, practitioners and professionals to develop a cultural heritage management strategy.
9e. Collaborate with resource management agencies, power utilities, water purveyors, and interested parties to promote sustainable forest management strategies that provide long-term benefits to water supply, infrastructure, biodiversity, and ecosystem functions.	**X**	**X**	ARC, County, EDWA, EID, GDPUD, GFCSD, SPI, PG&E, RCD, SMUD, STPUD, TCPUD, Tribes, TRPA	**L** – Convene the Countywide Plenary for Water to foster and reinforce the continued collaboration to improve water resource planning and management to promote countywide benefits **L** – Convene the UARWG for update and implementation of the PWP consistent with the principles and guidance adopted by the Agency's Board **F** – Coordinate with implementing agencies and state and federal managing agencies (e.g., CAL FIRE, SNC, USFS) for watershed-scale data development and resource condition assessment, where appropriate **S** – Support implementing agencies and state and federal managing agencies (e.g., USFS) for regional plan development and implementation, including multi-purpose post-fire reforestation and financial planning, and biomass use and disposal, where appropriate, especially in relationship with improvement in drought resilience **S** – Support communications, information sharing and advocacy efforts **S** – Support acquisition of state and federal assistance (where appropriate)

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

ARC = American River Conservancy
BLM = U.S. Department of the Interior, Bureau of Land Management
CABY = Cosumnes, American, Bear, Yuba
CAL FIRE = California Department of Forestry and Fire Protection
County = County of El Dorado
CW3E = Center for Western Weather and Water Extremes, Scripps Institution of Oceanography
EID = El Dorado Irrigation District

GDPUD = Georgetown Divide Public Utility District
GFCSD = Grizzly Flats Community Services District
IRWM = Integrated Regional Water Management
PG&E = Pacific Gas and Electric Company
RCD = Resource Conservation District
SMUD = Sacramento Municipal Utility District
SNC = Sierra Nevada Conservancy
SPI = Sierra Pacific Industries

STPUD = South Tahoe Public Utility District
TCPUD = Tahoe City Public Utility District
TRPA = Tahoe Regional Planning Agency
UARWG = Upper American River Watershed Group
USFS = U.S. Forest Service

4.10 RMS10 – Prevent Contamination of Surface Water and Groundwater Resources

Overall, El Dorado County's surface water and groundwater are of good quality. Yet 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. Contamination 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	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
10a. Apply advanced technologies for water quality monitoring (surface water and groundwater), including remote sensing, for areas susceptible to water quality problems	**X**	**X**	County, EID, El Dorado County Agricultural Water Quality Management Corporation, STPUD, RCD	**F** – Facilitate innovation and pilot for advanced technology
10b. Implement Sewage System Management Plans in coordination with system owners including emergency response protocols and vulnerability assessment	**X**	**X**	City of Placerville, County, EID, GDPUD, STPUD, TCPUD, CSD(Sewage)	**F** – Coordinate with the County and water purveyors to identify vulnerable sewage lines with high risk of contaminating surface water or groundwater resources **S** – Support communications, information sharing and advocacy efforts
10c. Implement the Nutrient Management Plan for agricultural practice to reduce the risk of long-term effects on the quality of surface water and groundwater resources	**X**	**X**	El Dorado County Ag Water Quality Management Corp, RCD	**F** – Coordinate with the County to evaluate the monitoring of data available and synthesize the data for public access and information sharing **S** – Support communications, information sharing and advocacy efforts, including technology transfer and education in collaboration with UCANR **S** – Support grant applications for monitoring and best management practices implementation (where appropriate)
10d. Implement County Local Agency Management Plan for Onsite Wastewater Treatment Systems, including enforcement on guidelines for approval and repairs	**X**	**X**	County	**F** – Coordinate with the County to evaluate the monitoring of data available and synthesize the data for public access and information sharing **S** – Support communications, information sharing and advocacy efforts

RMS10 – (Continued)

Given the multi-faced issues of water availability, use, movement, and quality, it is beneficial for County and utilities to collaborate with RCD, UCANR, and other non-profit organizations to advance the monitoring, eduction, and outreach to communities and visitors for sustainable practice and behavior changes.

RMS Actions	West Slope	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
10e. Conduct public outreach and education activities to encourage prevention of water supply contamination	**X**	**X**	City of Placerville, County, EID, GDPUD, GFCSD, STPUD, TCPUD, RCD	**S** – Support communications, information sharing and advocacy efforts
10f. Implement the Local Agency Management Plan for Onsite Wastewater Treatment Systems (e.g., septic tanks) and comply with relevant Waste Discharge Requirement Orders	**X**	**X**	County, GDPUD, CSD(Wastewater)	**S** – Support communications, information sharing and advocacy efforts

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County = County of El Dorado
CSD = Community Service District
EID = El Dorado Irrigation District
GDPUD = Georgetown Divide Public Utility District

GFCSD = Grizzly Flats Community Services District
RCD = Resource Conservation District
STPUD = South Tahoe Public Utility District
TCPUD = Tahoe City Public Utility District

4.11 RMS11 – Reduce the Risk of Flooding in Communities

Historically, most flooding in El Dorado County has been localized due to the terrain and headwater location, or as a result of rainfall on snow. 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	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
11a. Update potential risks of flooding and infrastructure vulnerability	**X**	**X**	City of Placerville, City of South Lake Tahoe, County, CSD(Flood), EDWA, EID, GDPUD, GFCSD, STPUD, TCPUD	**F** – Collaborate with implementing agencies in risk and vulnerability assessments **F** – Communicate flood risks in coordination with County, City of Placerville and City of South Lake Tahoe **F** – Develop and maintain coordination with facility owners, and an inventory of water infrastructure that is vulnerable to flooding **S** – Support communication, information sharing and advocacy efforts
11b. Develop and implement flood risk reduction projects to reduce localized and neighborhood flooding with considerations of increase in frequency and intensity of flood-causing storms in facility planning (siting and design) for long-term sustainability	**X**	**X**	City of Placerville, City of South Lake Tahoe, County, CSD(Flood), EDWA, RCD	**F** – Collaborate with the implementing agencies in developing and implementing localized and neighborhood flood risk reduction projects (see RMS5e and RMS6a) **S** – Support acquisition of state and federal assistance (where appropriate) **S** – Support communications, information sharing and advocacy efforts
11c. Improve implementation of residual flood risk mitigation actions including participation of the National Flood Insurance Program and voluntary use of flood resistant materials and other California Building Code requirements as appropriate	**X**	**X**	City of Placerville, City of South Lake Tahoe, County	**S** – Support communications, information sharing and advocacy efforts

RMS11 – (Continued)

With the refinements in the PWP, the Agency is exploring a significant opportunity to collaborate with Sacramento Area Flood Control Agency, Placer County Water Agency, SMUD, DWR, and other state and federal agencies to explore a landscape scale program for sustainable, multi-benefit for reducing local and regional flood risks in the west slope and downstream Sacramento metropolitan area.

RMS Actions	West Slope	Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
11d. Develop strategies and collaborate to combine nature-based solutions to reduce expenditure, facilitate additional flexibility of pooled funding use, and prolong the effectiveness of hard infrastructure investment and operational changes for regional flood risk reduction.	**X**	**X**	County, EDWA, EID, GDPUD, RCD, SMUD, STPUD, TCPUD, TRPA	**L** – Collaborate with SAFCA in the development of the American River Watershed Forecast-Informed Reservoir Operation Program, in coordination with implementing agencies, state and federal agencies (e.g., DWR, Reclamation, USACE), regional partners (e.g., PCWA) and research institute (e.g., CW3E), to incorporate nature-based solutions and other related elements for countywide benefits (see RMS9.1a) **F** – Facilitate the coordination of implementing agencies in the Tahoe Basin to incorporate nature-based solutions in flood risk reduction planning and implementation **S** – Support communications, information sharing and advocacy efforts **S** – Support acquisition of state and federal assistance (where appropriate)

Key

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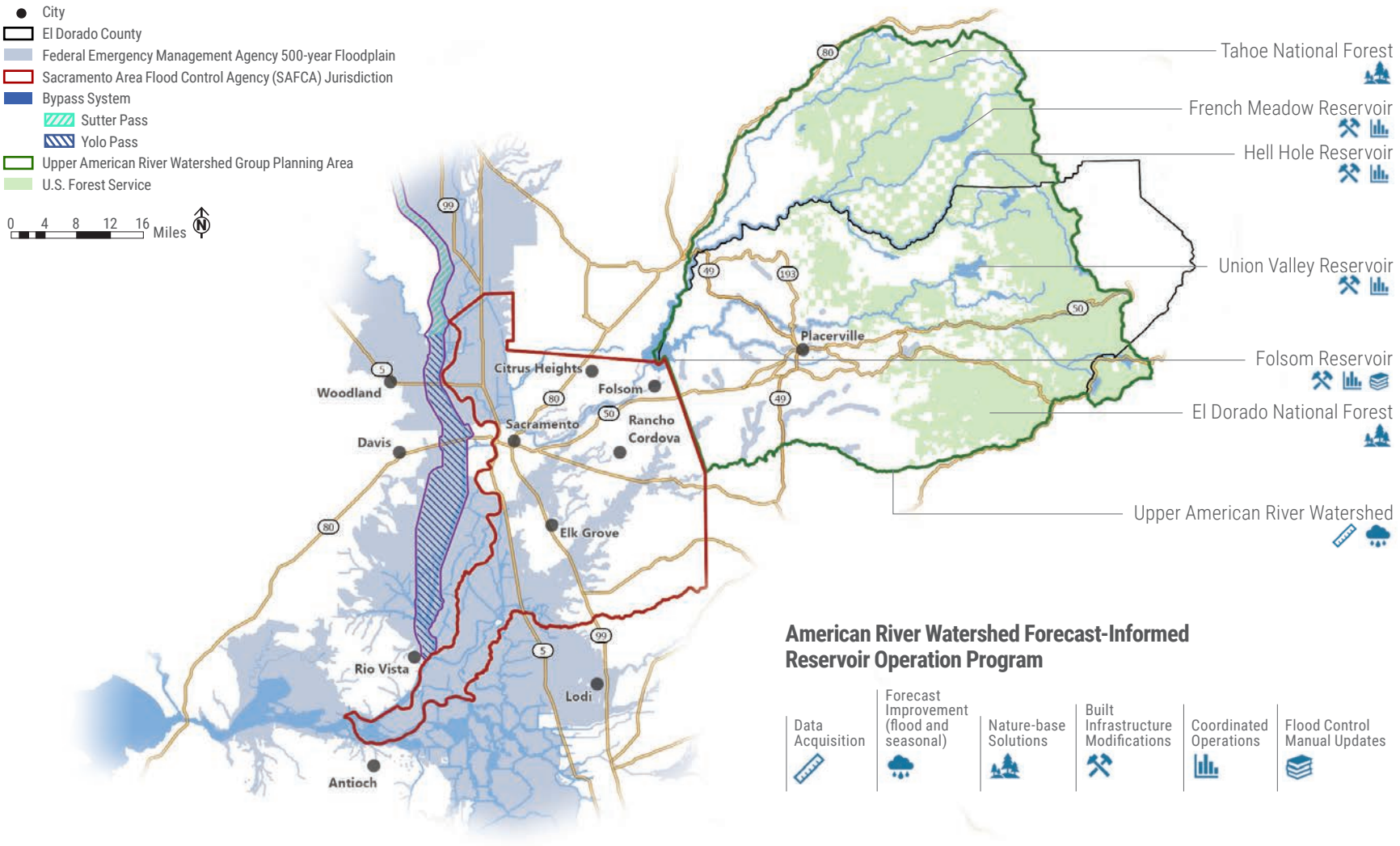
F = **Facilitate** – Organizing and assisting in advancing an RMS, but not directly responsible
S = **Support** – Providing as-needed coordination, advocacy, and occasional assistance

County = County of El Dorado
CSD = Community Service District
CW3E = Center for Western Weather and Water Extremes, Scripps Institution of Oceanography
DWR = Department of Water Resources

EDWA = El Dorado Water Agency
EID = El Dorado Irrigation District
GDPUD = Georgetown Divide Public Utility District
PCWA = Placer County Water Agency
RCD = Resource Conservation District

SAFCA = Sacramento Area Flood Control Agency
SMUD = Sacramento Municipal Utility District
STPUD = South Tahoe Public Utility District
TCPUD = Tahoe City Public Utility District
TRPA = Tahoe Regional Planning Agency
USACE = U.S. Army Corps of Engineers

The American River Watershed Forecast-Informed Reservoir Operation Program (Watershed FIRO) combines two climate adaptation elements in the 2022 ARBS: (1) built infrastructure modifications with more flexible multi-benefit operations enhanced by improvement of forecast skills for Reclamation's operation of Folsom Reservoir and flood protection for the Sacramento region, and (2) the upper American River watershed management for facilitating nature-based solutions to reduce localized flooding, improve long-term effectiveness of built infrastructure improvements and enhance ecosystem goods and services (e.g., water supply, recreation).



The Watershed FIRO Program will work in concert with another ARBS water management element customized for the upper watershed - Alder Creek Storage and Conservation Project. The ARBS was developed by Reclamation and regional partners with a major contribution from the Agency to address upstream needs for balancing projected water supply-demand imbalance with a firm recognition of unique conditions of upstream watershed.

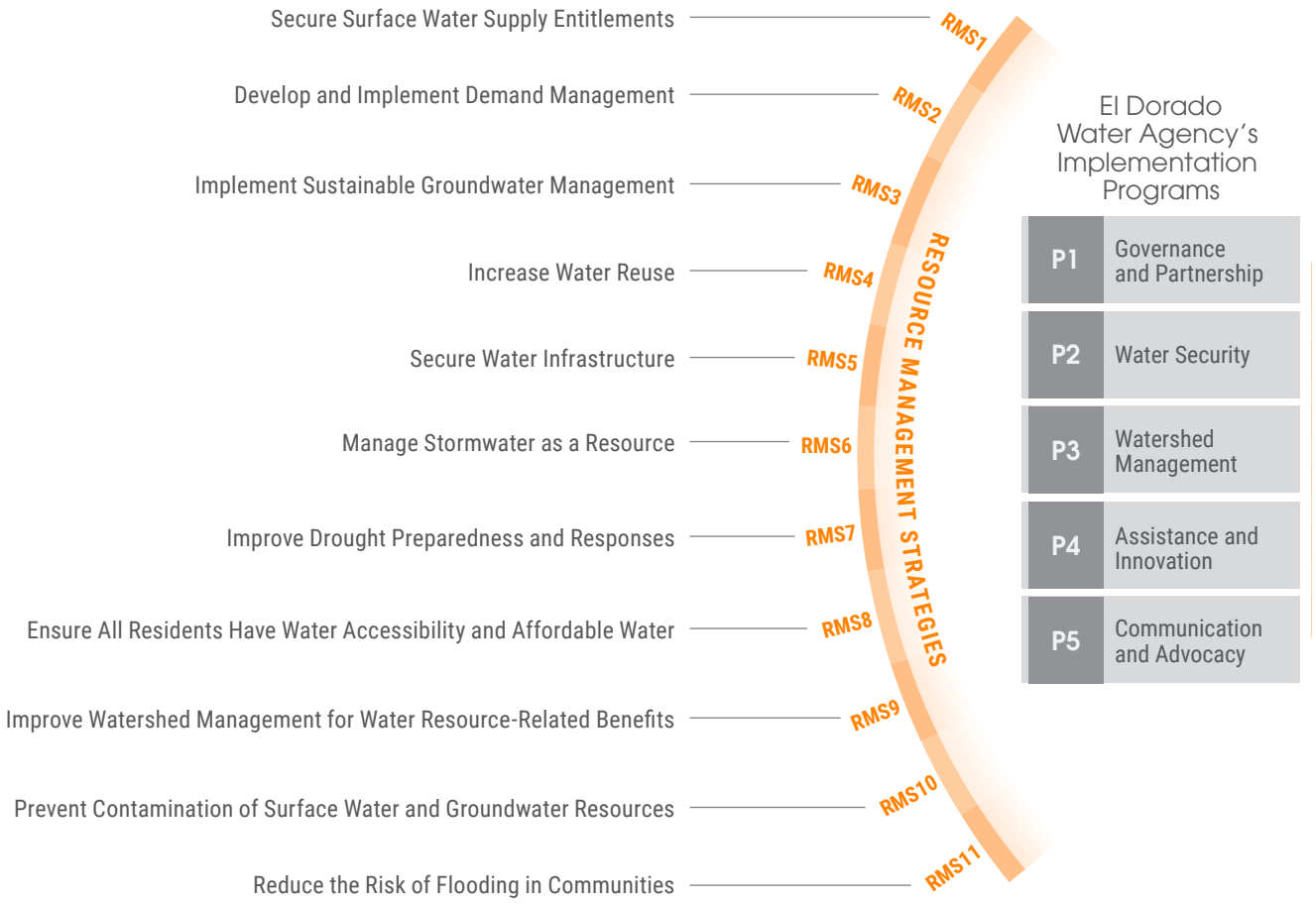
SECTION

5

Implementation

Implementation of the WRDMP will be a continual and adaptive process with incremental and staged accomplishments. Realizing the wide-ranging RMS identified in Section 4 will be a shared responsibility among the principal implementing agencies, which requires coordination, collaboration, and cooperation. Progress on many management actions identified in 2019 WRDMP has been made, while other actions are underway or will be completed before the next update of the WRDMP in 2029. Still, others will require more time to develop and implement and are refreshed based on the accomplishments and changed conditions.

The Agency plays a vital role in advancing actions that are consistent with its authorities and priorities and relies on its Board's policies and guidance for continued involvement and assessing priorities. The primary roles for identified management actions for each RMS are described in Section 4. This section describes the ***how*** and the ***when*** for the Agency's involvement as a whole in water resources development and management in El Dorado County to realize the vision in the County General Plan, and collaborate with other local/ regional, state and federal entities to create a better water future for all residents in El Dorado County and beyond.



5.1 Implementation Programs

Five implementation programs are created to further the RMS and associated management actions outlined in Section 4:

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

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

Governance and Partnership Program

The Governance and Partnership Program focuses on how the Agency will function throughout WRDMP implementation to create countywide benefits for El Dorado County. The extent of this program is defined by the Agency's authority and includes the Agency's involvement to support governing and partnerships that advance the RMS. This includes coordinating or sharing program management activities, executing partnership agreements, and supporting local programs that may have countywide value and other water-related actions.

Water Security Program

The Water Security Program focuses on the Agency's efforts to prepare El Dorado County for both projected needs and a uncertain water future. This program is the highest priority program for the Agency, requiring the most effort and the greatest financial investment in comparison with other programs. It commensurates the Agency's role to ensure countywide water supply needs are planned and secured through water demand gap analysis, water supply development, drought protection and response planning, stormwater development and planning as a water resource, flood management planning, and water quality through planning and watershed protection.

El Dorado Water 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
Long-term water resources resiliency and reliability is intrinsically tied to the health of the watershed. This nexus was highlighted by the recent natural disasters experienced in the county which impacted water quality, water security, and water supply costs. The Agency has broad authority to engage in water management actions related to water supply, water quality and flood 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; however, the Agency continues to explore alternative mechanisms such as grants and funding partnerships that are within its authority.

Communication and Advocacy Program
The Communication and Advocacy Program is for the Agency to coordinate efforts with entities and groups throughout El Dorado County to achieve consistency, efficiency, and effectiveness for countywide communications and public information sharing, as well as federal and state advocacy related to water resource issues and management that are right for us rural counties and foothill communities. Crucial to WRDMP implementation, the Agency initiates and maintains consistent coordination with other local/regional agencies and interested parties to advocate for equitable investments with appropriate actions that fit our unique conditions.

El Dorado Water Agency's Board Chair, Brian Veerkamp, and U.S. Department of the Interior, Bureau of Reclamation's Regional Director, Earnest Conant, signed the CVP Water Service Contract on October 23, 2019. The Agency has pursued this contract since 1990 as directed by Congress in Public Law 101-514. Known as the Fazio water in honor Congressman Vic Fazio who secured the authorization, this contract gives the Agency access to an additional up-to 15,000 acre-feet of water to support the water supply needs in the West Slope.

5.2 Implementation Policies and Guidance

To establish stable implementation, the Agency's Board of Directors (Board) adopted policies and guidance in 2019 to affirm the purposes of the WRDMP and its associated integrated and adaptive approach, as well as the Agency's role and focus for its long-term implementation. For WRDMP24, the Board renewed the adoption of the following policies and guidance.

- **Policy WRDMP-01:** The WRDMP shall be the countywide water plan to support the realization of the vision established in the County 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 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 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 up to two times 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 assistance for implementation, where feasible.
- **Guidance WRDMP-04:** The Agency shall allocate the cost of project development and implementation fairly among beneficiaries.
- **Guidance WRDMP-05:** The Agency shall leverage significant opportunities for hydropower generation in El Dorado 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 Consistency in Water Supply and Resilience Planning

The WRDMP is the countywide water plan to maintain consistency in water resources planning throughout the county for long-range planning. The WRDMP satisfies County Ordinance 5096 for water supply planning, as described in Section 1, by considering the area-specific planning of the County, conservation districts, and public water purveyors in the West Slope. The Agency, County, and public water purveyors in the Tahoe Basin collaborate in land use and water supply planning through the coordination of TRPA, as consistent with the TROA and other applicable region-specific law and regulations, which goes beyond the scope for Ordinance 5096.

In the context of water supply and resilience planning in the West Slope, the focus on long-term planning in the WRDMP renders difference in considerations and approach from other local plans as follows:

- The WRDMP focuses on the realization of the vision provided by County General Plan in terms of land use and associated economic activities to support the preferred rural-agricultural way of life. The period of planning spans more than 50 years and currently, through the end of the 21st Century. Under the existing regulatory framework, major public water purveyors are subject to the requirements for preparing the UWMP and WSCP with a planning period of 20 years. The urban water suppliers in the West Slope include EID and GDPUD. GFCSD is the largest small water system in El Dorado County but is not subject to the requirements for preparing an UWMP or WSCP.
- The WRDMP includes the considerations of the economic growth potential as allowed and anticipated in County General Plan through land use policies and ordinances. These growth opportunities are mostly in OCA; however, some growth opportunities are in existing service areas of the public water purveyors. Most of these potential increased demands are for furthering the opportunities of growth of agricultural economy, which is the largest sector of economy in El Dorado County. These demands are not within the near-term estimate of public water purveyors in their corresponding UWMP and WSCP.

Recognizing these differences, the Agency worked with the water purveyors and other interested parties to develop methodologies for water demand estimates. The methodologies use similar assumptions that include aligned population projections and regulatory requirements for long-term urban water-use efficient standards, as well as considerations of local unique conditions and practices. For the WRDMP24, a water supply-demand imbalance subgroup was formed under the PAG for discussions on the updated demand estimate approach and imbalance analyses. The consistency of water supply and resilience planning is expected to be further strengthened after the next filing of the updated UWMP and WSCP in 2025.

Additional emphasis on consistency in drought planning for improved resilience was achieved through the Agency's recent efforts to develop the UARB RDCP, which includes the West Slope water purveyor service areas. The UARB RDCP also sets a foundation to improve drought planning and preparedness for small water suppliers and rural communities that would be further developed through the CDRP, which is scheduled for completion in 2025.

The WRDMP reflects a proactive approach for water supply and resilience planning. The WRDMP aligns different local and regional planning for water resource-related management and economic growth. Without a vibrant agricultural economy and community, the county's preferred rural-agricultural way of life is not sustainable for future generations. With exceptions and assumed stewardship roles, when applicable, public water purveyors respond to water supply needs of the planned and approved development on a first-come, first-served basis. The success of water supply and resilience planning for countywide benefits require consistent and cohesive considerations and implementation of other management strategies and regional infrastructure including transportation, broadband, workforce and community capacity development; many were captured in the RMS of 2023 PWP, particularly, RMS13. Establishing a shared vision for the future with sustainable resource management and economic prosperity with County and other responsible parties beyond the water community cannot be overly emphasized.

5.4 Recent Accomplishments (2020–2024 Fiscal Years)

Water resources are fundamental for El Dorado County to achieve economic prosperity, protect the environment, and support the rural-agriculture way of life for today and in the future. The Agency is entrusted to provide a countywide perspective for reliable, high-level and forward-looking water resources planning within El Dorado County. Agency's success is supported by implementation partners within El Dorado County that focus on activities to improve conditions with their specific areas or scopes of service. Over the past five years, since the completion of the 2019 WRDMP, the Agency has achieved the following major accomplishments in collaboration with our partners, and the efforts for the Agency to effectively leverage available state and federal assistance programs to advance the collective interests and countywide benefits.

Governance and Partnership Program

- Completed the Agency's 2021-2025 Strategic Plan (SP25+) in 2020 with updated mission and vision, and goals and priorities for investments to provide further alignment of the Agency's actions with the 2019 WRDMP. Subsequently, the Board amended its financial policies to support the implementation.
- Established the lasting Countywide Plenary for Water as directed by the Agency's Board in the WRDMP implementation guidance as a public forum to engage water resource managers and interested parties; federal, state, local and tribal governments; business interests; and community organizations to collaborate and modernize water resource management in El Dorado County.
- Broadened and enhanced the partnership with Reclamation for benefits of El Dorado County through CVP contract finalization, project development (e.g., Auburn State Recreation Area Knickerbocker Zone Grazing Pilot Project), various WaterSMART grant projects (e.g., American River Basin Study, Upper American River Basin Regional Drought Contingency Plan, Upper American River Watershed Group and initial plan development).
- Broadened and enhanced the partnership with DWR for benefits of El Dorado County through participation in state policy development and regulatory process on water conservation (e.g., Making Water Conservation the California Way of Life per SB 606, AB 1668, SB 1175 and SB 555) and drought planning (e.g., drought resilience planning for small water systems and domestic wells per SB 552), as well as the value of watershed ecosystem goods and services in relation to equitable investments for watershed health.
- Continued to serve as the El Dorado Designated Representative under the 2005 El Dorado-SMUD Cooperation Agreement to lead the interaction for water supply and operation planning and to address increased costs of services for recreation, public safety and transportation maintenance within the upper American River.
- Enhanced the coordination and collaboration with County to contribute to economic growth and provided expertise to support County in long-term water resource planning and management, including:
  - Developed a countywide water plan (i.e., the WRDMP) and other water resource planning support pursuant to the 2018 Memorandum of Understanding (MOU) with County for and its 2024 update,
  - Provided support to the County since 2022 to identify, manage, and administer water infrastructure projects eligible for federal funding assistance provided by the American Rescue Plan Act (ARPA) of 2021 with a specific agreement with the County for program support and APRA fund allocation.
  - Provided management and program assistance to the County in 2022 and 2023 to support the Caldor Fire response and recovery efforts focusing on potable water supplies, small water systems, and watershed water quality and erosion control.
  - Established a standing County Drought and Water Shortage Task Force in 2022 per SB 552 requirements to facilitate countywide drought and water shortage preparedness and development of County Drought Resilience Plan to improve drought planning for small water suppliers and rural communities.
- Established the UARWG in 2022 to advance the collaborative and cooperative managements of the upper American River watershed for sustainable watershed health and community resilience. The UARWG is a diverse group of stakeholders, including local land use authorities, water purveyors, resource conservation districts, non-governmental organizations, tribal governments, and federal agencies that has roles and responsibilities for managing the upper American River watershed with a charge to collaboratively develop and implement a watershed plan.
- Through the 2022 Second Amended and Restated Memorandum of Understanding with STPUD, affirmed the collaboration with and support of STPUD on sustainable management of groundwater resources in the Tahoe South Subbasin of the Tahoe Valley Groundwater Basin as the El Dorado County Water Agency GSA for the subbasin areas outside of the STPUD service area.
- Strengthened the collaboration and coordination with member agencies including STPUD, TCPUD, EID, GDPUD and GFCSD on development and implementation of water resource-related projects and initiatives contributing to improvements on water supply reliability, water quality, flood damage reductions, snowpack retention and natural watershed enhancements, and operating cost efficiency, and regional economic and workforce development.
- As an associate member, engaged the Regional Water Authority for regional planning studies and activities related to the American and Consumnes rivers.

Completed in 2024, Tahoe City Public Utility District's new West Lake Tahoe Water Treatment Plant provided a permanent, all-season, drought-resilient drinking water source for its McKinney-Quail water service area and other systems along Lake Tahoe's west shore as a regional solution for drinking water and fire protection.

- As a signatory of 2000 Water Forum Agreement, engaged the Sacramento Water Forum for Water Forum 2.0 formulation to advance a balanced approach to water supply reliability and protection of the lower American River as a member of the Water Caucus.

Water Security Program

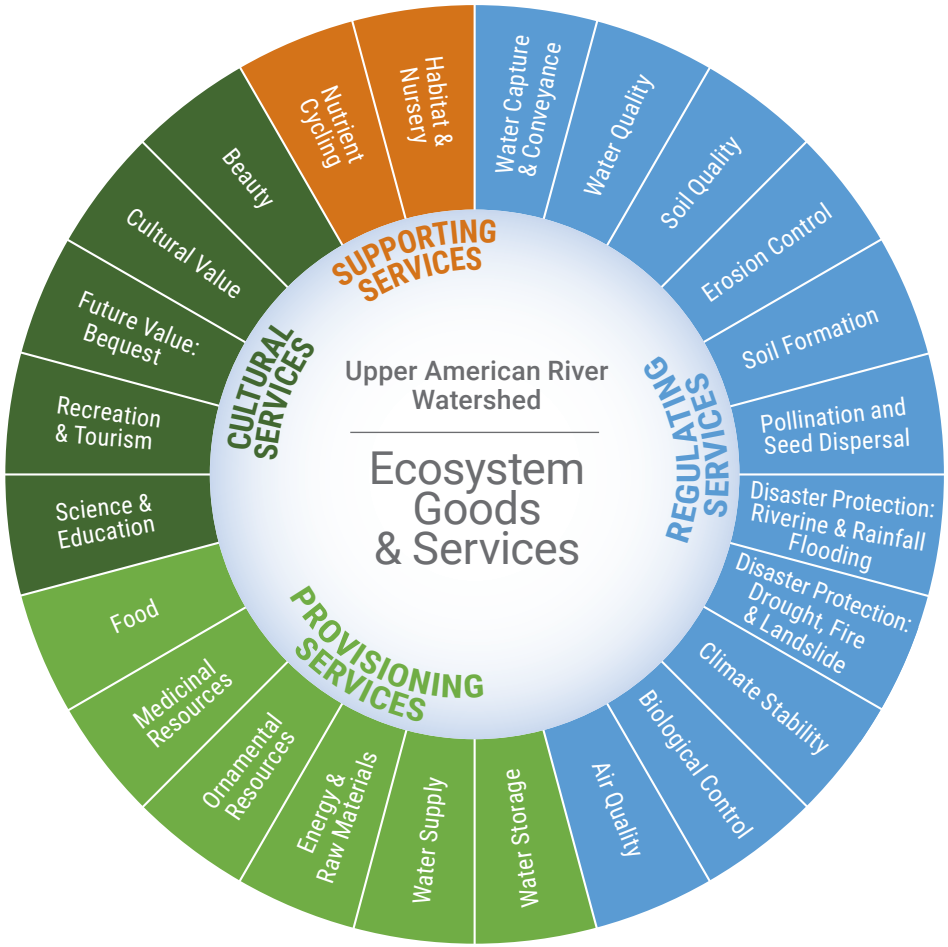
- Executed the water supply contract with Reclamation in 2019 for the long-term Central Valley Project water service contract, referred to as the Fazio water service contract, for an amount of up to 15,000 acre-feet per year to support planned development in the West Slope within EID's and GDPUD's service areas and OCA.
- Completed bottom-up estimates for West Slope water demands in 2020 on the capacity-level per County General Plan with integrated considerations for M&I and agricultural water needs allowed per land use policies, zoning ordinances and other applicable management practices. The M&I water demands are consistent with the new regulatory framework, Making Water Conservation a California Way of Life. The agricultural water demands are consistent with climate change considerations and modern practices of deficit irrigation are based on an economic-informed study on potential agricultural development opportunities in West Slope.
- Revised the formulation of the El Dorado Water Reliability Project in 2021 for enhanced countywide benefits to acquire area-of-origin water rights on the American River to support the agricultural development in the West Slope consistent with County General Plan. Conducted technical analyses and environmental review to support the water right petition of up to 40,000 acre-feet and use of carryover storage of SMUD's Upper American River Project reservoirs consistent with the 2005 El Dorado-SMUD Cooperation Agreement. The draft environmental documentation is scheduled in early 2025.
- Collaborated with STPUD to complete and adopt the Alternative Plan Five-Year Update for the Tahoe South Subbasin in 2022 pursuant to the SGMA; the resulting Alternative Plan was subsequently approved by DWR in 2024 for continued subbasin management.
- Completed the American River Basin Study in 2022 in collaboration with Reclamation and regional partners, including Placer County Water Agency, City of Sacramento, City of Roseville, City of Folsom, Regional Water Authority and Sacramento Area Flood Control Agency. Partially funded by a 2016 grant from Reclamation's WaterSMART Basin Study Program ($650K), the American River Basin Study is a critical regional milestone document that establishes the basis of regional collaboration with Reclamation for mutual beneficial outcomes. It evaluates the regional climate vulnerabilities and potential water supply-demand imbalance and identifies five climate adaptation portfolios to address unique regional vulnerabilities, including Alder Creek Storage and Conservation Project, Sacramento River Diversion Project (i.e., RiverArc project), Federally Recognized Groundwater Bank (i.e., Sacramento Regional Water Bank), Folsom Dam Raise with Groundwater Banking (later revised to be the American River Watershed Forecast-Informed Reservoir Operation Program), 2019 Biological Opinion Flow Management Standard and Folsom Reservoir Carryover Storage Enhancement. Forest/watershed management and water conservation are common elements among all portfolios. The Agency and regional partners are currently pursuing individual project-level portfolio development in coordination and collaboration.
- Completed the Upper American River Basin Regional Drought Contingency Plan in 2023 in collaboration with Reclamation, tribes, public water purveyors, land use agencies, and environmental interests to improve regional drought preparedness and implementation of drought response and mitigation actions. Partially supported by a 2019 grant from Reclamation's WaterSMART Drought Program ($100K), this plan outlines short-term response actions and long-term mitigation actions to improve long-term water resiliency to drought and expands mitigation planning to areas outside of public water purveyor service areas, and position parties in El Dorado County for additional state and federal assistance programs.
- Initiated the drought resilience planning for small water suppliers and rural communities in 2021 in collaboration with County to extend the momentum and outcome from then-ongoing development of the Upper American River Basin Regional Drought Contingency Plan development to meet the requirements of SB 552. County's Environmental Management Department oversees the well permitting process, the small water systems as the Local Primacy Agency with the delegated authority from the SWRCB, and the state small water systems with the delegated authority from County Public Health Officer. Partially funded by a 2024 grant from DWR's County Drought Resilience Planning Assistance Program ($125K), the ongoing development of the County Drought Resilience Plan is to cover all small water suppliers beyond the limited scope under SB 552 to aim at equitable and countywide benefits per the Board's directive in the SP25+.

- Coordinated with Reclamation to reinitiate the efforts of a feasibility study for the Alder Creek Reservoir and Conservation Project authorized by Public Law 108-361, Section 202, and recommended as one of the five regional climate adaptation portfolios recommended in the American River Basin Study. The concept of this portfolio is to develop a 168,000 acre-feet high-elevation, off-stream storage project in the upper American River to mitigate impacts from climate change on water supply for foothill communities due to snowpack reduction and hydrology change. Based on the outcome from the American River Basin Study, the renewed coordination since 2022 focuses on the procedural and expanded funding needs for the study previously authorized in 2005.

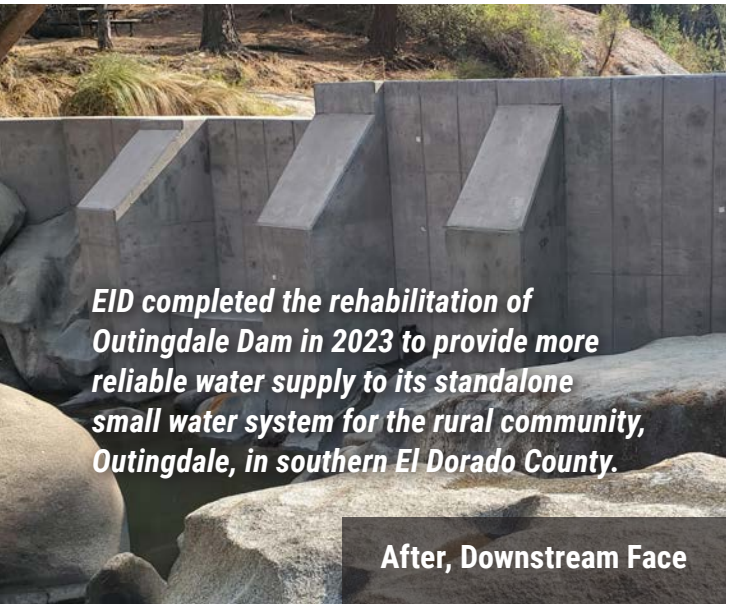
Watershed Management Program

- Secured the SWRCB's concurrence for the West Slope Stormwater Resource Plan and completed a five-year update with an addendum in 2023. The West Slope Stormwater Resource Plan is to provide an equivalent level of planning document as that for the Tahoe Basin and provide for the eligibility for future state assistance programs to advance stormwater resource management.
- Established a GIS Online Mapping and Data portal in 2021 in coordination with County to improve water resource-related information sharing and public awareness. Subsequently, the collaboration was extended to partner with OWPA in its online mapping tool for data sharing and collaborative data development; the online mapping tool is to allow local agencies and the public to view geographic information related to wildfire preparedness and resilience within El Dorado County. For efficient and timely updates, the Agency is currently exploring the viability of collaborating with Tahoe Central Sierra Initiative for watershed improvement project tracking and accomplishment information.

As part of its actions for implementing the PWP, the Agency completed the appraisal-level valuation of ecosystem goods and services in the upper American River watershed. This watershed represents an estimated 14.9 billion per year asset and provides a diverse range of ecosystem goods and services that are essential to the health and well-being of the watershed and its inhabitants, and properly maintained services are foundational to protect the watershed for future generations.




Before


EID completed the rehabilitation of Outingdale Dam in 2023 to provide more reliable water supply to its standalone small water system for the rural community, Outingdale, in southern El Dorado County.

After, Downstream Face


After, Upstream Face

- Completed the initial PWP in 2023 through collaboration with the UARWG to improve watershed health and community resilience in the upper American River watershed that covers the entire El Dorado County including the Cosumnes River watershed portion under consistent management by parties in El Dorado County. Partially funded by a 2021 grant from Reclamation's WaterSMART Cooperative Watershed Management Program ($99.8K), the resulting PWP represents a road map to sustainably manage the watershed to fulfill the ecological, economic, and social needs of the region and beyond through implementable, collaborative, and integrated strategies with prioritized projects for subsequent grant funding opportunities. The PWP is to advance the common element on forest/watershed management in all portfolios recommended by the American River Basin Study. Subsequently, the Agency's Board adopted specific policies and guidance for the Agency's implementation of the PWP to be consistent with the Agency's role and charge provided by the 1959 Act.
- Completed the valuation of ecosystem goods and services in the upper American River watershed as an Agency's PWP implementation action in 2024 with two related documents: Working Landscapes: The Natural Capital of the Upper American River Watershed, and Outdoor Recreation in the Upper American River Watershed: An Analysis of Economic Impacts and Value. The body of work provides an appraisal level of assessment on the value of the watershed's natural capital and recommendations for supporting a healthy watershed towards guiding future watershed and related investments. Subsequently, a research article based on the valuation study was published in an international, peer-reviewed, open-access online journal (i.e., MDPI Water) to promote awareness and provide additional validation of the work; the Agency was among the authors for the publication.
- Collaborated with County, particularly the Office of Wildfire Preparedness and Resilience, in wildfire mitigation and watershed restoration, contributing to the Agency's PWP implementation, including:
  - Provided water resource planning and management expertise and advisory capacity to County's Office of Wildfire Preparedness and Resilience for coordination and support.
  - Initiated the Auburn State Recreation Area Knickerbocker Zone Grazing Pilot in 2022 in collaboration with Reclamation, County and local ranchers to explore the viability for reestablishing cattle grazing in a portion of the Auburn State Recreation Area to enhance the regional economy, lower wildfire risks for neighboring UWI areas, and contribute to mitigating impacts of climate change for shrinking viable grazing lands in the West.
- Collaborated with the El Dorado County RCD and USFS to secure a 2023 grant from Reclamation's WaterSMART Environmental Water Resource Projects ($1.875M) for restoring GFCSD's source watershed that was significantly damaged by Caldor Fire. Combined with additional fundings and resources provided by RCD and USFS, a complete watershed restoration effort is underway under RCD's management.

Assistance and Innovation Program

- Provided farming community assistance through long-term implementation of the Irrigation Management System program that monitors and assists small, rural farmers to irrigate in an efficient manner. The Agency also contracted with agricultural irrigation specialists to work directly with farmers to increase water efficiency for their crops and demonstrate the best management practice for meeting water quality requirements for agricultural water management.
- Developed grant funding application packages that resulted in successful awards for partners in El Dorado County, including:
  - El Dorado Hills CSD's 2021 grant from Reclamation's WaterSMART Small Scale Water Efficiency Projects ($75K)
  - GDPUD's 2022 grant from Reclamation's WaterSMART Small Scale Water Efficiency Projects ($75K) for canal lining
  - County's 2024 County Drought Resilience Planning Assistance grant ($125K) for developing the County Drought Resilience Plan per SB 552
- Developed the water saving projects with El Dorado Hills CSD at Stephen Harris Park to improve landscape irrigation efficiency in public parks and public awareness, which is partially funded by the previously mentioned Reclamation's grant. The project is scheduled for completion in 2025.
- Supported hydrometeorological data acquisition in the American River basin with a 2021 grant from Reclamation's WaterSMART Drought Program ($300K) to harden and upgrade two of the thirteen research grade clusters of the American River Hydrologic Observatory developed and maintained by University of California, Merced. The Agency also completed the Notice of Exemption for CEQA compliance to support the project implementation.
- Collaborated with County to complete the Fairgrounds Water Drainage Improvement Project Feasibility Study in 2021 to help alleviate localized flooding and protect this economically critical attraction in El Dorado County in coordination with County.
- Coordinated with County to support Caldor Fire recovery efforts in 2021-2023, including:
  - Supported the County-led community events to provide assistance to Caldor Fire victims
  - Participated in the Caldor Fire Recovery Team organized by California Governor's Office of Emergency Services (Cal OES) and County for coordinated actions and support
  - Supported GFCSD in obtaining disaster recovery services under FEMA's Public Assistance Program, and application of Hazard Mitigation Grant program grant for watershed recovery
  - Supported small water systems in disaster recovery and interaction with FEMA, USFS, County and other parties
- Coordinated with County, water purveyors, and other eligible recipients to developed, prioritizing and managing ARPA water infrastructure projects for a total funding contribution of $5.445M, including:
  - Completed projects like EID's Outingdale Dam Rehabilitation ($440K) and Sly Park Intertie Improvement ($750K), TCPUD's West Lake Tahoe Regional Water Treatment Plant ($500K), and GDPUD's Water System conditions Assessment and Water System Reliability Study Update ($50K)
  - Ongoing projects like El Dorado County Fair Associations El Dorado County Fairgrounds Water Quality and Drainage Improvements Project ($400K), TCPUD's Rubicon Tank 1 Water Feed Line Replacement ($75K), Lower Meeks Bay Pressure Reducing Station ($200K) and Rubicon Wells 2 & 3 Backup Power Project ($200K), GFCSD's Clearwell and Booster Pump Station Reliability Improvements ($2.53M) and Reservoir Lining Rehabilitation ($300K), and STPUD's Fire Hydrant Installation Project ($114.9K)
- Provided financial assistance to STPUD for efforts to consolidate with the system of the Tahoe Keys Property Association, which was identified by SWRCB in 2022 as a potentially at-risk system
- Supported small water systems (e.g., Bear State Water Works) in curtailment issues and interactions with the SWRCB to ensure basic health and safety water use and curtailment lifting with drought contingency planning
- Initiated the effort to develop an American River Water Instrumentation Network (ARWIN) to improve and modernize hydrometeorological data acquisition for improving basin understanding and forecasts for flood management and seasonal water supply. This effort is partially funded by Fiscal Year 2023 Omnibus Appropriations bill ($875,000) for ARWIN planning and implementation.

Communications and Advocacy Program

- Conducted the Countywide Plenary for Water since fall 2020 with two events per year except for 2021 due to COVID pandemic, each with a timely theme for collaboration and knowledge sharing.
- Advanced water literacy and education by partnering with El Dorado County Ag in the Classroom which provides hands-on agricultural education reaching more than 2,500 students in the county each year about the role of water in the county to foster water conscious stewards and supporting the Water Education Foundation and provided program contributions in the Headwaters Tour.

- Took actions to improve communication with local agencies, groups, and interested parties for the trends of water resource management on state and federal levels, as well as climate adaptation policies, strategies and best practices, including:
  - Provided active communication with local agencies and elected officials with summary information and frequent updates on drought emergency regulation status and curtailment impacts on water right users in El Dorado County during 2021-2022.
  - Developed and implemented a purposeful rollout strategy for the PWP with an emphasis on the valuation of ecosystem goods and services in 2024 that includes specific engagements with state agencies (e.g., DWR and the Natural Resource Agency), federal agencies (e.g., Reclamation, USFS), and congressional members and state legislature, hosting a technical webinar for engaging interested parties and the public, publishing a research paper on a peer-reviewed open-access journal, and promoting awareness and understanding through conference presentations and specific briefings to interested parties and organizations.
- Improved the presence and public engagement of the Agency with actions including:
  - Enhanced the relevancy and frequency in posting in public-focused social media (e.g., Facebook, X) and professional-focused channels (e.g., LinkedIn) with relevant and timely information sharing and status updates.
  - Engaged news media for major accomplishments and milestones (e.g., news outlets for online publishing and prints, local new stations for broadcasting).
  - Improved the focus, style, and distribution of the Agency's newsletter, NEWStream.
  - Participated in national professional conferences for presenting accomplishments and innovative water management strategies, including American Water Resources Association (2019, 2022, 2023, 2024) and American Society of Civil Engineers (2023), as well as a peer-reviewed journal publication (2024).
- Coordinated with multiple levels of government, groups, and interested parties countywide to develop mutually supportive strategies and implement actions, including:
  - Facilitated discussions with Congressional representatives and state legislature, federal and state agencies and leadership to advocate adequate and equitable water and environmental policies, funding opportunities, and regulatory practices to address county- and watershed-specific priorities.
  - Developed and promoted legislations to more appropriately accommodate unique conditions of rural counties and foothill communities in existing and perspective policy, law and regulations.
  - Monitored state and federal legislation development and progress and coordinated positions for maximizing countywide benefits.
  - Supported the countywide perspective for the watershed by working with lobbyists in Washington D.C. to seek financial assistance for forest management, watershed protection, climate change adaptation and agricultural programs and policies that have a nexus to water resources management.
  - Leveraged collective bargaining power, where appropriate, to collaborate with large statewide and regional organizations including Association of California Water Agencies, Mountain Counties Water Resources Association, and the annual Capitol-to-Capitol events hosted by Sacramento Metro Chamber of Commerce.

5.5 Near-Term Priority Actions (2025-2029 Fiscal Years)

The Agency has prioritized near-term actions under its five implementation programs. This list of actions is neither exhaustive nor is it static. The established lasting practices in the past five years are not detailed in the following for brevity and the associated strategic intents were described in the above accomplishments. The Agency expects 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

- Update the Agency's 5-year strategic plan based on the WRDMP24 and other changed conditions and considerations to define focus and priority for the period of 2026-2030.
- Continue to develop and foster new and reinforce existing partnerships with state and federal agencies, water communities, non-profit organizations and other interest parties to advance the Agency's goals and policies.
- Continue the established governance and partnership roles and responsibilities in the Regional Water Authority, Water Forum, CABY Integrated Regional Water Management Region, Tahoe South Subbasin, SAFCA and El Dorado-SMUD Agreement.
- Support the partnership with state and federal agencies, County, RCD, non-profit organizations, and other interested parties in strategic and systematic land conservation for agricultural and other benefits to maintain the preferred rural-agricultural way of life.
- Prepare the five-year update to the WRDMP in 2029 to reflect changed conditions and implementation accomplishments.

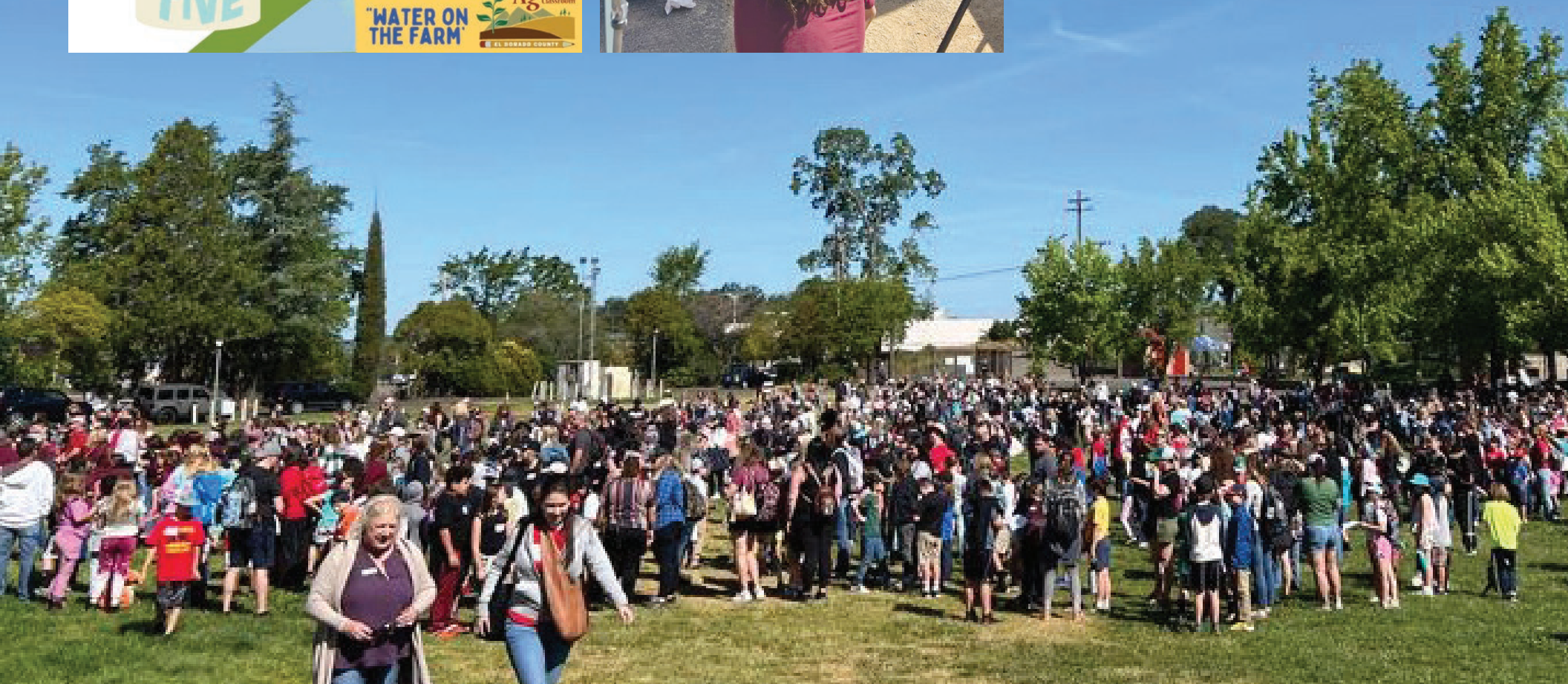
Water Security Program

- Support the ongoing pursuits of water rights including:
  - Complete the draft environmental impact report for the El Dorado Water Reliability Project towards securing long-term water supplies for the county and advance the water right applications to secure area-of-origin water rights for continued economic prosperity countywide.
  - Support the water purveyors in the Tahoe Basin in the Truckee River water right allocation process.
- Explore alternative revenue incomes to support the development of and to implement innovative solutions for identified water resource-related challenges.
- Collaborate with Reclamation to secure federal cost share funding for the Alder Creek Water Conservation and Storage Project and execute the required planning documents once the funding becomes available.
- Support the RWA and regional partners for planning and approval of the Sacramento Regional Water Bank, which is one of the recommended climate adaption portfolios in the American River Basin Study, to explore potential areas to enhance water supply interests in El Dorado County.
- Complete the County Drought Contingency Plan in coordination with County to improve drought planning and preparedness for small water suppliers and rural communities to address the intent of SB 552.
- Continue to collaborate with the County to improve the outcome for agricultural development envisioned in County General Plan, including:
  - Collaborate with the County's long-term planning to develop a regional water master plan to support identified agricultural development opportunities in the West Slope.
  - Implement regional transportation and other infrastructural development identified in PWP that could also contribute to and facilitate agricultural development, especially in the south county area.
  - Refine the agricultural development opportunities based on the related master planning efforts.
- Update the water demands in collaboration with water purveyors including:
  - Update the M&I and agricultural demands in the West Slope based on implementation of new regulations, best practices for demand management and applicable variances, and recommendations from field verifications and other supporting information.
  - Support and assist as needed to update the M&I demand in the Tahoe Basin to support the water right allocation process based on implementation of new regulations, best practices for demand management and applicable variances.

Watershed Management Program

- Continue to implement and update the PWP for the upper American River watershed consistent with Agency Board-adopted policies and guidance, including
  - Continue convening the UARWG for lasting collaboration.
  - Complete additional studies to apply ecosystem goods and service values in the assessment of total ecosystem costs of wildfires and to highlight the benefit realization beyond the watershed and attributable beneficiaries.
  - Develop demonstrating projects with the UARWG that improve watershed health and resilience on a landscape scale for developing funding strategies and alternative financing mechanisms.
  - Support local implementation of the National Cohesive Wildland Fire Management Strategy, including participating with the South Fork of the American River group and other efforts to reduce the likelihood of wildfires in areas of high risk (as appropriate).
  - Participate in resource conservation efforts related to headwaters management, forest management, watershed conservation, and meadow restoration (as appropriate).
  - Support the exploration of potential partnership among County, RCD, non-profit organizations and state and federal agencies for conservation of agricultural lands for their significant capacity in providing many ecosystem goods and services.
  - Develop a five-year update to the PWP in collaboration with the UARWG in 2028 to reflect changed conditions and implementation accomplishments.
- Complete the approval of the Auburn State Recreation Area Knickerbocker Zone Grazing Pilot Project in partnership Reclamation, County and local ranchers, and assess outcome of implementation for considerations of next steps.
- Continue to implement the approved Stormwater Resource Plans, including implementation of new regulations, best practices for demand management and other applicable variances.
  - Coordinate County and City of Placerville for implementation, prepare annual progress reports and a five-year update in 2028, provide project development assistance to the County (where appropriate), and provide grant application assistance (where appropriate).

The Agency supported foundational agricultural education in K-12 levels through the El Dorado County Ag in the Classroom program and engaged in 2024 Farm Day community event.



  - Collaborate with the County to develop drainage master plans in key areas in the West Slope identified for agricultural, residential, commercial and industrial development.
  - Support the implementation of the Stormwater Resource Plan for the Tahoe-Sierra Region to improve drainage conditions and advance multi-benefit projects in El Dorado County.
  - Support the incorporation of nature-base solutions in stormwater resource management in coordination with County, RCD, and local responsible entities (e.g., CSD with flood management role and responsibilities) and communities.
- Partner with SAFCA to develop the American River Watershed Forecast-Informed Reservoir Operation Program, which is one of the climate adaptation portfolios recommended by the American River Basin Study with modifications for focus and alignment with the PWP, including:
  - Incorporate nature-based solutions as a long-term element in the program to reduce the capital investment for built infrastructure modifications and/or prolong the duration of anticipated benefits from such investments.
  - Retain the interests of El Dorado County as described in the 2005 El Dorado-SMUD Cooperation Agreement.
  - Develop a long-term vision and financing strategy for ARWIN to support skill enhancement of flood and seasonal forecasts.
  - Collaborate with state and federal agencies to incorporate considerations and benefits of other resource management areas that can be directly benefited from improved forecasting skills (e.g., hydropower, agriculture, recreation) in the new paradigm of forecast-informed resource management.
  - Promote true watershed-scale collaboration and facilitate the dialogue of mutual support and financing watershed actions based on the concept of ecosystem goods and services and other applicable economic principles.

Assistance and Innovation Program

- Complete the existing established assistance project implementation, including:
  - The ongoing ARPA projects per schedule as the funding requirements and prepare necessary reporting and documentation for County's further actions in closing out the federal assistance.
  - The water saving projects with El Dorado Hills CSD.
  - The initial implementation for data acquisition per recommendation of the recommendations of ARWIN efforts and the limitation of available funding without incurring long-term liability to the Agency.
  - Coordinate with County Office of Emergency Services and Chief Administrative Office on the need to provide support to large water purveyors, small water suppliers, and interested parties during disaster recovery and preparedness including the development of a disaster recovery playbook for reference.
- Provide financial and technical assistance to water purveyors, County and cities, and water users as appropriate to the meet the Agency's mission and policies when funding is available, including:
  - Support urban water suppliers in their transition to demand management schemes under the new regulation, Making Water Conservation a California Way of Life, and
  - Support small water suppliers and rural communities to comply with SB 552 requirements.
- Subject to further discussion, provide financial assistance to the American River Conservancy to support the assessment of the viability for the Leek Springs Meadow Restoration Project.

Communications and Advocacy Program

- Continue the Countywide Plenary for Water as a forum for water resources management, and to encourage collaboration on the water resources development and management in El Dorado County between the County's planning department, cities, water purveyors, and other water-resource related resource management entities.
- Continue to foster public water education and social awareness through sponsorship to the Water Education Foundation, the El Dorado County Ag in the Classroom Program, and other outreach programs to help the Agency cultivate an understanding and appreciation of El Dorado County water resources challenges and strategies.
- Continue to support communications, information sharing, and provide information to the public regarding water resources challenges, strategies and actions
- Advocate federal and state representatives and agencies to secure state and federal fundings for various initiatives to advance the actions and initiatives under the above Water Security and Watershed Management programs.
- Continue the Agency's federal and state advocacy efforts to address changing regulations, pursue funding opportunities and create partnerships that help to resolve long-term water resource-related issues within the county.

Glossary

Glossary

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

adjoining use. The type of water use (agricultural water use or municipal and industrial water use) that can be allowed by the adopted County General Plan when the primary use for a parcel in the rural-agricultural water use planning zone has been established. Also see the definition of primary use.

capacity. The buildout capacity for an undetermined point in time when all land use capacity is utilized, as defined in the County General Plan.

Community Services District. A form of independent local government used to provide services in unincorporated areas of a county under the Community Services District Law (California Government Code Sections 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 California Health and Safety Code Section 116275(i).

County Drought Resilience Plan. A plan demonstrating the potential drought and water shortage risk and proposed short-term response actions and long-term mitigation actions for state small water systems and domestic wells within a county, as described in California Department of Water Resource's 2023 County Drought Resilience Plan Guidebook.

disadvantaged community. A community with a median household income less than 80 percent of the statewide average, as described in California Public Resources Code Section 75005(g).

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

El Dorado Designated Representative. The sole and exclusive party that may and is responsible for the exercise the obligations described in Section 19.1 of the 2005 El Dorado-SMUD Cooperation Agreement, including water supply acquisition; notices; scheduling of deliveries; negotiation of interconnection construction agreement; construction, maintenance and operation of interconnection facilities; reporting of deliveries; and re-opening and resolution of dispute of the agreement.

Federal Responsibility Area. Those lands administered or controlled by the federal government for which the federal agencies have administrative and protection responsibility, as described in the 2007 California Master Cooperative Wildland Fire Management and Stafford Act Response Agreement between U.S. Department of the Interior, U.S. Department of Agriculture, and State of California.

Justice40 Initiative. A policy to establish a goal that 40 percent of the overall benefits of certain federal climate, clean energy, affordable and sustainable housing, and other investments flow to disadvantaged communities that are marginalized by underinvestment and overburdened by pollution and underinvestment in housing, transportation, water and wastewater infrastructure, and health care, as described in the President Biden's Executive Order 14008 of January 27, 2021.

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

Local Responsible Area. Areas of the state in which the financial responsibility of preventing and suppressing fires is the primary responsibility of a city, county, city and county, or district, as described in California Fire Code, Title 24, Part 9, Section 4902.

non-community water system. A public water system that is not a community water system, as described in California Health and Safety Code Section 116275(j).

non-potable reuse. All recycled or reclaimed water applications except those related to water supply augmentation and drinking water.

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

Other County Area. Comprised of areas in El Dorado County that fall outside federally managed land and a water purveyors' service area.

potable reuse. Recycled water used to augment drinking water supplies and include both indirect and direct uses.

primary use. The type of water use (agricultural water use or municipal and industrial water use) associated with the land use designation of a parcel within the rural-agricultural water use planning zone, allowed by the adopted County General Plan.

Public Utility District. A public utility district is a community-owned, locally regulated utility authorized to provide electricity, water and sewer services, and wholesale telecommunications. A public utility district may provide one or more of these services, depending on the needs of the community under the Public Utility District Act (California Public Utilities Code Sections 15501-18055).

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, as described in Health and Safety Code Section 116275(h) and California Water Code Section 10609.51(g). 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. Resource conservation districts are special districts of the state of California, set up to be locally governed agencies with their own locally appointed or elected, independent board of directors to conserve soil and water, control runoff, prevent and control soil erosion, manage watersheds, protect water quality, and develop water storage and distribution, as described in Public Resources Code Sections 9001-9972). California resource conservation districts implement projects on public and private lands and educate landowners and the public about resource conservation.

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

rural-agricultural water use planning zone. A geographic delineation of land in the West Slope of El Dorado County defined by El Dorado Water Agency that may have both agricultural water use and municipal and industrial water use (including rural domestic water use) allowed by the adopted County General Plan.

severely disadvantaged community. A community with a median household income less than 60 percent of the statewide average, as described in Public Resources Code Section 75005(g).

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

State Responsibility Area. Lands that are classified by the Board of Forestry and pursuant to Public Resources Code Section 4125 where the financial responsibility of preventing and suppressing wildfires is primarily the responsibility of the state, as described in California Fire Code, Title 24, Part 9, Section 4902.

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

transient non-community water system. A non-community water system that does not regularly serve at least 25 of the same persons over six months per year, as described in California Health and Safety Code Section 116275(o).

water use planning zone. A geographic delineation of land in the West Slope of El Dorado County defined by El Dorado Water Agency that may have a certain type of water use allowed by the adopted County General Plan. Also see the definitions of the urban water use planning zone and rural-agricultural water use planning zone.

urban water supplier. A supplier, either publicly or privately owned, provides water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers, as described in California Water Code Section 10617.

Urban Water Use Planning Zone. A geographic delineation of land in the West Slope of El Dorado County defined by El Dorado Water Agency that may have only municipal and industrial water use allowed by the adopted County General Plan.

Urban Water Management Plan. A plan required per California Water Code Section 10610 et seq. for publicly and privately owned urban water suppliers that provide potable municipal water to more than 3,000 customers or supply more than 3,000 acre-feet of water annually on retail or wholesale basis

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

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

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

wildfire. Any uncontrolled fire spreading through vegetative fuels that threatens to destroy life, property or resources as defined in Public Resources Code Sections 4103 and 4104, as described in California Fire Code, Title 24, Part 9, Section 4902.

Wildlife-Urban Interface. A geographical area identified by the state as a “Fire Hazard Severity Zone” in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Section 51175 through 51189 or other areas designated by the enforcing agency to be at a significant risk from wildfires, as described in California Fire Code, Title 24, Part 9, Section 4902.

El Dorado Water Agency

Water Resources Development and Management Plan

For more information, contact
El Dorado County Water Agency
4330 Golden Center Drive, Suite C
Placerville, CA 95667
(530) 621-5392
www.edwateragency.org

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