Category	Details
In-Lieu Technologies	Practices demonstrated to improve landscape water use efficiency such as: • Water budget-based rate structures. • Water budget-based management without a rate structure. • Hardware improvements with enhanced performance. • Remote sensing combined with other data and hardware improvements. • Landscape plant palette transformation programs.
CII Water User BMPs	Locally developed best management practices (BMP) implementation plan including the following types of BMPs: • Outreach, technical assistance, and education. Incentives. • Landscapes. Collaboration and coordination. • Operational. Threshold: at least the top 20% of CII water users (not including process water).
Guidelines and Methodologies	Calculation of water use objective (prior year: indoor efficient use, outdoor efficient use, CII dedicated irrigation meter efficient water use, efficient water loss, variances, bonus incentive, and actual water use) and annual report including progress on CII performance measures.

Eliminate Water Waste

Urban Retail Water Suppliers

California Water Code requires the State Water Board to adopt standards for urban retail water loss no later than July 1, 2020. The formal rulemaking process ended, and the regulation was effective April 1, 2023. Suppliers must meet standards on January 1, 2028. Urban retail water suppliers were required, by July 1, 2021, to use the State Water Board's Water Loss Performance Standards Economic Model to calculate its water loss standards and include its compliance with water loss standards in its 2020 UWMP to DWR. This model calculates the urban retail water supplier's water loss performance standard based on an estimate of the economically feasible

level of water loss in 2028, assuming the urban retail water supplier undertakes a program of active leak detection and repair starting in 2022. Status of the water loss standards can be found on the State Water Board's Water Loss Control webpage.

Urban Wholesale Water Suppliers

The 2018 legislation required DWR and the State Water Board to recommend to the Legislature water-loss audit reporting for wholesale water suppliers. In response to the 2018 legislation, DWR conducted a study and developed recommendations to the Legislature on the wholesale urban water suppliers' water-loss audit reporting. DWR submitted a report to the Legislature in February 2020. DWR recommended that urban wholesale water suppliers submit an annual water loss audit report to DWR. DWR also recommended testing for meter accuracy, developing a reporting template, and offering training.

Strengthen Drought Resilience

Each urban wholesale and retail water supplier must prepare, adopt, and submit a water shortage contingency plan (WSCP) and conduct a drought risk assessment (DRA) every five years as a part of its urban water management plan (UWMP). Additionally, they are required to conduct an annual water supply and demand assessment.

The 2018 legislation requirements for drought resilience are effective beginning with 2020 UWMPs. Each urban wholesale and retail water supplier must prepare, adopt, and submit a WSCP and conduct a DRA every five years as a part of its UWMP. They are also required to conduct an annual water supply and demand assessment.

The WSCP describes the method, procedures, response actions, enforcement, and communications during six levels of water shortage conditions. The purpose of the WSCP is twofold. For water suppliers, a well-structured WSCP enables, (1) real-time water supply availability assessment and, (2) provides structured steps designed to respond to actual conditions and allow for efficient management of any shortage with predictability and accountability.

The DRA is to assess water supply reliability (or vulnerability) for a period of drought lasting five consecutive water years starting the year after the assessment is conducted. The DRA is to consider historical drought hydrology and reliability of each source of supply.

Required Elements of WSCP

Urban water suppliers must address 10 required elements in their WSCP. An urban water supplier can amend their WSCP in the interim of UWMP submission cycles without amending their UWMP, provided the adopted UWMP components still hold true.

Annual Water Supply and Demand Assessment

The 2018 legislation also required a report on the result of the suppliers' annual water supply and demand assessments (annual assessments). They are due to DWR every year by July 1. The annual assessments provide a mechanism for suppliers to demonstrate to the State that they have adequately developed and are following their locally adopted WSCP. As required by CWC Section10632(a)(4), and to address potential near-term shortage, urban water suppliers are required to develop and implement, as part of their WSCP, appropriate shortage response actions that align with various shortage levels. When implemented correctly, this plan provides the supplier with the know-how to respond to varying degrees of anticipated shortage and to rebalance supply and demand to prevent the anticipated shortage from becoming a reality. During a drought emergency, CWC Section 10632.3 directs the State Water Board to defer to the implementation of the locally adopted WSCPs, to the extent practicable. Urban water suppliers who do not submit annual assessments will not be eligible for any State grant or loan.

To support suppliers' annual assessments, DWR has provided resources and technical assistance including a guidance document, worksheets and reporting tables, an online submittal portal, and a dedicated email address for technical assistance.

4. Small Water Suppliers and Rural Communities

The Urban Water Use Efficiency RMS has historically addressed the urban water suppliers water use and efficiency issues. In this RMS, small water systems, domestic wells, and rural communities have been incorporated. Because of their importance, DWR may consider developing an RMS for small water systems, domestic wells, and rural communities in California Water Plan Update 2028.

Legislation in 2018 directed DWR, in consultation with the State Water Board and interested parties, to develop recommendations and guidance to address the planning needs of small water suppliers and rural communities (see "Water System Definitions" section) through the development and implementation of countywide drought and water shortage contingency plans.

In coordination with multiple State agencies and vetted through an extensive public process, DWR developed recommendations submitted in 2021 to the Legislature that would allow small water suppliers and rural communities to meet their drought and water shortage planning needs (see DWR's Countywide Drought and Water Shortage Contingency Plans webpage). These recommendations became the basis of Senate Bill 552 of 2021 (CWC Section 10609.80) that was signed by Governor Newsom in September 2021.

As stated in this new section of CWC, State and local governments will share the responsibility in preparing and acting in the case of a water shortage event. These new requirements are expected to improve the ability of Californians to manage future droughts and help prevent catastrophic climate change effects on drinking water for vulnerable communities. The legislation outlines the new requirements for small water suppliers, county governments, DWR, and the State Water Board to implement more proactive drought planning and be better prepared for future water shortage events or dry years.

SB 552 Accomplishments

Counties

The counties are required to create a standing county drought and water shortage task force (or similar alternative) for state small water systems (see "Water System

Definitions" section) and domestic wells, and to develop a county drought resilience plan (including a drought risk assessment) for state small water systems and domestic wells in the county. DWR, in coordination with the State Water Board, California Office of Emergency Services (CalOES), and the Governor's Office of Planning and Research, has developed a guidebook for counties on how to develop a task force and implement the planning elements of SB 552. DWR has also developed a funding program to assist counties through non-competitive planning grants and direct planning assistance with their task forces and plan development.

Small Water Suppliers

The small water suppliers are required to develop abridged water shortage contingency plans (WSCP) or a drought element of an emergency plan, comply with new drought resilience standards, and report more information to the State Water Board. To support these suppliers, DWR and the State Water Board developed templates for the WSCP, one for the suppliers serving more than 1,000 connections, and a separate tailored version for schools. The first WSCPs were due July 1, 2023, for suppliers serving 1,000 to 2,999 connections. They must be updated every five years.

Water Shortage Vulnerability Explorer Tool

DWR developed an online tool to help counties, small water suppliers, and other interested parties explore the relative risks for drought and water shortage for domestic wells and state small water systems. The Water Shortage Vulnerability Scoring and Tool is designed to assist counties as they conduct the newly required drought risk assessments for domestic wells and state small water systems. This tool factors in physical and social vulnerabilities. The social vulnerability component includes a combination of income and socio-economic characteristics, household composition and language, housing, and transportation, thereby incorporating the equity goals of the State.

In a separate tool and analysis focused on public water systems, DWR provides an assessment of water shortage vulnerability of small community water systems and non-transient non-community water systems that serve schools. This tool is being updated regularly and is conducted in coordination with the State Water Board's Safe and Affordable Funding for Equity and Resilience (SAFER) needs assessment.

Emergency Relief Resources

SB 552 also requires the State Water Board to provide communication to counties about water hauling and other emergency relief resources. The State Water Board has been supporting this effort as part of its Countywide and Regional Assistance program.

Task Force

Additionally, SB 552 directs DWR to establish an interagency drought and water shortage task force to facilitate proactive State planning and coordination, for pre-drought planning and post-drought emergency response. The task force, Drought Resilience Interagency and Partners (DRIP) Collaborative was established in March 2023 and is composed of eight State agency leaders and 18 non-state agency members. The task force held its first meeting in April 2023 with a schedule of three meetings per year.

Water System Definitions

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

Rural community: A community with fewer than 15 service connections or regularly serving fewer than 25 individuals daily at least 60 days out of the year, including domestic wells (Water Code Section10609.51[j]). In other words, rural community in this law covers all water systems or domestic wells for human consumption that are not a public water system.

Small water supplier: A community water system serving 15 to 2,999 service connections, and that provides less than 3,000 acre-feet of water annually (Water Code Section10609.51[k]). It considers several categories of small water suppliers: those suppliers with less than 1,000 connections; those with 1,000 to 2,999 connections; and non-transient, non-community water systems that service schools.

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

Urban water supplier: Water suppliers providing water to more than 3,000 connections are considered urban water suppliers and are subject to the Urban Water Management Planning Act (CWC Section10610 et seq.) and other requirements. Water suppliers that comply with the Urban Water Management Planning Act, either as a requirement or voluntarily, are exempt from the above stated requirements of SB 552.

5. Climate Change

Urban water suppliers and water users are particularly vulnerable to changes in climate because they require reliable water supplies to meet current and future demands from an increasing population. While some agricultural water users may be able to temporarily reduce water use by fallowing land or changing cropping patterns, urban water uses tend to have much less flexibility. Urban water use efficiency provides a key strategy for addressing these vulnerabilities.

Key impacts of climate change that relate to urban water supplies include:

- Warming temperatures leading to increases in water usage, particularly for outdoor irrigation.
- Decreasing snowfall and reduction in the natural water storage found in the Sierra Nevada snowpack.
- Precipitation shifting from snow to rain in a warmer climate, requiring a change in water supply management.
- Rising sea levels:
    - Increasing vulnerability of flooding and damage to water supply infrastructure in coastal communities.
    - Increasing seawater intrusion into coastal freshwater aquifers.
    - Reducing water exports from the Delta.
- Increasing frequency of floods, droughts, and wildfires damaging watersheds that provide water to urban communities.

To help address these climate-related challenges, State and federal agencies have developed several programs that provide guidance and information to urban water suppliers. In 2011, DWR, the U.S. Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers, and the Resources Legacy Fund cooperatively developed the *Climate Change Handbook for Regional Water Planning* , which provides a comprehensive resource for regional water managers and includes information that will also be useful to urban water managers. The EPA also developed the Creating Resilient Water Utilities program which provides guidance and tools specifically for water utilities, such as urban water providers, to incorporate climate change into their planning and operations.

Adaptation

Water conservation and water use efficiency are considered primary climate change adaptation strategies – those that should be undertaken first because they are generally lower-cost and provide multiple benefits. By implementing practices that make the most of available water supplies, practices that reduce waste and increase efficiency, the urban water use sector will be better equipped to adapt to potential reductions in water supply.

Mitigation

Supplying and treating water for urban use requires a high amount of energy, which in turn contributes to greenhouse gas emissions and climate change. Reducing the amount of water used in the urban setting reduces the energy used, thus mitigating impacts of climate change. Urban water use efficiency is a mitigation measure and an adaptation measure for climate change.

Energy is used to transport, pump, heat, cool, treat, and recycle water. And water is used to generate hydroelectricity and to cool power plants.

According to the report, *California's Water-Energy Relationship* (California Energy Commission 2005), water-related energy use consumes approximately 19 percent of California's electricity, 88 billion gallons of diesel fuel, and 30 percent of non-power-plant natural gas, which together equate to approximately 12 percent of total statewide energy use. Urban and industrial water use, including conveyance, treatment, distribution, and end uses, account for approximately 11 percent of statewide energy use, the other 1 percent being related to agricultural water use.

When water is used efficiently, there is a corresponding savings in energy. Also, because most energy production creates greenhouse gases that contribute to climate change, water use efficiency is a method for mitigating climate change.

In 2004, California Urban Water Conservation Council members who implemented the council's best management practices reported a savings of 27 billion gallons of water. This significant water savings also saved more than 234 million kilowatt-hours of electricity and an estimated $200 million in energy costs.

6. Potential Costs and Implementation Challenges

Increasing the water supply has the same effect on water availability as decreasing the demand for water (through increased efficiency). But historically reliable methods for increasing supply, such as building new dams for surface storage, or increasing water exports from the Delta, are less certain as California moves into the future. Many water suppliers are turning to other strategies, such as improving efficiency, to meet increasing demand. And as the costs for increasing water supply go up, even the more expensive conservation strategies may become economically viable in the future.

Costs of Implementation

The cost of implementing the long-term water use efficiency and drought planning has not been quantified. After the State Water Board adopts its regulations and the water use efficiency standards, CII performance measures, and other requirements are finalized, this RMS will be updated and will include the costs of implementing the new requirements. It is expected that implementation of the 2018 legislation requirements will result in new costs for urban water suppliers with a potentially heavier burden on lower-income communities. There are also non-quantifiable costs associated with behavior changes needed to reduce water use by customers and the potential for non-monetary costs and indirect monetary costs (e.g., changes that can create new power usage or adverse public health impact).

Major Implementation Challenges

Rate Structures Limitations

Some of the limitations for public water suppliers include constraints in subsidizing assistance and passing on overall costs for compliance to ratepayers, as well as reduced revenue from reduced water use.

Public Awareness and Water User Behavior

Customer participation is the key to successful water use efficiency programs. A sustained statewide education campaign is needed to help educate water users and increase awareness of meaningful actions that will use water more efficiently and save

water; the State, in partnership with local agencies, can be more effective than local agencies alone.

Landscape Area Measurement for Water Budgets

Estimating the efficient outdoor water use budget can be used to assess whether landscapes are being watered efficiently. The outdoor standards in the urban water use objective will be used to determine the budget for efficient outdoor residential and CII landscapes with dedicated meters. A big challenge is knowing the landscape area, which is critical to developing the water budget.

While DWR has quantified the residential landscape areas for the urban retail water suppliers using aerial images from the period of 2017–2019, future landscape area measurement is still needed for long-term implementation of the outdoor residential water use standard and resulting outdoor residential water use budget. Additionally, many water suppliers have not measured the CII landscape area in their service area and, as a result, cannot adequately budget for these spaces. Landscape areas for CII landscapes with dedicated meters is needed for implementation of the CII long-term outdoor standard. Measured area for landscapes with mixed use meters remains important for calculating efficient water use budgets as a best management practice and is needed to determine if the landscape is subject to CII performance measures.

Impediments to measuring or estimating landscape area include insufficient financial, technical, and personnel resources. A high degree of financial and personnel resources would be required to physically measure sites or to purchase and analyze satellite imagery. Many water suppliers do not have technical expertise to analyze available satellite data, and, in some cases, satellite data are hard to interpret. Managing CII landscape irrigation efficiently using water budgets is further complicated by the difficulty in segregating areas served by multiple meters and linking the landscape areas and parcels with customer data.

Capacity of Qualified Landscape Professionals

Design, construction, and long-term maintenance of water efficient landscapes requires expertise. Currently, there is an insufficient number of landscape professionals who have the expertise to design, construct, and maintain water efficient landscape. Many landscapers hired by customers have limited training in managing landscapes with water efficient plant types and making sure the irrigation systems are maintained. Landscapers and customers are also often unaware of how to schedule irrigation or program irrigation controllers for efficient water use.

Inconsistent Implementation of the Model Water Efficient Landscape Ordinance

Compliance with MWELO is required on any new landscape project that exceeds 500 square feet or any rehabilitated landscape areas more than 2,500 square feet, which requires a permit, plan check, or design review. But, statewide, the local agency enforcement of the ordinance is inconsistent. DWR and the University of California, Davis, conducted a survey of local agencies to identify the barriers to MWELO implementation. The survey found that local agencies are challenged by the complexity of landscape and irrigation design requirements as well as lack of staff to review and inspect landscape. Additionally, MWELO implementation and enforcement is required of local agencies, but the local agencies are often under the incorrect assumption that implementation is the responsibility of water suppliers.

Current Plumbing Code Enforcement on Sale and Resale

Current plumbing code requires efficient faucets and toilets in all residential and CII buildings. For new construction, this requirement is enforced by way of building inspections, but, for existing buildings, compliance enforcement is often limited to self-certification when a property is sold and may be inconsistently applied.

Inadequate technical and financial resources

Local agencies and water suppliers are often faced with limited technical and financial resources to incentivize implementation of water use efficiency measures by their customers.

Costs If Not Implemented

Water conservation is imperative given continued climate change aridification and increasing population (California for All et al. 2022). As water supplies become more limited and water demands increase because of hotter and drier conditions, the cost of water will increase as will the risk to human health and safety because of diminished supplies and supply reliability. Recent droughts have made evident that some communities run out of water during drought conditions and are on the brink of running out of water long-term.

Water use efficiency and management planning stretches limited water resources that are only going to be more limited in the future. Already, water use efficiency, management, and planning has reduced per person water use by approximately 30 percent since 2010 (Figure 1). But, without implementation of recommendations

in this RMS, more communities in California are likely to be vulnerable to water shortages requiring expensive water hauling or other emergency actions. Additionally, costs will likely rise and water affordability, especially for more vulnerable populations, will become unsupportable; customer water bills have increased by 42 to 47 percent in the past 20 years, in particular for those households served by smaller systems (Goddard, Ray, and Balazs 2021). Water use efficiency and water conservation are often cheaper solutions than developing new water supplies, and good planning and management can help mitigate water supply reliability vulnerabilities.

7. Recommendations

1. **Continue the Save Our Water Campaign**: DWR in partnership with the Governor's Office continue to lead efforts behind the statewide Save Our Water Campaign effort to further water conservation indoors and outdoors. As California prepares for a hotter and drier future, the Save Our Water Campaign is focused on engaging with the public through outreach activities and targeted marketing strategies to provide residents with conservation actions.
2. **Create Clearing Houses for Water Conservation Information and Assistance**: The State should consider creating clearing houses of water conservation information on water savings of conservation actions and benefits of the actions taken by the urban water suppliers, as well as a place for customers to identify what technical and financial assistance programs are available to them.
3. **Promote Technologies and Equipment that Support End-User Demand Management**: Readily accessible data and information about customer's real-time indoor and outdoor water use is powerful and important for increasing awareness and for modifying customer water use behavior. For example, efficiencies can be improved using short-interval water use measurements such as Advanced Metering Infrastructure data coupled with analytics, cell phone apps, or dashboards for water use patterns and trends analysis accessible to the customers. Also, use of rain sensors, EPA WaterSense-labeled irrigation controllers, good irrigation management practices, leak detection and repair, and other technologies, have been demonstrated to have significant potential to reduce inefficient water use.
4. **Support Studies and Demonstrations for Turfgrass Innovation**: Turfgrass remains a large component of many landscapes. In some cases, this turfgrass serves only for decoration (non-functional). In other cases, this turfgrass supports an important recreational function (functional turf). Water conservation and water use efficiency improvements can be made in reducing the amount of non-functional turf and improving the efficiency of functional turf through innovative technologies such as new turfgrass species and improved irrigation.
5. **Increase Landscape Water Management Skills**: Water use efficiency is most easily achieved on landscapes with properly designed and installed irrigation systems and managed with water budgets. To make this possible, the Contractors State License Board should continue the emphasis and testing requirements in the C-27 Landscape Contractor's exam in the subject areas of

irrigation design and installation and water budgeting to ensure landscape professionals have the needed skills. Colleges and universities should consider adding more instruction on efficient irrigation practices and plant water use requirements to their curriculum for landscape architects and horticulture majors. DWR, water suppliers, and the landscape industry should also consider increasing opportunities to improve water management skills of non-English-speaking landscapers and landscapers who do not hold a contractor's license with added benefit of expanding work opportunities for the landscape professionals.

6. **Encourage Innovation in Efficient Irrigation Equipment Design That Increases Durability, Reliability, and Ease of Use**: The irrigation manufacturing industry should consider working with the landscape industry, universities, and other industries to develop irrigation equipment, sensors, and controllers that are more durable and easier to install, maintain, and program.
7. **Assist Urban Water Suppliers in Providing more Accurate and Consistent Estimates of Water Savings Attainable through Various Demand Management Measures for Use in WSCPs**: The State should consider providing resources to conduct studies for the development of technical-based metrics and guidance necessary for urban water suppliers to realistically estimate the effectiveness of various drought response actions. More accurate estimates allow suppliers to activate effective demand management actions during water shortages. Currently, many urban water suppliers, with similar geographic, hydrologic, and climatic conditions, have inconsistent water reduction values for the same actions.
8. **Assist Utilities in Developing Sustainable Conservation Rate Structures**: Conduct studies to analyze and evaluate the effectiveness of the rate structures in conserving water and meeting water supplier revenue requirements. These studies should be done in collaboration with entities such as DWR, the U.S. Bureau of Reclamation, the California Public Utilities Commission, California Water Efficiency Partnership (CalWEP), the Association of California Water Agencies (ACWA), the California Water Association, California Urban Water Agencies, and water suppliers. DWR should consider disseminating the findings and recommendations from the study, as well as guidance to water agencies, throughout the state by way of regional workshops and on DWR website.
9. **Assist Water Suppliers in Landscape Area Measurement**: The State should consider continuing landscape area measurement programs by incorporating advances in remote sensing technologies to provide updated landscape area

measurement data to the urban retail water suppliers every five years. Additionally, landscape measurements of functional and non-functional turf would enable local agencies and the State to better implement programs designed to improve water efficiency and conservation.

10. **Support Increased Implementation of the Model Water Efficient Landscape Ordinance**: The State should collaborate with local agency advocacy groups such as California League of Cities, California Association of Counties, Strategic Growth Council, California Building Officials, and others, to improve coordination with local agencies about the MWELO and MWELO implementation.

    The State should also consider collaborating with landscape industry groups, such as the California Landscape Contractors Association, Irrigation Association, American Society of Landscape Architects, Association of Professional Landscape Designers, and others, to improve coordination with landscape professionals about the MWELO and MWELO implementation.

    The State should consider providing resources to conduct studies that demonstrate the effectiveness of MWELO in the design, installation, and management of water efficient landscapes. These studies should be done in collaboration with entities such as DWR, local agencies, local water suppliers, researchers, the landscape industry, and other interested parties.

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9. Useful Web Links

American Water Works Association manual M36: Water Audits and Loss Control Programs guidebook
https://www.awwa.org/Portals/0/files/publications/documents/M36LookInside.pdf

California Irrigation Management System
https://cimis.water.ca.gov

California's Most Significant Droughts: Comparing Historical and Recent Conditions
https://water.ca.gov/-/media/DWR-Website/Web-Pages/What-We-Do/Drought-Mitigation/Files/Publications-And-Reports/CalSigDroughts19_v9_ay11.pdf

California's Water-Energy Relationship
https://cawaterlibrary.net/document/californias-water-energy-relationship/

California Water Code Section 10608.34 (requires the State Water Board to develop water loss performance standards for urban retail water suppliers)
https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=WAT&sectionNum=10608.34

Climate Change Handbook for Regional Water Planning
https://www.epa.gov/sites/default/files/2021-03/documents/climate_change_handbook_regional_water_planning.pdf

Climate Resilient Water Program
https://www.epa.gov/crwu

DWR's Annual Water Supply and Demand Assessment webpage
https://water.ca.gov/Programs/Water-Use-And-Efficiency/Water-Supply-and-Demand-Assessment

DWR's Countywide Drought and Water Shortage Contingency Plans webpage
https://water.ca.gov/Programs/Water-Use-And-Efficiency/2018-Water-Conservation-Legislation/County-Drought-Planning

DWR's Model Water Efficient Landscape Ordinance webpage
https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Model-Water-Efficient-Landscape-Ordinance

DWR's Urban Water Loss webpage
https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Validated-Water-Loss-Reporting

DWR's Urban Water Management Plans webpage
https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans

DWR's Water Use Efficiency webpage
https://water.ca.gov/Programs/Water-Use-And-Efficiency

DWR's Urban Water Use Efficiency Standards, Variances and Performance Measures webpage
https://water.ca.gov/Programs/Water-Use-And-Efficiency/2018-Water-Conservation-Legislation/Urban-Water-Use-Efficiency-Standards-Variances-and-Performance-Measures

Making Water Conservation a California Way of Life
https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Water-Use-And-Efficiency/Make-Water-Conservation-A-California-Way-of-Life/Files/PDFs/Final-WCL-Primer.pdf?la=en&hash=B442FD7A34349FA91DA5CDEFC47134EA38ABF209

Recommendations for Urban Wholesale Distribution Systems Water-Loss Audit Reporting
https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Validated-Water-Loss-Reporting/Final-of-Wholesale-Water-Loss-Legislative-Report_Feb-18-2020_a.pdf

Safe and Affordable Funding for Equity and Resilience
https://www.waterboards.ca.gov/water_issues/programs/grants_loans/sustainable_water_solutions/safer.html

Save Our Water
https://saveourwater.com/

Urban Water Management Plan Guidebook 2020
https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans/Final-2020-UWMP-Guidebook/UWMP-Guidebook-2020---Final-032921.pdf

Water Shortage Vulnerability Scoring and Tool
https://water.ca.gov/Programs/Water-Use-And-Efficiency/SB-552/SB-552-Tool

Water Use Efficiency Data portal
https://wuedata.water.ca.gov

Urban Water Use Resource Management Strategy

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