El Dorado County Water Agency

Water Resources Development and Management Plan

April 24, 2019 DRAFT

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El Dorado County Water Agency Mission Statement:

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

Executive Summary

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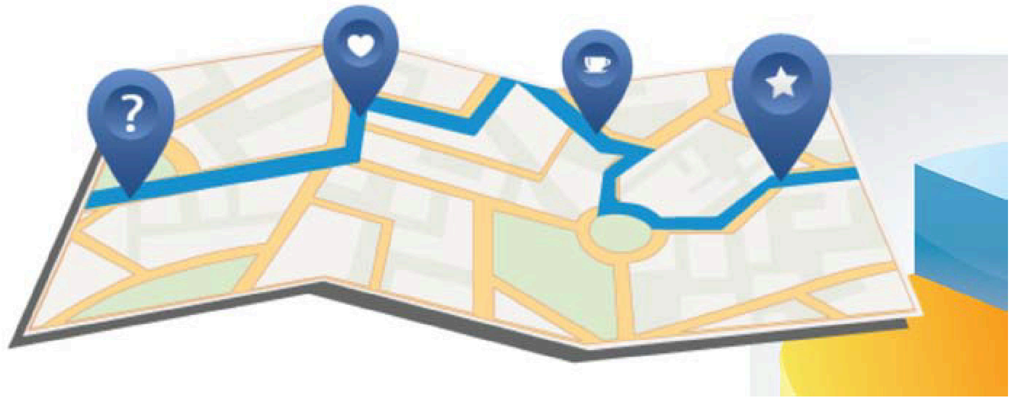

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Abbreviations

Act	El Dorado County Water Agency Act
Agency	El Dorado County Water Agency
County	County of El Dorado
CSD	Community Services District
CPUC	California Public Utilities Commission
CVP	Central Valley Project
EID	El Dorado Irrigation District
FEMA	Federal Emergency Management Agency
GDPUD	Georgetown Divide Public Utility District
GFCSD	Grizzly Flats Community Services District
M&I	Municipal and Industrial
NPDES	National Pollutant Discharge Elimination System
OCA	Other County Area
PCE	Perchloroethylene
PUD	Public Utility District
RCD	Resource Conservation District
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
SGMA	Sustainable Groundwater Management Act
SOFAR	South Fork American River Cohesive Strategy
SMUD	Sacramento Municipal Utility District
STPUD	South Tahoe Public Utility District
TCPUD	Tahoe City Public Utility District
WRDMP	Water Resources Development and Management Plan

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SECTION

1

Introduction

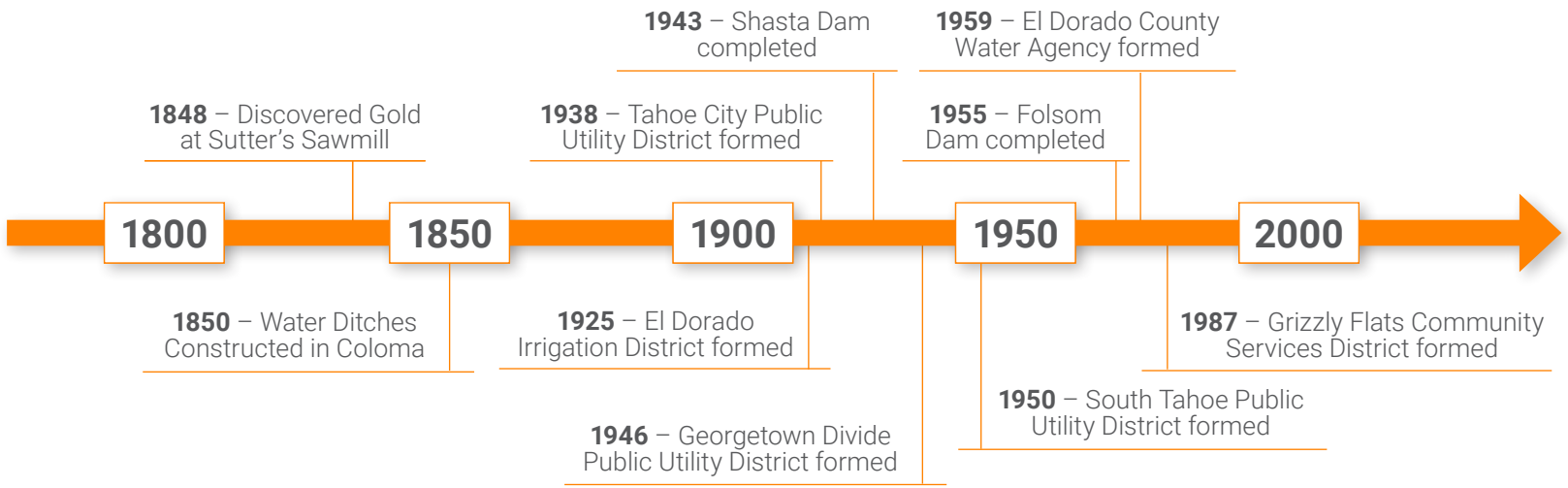
The El Dorado County Water Agency (Agency) was created in 1959 through the El Dorado County Water Agency Act (Act) to ensure that El Dorado County had adequate water to serve its many needs then and into the future. The Agency covers the entire El Dorado County, on both sides of the Sierra Nevada with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

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

1.1 Needs

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

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



1.2 Goals

The primary goal of the Agency in the 2019 WRDMP was to assist the County of El Dorado (County) with realization of its adopted General Plan. The County General Plan is unique in several ways:

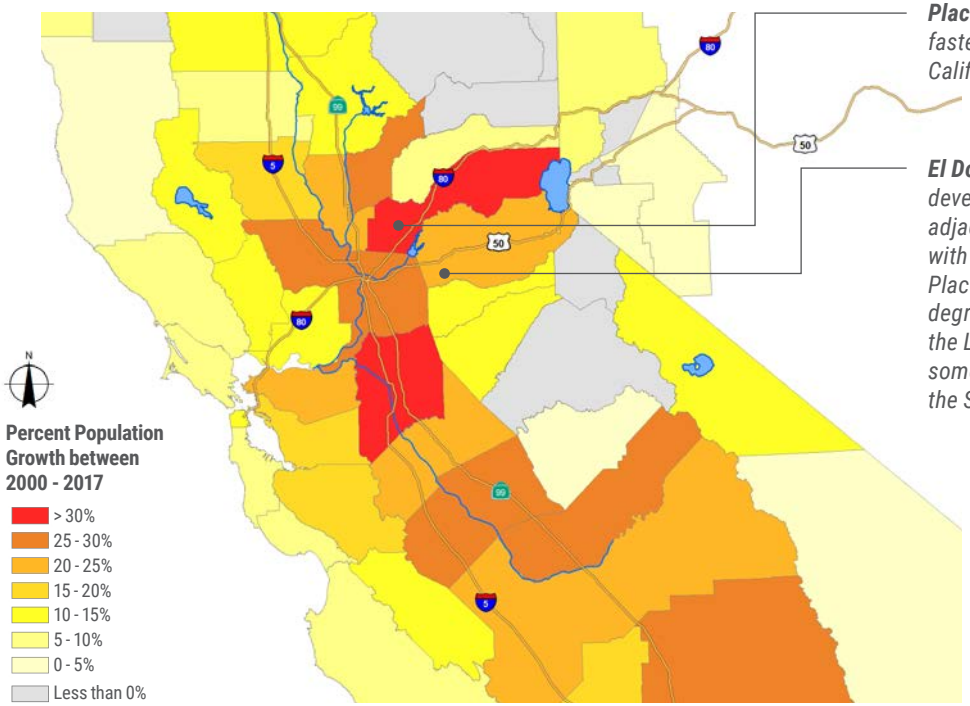
- It contains a land use designation for economic development and integrated natural resource protection and management.
- It plans for the land capacity for all purposes in considering future economic development beyond the typical near-term urbanization focus.
- It contains policies and considerations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

Through the 2019 WRDMP, the Agency developed corresponding water management strategies and investment priorities to fulfill the vision presented in the County General Plan.

Additional goals of the Agency in the revision of the WRDMP included:

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

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



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

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

Source: United States Census, 2000 and 2017 Quickfacts

1.3 Development of the WRDMP

The Agency also outlined several principles for its 2019 WRDMP including:

- Respect the role and responsibilities of water purveyors and other local agencies. The Agency has broad authority and charge from the Act; however, the Agency considers its greatest value to be promoting countywide broad benefits and focusing on improving water supply and other related resource management issues that are not fully covered by other local agencies.
- Promote dialogues among local agencies, economic interests, and stakeholders for mutual understanding. The Agency believes the County's long-term vision can only be realized through collaboration, so it formed various advisory groups for WRDMP development and established a foundation for long-term collaborative forums for countywide water management issues.

1.4 Organization

The 2019 WRDMP is organized into 5 sections:

- **Section 1: Introduction** outlines the purpose of the WRDMP and the Agency's goals and principles for plan development.
- **Section 2: Current Water Management** summarizes El Dorado County's current water management structures and associated roles, responsibilities, and services.
- **Section 3: Challenges Ahead** identifies water resource-related challenges on which the Agency should focus.
- **Section 4: Resource Management Strategies** captures the approach and operating parameters for addressing identified water resource-related challenges.
- **Section 5: Implementation** provides a roadmap for the Agency's near-term actions and future investment priorities.

SECTION

2

Current Water Management

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

2.1 Economic Development

The County General Plan designates lands for economic development and identifies areas where future higher density growth and urban activities are anticipated to occur.

Lands in El Dorado County that have Municipal and Industrial (M&I) or agricultural water demands are divided into 1 of 3 categories: urban land (contains only M&I water demands), rural/agricultural land (contains mixture of M&I and agricultural water demands), or agricultural land (contains only agricultural water demands). At present, approximately 31 percent of designated agricultural lands, 90 percent of designated urban lands, and 54 percent of designated rural/agricultural lands are in areas currently served by five public water purveyors. Realizing the vision for sustained economic growth in the remaining areas will depend on development of reliable, long-term water supplies.

2.2 Roles and Responsibilities in Water Management

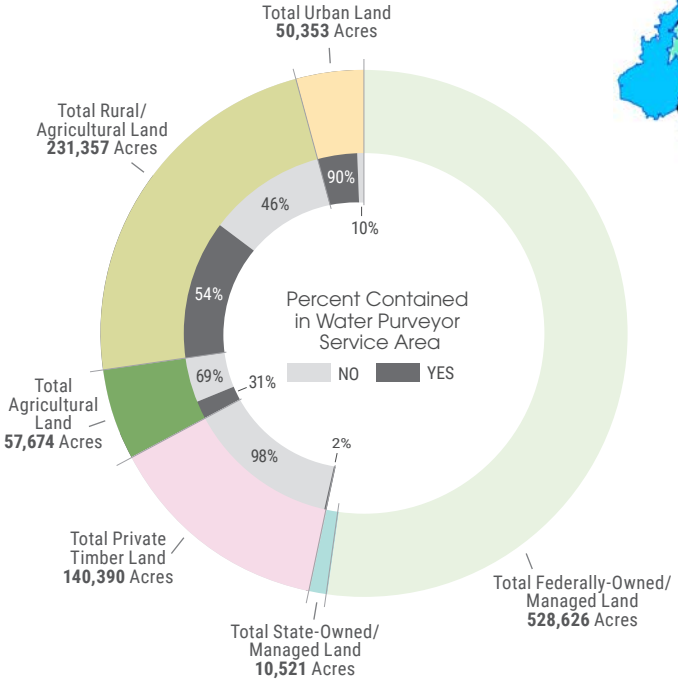
Many entities have active water management roles at the local or regional level including the Agency, County, public water purveyors, private water companies, and those that are considered self-supplied.

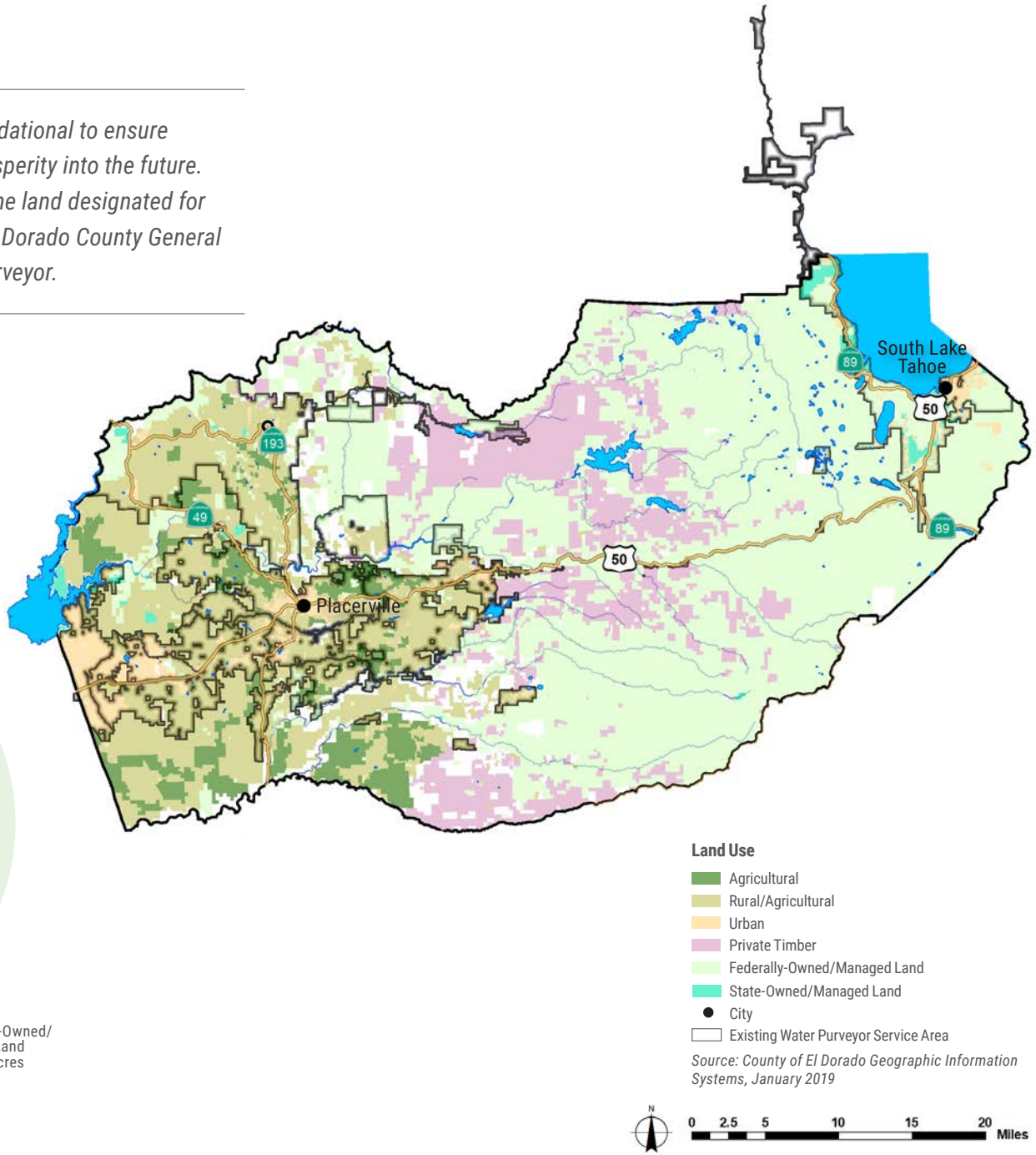
The Agency is charged with developing a county-wide water plan and participating in statewide water planning. It can negotiate contracts with the California Department of Water Resources; Reclamation; and other local, State, and Federal agencies for water management and facility construction. It works to protect existing uses of water rights on which water purveyors and their customers depend, and it applies for the use of additional water rights as needed for the beneficial use of future customers or to extend service boundaries to include existing landowners.

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

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

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

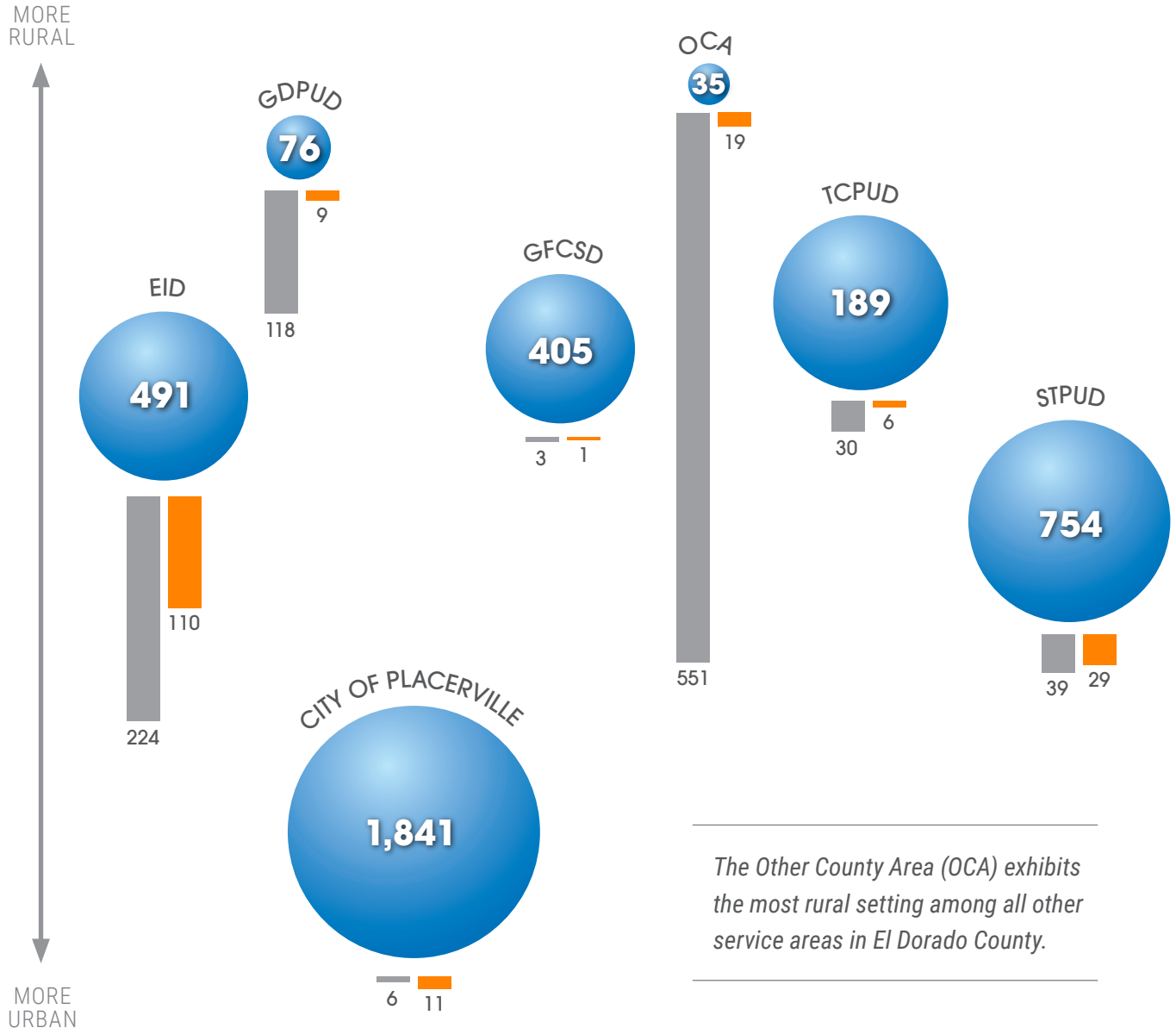




COMMUNITY SERVICES DISTRICTS (CSD) *Community Services Districts* (CSD) are a form of independent local government used to provide services in unincorporated areas of a county. CSDs may provide water supply, watershed management, flood management, or wastewater treatment.

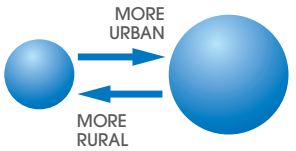
PUBLIC UTILITY DISTRICTS (PUD) — A *Public Utility District* (PUD) is a community-owned locally regulated utility authorized to provide electricity, water and sewer services, and wholesale telecommunications. A PUD may provide one or more of these services, depending on the needs of the community.

RESOURCE CONSERVATION DISTRICTS (RCD) — Local, independent, non-enforcement, non-regulatory districts that are self-governed. They advise and assist individual landowners and public agencies in planning and implementing conservation practices for the protection, restoration, or development of land, water, and related natural resources. *Resource Conservation Districts* (RCD) have a role in watershed management, water quality management, and stormwater management.



The Other County Area (OCA) exhibits the most rural setting among all other service areas in El Dorado County.

LEGEND AND SOURCES



Population Density (number of persons/square miles)

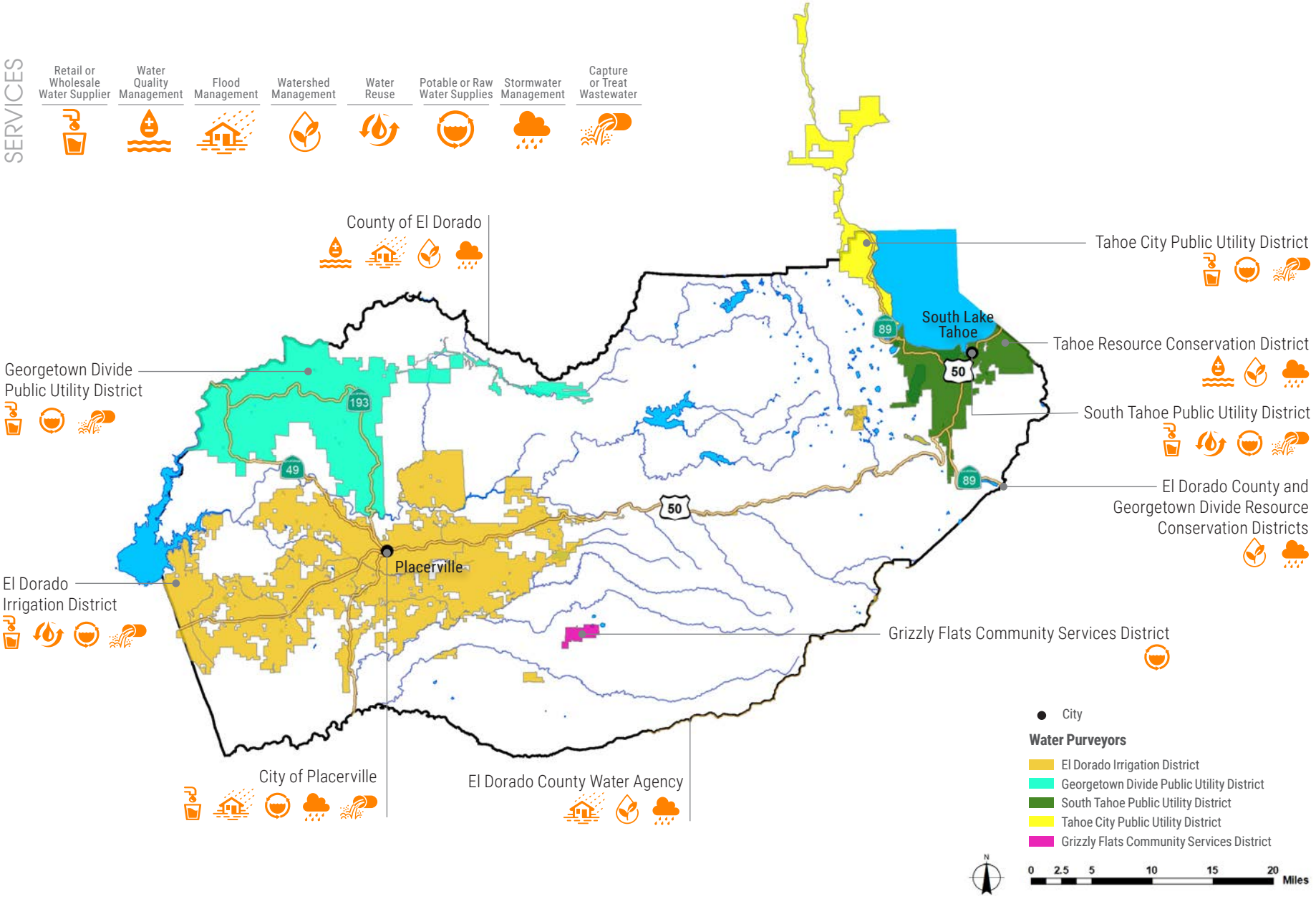
Service Area (square miles) *(Source: County of El Dorado)*

Population (1,000 persons) *(Source: 2015 El Dorado Irrigation District Urban Water Management Plan, 2015 Georgetown Divide Urban Water Management Plan, 2014 Grizzly Flats Community Services District Municipal Service Review, 2015 South Tahoe Public Utility District Urban Water Management Plan, 2015 Tahoe City Public Utility District Urban Water Management Plan, United States Census QuickFacts, City of Placerville Economic Development website)*

Key

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

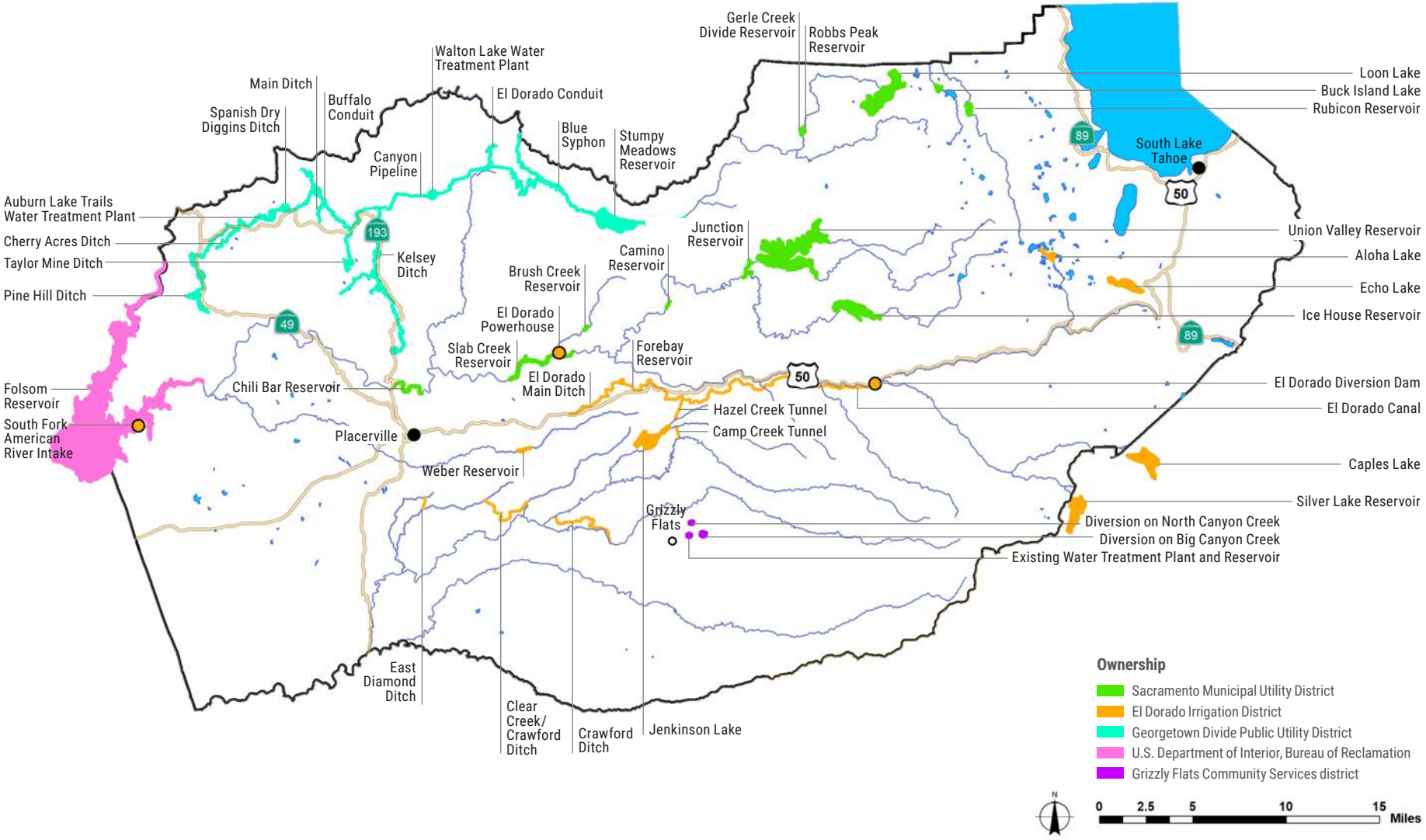
The Agency, County, public water purveyors, private water companies, and self-supplied entities have active water resources management roles across El Dorado County. These roles include providing retail or wholesale water supplies, water quality management, flood management, watershed management, recycled water, potable or raw water supplies, stormwater management, and the capture or treatment of wastewater.



2.3 Major Water Infrastructure

The majority of El Dorado County water supplies originates as runoff from the Sierra Nevada snowpack. This water is stored and distributed throughout El Dorado County for supply and hydropower generation purposes.

Some of the water infrastructure in the Sacramento Municipal Utility District (SMUD) Upper American River Project is located in El Dorado County including 11 dams, 8 powerhouses to meet electricity demands, and Loon Lake (a major water storage reservoir)[1]. Folsom Reservoir is owned and operated by Reclamation as part of the CVP to provide flood control, hydropower, and water supplies.



In the West Slope, EID owns and operates Jenkinson Lake Reservoir in Pollock Pines and Project 184 including Echo, Aloha, Caples, and Silver Lakes. EID also contracts for water from Folsom Reservoir via two Reclamation water service contracts[2]. GDPUD owns and operates Stumpy Meadows Reservoir east of Georgetown in addition to several ditches[3]. GFCSD owns and operates its own reservoir and contains diversions on North Canyon Creek and Big Canyon Creek[4]. Some of the infrastructure owned by EID and GDPUD is from the Gold Rush era. This infrastructure is aged and consists of several wooden flumes.

In the Lake Tahoe Basin, STPUD serves its customers from wells. TCPUD serves its customers from 10 groundwater and 2 spring wells.

Most rural areas are served from groundwater wells by either small private water companies or are self-supplied. The Agency does not own any water facilities at this time.

2.4 Environmental Protection

The County General Plan includes land use designations for integrated natural resource protection and management. To carry out this vision, the Agency must be proactive in supporting environmental protection and promote water management strategies and investment priorities that are protective of natural resources.

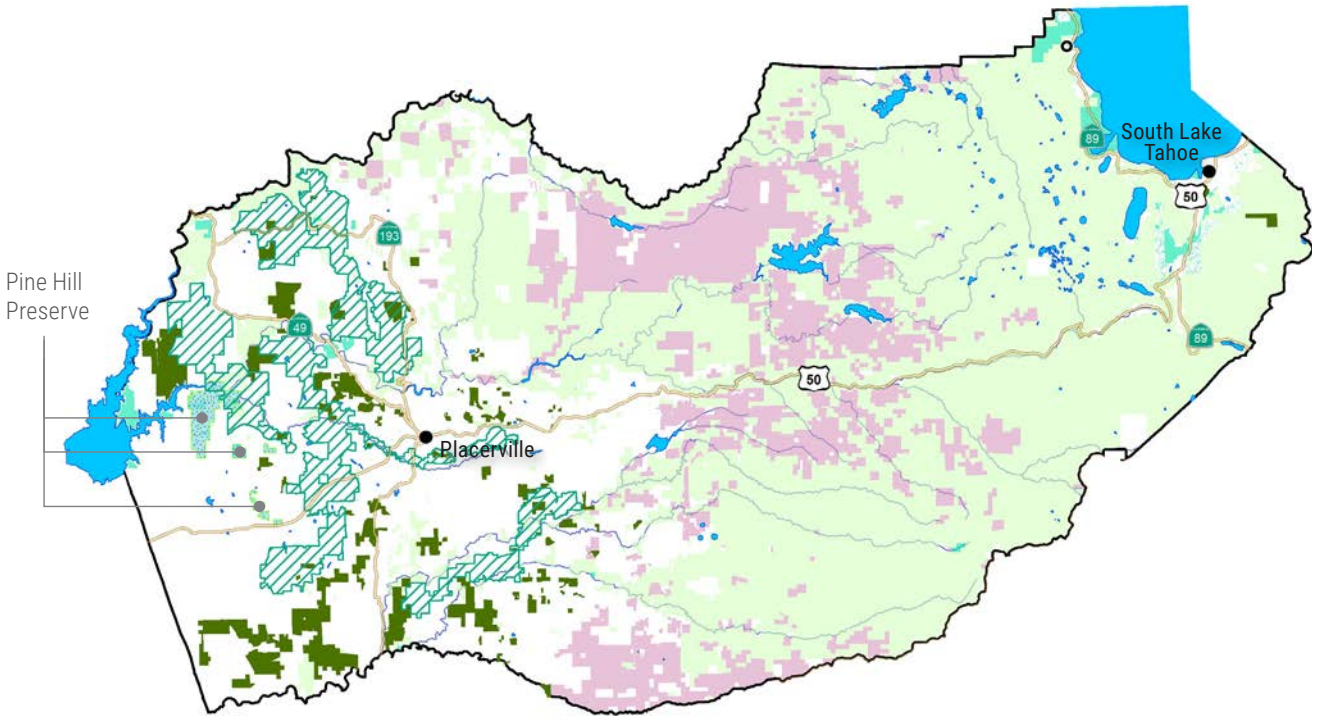
Areas in El Dorado County that the Agency will help protect include agricultural lands under:

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

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

Ecological Preserves – These lands have been or will be established as habitat preserves for rare or endangered plant and animal species, critical wildlife habitat, natural communities of high quality or of statewide importance. Pine Hill Preserve is such an area because of the presence of rare plant species and habitats.

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



SECTION

3

Challenges Ahead

Many have invested considerable time, effort, and funds to ensure continued water reliability and economic prosperity in El Dorado County over the years. But ever-changing conditions—both within and outside the direct control of local government and residents—mean that we must remain attentive and forward-thinking to prepare for the challenges that may lie ahead. El Dorado County must plan for and adapt to the water-resources related challenges it will continue to face for continued economic prosperity and the way of life. These often inter-related water supply, water quality, and public safety issues are summarized below for the West Slope and Tahoe Basin in order of level of concern. More detail is presented later in this section.

3.1 Summary

Level of Concern

High | Moderate High | Moderate Low | Low

Water-Resource Related Challenges in the West Slope

Water Supply			Water Quality			Public Safety
Long-Term Water Supply-Demand Imbalance (3.2 C1)	**Vulnerability During Droughts (3.3 C2)**	**Loss of Water Supply Due to Other Resource Management Practices (3.4 C3, 3.5 C4, 3.6 C5)**	**Long-Term Water Quality Impacts Due to Wildfires (3.4 C3)**	**Water Quality Impacts Due to Stormwater Runoff (3.6 C5)**	**Limited Groundwater Resources (3.7 C6)**	**Loss of Life and Property Damages from Flooding (3.8 C7)**
• With demands expected to increase and less reliable supplies due to climate change and other factors, demands are anticipated to exceed available supplies in the future. • Parts of the West Slope (OCA) are not serviced by a major water purveyor. These areas are at greater risk for supply-demand imbalances as they lack interconnections with others that could provide supplies during times of need.	• More frequent and extended droughts are expected due to climate change. El Dorado County is particularly vulnerable to droughts as those in the West Slope mostly rely on a single water source (surface water). • Existing drought plans do not provide coverage to the entire West Slope. • The small water systems in the West Slope are more susceptible to the effects of drought such as temporary loss of water supply.	• Forests continue to increase in density. Dense forests prevent snow from reaching the ground, thereby decreasing snowpack and the resulting water supply available to much of the West Slope (snowmelt). • Stormwater is presently being managed but not optimized as a resource. • In the West Slope, water infrastructure includes many historic wooden canals that are highly susceptible to destruction by fires or landslides. Loss of these major conveyance structures will hinder water delivery.	• Increasing frequency and intensity of fires means both temporary and long-term water quality degradation will be more commonplace.	• Stormwater runoff causes localized flooding throughout the West Slope that also impacts water quality. Overflow from wastewater treatment plants may impact the water quality of surface water supplies.	• Septic tanks are prevalent in the West Slope, and leakage could affect groundwater quality. Agricultural practices could affect groundwater quality. Isolated incidents in the West Slope were reported without significant concerns.	• Riverine flooding is not a substantial threat in the West Slope.

Water Resources Management Challenges

C1 Long-Term Water Supply Demand Imbalance	**C3** Loss of Water Supply Due to Other Resource Management Practices	**C5** Water Quality Impacts Due to Stormwater Runoff	**C7** Loss of Life and Property Damages from Flooding
C2 Vulnerability During Droughts	**C4** Long-Term Water Quality Impacts Due to Wildfires	**C6** Limited Groundwater Resources	

3.1 Summary

Level of Concern

High | Moderate High | Moderate Low | Low

Water-Resource Related Challenges in the Lake Tahoe Basin

Water Supply			Water Quality			Public Safety
Long-Term Water Supply-Demand Imbalance (3.2 C1)	**Vulnerability During Droughts (3.3 C2)**	**Loss of Water Supply Due to Other Resource Management Practices (3.4 C3, 3.5 C4, 3.6 C5)**	**Long-Term Water Quality Impacts Due to Wildfires (3.4 C3)**	**Water Quality Impacts Due to Stormwater Runoff (3.6 C5)**	**Limited Groundwater Resources (3.7 C6)**	**Loss of Life and Property Damages from Flooding (3.8 C7)**
• With demands expected to increase, less reliable supplies, and less natural recharge due to climate change and other factors, demands are anticipated to exceed available supplies in the future. • Parts of the Lake Tahoe Basin (OCA) are not serviced by a major water purveyor. These areas are at low risk for supply-demand imbalances as they have access to groundwater resources during times of need.	• Even in light of climate change, the Lake Tahoe Basin has little to no susceptibility to extended droughts. The Lake Tahoe Basin does not rely on a single water source (surface water), it also has access to groundwater. • Existing drought ordinances do not provide coverage to the entire Lake Tahoe Basin. • The many small water systems in the Lake Tahoe Basin are susceptible to the effects of drought such as temporary loss of water supply or decreased water quality.	• Forests continue to increase in density. Dense forests prevent snow from reaching the ground, thereby decreasing snowpack and the resulting water supply available to the Lake Tahoe Basin as groundwater via groundwater recharge. • Stormwater is presently being managed but not optimized as a resource.	• Increasing frequency and intensity of fires means both temporary and long-term water quality degradation will be more commonplace.	• With the presence of snow, stormwater runoff causes localized flooding that could impact water quality.	• Septic tanks are not prevalent in the Lake Tahoe Basin, but leakage could affect groundwater quality. • Much of their water supplies stems from groundwater.	• Riverine flooding is not a substantial threat in the Lake Tahoe Basin.

Water Resources Management Challenges

C1 Long-Term Water Supply Demand Imbalance	C3 Loss of Water Supply Due to Other Resource Management Practices	C5 Water Quality Impacts Due to Stormwater Runoff	C7 Loss of Life and Property Damages from Flooding
C2 Vulnerability During Droughts	C4 Long-Term Water Quality Impacts Due to Wildfires	C6 Limited Groundwater Resources	

3.2 Water Supply-Demand Imbalance

3.3 Vulnerability During Droughts

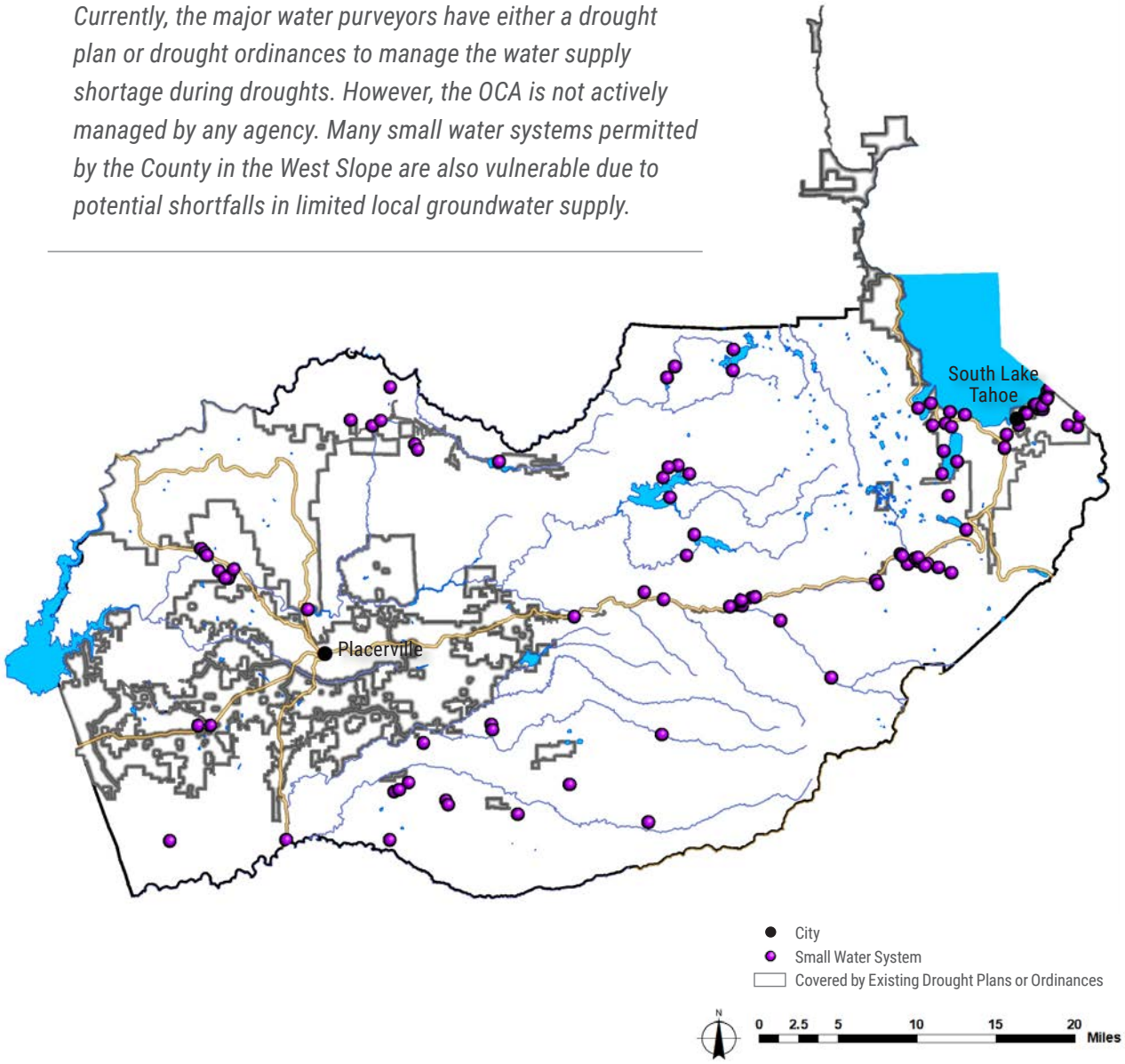
Water purveyors and agencies continue to actively plan for emergencies and extended droughts, and overall, there is broad coverage throughout El Dorado County. All agencies are required to have drought plans (or be in compliance with drought ordinances) and have established ways to respond when needed.

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

The Lake Tahoe Basin is less susceptible to dry conditions and has not experienced drought like the West Slope and the rest of California. The majority of this area is covered by drought ordinances overseen by STPUD and TCPUD. In this part of El Dorado County, the OCA has had the ability to access groundwater when surface water is scarce.

Currently, 119 small water systems[5] are overseen by the County Environmental Management Department through the Small Water System Program. These small systems serve a total population of more than 25,000 in both the West Slope and Lake Tahoe Basin. These small systems are often isolated and not connected to larger water purveyors and agencies, even if they are in close proximity. Therefore, these small systems have an increased likelihood of water supply impacts during drought conditions as well as reductions in the quality of groundwater when wells are used.

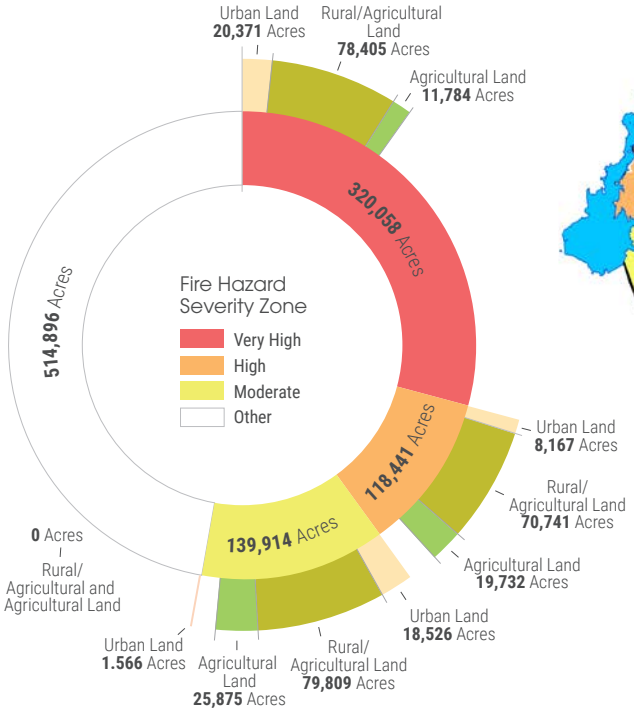
Currently, the major water purveyors have either a drought plan or drought ordinances to manage the water supply shortage during droughts. However, the OCA is not actively managed by any agency. Many small water systems permitted by the County in the West Slope are also vulnerable due to potential shortfalls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

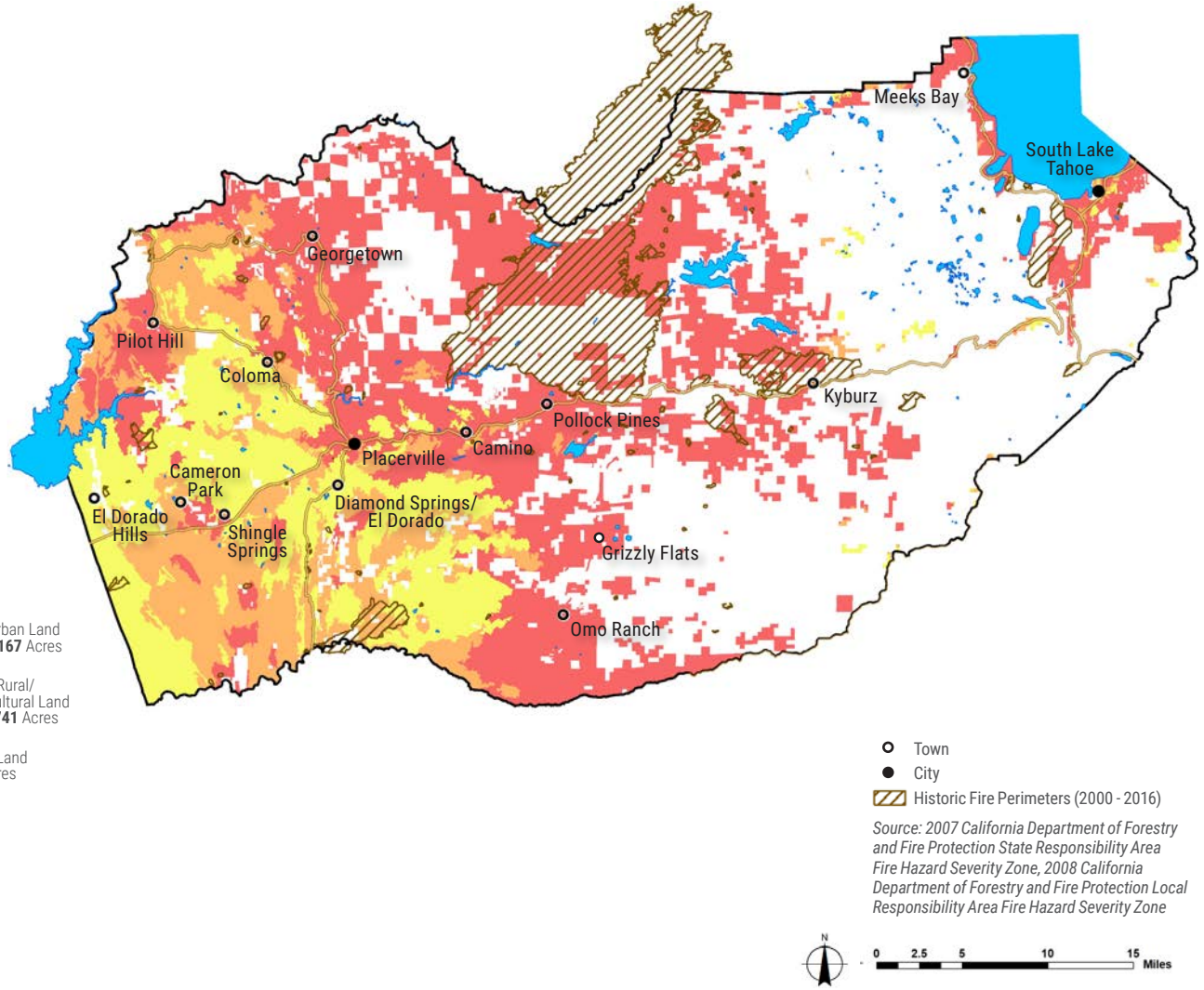


3.4 Wildfire Impacts

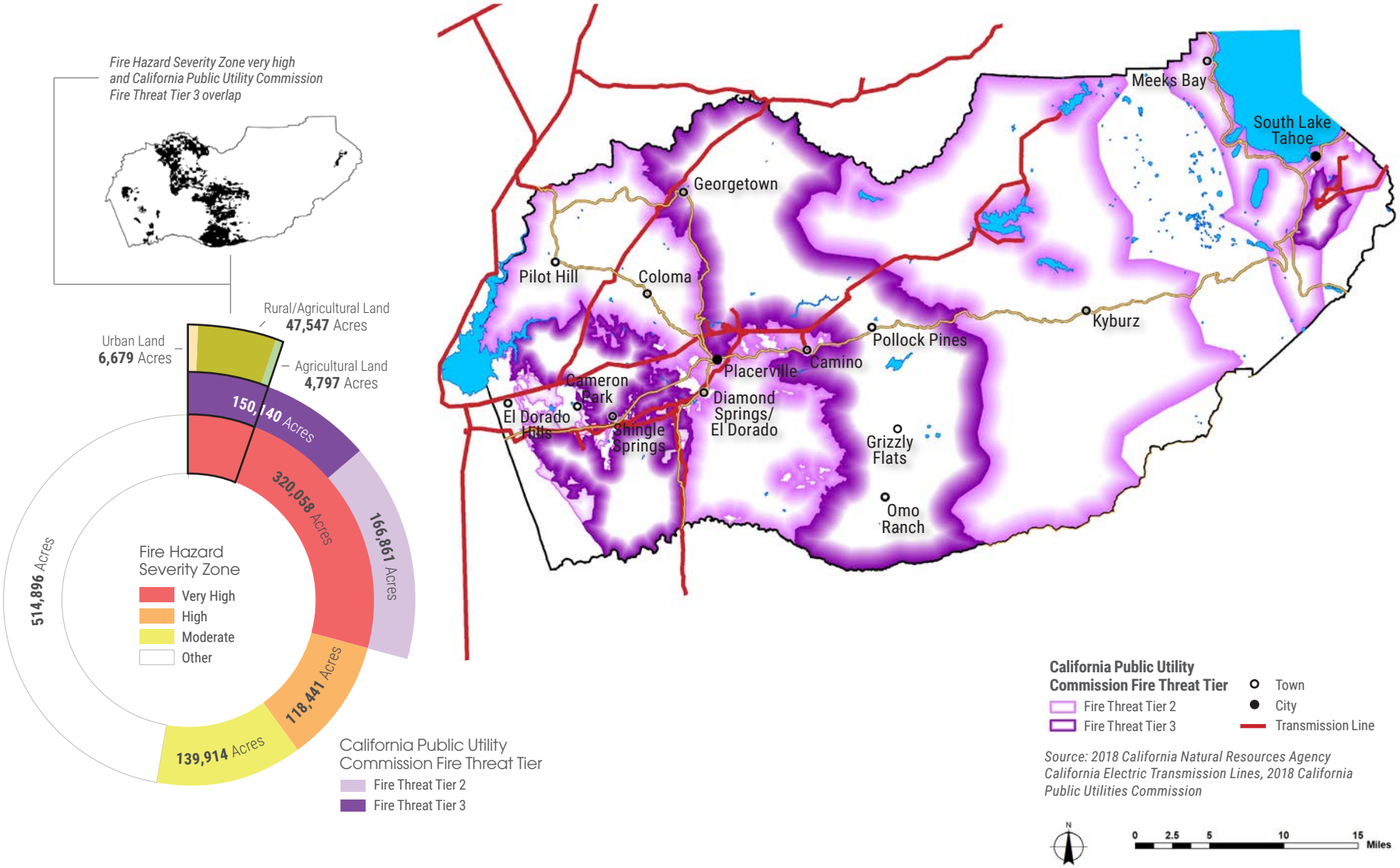
Wildfire damages and suppression costs have risen continuously over time. And the frequency, size, and intensity of these fires are expected to grow – another effect of climate change, overly dense forests, and prolonged drought. Loss of life and structures as a direct or proximate result of wildfires is at an all-time high. However, compared to statewide trends, El Dorado County has had fewer occurrences, accumulated acreage burned, and overall damages.

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





Areas with the highest threat of utility fires in El Dorado County (Fire Threat Tier 3, map, below right) are those where both utilities and vegetation are present (black and white overlap map, below left).



In recent years, the majority of wildfires of concern in the State (fires in Mendocino, Santa Barbara/Ventura, Sonoma, and Butte Counties in 2017 and 2018) are reported to be related to utilities and transmission lines, although official data on many of these fires are yet to be confirmed. In the past two decades in El Dorado County, only the Latrobe Fire in 2000 was caused by a power line. The Latrobe Fire was in the Tier 3 high hazard zone for utility fires recently published by the California Public Utilities Commission (CPUC). However, the largest fire in El Dorado County – the 2014 King Fire – was caused by arson.

With continued fire prevention activities wildfires can be effectively decreased in California, with the exception of wildfires causes by utility or transmission lines[6]. It is in areas with both abundant vegetation (forests, grasses, agriculture, etc.) and utilities are where the most devastating fires could occur. These areas are depicted in the black and white overlap map (facing page). Therefore, El Dorado County agencies and residents should remain vigilant to the ever-present threat of wildfire. Therefore, El Dorado County agencies and residents should remain vigilant to the ever-present threat of wildfire.

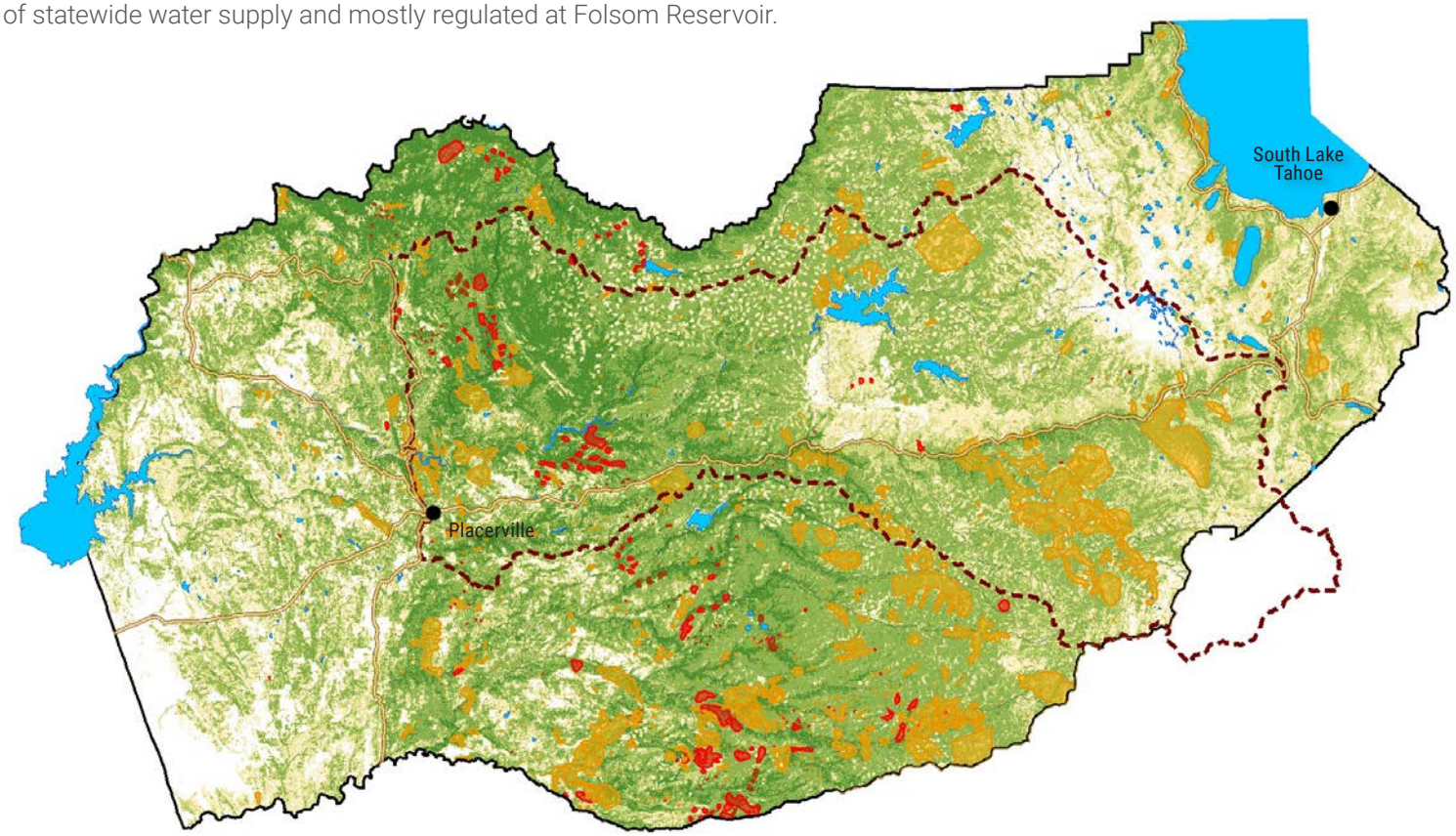
Water resources-related impacts from wildfires can be direct or indirect, with both affecting the ability to reliably deliver water of acceptable quality. In El Dorado County, direct impacts are things such as damage to water supply-related infrastructure (treatment facilities, powerhouses, conveyance, etc.), and indirect impacts are things such as landslides, erosion, and water pollution that can cause damage often realized long after the fire has burned out. Increasing frequency and intensity of wildfires means more potential for compromised water quality – both during active burning, and for months and years after a fire has been contained. During active burning, ash can settle on lakes and reservoirs used for drinking water supplies. Later, wildfires can increase susceptibility of watersheds to both flooding and erosion which can impair water supplies.

Wooden flumes from the Gold Rush era and other delivery structures are particularly vulnerable to both direct impacts (destruction during a fire) and indirect impacts (damage from later mudslides originating at the burned site).

Furthermore, the ever-increasing wildfires are also a symptom of improper forest management and high concentration of dead trees as the effects of prolonged droughts (discussed in the next section, *Headwaters Management*).

3.5 Headwaters Management

El Dorado County is in the American River headwaters, and the health of the headwaters and its management could affect El Dorado County water supplies, especially in communities relying on local minor streams or springs. Headwater management could also have broader effects on statewide water supply conditions, as these headwaters are a significant source of statewide water supply and mostly regulated at Folsom Reservoir.



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

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

Two areas of headwaters management are critical: (1) meadow health that can affect water retention and water quality, and (2) forest management to avoid high tree density with significant canopy cover that intercepts snowpack and reduces water retention. El Dorado County is part of the Cosumnes, American, Bear, Yuba Integrated Regional Water Management region, and these headwaters management issues were included in that effort. However, forest thinning is not often considered or implemented. And decades of improper forest management have resulted in dense forests that not only affect water supply but also increase the threat of wildfires.

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

As part of the U.S. Forest Service-led National Cohesive Strategy in forest fire management, the South Fork American River Cohesive Strategy (SOFAR) is a locally-organized group that focuses on problem area identification, project development, and implementation in the South Fork American River drainage area above the City of Placerville. However, there are still sizeable areas in El Dorado County that need attention.

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 tends to have limited water quality impacts in most of El Dorado County. However, Lake Tahoe's largest source of pollution is urban stormwater runoff. Stormwater discharges in California are regulated through the National Pollutant Discharge Elimination System (NPDES) permits.

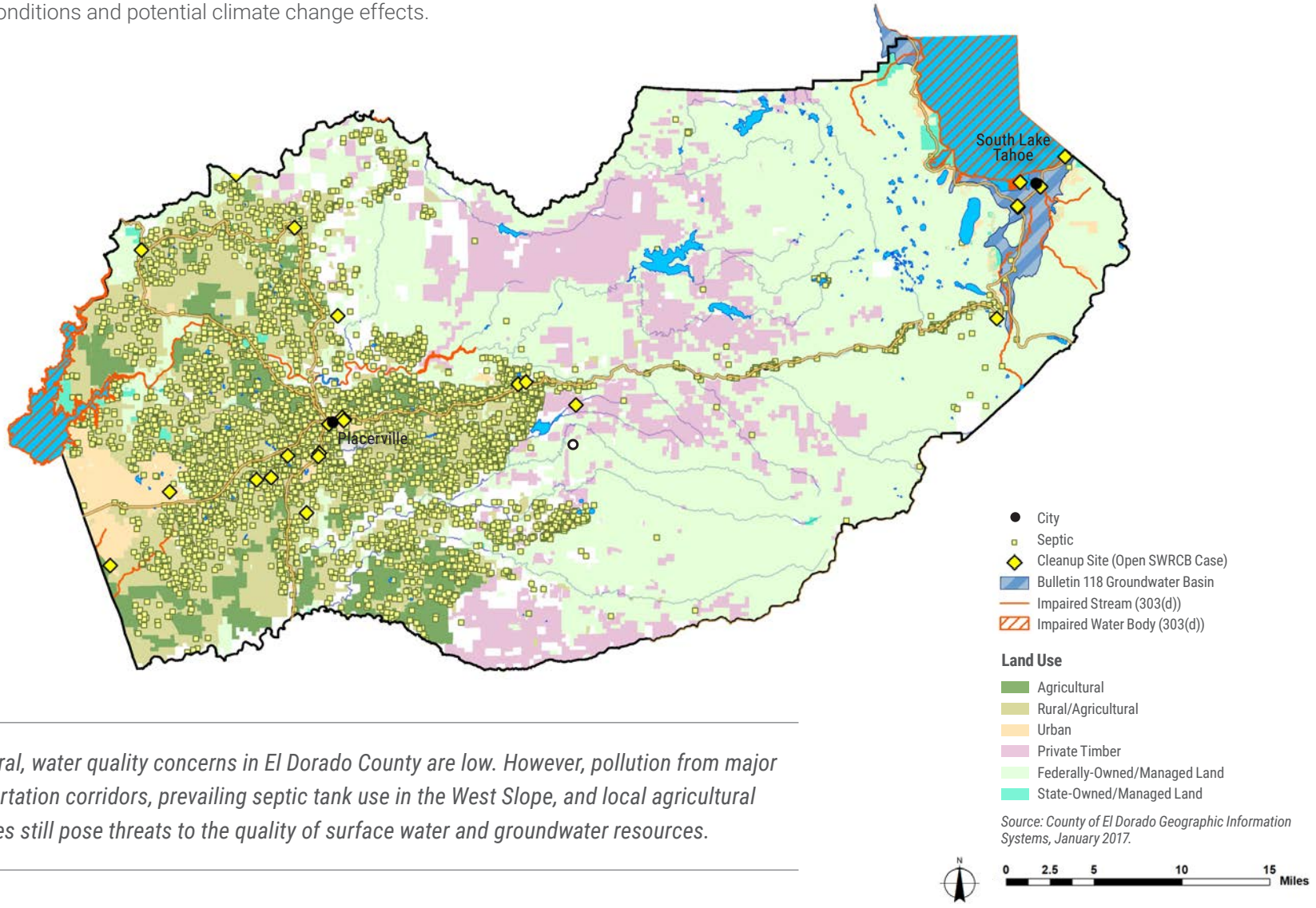
In El Dorado County, there are some impaired bodies of water on the Clean Water Act 303(d) list because they have high presence of Mercury, Aluminum, Manganese, E. Coli, Invasive Toxic Species, Sediment, or Iron. This means that stormwater management is an important issue to protecting water quality and supply.

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

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

3.7 Limited Groundwater Resources

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



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

In the rest of the Lake Tahoe Basin and the West Slope, groundwater resources are shallow and localized. In these areas, groundwater provides limited water supply to existing agricultural practices and domestic uses from the permitted small water systems. This resource becomes potentially vulnerable in prolonged drought conditions and is also susceptible to potential contamination from the many septic tanks and agricultural water use throughout the area. In the past, there were reported incidents of septic tanks contaminating local water supplies. Although, there have not been widespread incidents, it is worthwhile to monitor the water quality of shallow and localized groundwater resources. However, if there were widespread incidents it would warrant a different management approach. Mobile home parks and other areas close to water bodies may pose greater contamination threats.

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

3.8 Localized Flooding Hazards

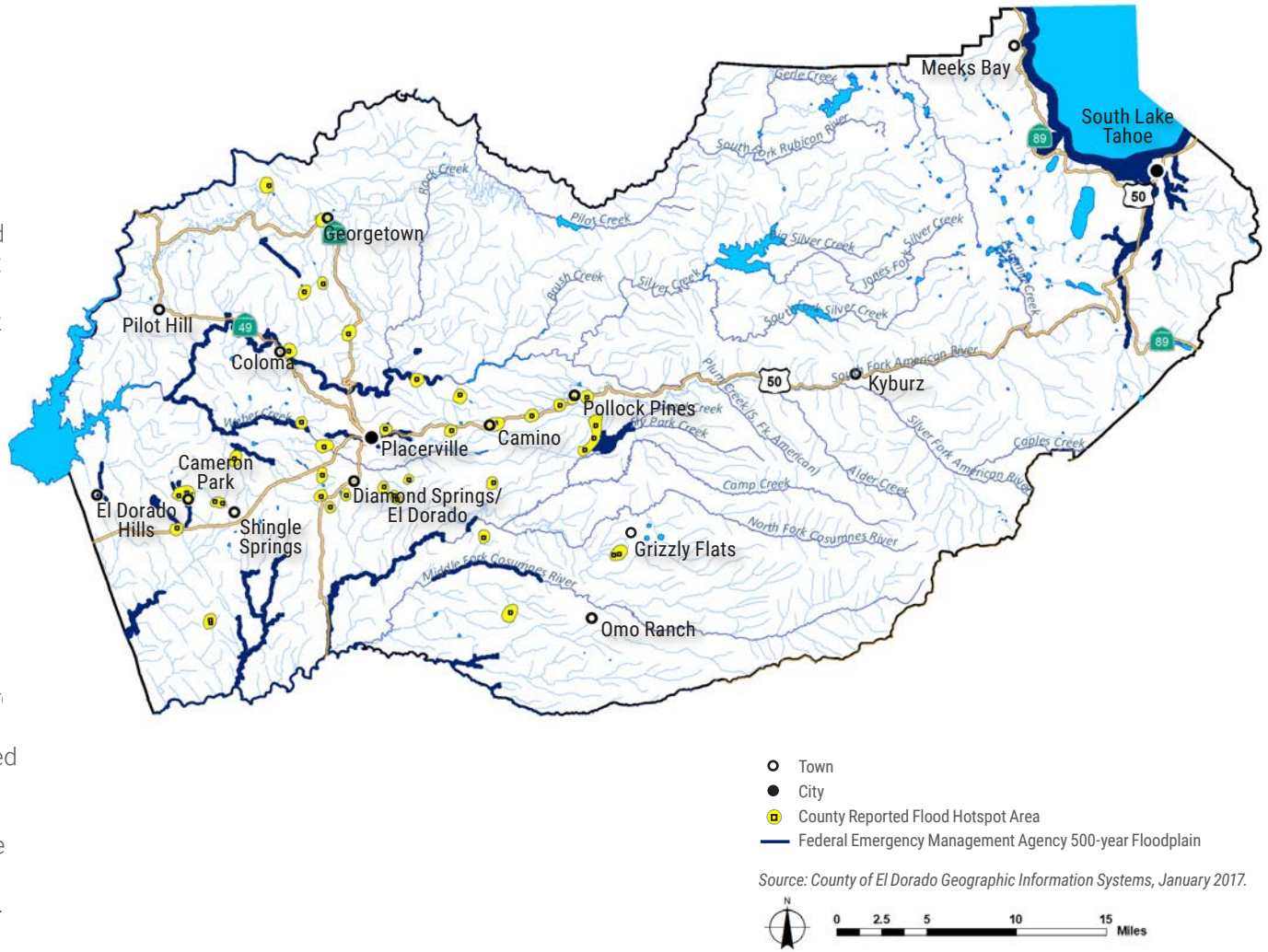
Overall, El Dorado County does not experience widespread riverine flooding. The combination of West Slope hydrology, soils, and land-surface slopes means that this area sees more frequent and localized flooding than the Lake Tahoe Basin.

Historically, drainage problems and occasional flooding have occurred in Cameron Park, as it is at lower elevation but surrounded by areas at higher elevation. Any runoff generated is discharged into local creeks and tributaries, and that high flow contributes to occasional flooding. Culverts that are undersized or blocked with debris and sediment intensify that flooding, such as near Slate Creek in the Town of El Dorado and the Sly Park Portal Subdivision in Pollock Pines.

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

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

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



SECTION

4

Resource Management Strategies

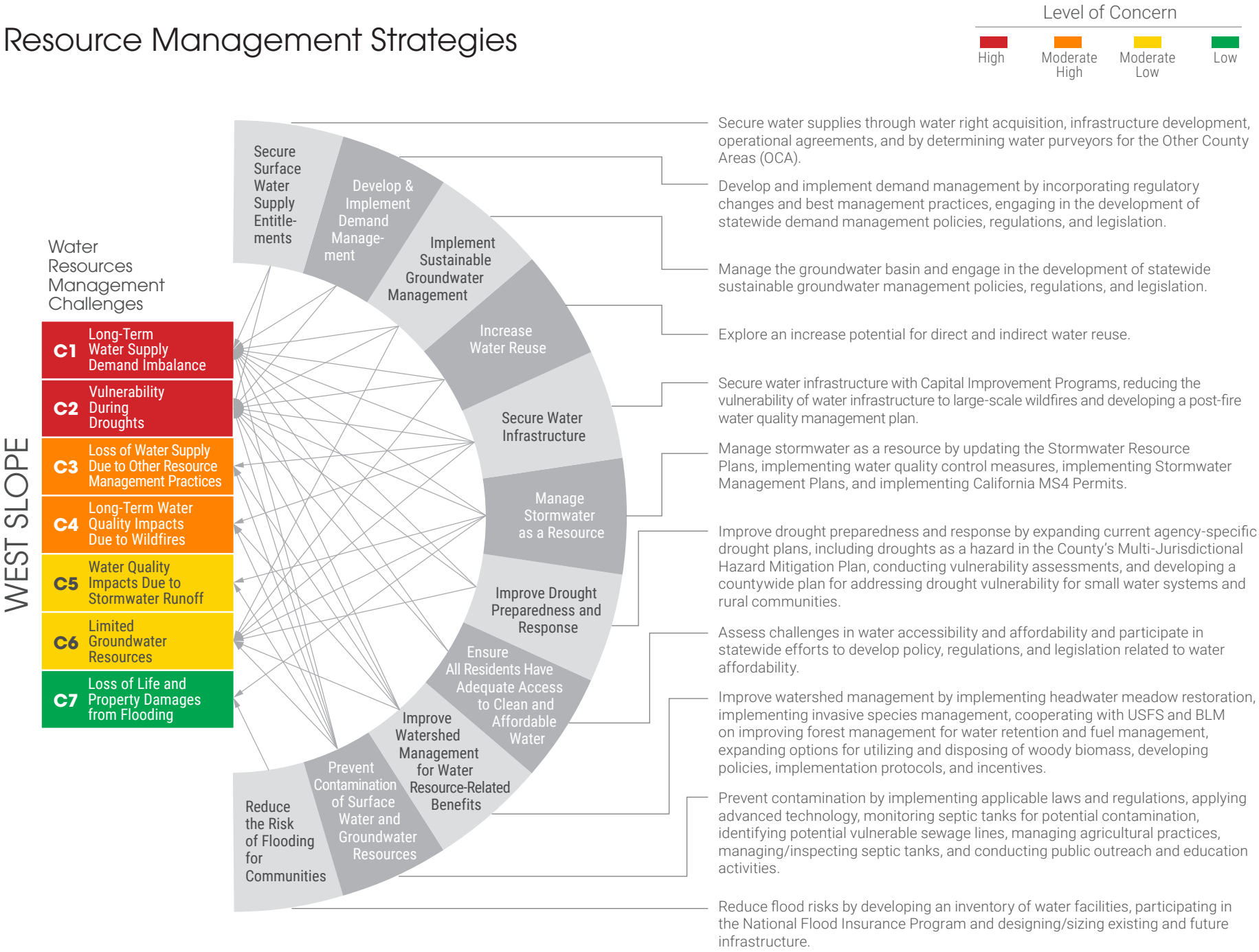
Achieving the vision in the County General Plan requires a coordinated approach and strategies that accommodate continual changes in climate variability, regulatory environment, and progress made in various mitigation and adaptation actions. Doing nothing is not an option.

Broad Resource Management Strategies (RMS) have been developed to help address those identified water resource-related challenges. Each RMS describes ***what*** needs to be done on a strategic level as well as ***who*** is (or are) primarily responsible for making it a reality. For a wicked problem as water management – there is not a 1-to-1 relationship between a challenge and a management strategy or action, and collaboration among different entities is required for achieving the objectives of any strategy. In the context of an RMS, the Agency will have different levels of involvement, reflecting the role and responsibility of the Agency and the principles of engagement described in Section 1. Agency's role may be to **lead**, **facilitate**, or **support** an RMS, or some combination of those roles with specific emphases and focused outcomes.

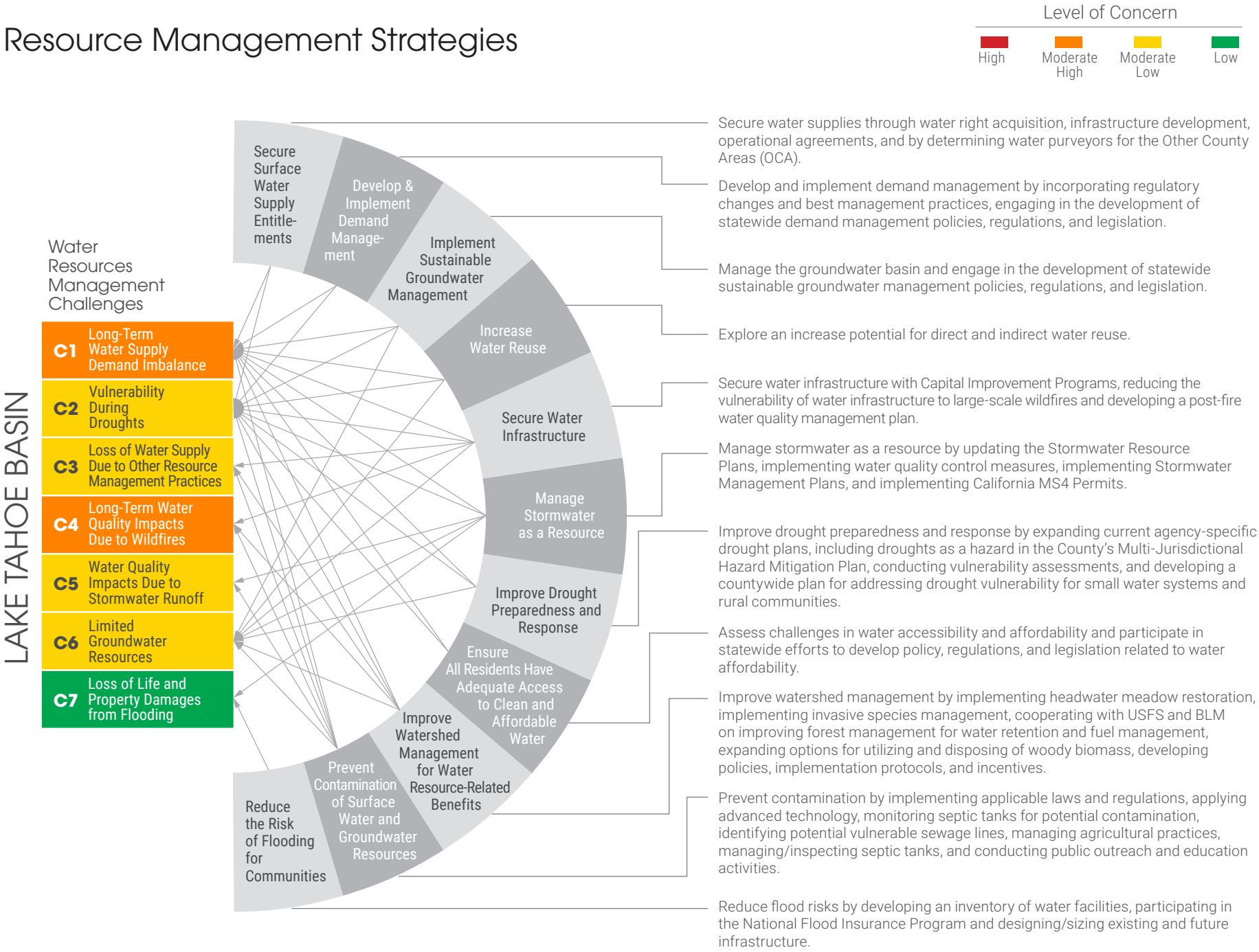
It is also important to recognize that although the Agency's mission statement is to ensure the adequate water supply and quality for the County, the partnership with other regional/state/federal agencies cannot be overemphasized in realizing that mission. However, it is up to us to take the initiative to protect our future prosperity and our way of life.

			Level of Involvement
			HIGH
L	**Lead**	Takes control in advancing an RMS	↕
F	**Facilitate**	Organizes and assists in advancing an RMS, but is not directly responsible	↕
S	**Support**	Provides minor assistance and coordination for advancing an RMS (as warranted)	↕
			LOW

Resource Management Strategies



Resource Management Strategies



4.1 RMS1 – Secure Surface Water Supply Entitlements

At its core, water supply planning is about looking at all available water sources (yield, reliability, quality, infrastructure, cost, etc.) Water rights and contract entitlements are the basis for a surface water supply. Such a realized water supply is subject to increasing hydrologic variability and regulatory constraints. Protecting existing water rights and contract entitlements from further erosion in reliability is as important as securing pending and planned water rights and contract entitlements. Robust economic development planning cannot leverage pending water rights or contract entitlements. One example of such pending contract entitlement is the Public Law 101-514 (Fazio) CVP Water Supply Contract that has been pending since 1990.

Primary Challenges Addressed

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

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

4.2 RMS2 – Develop and Implement Demand Management

Water is a precious resource, and it supports multiple beneficial uses directly and indirectly, in El Dorado County and beyond. Responsible use of this limited resource is a shared duty of all Californians. A comprehensive approach to water use efficiency in M&I and agricultural uses is important to align with the statewide implementation of long-term water conservation policies. At the same time, Local implementation of conservation policies should account for El Dorado County's unique conditions, the 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 Area	Lake Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
2a. Review and update demands by incorporating regulatory changes and best management practices	**X**	**X**	City of Placerville, EID, GDPUD, GFCSD, STPUD, TCPUD, EDCWA	**L** – Update West Slope agricultural and M&I demands consistent with capacity condition specified in County's General Plan **F** – Coordinate development of countywide agricultural and M&I demands (including Tahoe Basin M&I demand fluctuation due to increasing visitation) consistent with capacity condition specified in County's General Plan **S** – Support communications, public information sharing, and advocacy efforts
2b. Engage in development of statewide demand management policies, regulations, and legislation to ensure applicability in foothill communities and related to preservation of El Dorado County interests	**X**	**X**	City of Placerville, EID, GDPUD, GFCSD, STPUD, TCPUD, EDCWA	**L** – Participate in and contribute to development of state policy, regulation, and legislation **F** – Coordinate consistent messages and approach amongst water purveyors **S** – Support communications, public information sharing, and advocacy efforts

4.3 RMS1 – Implement Sustainable Groundwater Management

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

Primary Challenges Addressed

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

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

4.4 RMS4 – Increase Water Reuse

Where possible, water reuse should be considered. In the long run, use of recycled water (water reuse) can be separated into two categories – ***potable reuse*** (recycled water used to augment drinking water supplies and including both indirect and direct uses) and ***non-potable reuse*** (all recycled or reclaimed water applications except those related to water supply augmentation and drinking water). Currently, non-potable reuse in El Dorado County is mostly limited to landscape applications. In the Lake Tahoe Basin, both the terrain and cost effectiveness may limit opportunities to implement water reuse, and federally-adjudicated river management also poses limitations to water reuse by TCPUD.

Primary Challenges Addressed

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

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

4.5 RMS5 – Secure Water Infrastructure

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

Primary Challenges Addressed

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

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

4.6 RMS6 – Manage Stormwater as a Resource

Stormwater is a recognized alternative source of water in the context of integrated water management, no longer a hazard (as in traditional 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, providing eligibility for future State financial assistance. Implementation of the new approach requires additional organizational and budgetary support.

Primary Challenges Addressed

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

RMS Actions	West Slope Area	Lake Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
6a. Update Stormwater Resource Plans	**X**	**X**	City of Placerville, County, City of South Lake Tahoe, Tahoe Resource Conservation District	**F** – Update West Slope Stormwater Resource Plan and provide program management support with implementing agencies **F** – Coordinate with implementing agencies on update of Tahoe-Sierra Region Stormwater Resource Plan **S** – Support communications, information sharing, and advocacy efforts **S** – Support state and federal grant applications (where appropriate)
6b. Implement water quality control measures to address runoff from highways, streets, and other priority impervious areas	**X**	**X**	City of Placerville, County, City of South Lake Tahoe	**S** – Support communications, information sharing, and advocacy efforts
6c. Implement Stormwater Management Plan (now also as part of the stormwater resource plan), and implement California MS4 Permits – Phase I (Lake Tahoe Basin) and Phase II (West Slope)	**X**	**X**	City of Placerville, County, City of South Lake Tahoe	**S** – Support communications, information sharing, and advocacy efforts

4.7 RMS7 – Improve Drought Preparedness and Responses

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

Primary Challenges Addressed

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

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

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

California led the nation in recognizing the human right to water. As stated in the CWC §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." This policy furthers the long-recognized need to support disadvantaged communities and low-income families with meeting resource needs. This policy is also consistent with water management policy in El Dorado County, as reflected in the Agency's mission statement. At the State level, implementation details are currently under development, so it is critical to understand needs throughout the county and continue working with State agencies and other communities to devise adequate implementation strategies and protocols.

Primary Challenges Addressed

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

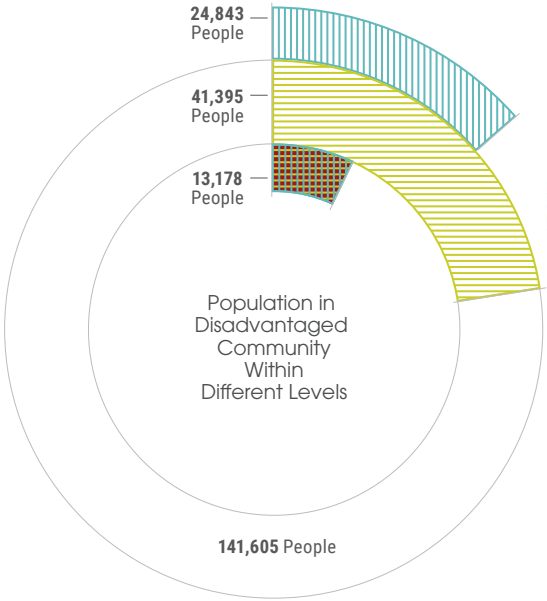
RMS Actions	West Slope Area	Lake Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
8a. Assess challenges in water accessibility and affordability in El Dorado County (Human Right to Water, CWC § 106.3)	**X**	**X**	City of Placerville, County, EID, GDPUD, GFCSD, STPUD, TCPUD	**F** – Coordinate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

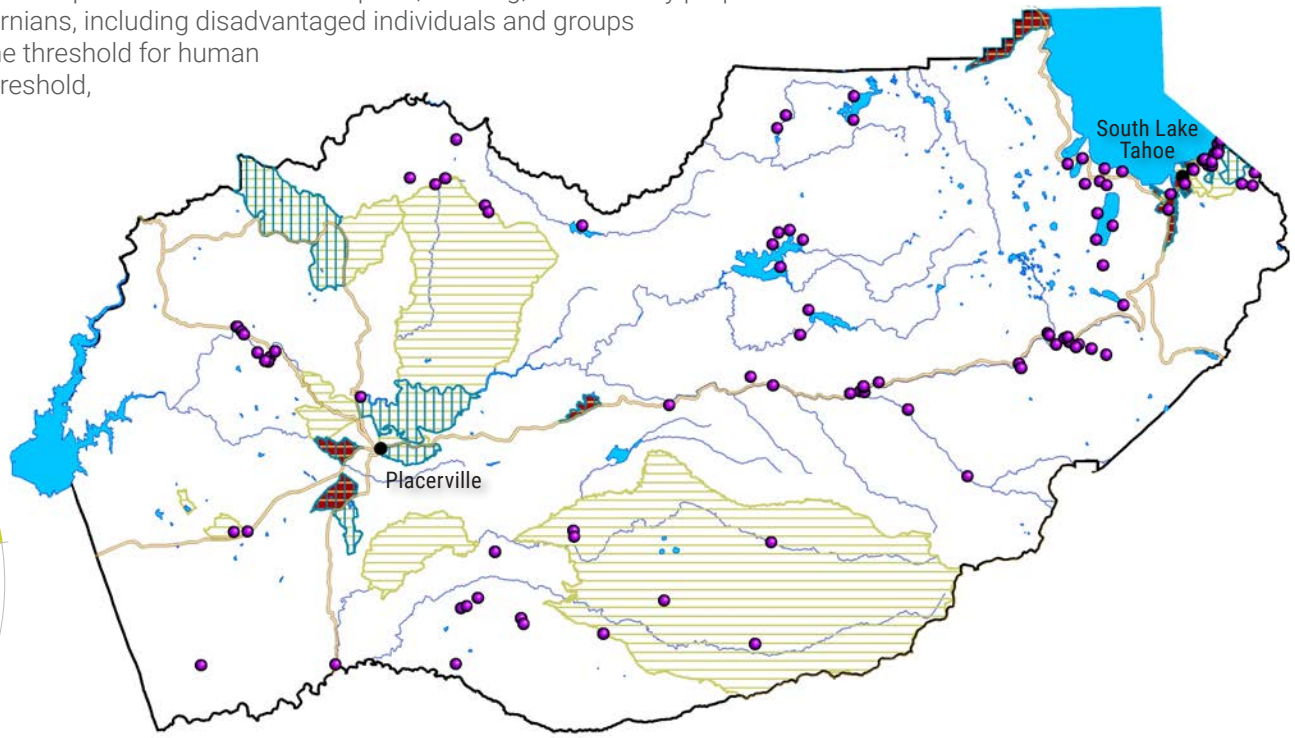
Disadvantaged Communities

DISADVANTAGED COMMUNITY – A community with a median household income of less than 80 percent of the statewide average. From the 2016 Census block data, a disadvantaged community has an annual median household income less than $51,027.

SEVERELY DISADVANTAGED COMMUNITY – A community with a median household income of less than 60 percent of the statewide average. From the 2016 Census block data, a severely disadvantaged community has an annual median household income less than $38,270.

POPULATION BELOW 2 TIMES FEDERAL POVERTY THRESHOLD – Under Assembly Bill 685 California recognizes the human right to water and under the Water Code, Section 106.3, the state statutorily recognizes that "every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes." The human right to water extends to all Californians, including disadvantaged individuals and groups and communities in rural and urban areas. The threshold for human right to water is 2 times the federal poverty threshold, which is dependent on household size.





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

Notes:
Explanations for cutoffs for these data are:
https://water.ca.gov/Work-With-Us/Grants-And-Loans/Mapping-Tools
Data follows Assembly Bill 1550 Methodologies

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

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

Primary Challenges Addressed

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

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

4.10 RMS10 – Prevent Contamination of Surface Water and Groundwater Resources

Contamination of water supplies – either surface water or groundwater – can have dire consequences. It can restrict potable uses and 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 near-term but also potentially in the long-term.

Overall, El Dorado County's surface water and groundwater are of good quality. It is critically important to maintain the water quality we currently enjoy.

Primary Challenges Addressed

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

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

4.11 RMS11 – Reduce the Risk of Flooding for Communities

Flooding in El Dorado County is usually localized due to the terrain and headwater location. However, climate change may result in more extreme flooding conditions, with expanded areas of impact and increased severity, and 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 Area	Lake Tahoe Basin	Principal Implementing Agencies	Agency's Role(s)
11a. Develop inventory of water facilities in El Dorado County at risk of flooding	X	X	County, EID, GDPUD, STPUD, TCPUD	**F** – Coordinate with facility owner to develop a status summary and update regularly
11b. Reduce localized flooding	X		City of Placerville, County	**S** – Support communications, public information sharing, and advocacy efforts
11c. Develop and implement flood risk reduction projects as outlined in the Stormwater Resource Plan	X		City of Placerville, County	**S** – Support communications, public information sharing, and advocacy efforts
11d. Participate in National Flood Insurance Program	X	X	City of Placerville, County, City of South Lake Tahoe	**S** – Support communications, public information sharing, and advocacy efforts
11e. Design and size existing and future infrastructure to be adaptable to climate change	X	X	County, EID, GDPUD, GFCSD, STPUD, TCPUD	**S** – Support communications, public information sharing, and advocacy efforts

SECTION

5

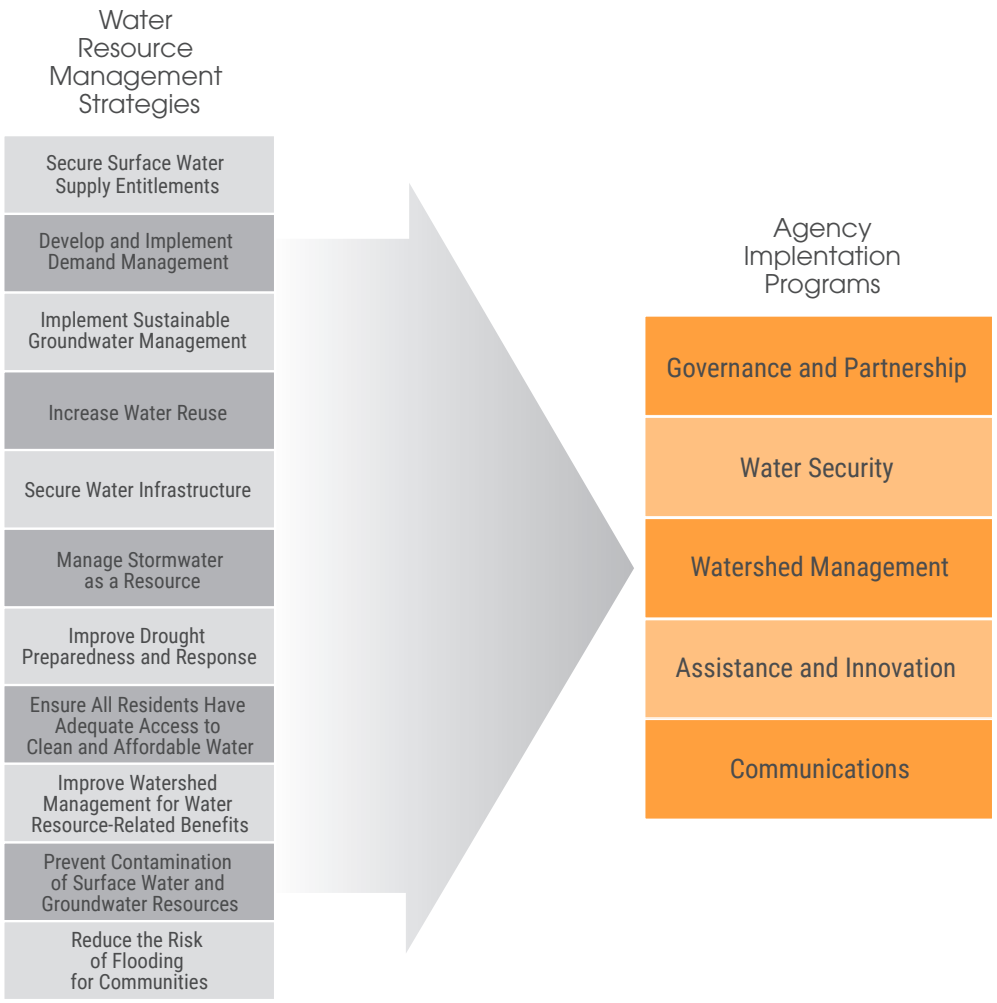
Implementation

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

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

These programs align with the Agency's authorities are reflective of its levels of involvement in the strategies and actions.

This section delineates the ***how*** and the ***when*** for the Agency's involvement in continued water resources development and management in El Dorado County through the Agency's five implementation programs and Board policy statements, recent accomplishments (2017-2019), and near-term priority activities (2020-2024).



5.1 Implementation Programs

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

Each of the Agency's implementation programs is responsible for different aspects of the Agency's various roles in advancing the RMSs and actions. Together, these programs encompass the work required of the Agency. With the efforts of other local/regional and federal entities, the vision in the County General Plan can be fulfilled.

The Agency will continue to prioritize its implementation efforts on the most critical challenges.

Governance and Partnership Program

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

Water Security Program

> *"Ensuring WATER SECURITY at the local level includes efforts to conserve and use water more efficiently, to protect or create habitat for local species, to ensure food security, to recycle water for reuse, to capture and treat stormwater for groundwater recharge and reuse, and to remove salts and contaminants from brackish or contaminated water or from seawater. But, mostly it requires integrating disparate or individual government efforts into one combined regional commitment where the sum becomes greater than any single piece."*
>
> – California Water Action Plan, 2016 Update

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

Watershed Management Program

A strong nexus exists between watershed management and the Agency's mission to ensure adequate water into the future. Although the Agency has broad authority to engage in water management actions in water supply, water quality and flood management, it is more likely to take a supporting (rather than leading) role in watershed management and primarily in areas that correlate with water management. As such, the Agency's Watershed Management Program involves participating in actions that meaningfully contribute to long-term water supply reliability and water quality protection for El Dorado County, in the areas of headwater management, water quality management for rural and agricultural communities, and habitat and other ecosystem function enhancement.

Assistance and Innovation Program

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

Communications Program

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

5.2 WRDMP Implementation Policies

The Agency Board will adopt the 2019 WRDMP to establish its direction for water resource management and focus its future investments.

- **WRDMP**
  - The WRDMP will benefit El Dorado County as a whole, and facilitate the realization of the County's General Plan vision.
  - The WRDMP will be updated every 5 years (years ending in 4 and 9), including continued collaboration with entities throughout El Dorado County and development of a methodology to evaluate progress and outcomes.

While within the Agency's authority, implementation of the 2019 WRDMP necessitates that the Board develop, establish, and adopt specific policies associated with the following, including but not limited to:

- **Countywide Plenary for Water** – Establishment of a Countywide Plenary for Water to facilitate continued collaboration and review of water issues. This group may be an extension of the Plan Advisory Group, convened for development of the 2019 WRDMP.
- **Energy Sustainability** – Need for and importance of evaluating and incorporating renewable energy development as a cost offset option for investments in new water infrastructure. Cost offsets are of particular concern in rural areas and agricultural communities that often lack options to make affordable water available. This policy statement will likely be developed incrementally, as analyses are completed and more information becomes available.
- **Water Marketing** – Need for and importance of assessing potential water markets (local, regional, and statewide) and mechanisms; investigating partnerships and agreements to leverage water assets; and developing a process for cost offsets, Agency investments, and revenue distribution. This policy statement will likely be developed incrementally, as analyses are completed and more information becomes available.
- **Alternative Funding Sources** – Investigation and development of new sources of revenue that have more flexibility in terms of use for water-related projects, efforts, and direct assistance provided throughout El Dorado County. This policy statement will likely be developed incrementally, as analyses are completed and more information becomes available.
- **Collaboration**– Enhance collaboration and partnership with Regional, State, and Federal agencies, such as Reclamation, to create mutually-beneficial projects and programs.
- **Distribution of Accrued Benefits** – Revised process for distributing accrued benefits throughout El Dorado County for water-related projects and programs.

The Agency anticipates that existing policies may need to be revised and additional ones explored and developed both during the first few years of WRDMP implementation but also into the future.

5.3 Recent Accomplishments (2017 – 2019 Fiscal Years)

In early 2017, the Agency's completion of its 2016-2020 Strategic Plan marked a pivotal point for water resource management in El Dorado County. This transition is reflected in the vision statement:

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

Since that time, the Agency has focused on implementing its strategic vision which goes hand-in-hand with helping the County accomplish the General Plan. Accomplishments between 2017 and the adoption of this WRDMP in 2019 as well as near-term priority actions (2020 – 2024) are described in this section and the next.

Recent Accomplishments (2017 – 2019 Fiscal Years)

In the two years since completion of its 2016-2020 Strategic Plan, the Agency has been in transition, while at the same time making significant strides in the planning and management of water resources in El Dorado County, as summarized below.

Governance and Partnership Program

- Participated in CABY IRWM Region for planning and implementation
- Participated with RWA on regional collaboration and other collective efforts
- Formed GSA with STPUD to manage groundwater in areas in Tahoe Valley South Subbasin (outside of STPUD's service area)
- Transitioned El Dorado-SMUD Agreement to Agency to integrate with Agency planning activities

Water Security Program

- Redefined El Dorado Water Reliability Project and issued Notice of Preparation for Environmental Impact Report
- Completed West Slope Stormwater Resource Plan, first annual implementation report, and implementation program in collaboration with County and Placerville
- Participated in regional planning efforts (e.g., RWA Regional Water Reliability Plan and North American River Basin Regional Drought Contingency Plan)
- Finalized Fazio contract with Reclamation for CVP water supply of up to15 TAF per year
- Completed 2019 WRDMP
- Secured and executed financial assistance awards from federal and state agencies, and participated in studies and projects with other water retailers

Watershed Management Program

- Completed initial watershed management scoping

Assistance and Innovation Program

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

Communications Program

- Participated in advocacy efforts with federal agencies and elected officials
- Participated in development of prioritization for policy and project development with federal nexus
- Participated in state advocacy effort on DWR's Countywide Drought Planning Advisory Group
- Continued advocacy efforts through RWA, ACWA, and other entities

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

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

Governance and Partnership Program

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

Water Security Program

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

Watershed Management Program

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

Assistance and Innovation Program

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

Communications Program

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

References

1 Upper American River Project, https://www.smud.org/en/Corporate/Environmental-Leadership/Power-Sources/Upper-American-River-Project

2 Integrated Water Resources Master Plan El Dorado Irrigation District, 2013

3 El Dorado County Water Agency's library, Georgetown Divide Public Utility District Ditch Water System Map.

4 Water Supply and Demand Update for the Grizzly Flats Community Services District, 2017.

5 County of El Dorado Environmental Management Department, 2018

6 Historical Patterns of Wildfire Ignition Sources in California Ecosystems, 2018.