

**2015 Urban Water Management Plans**  
**Guidebook for**  
**Urban Water Suppliers**

DRAFT

**Front Matter**

**Acknowledgements**

Guidebook Advisory Committee

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## Abbreviations and Acronyms

**AF** – Acre-Foot

**BMP** – Best Management Practice

**CASGEM** - California Statewide Groundwater Elevation Monitoring Program

**CII** – Commercial, Industrial, Institutional, water use sectors

**CIMIS** – California Irrigation Management Information System

**CUWCC** – California Urban Water Conservation Council

**CWC** – California Water Code

**DMMS** – Demand Management Measures

**DOF** – Department of Finance

**DWR** – Department of Water Resources

**eARDWP** - electronic Annual Reports to the Drinking Water Program (SWRCB)

**GIS** – Geographic Information System

**GPCD** – Gallons per Capita per Day

**IRWM** – Integrated Regional Water Management

**NPDES** - National Pollutant Discharge Elimination System

**PWS** – Public Water System

**RWQCB** - Regional Water Quality Control Board

**SB** – Senate Bill

**SGMA** - Sustainable Groundwater Management Act

**SWRCB** – State Water Resources Control Board

**UWMP** – Urban Water Management Plan

**WDR** – Waste Discharge Requirement

**WRR** – Water Recycling Requirement

**WSCP** – Water Shortage Contingency Plan

*This guidebook provides guidance for all urban water suppliers.*

- *Water suppliers with **both wholesale and retail** operations are directed to Chapter 2, Section 2.1.1.*
- *Agencies that are exclusively or primarily **wholesale** urban water suppliers (retail deliveries are below 3,000 AF/year or 3,000 connections) are directed to streamlined guidance in the Wholesale Guidebook.*

# Chapter 1

## Introduction and Overview

### 1.1 Background and Purpose

Water planning is an essential function of water suppliers, but is critical as California grapples with ongoing drought and expected long-term climate changes.

Prior to the adoption of the Urban Water Management Planning Act (Appendix A), there were no specific requirements that water agencies conduct long-term resource planning. While many water agencies had conducted long-term water supply and resource planning prior to the Act, those who had not were left vulnerable to supply disruptions during dry periods or catastrophic events.

An example of local supply disruption that spurred the development of the UWMP Act can be found from the drought of 1976-1977. The Marin Municipal Water District (MMWD) was facing dwindling supplies, even though water rationing had been successfully implemented. MMWD managers met with officials of other water districts and from California Department of Water Resources (DWR) to quickly find a reliable alternate source of water. An agreement was reached to transport water from the State Water Project via a temporary, 6-mile pipeline on the Richmond-San Rafael Bridge from the East Bay to Marin County.

The necessity of installing this emergency pipeline indicated that some water agencies may not have been prepared for prolonged drought or catastrophic events, and the Urban Water Management Planning Act was proposed and adopted, requiring a minimum level of resource assessment and planning by water suppliers.

There is no substitute for water planning at the local water supplier level. Only a local supplier has local knowledge, the ability to consider the unique circumstances of the individual agency, provide for participation by the local community, and tailor the planning to local conditions.

The Urban Water Management Planning Act has been modified over the years in response to the State's water shortages, droughts, and other factors. A significant amendment was made in 2009, after the drought of 2007-2009, and as a result of the governor's call for a statewide 20% reduction in urban water use by the year 2020. This was the Water Conservation Act of 2009, also known as SBX 7-7 (Appendix B). This Act required agencies to establish water use targets for 2015 and 2020 that would result in statewide savings of 20% by 2020.

*The Urban Water Suppliers Guidebook* has been developed by the California Department of Water Resources (DWR) to assist urban water suppliers in preparing Urban Water Management Plans (UWMPs or Plans). This guidance is intended to ensure the Plans will meet the requirements of the California Water Code (CWC), provide useful information to the public about water suppliers and their water management programs, and provide a framework for water planning to minimize the negative effects of potential water shortages.

Water suppliers need not limit themselves to the requirements and recommendations found in the Guidebook. Suppliers may include any additional information that will better describe their agency and water management to the reader.

## **1.2 Urban Water Management Planning and the California Water Code**

The sections below are summaries of CWC sections applicable to UWMPs. Urban water suppliers are advised to consult legal counsel prior to and during the development of their UWMPs, as they are solely responsible for ensuring that all CWC requirements and applicable laws have been met.

### **1.2.1 Reporting Complete 2015 Data**

2015 UWMPs are required to include the water use and planning data for the entire year of 2015. If an agency is reporting on a calendar year basis, this means that the 2015 UWMP cannot be completed before the end of the year 2015. If an agency is reporting on a fiscal year basis, they may complete their 2015 UWMP at the end of their fiscal year.

### **1.2.2 Urban Water Management Planning Act of 1983 (Appendix A)**

This legislation requires water agencies to develop UWMPs which provide a framework for long term water planning and provide a vehicle that informs the public how agencies are carrying out their long-term resource planning responsibilities to ensure adequate water supplies are available to meet existing and future demands.

This part of the CWC requires urban water suppliers to report, describe, and evaluate:

- Water deliveries and uses
- Water supply sources
- Efficient water uses
- Demand management measures
- Water shortage contingency planning

### **1.2.3 Water Conservation Act of 2009 (SBX 7-7) (Appendix B)**

#### **RETAIL ONLY**

The Water Conservation Act of 2009 requires retail urban water suppliers to report in their UWMPs their Base Daily per Capita Water Use (Baseline GPCD), Urban Water Use Target, Interim Urban Water Use Target, and Compliance Daily per Capita Water Use. These terms are defined in the *Methodologies*, consistent with SBX7-7 requirements. Beginning in 2016, retail water suppliers are required to comply with the water conservation requirements in SBX 7-7 in order to be eligible for State water grants or loans. Retail water agencies are required to set targets and track progress toward decreasing daily per capita urban water use in their service area, which will assist the State in meeting its 20% reduction goal by 2020.

### **1.2.4 Applicable Changes to the Water Code since 2010 UWMPs (Appendix C)**

See *Appendix C* for a detailed table of these changes. These changes will be highlighted in their related chapters.

- Demand Management Measures CWC Section 10631 (f) (1) and (2) – AB 2067
- Submittal Date – CWC Section 10621 (d) AB 2067
- Standardized Forms – CWC Section 10644 (a) (2) SB 1420
- Water Loss – CWC Section 10631 (e) (1) (J) and (e) (3) (A) and (B) SB 1420
- Voluntary reporting of passive savings CWC Section 10631 (e) (4) SB 1420

Voluntary reporting of energy intensity CWC Section 10631.2 (a) and (b) SB 1036  
Defining Water Features CWC Section 10632

### **1.3 Urban Water Management Plans in Relation to Other Planning Efforts**

Urban Water Management Plans provide information specific to water management by the urban water supplier. However, water management does not happen in isolation; there are other planning processes that integrate with the UWMP to accomplish urban planning. Some of these plans include city and county General Plans, Water Master Plans, Recycled Water Master Plans, integrated resource plans, Integrated Regional Water Management Plans, Groundwater Management Plans and others.

Each of these planning efforts is greatly enhanced when they rely upon the information found in the other documents. An example of the importance of integrating various planning processes is that existing code requires that cities and counties use the UWMP as a source document when writing or updating their General Plans. DWR strongly encourages water suppliers to utilize other planning processes and documents when developing their UWMPs, and to share their UWMPs with other agencies.

#### **1.3.1 Regional Planning (Appendix D)**

Before developing the UWMP, water agencies should consider the extent to which they will become involved in regional planning processes. Developing a cooperative 2015 UWMP may be a natural continuation of other regional coordination efforts, such as Integrated Regional Water Management, or may present an opportunity to begin regional collaboration.

Regional planning can deliver mutually beneficial solutions to all agencies involved by reducing costs for the individual agency, assessing water resources at the appropriate geographic scale, and allowing for solutions that cross jurisdictional boundaries.

Some of the other possible benefits, depending on the level of regional cooperation, can include:

- more reliable water supplies
- increased regional self-reliance
- improved water quality
- better flood management

increased economic stability  
restored and enhanced ecosystems  
reduced conflict over resources

In support of regional UWMPs and regional water conservation targets, the Urban Water Management Plan portion of the CWC provides mechanisms for participating in area-wide, regional, watershed, or basin-wide urban water management planning.

Section 2.2 and Appendix D of this guidebook provide additional guidance to water suppliers for developing regional plans and for cooperative reporting of 2020 targets in a Regional Alliance.

## 1.4 Standardized Forms, Tables, or Displays (Appendix E)

*CWC 10644 (a) (2)*

*The plan, or amendments to the plan, submitted to the department ... shall include any standardized forms, tables, or displays specified by the department.*

*CWC 10608.52*

*(a) The department, in consultation with the board, the California Bay-Delta Authority or its successor agency, the State Department of Public Health, and the Public Utilities Commission, shall develop a single standardized water use reporting form to meet the water use information needs of each agency, including the needs of urban water suppliers that elect to determine and report progress toward achieving targets on a regional basis as provided in subdivision (a) of Section 10608.28.*

*(b) At a minimum, the form shall be developed to accommodate information sufficient to assess an urban water supplier's compliance with conservation targets pursuant to Section 10608.24... The form shall accommodate reporting by urban water suppliers on an individual or regional basis as provided in subdivision (a) of Section 10608.28.*

DWR, in collaboration with the Guidebook Advisory Committee, has developed standardized tables for the reporting and submittal of UWMP data.

Water agencies are required to use these standardized tables in their UWMPs. However, water agencies may include the standardized tables in an appendix and present adapted versions of the standardized tables in the body of the Plan if that is better adapted to the agency's records. Use of these standardized tables will be through DWRs online submittal tool, still in development. When the tool is ready for use, DWR will make an announcement to the Guidebook Advisory Committee, the Urban Stakeholder Committee, its UWMP list serve, the

Water Plan ENews, and the DWR Urban Water Management webpage  
<http://www.dwr.water.ca.gov/urbanwatermanagement/>

The standardization of data tables allows for more efficient data management, expedited review of UWMPs, and easier compilation of data for regional and statewide planning.

The Guidebook sections contain the applicable standardized tables in a PDF format for quick viewing, and active tables in the form of Excel spreadsheets in Appendix E.

## **RETAIL**

Retail water suppliers have additional required elements they must submit with their 2015 UWMP. These additional elements are the SBX7-7 Verification Form (Appendix E) and a GIS map of their service area (Chapter 5, Section 5.4.3). These elements demonstrate the accuracy of the agency's methods for compliance with the Water Conservation Act of 2009.

## **1.5 Consistency in Reporting**

Data reported in the UWMP should be consistent throughout the document and with other reports of water data.

Some examples of consistency within the document include:

- Reported actual water use for the years 2010 and 2015 should be equivalent to the reported actual water supply for 2010 and 2015.

Some examples of consistency with other reports of water data include:

- Local planning documents, such as a Water Master Plan
- The electronic Annual Reports to the Drinking Water Program (eARDWP) to the State Water Resources Control Board (SWRCB) for Public Water Systems (PWS)
- **RETAIL ONLY** The Monthly Urban Water Conservation Reporting to SWRCB for the Drought Emergency Water Conservation Regulations. Though the monthly conservation report uses a different methodology for calculating GPCD, the underlying water consumption data should be consistent with the UWMP.

## **1.6 Recommended UWMP Organization**

DWR recommends, but does not require, that an urban water supplier use the organization outlined below to prepare its 2015 UWMP. The Guidebook is organized in the same sequence as the recommended UWMP organization.

This organization groups the requirements by topic and presents the topics in the order in which a water supplier may consider including them in a UWMP. This does not follow the order of the legislation.

The 2015 UWMP Guidebook has been updated from the 2010 version to reflect new legislation and some of the recommended organization has been modified from previous guidebooks.

**Chapter 1 - Introduction and Overview** *In this introductory chapter, agencies may provide a discussion on the importance and extent of their water management planning efforts.*

**Chapter 2- Plan Preparation** *This chapter will provide information on the agency's process for developing the UWMP, including efforts in coordination and outreach.*

**Chapter 3 - System Description** *In this chapter, agencies may include maps of the service area, a description of the service area and climate, their Public Water System(s), and the agency's organizational structure and history.*

**Chapter 4 - System Water Use** *This chapter will describe and quantify the current and projected water uses within the agency's service area.*

**Chapter 5- Baselines and Targets** *Retail agencies and Regional Alliances (See Appendix D for more information about Regional Alliances) will describe their methods for calculating their baseline and target water consumption. They will also demonstrate whether or not they have achieved the 2015 water use target and their plans for achieving their 2020 water use target.*

**Chapter 6 - System Supplies** *This chapter will describe and quantify the current and projected sources of water available to the agency. A description and quantification of potential recycled water uses and supply availability is also to be included in this chapter, to the extent that it pertains to each agency.*

**Chapter 7— Water Supply Reliability** *Water agencies will describe the reliability of their water supply and project the reliability out twenty years. This description will be provided for normal, single dry years and multiple dry years.*

**Chapter 8 – Water Shortage Contingency Planning** *In this chapter, agencies will provide their staged plan for dealing with water shortages, including a catastrophic supply interruption.*

**Chapter 9 – Demand Management Measures** *In this chapter water suppliers will communicate their efforts to promote conservation and to reduce demand on their water supply and will specifically address several demand management measures.*

**Chapter 10 – Plan Adoption, Submittal, and Implementation** *Water agencies will describe the steps taken by the agency to adopt and submit the UWMP and to make it publicly available. This chapter will also include a discussion of the agencies plan to implement the UWMP.*

## **Supporting Documents**

Supporting documents may be included in the plan as appendices or may be referenced with a link to the webpage where the document can be found. Some examples of supporting documentation include:

- Notification letters of UWMP update
- Public notice of UWMP hearing
- Adoption resolution(s) from the agency's governing body
- Water Shortage Contingency Plan (if a separate, stand-alone document from the UWMP)
- Distribution System Water Losses (See Appendix L)
- Estimate of Passive Savings (Voluntary – See Appendix K)
- Energy Intensity Documentation (voluntary – See Appendix O)
- Groundwater Management Plan (if applicable) (See Section 6.2)
- CUWCC BMP Reports (if applicable) (See Chapter 9)

## **1.7 UWMPs and Grant or Loan Eligibility**

In order for an urban water supplier to be eligible for any water management grant or loan administered by DWR, the agency must have a current UWMP on file that has been deemed by

DWR to address the requirement of the Water Code. A current UWMP must also be maintained by the water supplier throughout the term of any grant or loan administered by DWR.

A UWMP may also be required in order to be eligible for other state funding, depending on the conditions that are specified in the funding guidelines. Agencies should seek guidance on the specifics of any state funding source from the funding agency(ies).

## RETAIL ONLY

### *CWC 10608.56*

*(a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.*

*(c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for achieving the per capita reductions. The supplier may request grant or loan funds to achieve the per capita reductions to the extent the request is consistent with the eligibility requirements applicable to the water funds.*

*(e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval documentation demonstrating that its entire service area qualifies as a disadvantaged community.*

*(f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier in compliance with the requirements of this part and Part 2.8 (commencing with Section 10800), that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).*

### *CCR Section 596.1 (b)*

*(2) “disadvantaged community” means a community with an annual median household income that is less than 80 percent of the statewide annual median household income.*

Changes to California law require that, beginning in 2016, urban retail water suppliers must comply with water conservation requirements established by the Water Conservation Act of 2009 in order to be eligible for State water grants or loans. For 2015 UWMPs, this will mean that a retail water agency has met its 2015 Interim Urban Water Use Target (see Chapter 5).

However, if either of the following conditions is met, the retail agency will be eligible for water grants or loans, even if their 2015 Interim Water Use Target has not been met:

1. The urban retail water supplier has submitted to DWR for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for achieving the per capita reductions; and/or
2. The urban retail water supplier has submitted to DWR for approval documentation demonstrating that its entire service area qualifies as a disadvantaged community.

If an agency has met their 2015 Interim Target, or has met either of the exceptions above, and is participating in a multiagency water project, or an Integrated Regional Water Management Plan, it shall remain eligible to receive grants or loans even though one or more of the other participating agencies is not in compliance with the requirements listed above.

## **1.8 Tips for UWMP Preparers**

### Use of previous UWMPs and Regional UWMPs.

Under the CWC, the 2015 UWMP should be considered as an update to an agency's previous UWMPs. Nevertheless, the 2015 UWMP should be able to be read as a stand-alone document. Preparers should ensure that information carried forward from previous UWMPs be up to date. Preparers should also, when possible and available, utilize information from Regional UWMPs on regional water supply sources, regional demand management programs, and other regional issues that may impact the reliability of an agency's water supply. Summaries of such information, with reference to the Regional UWMP, are acceptable to maintain the Plan's flow and readability.

### Review the legislative changes since the 2010 UWMP cycle (*Appendix C*).

Changes to the California Water Code directly addressing preparation of UWMPs are discussed in Appendix C.

### Review the UWMP deadline and adoption processes during Plan development. (Chapter 10)

Suppliers must submit their UWMPs to DWR by Friday, July 1, 2016. The adoption and notification processes are detailed in Chapter 10. Suppliers should take into account the time needed for the Plan to be developed, adopted, and submitted.

### Provide an executive summary.

An executive summary provides a useful and concise summary of the Plan for readers, but is not required.

If a requirement does not seem to apply to your agency, include an explanation in the UWMP.

If an urban water supplier considers that a UWMP requirement does not apply to it, a useful approach is to identify the requirement and provide a brief description of why the requirement does not apply. If a required element is not discussed, DWR may determine that the Plan has not addressed that element of the Water Code.

Unique situations may require explanation.

In order to clarify a unique situation, UWMP preparers should consider including detailed information in an appendix or as an attachment and provide summary information in the main body of the UWMP. Including explanatory information in the UWMP will assist readers and DWR in understanding the situation.

Importance of narratives and maps.

Narrative descriptions and maps are as important as the data presented in the tables and can greatly enhance the reader's understanding of the tabular data.

Using summaries and cross references.

Rather than repeating detailed information from other documents, summarize the information and provide a reference to the source document. Avoid repeating information in more than one chapter of the UWMP; use cross references as appropriate.

Use the checklist.

A checklist of specific UWMP requirements is included in Appendix F. The UWMP preparer is requested to complete this checklist with the page number where the required element is addressed to assist in the DWR review of the submitted UWMP.

Use the Guidebook appendices.

The appendices provide detailed and specific information, such as a glossary of terms (Appendix G) or supporting documents related to preparing a UWMP (Appendix H).

Ask for guidance or clarification.

If there is a question about what to include in a UWMP prior to adoption, please contact a DWR regional team member. Doing this could avoid the need to have additional information requested by DWR during the review process and the subsequent need to adopt an amendment to an adopted UWMP.

## 1.9 DWR Contact Information

<b>DWR Contact Information</b>			
<b>Region</b>	<b>DWR UWMP Staff</b>	<b>Phone</b>	<b>Email</b>
Statewide	Peter Brostrom	(916) 651-7034	Peter.Brostrom@water.ca.gov
	Gwen Huff	(916) 651-9672	Gwen.Huff@water.ca.gov
Northern	Jessica Salinas-Brown	(530) 529-7355	Jessica.SalinasBrown@water.ca.gov
North Central	Kim Rosmaier	(916) 376-9660	Kim.Rosmaier@water.ca.gov
South Central	Luis Avila	(559) 230-3364	Luis.Avila@water.ca.gov
Southern	Sergio Fierro	(818) 500-1645	Sergio.Fierro@water.ca.gov

## **Chapter 2**

# **Plan Preparation**

This section provides guidance on determining whether or not a water supplier is required to write a UWMP and describes the various levels of regional coordination that an agency may employ. It also includes guidance and tables for two pieces of information that will apply throughout the UWMP; the use of fiscal or calendar year and the units of measure used by the agency to report water volumes.

Coordination and outreach are key elements to developing a useful and accurate UWMP. For example, working with neighboring water suppliers strengthens a region's ability to plan for drought and catastrophic events; city and county land use planning agencies can provide information on regional planning, demographics, and expected future development.

Because UWMP preparation and development may be accomplished in many ways, water agencies may choose to include a summary of the process they used to prepare the Plan, which may include such things as designation of a planning team, holding public meetings, the extent of coordination with other agencies, use of this Guidebook, or the use of assistance from a consulting firm.

This chapter includes guidance on preparing the following sections:

- 2.1 Basis for Preparing a Plan
- 2.2 Individual or Regional Planning and Compliance
- 2.3 Fiscal or Calendar Year and Units of Measure
- 2.4 Coordination and Outreach

## 2.1 Basis for Preparing a Plan

*CWC 10617*

*"Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems...*

*CWC 10620 (b)*

*Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.*

*CWC 10621*

*(a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero, except as provided in subdivision (d).*

*(d) Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.*

In accordance with the California Water Code, urban water suppliers with 3,000 or more service connections, or supplying 3,000 or more acre-feet of water per year, are required to prepare a UWMP every five years. The 2015 UWMP must be updated by July 1, 2016.

If an agency is under this threshold for the year that a UWMP is due, but meets this threshold before the next reporting cycle, the agency is required to adopt a UWMP within one year after meeting the reporting threshold.

Provide a discussion of the basis for preparing a UWMP in this chapter.

### 2.1.1 Agencies that Supply both Wholesale and Retail Customers

*CWC 10608.12*

*(p) "Urban retail water supplier" means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.*

*(r) "Urban wholesale water supplier," means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.*

For purposes of UWMP reporting, an agency is considered either a wholesale, or retail urban water supplier, or both, based on the criteria stated in CWC 10608.12 (p) and (r). See the citation of the Code in the text box above.

If an agency has both wholesale and retail customers, review the criteria in the CWC and guidance below to determine the type of water agency and the UWMP reporting requirements and guidance that apply.

**1. Both Wholesale and Retail Urban Water Supplier.** If an urban water supplier meets the definition of both wholesale and retail water supplier, as found in 10608.12 (p) and (r), it is considered both a wholesale and a retail urban water supplier. Such an agency must address all the water code requirements that apply to both wholesale and retail suppliers. Standardized tables are provided for agencies that are both wholesale and retail urban suppliers. One table for the retail operation and another for the wholesale operation are required to be completed.

**2. (Exclusively or Primarily) Retail Urban Water Supplier.** If an urban water supplier meets the definition of an urban retail water supplier, as found in 10608.12 (p), it is considered a retail urban water supplier. Such an agency may also provide water to other agencies on a wholesale basis, but the wholesale volume is below the reporting threshold and will be reported as “sales to other agencies” in Table 4-1 Retail. Only the Water Code requirements that apply to retail suppliers must be addressed and only standardized tables for retailers (when tables are provided for both wholesale and retail) are required.

**3. (Exclusively or Primarily) Wholesale Urban Water Supplier.** If an urban water supplier meets the definition of an urban wholesale water supplier, as found in 10608.12 (r), it is considered a wholesale urban water supplier. Such an agency may also have retail customers, but the retail volume is below the reporting threshold and will be reported in “retail demand” Table 4-1 Wholesale. Only the Water Code requirements that apply to wholesale suppliers must be addressed and only standardized tables for wholesalers (when table are provided for both wholesale and retail) are required. Streamlined guidance for these wholesale suppliers is found in the *Guidebook for Wholesale Water Suppliers* ([link](#)).

## 2.1.2 Public Water Systems

*California Health and Safety Code*

*116275 (h) "Public Water System" means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.*

Public Water Systems (PWS) are the systems that provide drinking water for human consumption and these systems are regulated by the State Water Resources Control Board (Board), Division of Drinking Water.

The Board requires that water agencies report water usage and other information via the electronic Annual Reports to the Drinking Water Program (eARDWP). The information provided in the UWMP should be consistent with the data reported in the eARDWP.

### RETAIL

For purposes of the UWMP, PWS(s) data reported to the Board is used to determine whether or not a retail supplier has reached the threshold (3,000 or more connections or 3,000 acre-feet of water supplied) for submitting a UWMP. This is done by reviewing the number of connections and volume of water supplied by each PWS that is managed by the water supplier.

The PWS(s) that the preparer will include in Table 2-1 should be the same PWS(s) used for the mapping requirement found in Chapter 5.

## 2.1.3 Agencies Serving Multiple Service Areas/Public Water Systems

Many water suppliers within the state have more than one Public Water System. Such suppliers may determine regional groupings and reporting for these systems based on internal planning requirements, geographic distribution, and similarities between systems. Each public water system that exceeds the UWMP size threshold must have an individual plan or be included in a multiple system plan.

**Table 2-1** Provide the names and numbers of each PWS (drinking water only) that is managed by the agency and reported in this UWMP. For Regional UWMPs, multiple versions of Table 2-1 should be filled out, once for each participating agency.

**Table 2-1 Wholesale: Public Water Systems** (allow for reporting of more than one in case of a Regional UWMP)

<input type="checkbox"/>	Agency has no public water system		
Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015
<b>TOTAL</b>			

**Table 2-1 Retail: Public Water Systems** (allow for reporting of more than one in case of a Regional UWMP)

Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015
<b>TOTAL</b>			

## 2.2 Individual or Regional Planning and Compliance

Before developing the UWMP, water suppliers should decide the level of regional coordination that they wish to engage in for the 2015 cycle of urban water management planning.

Regional planning provides many benefits, including increasing regional self-reliance, reducing the need for imported water, and proper management of regional water assets. Good regional planning considers all interests and works across jurisdictional boundaries.

Agencies may choose:

- Individual Reporting – An agency develops a UWMP covering only its agency service area and addresses all requirements of the Water Code. The agency notifies and coordinates with appropriate regional agencies and constituents.
- Regional Reporting - Working with an IRWM, wholesaler, other retailers, or another regional entity, an agency becomes part of a regional group that may develop either a:

Regional UWMP - Develops a regional UWMP that addresses all the requirements of the Water Code; and/or,

Regional Alliance - Develops a Regional Alliance that addresses only the requirements of the Water Conservation Act of 2009 (SBX 7-7), that is, planning, reporting, and complying as an Alliance with 2015 and 2020 water use targets. (See Methodology 9). **All other elements of the Water Code must be addressed through either an individual or Regional UWMP.**

### 2.2.1 Regional UWMP

*CWC 10620 (d) (1) An urban water supplier may satisfy the requirements of this part by participation in area wide, regional, watershed, or basin wide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.*

Water agencies may find it beneficial to collaborate with other water suppliers to develop a Regional UWMP (RUWMP or Regional Plan).

The RUWMP must address all the requirements of the Water Code, including baselines and targets (see chapter 5). Some elements of the RUWMP, such as each agency's supply and demand information, must be reported on an agency by agency basis within the RUWMP. The RUWMP preparers may also choose to provide the sum of the supplies and demands from each agency in order to report the regional supply and demand.

Other elements in the RUWMP may be reported as an aggregate of all the agencies' information; for example, a regional Water Shortage Contingency Plan that clearly includes the actions and regional reliance of all agencies in response to a water shortage.

Each participating water supplier is required to adopt the Regional Plan, and each adoption resolution must be submitted to DWR.

If an agency participates in a Regional UWMP and also prepares its own individual UWMP, its governing board must adopt both the regional and individual Plans.

#### RETAIL

Within the RUWMP agencies may elect to determine and report targets and baselines on a regional bases by way of forming a Regional Alliance (see Section 2.2.2, Chapter 5, and Appendix D).

## 2.2.2 Regional Alliance

*CWC 10608.20 (a) (1) ... Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis as provided in subdivision (a) of Section 10608.28...*

*CWC 10608.28*

*(a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement by any of the following:*

- (1) Through an urban wholesale water supplier.*
- (2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).*
- (3) Through a regional water management group as defined in Section 10537.*
- (4) By an integrated regional water management funding area.*
- (5) By hydrologic region.*
- (6) Through other appropriate geographic scales for which computation methods have been developed by the department.*

*(b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water*

A group of water suppliers agreeing among themselves to plan, comply, and report as a region on the requirements of the Water Conservation Act of 2009, SBX 7-7, is referred to as a “Regional Alliance.” Each Regional Alliance will develop its own set of Interim (2015) and 2020 Urban Water Use Targets.

A Regional Alliance allows water suppliers to work toward cooperatively developing programs and meeting regional water conservation targets, but not necessarily submitting a Regional Plan. Being a member of a Regional Alliance does not take the place of submitting a UWMP, whether individually or regionally.

Detailed guidance for a Regional Alliance, including criteria for participating in a Regional Alliance, reporting requirements, calculation of regional targets, and compliance assessment, is found in Methodology 9 of the Methodologies document.

Table 2-2: Plan Identification	
<input type="checkbox"/>	Individual UWMP
<input type="checkbox"/>	Regional UWMP <i>(checking this triggers the next line to appear)</i>
Y/N	<b>Does this Regional UWMP include a Regional Alliance?</b>

## 2.3 Fiscal or Calendar Year and Units of Measure

### 2.3.1 Fiscal or Calendar Year

A water supplier may report on a fiscal year or calendar year basis, but must clearly state in its UWMP the type of year that is used for reporting. The type of year should remain consistent throughout the Plan.

If a water agency is reporting on a fiscal year basis, the UWMP preparer will note the start day and month of the agency's fiscal year in Table 2-3.

DWR prefers that agencies report on a calendar year basis in order to ensure UWMP data is consistent with data submitted in other reports to the State. However, DWR also understands that for some agencies fiscal year reporting ensures consistency with local, regional, and/or financial reports. It is completely up to the agency to choose whether to report calendar year or fiscal year data in its UWMP.

For agencies that are reporting on a fiscal year basis, where a column in a table is labeled with a particular year, this will signify the end year of the fiscal year. For example, 2015 denotes the fiscal year 2014-2015. The UWMP preparer will note the start day and month of the agency's fiscal year in Table 2-3.

Note that 2015 UWMPs are required to include the water use and planning data for the entire year of 2015. If an agency is reporting on a calendar year basis, this means that the 2015 UWMP cannot be completed before the end of the year 2015. If an agency is reporting on a fiscal year basis, they may complete their 2015 UWMP at the end of their fiscal year.

### 2.3.2 Units of Measure

Water agencies use various units of measure when reporting water volumes, such as acre-feet (AF), million gallons (MG), or hundred cubic feet (CCF). In the UWMP, agencies may report volumes of water in any of these units, but must **maintain consistency throughout the Plan.**

Report the units of measure that the water agency will be using to report water volume throughout the UWMP in Table 2-3.

<b>Table 2-3: Agency Identification</b> <i>(allow for reporting of more)</i>	
Name of Agency	
Select one or both	
<input type="checkbox"/>	<b>Agency is a wholesaler</b>
<input type="checkbox"/>	<b>Agency is a retailer</b>
Fiscal or Calendar Year	
<input type="checkbox"/>	UWMP Tables Are in Calendar Years
<input type="checkbox"/>	UWMP Tables Are in Fiscal Years
<b>If Using Fiscal Years Provide Month and Day that the Fiscal Year Begins</b>	
<b>Day</b>	<b>Month</b>
Units of Measure	
<input type="checkbox"/>	Acre Feet (AF)
<input type="checkbox"/>	Million Gallons (MG)
<input type="checkbox"/>	Hundred Cubic Feet (CCF)

## 2.4 Coordination and Outreach

*CWC 10620(d)(2)*

*Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.*

*CWC 10642*

*Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.*

In order to verify that agencies have fulfilled the above CWC provisions, agencies are required to provide the names of each agency and organization contacted or involved in the development of the UWMP in Table 2-5.

UWMP preparers are strongly encouraged to solicit participation from other agencies responsible for developing related reports or planning documents, such as General Plans, Water Master Plans, Groundwater Management Plans, or Public Water Systems reports. Such coordination ensures consistency in planning and reporting.

The following is a non-comprehensive list of agencies and organizations with which the supplier may seek to coordinate:

- Public Agencies
- Cities and counties that are served by agency (REQUIRED)
- Local wastewater and/or stormwater entities
- Regional boards/agencies
- School districts
- Economic development agencies
- Park districts
- Councils of governments (COGs, CAGs, etc...)
- Water Management Organizations
- Other urban water suppliers
- Water agencies that share a common source
- Integrated Regional Water Management groups
- Groundwater management entities
- Watershed groups
- Customers
- Large CII water users
- Home owners' associations (HOAs)
- Diverse Elements of the Population
- Building industry
- Native American tribes
- Chambers of commerce
- Environmental organizations
- Civic organizations

#### **2.4.1 Notice to Cities and Counties (See also Section 10.1.1)**

*CWC 10621 (b)*

*Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.*

CWC 10621 (b) requires that agencies notify cities and counties within which they serve water, that the Plan is being updated and reviewed. The CWC specifies that this must be done at least 60 days prior to the public hearing. However, DWR encourages water agencies to send this notification at the start of the UWMP process, well in advance of the required 60 days prior to the UWMP public hearing.

The CWC only requires that the city or county be notified of the Plan update. However, water agencies are encouraged to include the UWMP revision schedule, contact information of the UWMP preparer, and the location where the UWMP can be viewed.

Notification letters to cities and counties may be addressed to the city manager, county administrator, or to other local contacts as appropriate for the service area of the water supplier.

## 2.4.2 Coordination between Retailers and their Wholesalers

### *CWC 10631*

*(j) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).*

When a retail agency relies on a wholesale agency for a water supply, both the retail and the wholesale agencies are required to provide each other with information regarding projected water use and supply, as described below. These projections should be consistent with each agency's supply and demand projections as reported in the appropriate tables of Chapter 4 and Chapter 6 of this guidebook.

### **RETAIL ONLY**

Retail agencies that receive a water supply from one or more wholesalers are required to provide their wholesaler(s) with the retail agency's projected water use, from that source, in five-year increments for 20 years, or as far as data is available.

**WHOLESALE ONLY**

Wholesale agencies are required to provide information to their retail customers identifying and quantifying water supplies available to the retailer from the wholesaler, to the extent practicable. This information shall be over 5 year periods, from 2015 through 2035 and for average, single and multiple-dry years.

<b>Table 2-4: Coordination and Notification for Plan Preparation</b>	
<b>Organization/Agency Name</b>	<b>Level of Participation</b>
	<i>Drop down menu with the following options</i>
	Noticed of UWMP update at least 60 days prior to public hearing (Cities and Counties)
	Was sent a copy of the UWMP
	Participated in UWMP preparation
	Retail agency provided wholesale agency with retail agency's projected water use from that source (RETAIL ONLY).
	Wholesale agency provided retail customer(s) with information regarding water supplies available to the retailer from the wholesaler. (WHOLESALE ONLY)
<i>This table will be expandable to accommodate multiple agencies for each level.</i>	

## **Chapter 3**

# **System Description**

A thorough description of the water system and the service area provides information to the reader that can help in understanding various elements of water supply and demand.

Chapter 3 provides guidance for describing the urban water supplier's system, including a description of the service area, climate, and projected population. It also provides additional guidance for other items which are not required but are recommended, such as the potential impacts of climate change.

This chapter includes the following sections:

- 3.1 General Description
- 3.2 Service Area Map(s)
- 3.3 Service Area Climate
- 3.4 Service Area Population and Demographics

### 3.1 General Description

*CWC Section 10631 (a)*

*Describe the service area of the supplier...*

Provide a description of the service area of the supplier. If the service area is comprised of more than one PWS, this information may be included here.

#### **RETAIL ONLY**

If there are any significant areas that are within the service area boundary, but are NOT served by the water agency, for example, institutions or industries served exclusively by a private well or by other water suppliers, include this in the service area description. These described areas should only include populations that are significant when compared to the entire service area. The population in such areas will be excluded when calculating the population for purposes of SBX7-7 compliance (see Chapter 5).

Agencies may provide an overview of the service area's significant water uses. For example, some agencies may have high water use in landscape irrigation due to large residential lots and hot climate. Others may have a large commercial, industrial, or institutional entity that accounts for a significant portion of water demand.

#### **Recommended**

Consider including a narrative description of the proportion of the area that is already built-out versus areas of future development. This will present a clearer understanding of the extent of land use in the supplier's service area.

Water suppliers should consider including information on the organizational structure of the agency. This could include the agency's history, whether or not the agency is a public or private entity, a description of the agency's governance, and a history and description of any consolidations or annexations.

It may be useful to include context for past or future investments in the water system or the water supply.

Other documents, such as the General Plan or Water Master Plan, may provide more detail on these topics. Rather than repeating this detailed information, agencies may summarize the relevant information in this section and provide a reference to any such documents.

## 3.2 Service Area Maps

### RETAIL ONLY

In Chapter 5, this guidebook addresses a specific mapping requirement for estimating an agency's population in order to comply with the Water Conservation Act of 2009 (SBX 7-7). Details about this mapping requirement are found in Section 5.4.1 of Chapter 5. DWR recommends that water agencies consider including any additional information that would add to the understanding of their water system to the map required in Chapter 5.

### Recommended

DWR recommends that wholesale water agencies include a map of their service area in the UWMP.

Agencies that deliver recycled water should refer to Chapter 6, Section 6.5.3, for recommendations on mapping of the recycled water system.

## 3.3 Service Area Climate

*CWC Section 10631 (a)*  
*Describe the service area of the supplier, including... climate...*

Agencies are required to provide information that assists in understanding the area's climate and its possible impacts on water management.

### Recommended

This description could include average evapotranspiration (ET<sub>o</sub>), temperature, precipitation patterns, as well as any challenges associated with providing water in a particular climate.

Climate information can be obtained from several sources:

California Irrigation Management Information System (CIMIS) <http://www.cimis.water.ca.gov>

Western Regional Climate Information Center  
 Weather stations in the service area  
 National Oceanographic and Atmospheric Agency (NOAA)

Agencies may report climate information in a narrative format, in OPTIONAL Table 3-1, or a combination of both. If the water agency is reporting more than one service area in a UWMP, or a large service area with differences in climate, the agency may use multiple versions of Table 3-1 or provide only one table that averages the climate throughout the service areas.

Table 3-1: OPTIONAL Monthly Average Climate Data Summary				
Month	Standard Monthly Average ETo (inches)	Average Total Rainfall (inches)	Average Temperature (degrees Fahrenheit)	
			Max	Min
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				

**3.3.1 Climate Change (optional)**

The CWC does not require that UWMPs address climate change. However, scientists and water managers are beginning to observe the effects of climate change and identifying associated risks in water planning. Suppliers are encouraged to include a discussion of climate change in their UWMPs.

DWR recommends that suppliers complete the IRWM Climate Change Vulnerability Assessment (see Appendix I) and include in this chapter a narrative summary of relevant information such as Section IV Sea Level Rise, Section V Flooding, Section VI Ecosystem and Habitat Vulnerability, and/or Section VII Hydropower.

The summary should include a discussion of any planned actions to address noted vulnerabilities from the climate change assessment.

### 3.4 Service Area Population and Demographics

*CWC Section 10631 (a)*

*Describe the service area of the supplier, including current and projected population . . . The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available .*

Provide current and projected population estimates for the service area in Table 3-2.

Include the source(s) used to estimate the population projections (2020, 2025 etc...). The estimates of future population must be based upon data from state, regional, or local service agency population projections.

One method for estimating future population is to use data from the Department of Finance (DOF). If the agency's service area matches the boundaries of a city, population projections from the Department of Finance (DOF) may be used. If the agency boundaries do not match those of a city, the agency may select a nearby city with similar demographics and geography and assume a similar growth rate as DOF projected for the nearby city.

If the agency does not take population projections directly from a standard source, such as DOF, a general plan, or the local council of governments, but instead develops its own projections, the UWMP should describe how these projections were developed.

Agencies should consider possible shifts in housing density when estimating population growth. Growth in many communities shows an increase in housing density, smaller lots for single family residences and/or an increase in multi-family housing.

A description of the proportion of the service area that has already been built out versus what remains to be developed would also assist readers in better understanding estimated population growth.

#### **RETAIL**

The 2015 population estimate reported in Table 3-2 must be the same as the estimate provided for 2015 in SBX7-7 Table 3 (Appendix E) as part of calculations for Baselines and Targets (see Chapter 5). The SBX7-7 Table 3 populations are for current and past populations and must be

calculated using a very specific methodology, whereas the population required for Table 3-2 is for current and projected populations and does not have a specific methodology.

Table 3-2 Wholesale: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040

Table 3-2 Retail: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040

### 3.4.1 Other Demographic Factors

*CWC 10631 (a)*

*Describe the service area of the supplier, including. . . other demographic factors affecting the supplier's water management planning.*

Include a discussion of any other demographic factors that may affect water management and planning.

#### RETAIL

If there are significant non-resident populations, such as populations based on vacation, agricultural, institutional, or commercial economies, provide a brief narrative describing this element of the population.

For purposes of SBX7-7 calculations, DWR is developing a methodology for population estimates that considers the non-resident population. This will be presented in the 2015 update to the Methodologies document.

Providing a description of the population density in the service area, such as a comparison of the number of single family homes to multi-family homes, or large lots versus small lots, can help explain unusually high or low water use.

## Chapter 4

# System Water Use

This chapter provides guidance for describing and quantifying the agency's current water use and then projecting those uses through at least the year 2035.

Accurately reporting current water uses allows a water supplier to correctly track its water demands, provide for contingency planning, and provide information for resource planning. Retail water agencies are also better able to track their compliance with water use reduction targets, as determined in Chapter 5.

Estimating future demand as accurately as possible allows water agencies to manage their water supply and appropriately plan their infrastructure investments. Assessments of future growth and related water demand, done in coordination with local planning agencies, provide essential information for developing demand projections. Agencies are encouraged to coordinate and communicate with other planning agencies when developing demand projections.

It is also important to note that many planning agencies, whether local, regional, or statewide, rely upon water agencies' current water demand reports and demand projections in order to manage water resources on a larger scale.

For purposes of the UWMP, the terms "water use" and "water demand" will be used interchangeably.

This chapter is divided into the following subsections:

4.1 Water Uses by Sector

4.2 Distribution System Water Losses

4.3 Estimating Water Savings from Codes, Ordinances, or Transportation and Land Use Plans (Optional)

4.4 Water Use for Lower Income Households

4.5 Climate Change (Optional)

## **Definitions**

Potable Water - Water intended for human consumption, delivered through a Public Water System, and regulated by a State or local health agency.

Raw Water - Water that is untreated and used in its natural state. This may also be called “Source Water.” Some water agencies supply raw water to customers for non-potable uses.

Recycled Water - Municipal wastewater that has been treated to a specified quality to enable it to be used again.

Sectors - Classifications of water use that are clearly distinct from other water uses.

Water demand/use - Water conveyed by a distribution system that is used by a water agency and its customers for any purpose, including non-potable water uses, water losses, and other non-revenue water.

## **Recycled versus Potable and Raw Water Demand**

In order to clearly distinguish recycled from potable and raw water demand, guidance and suggested reporting for these demands is divided in this Guidebook.

Recycled water is addressed comprehensively in Section 6.5 of Chapter 6. However, recycled water demand is summarized in Table 4-2 of Chapter 4 and recycled water sources are summarized in Table 6-8 of this Chapter 6.

Chapter 4 primarily addresses potable water demand, but also provides for reporting of actual raw water demand for the year 2015 only. Raw water use in 2015 will be reported in Table 4-1, and will be denoted as raw water by using the column labeled “Level of Treatment” and selecting “Raw Water.”

## 4.1 Water Uses by Sector

*CWC 10631(e)*

*(1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:*

*(A) Single-family residential.*

*(B) Multifamily.*

*(C) Commercial.*

*(D) Industrial.*

*(E) Institutional and governmental.*

*(F) Landscape.*

*(G) Sales to other agencies.*

*(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.*

*(I) Agricultural.*

*(2) The water use projections shall be in the same five-year increments described in subdivision (a).*

For retail agencies that provide water to other agencies or for other wholesale uses, but whose wholesale deliveries fall under the UWMP reporting threshold for a wholesale agency, the supplier is not considered a wholesale urban water supplier, but may report these wholesale deliveries in their UWMP, Table 4-1 Retail. See section 2.1.1 for more details.

Section 4.3 and Appendix K provide a method for including expected savings from codes, standard and land use planning (also known as “passive savings”) in estimates of future water demand. Although inclusion of these expected passive savings is optional, water agencies are encouraged to read this guidance.

### 4.1.1 Demand Sectors Listed in Water Code

Suppliers are encouraged to use as many water demand sectors as are applicable to provide a better understanding of water use within the service area.

Agencies are directed to use the water sectors listed in the Water Code (above), to the extent that these are applicable. If there is a difference between the sectors used by the agency and the sectors listed in the Water Code, agencies may report using the “Other” sector in the required tables and provide a description in the text of the UWMP.

For purposes of the 2015 UWMPs, the following definitions are used by DWR for each of the water sectors listed in the CWC.

(a) Single-family residential – A single family dwelling unit, i.e., a lot with a free-standing building containing one dwelling unit (may include a detached secondary dwelling). A retail demand.

(b) Multifamily – Multiple dwelling units contained within one building or several buildings within one complex. A retail demand.

(c) Commercial – A water user that provides or distributes a product or service. *CWC 10608.12 (d)*. A retail demand.

(d) Industrial – A water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System (NAICS) code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development. *CWC 10608.12 (h)* The following link is to the NAICS website. <http://www.census.gov/cgi-bin/sssd/naics/naicsrch> A retail demand.

(e) Institutional (and governmental) - A water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions. *CWC 10608.12 (i)* A retail demand.

(f) Landscape – Water connections supplying water solely for landscape irrigation. Such landscapes may be associated with multifamily, commercial, industrial, or institutional/governmental sites, but should be considered a separate water use sector for the purpose of UWMP reporting. A retail demand.

(g) Sales to other agencies – Water sales made to another agency. Projected sales may be based on projected demand. Because there is inherent uncertainty in future projections, any projected sales reported in the UWMP are for planning purposes only, and are not considered a commitment on the part of the seller. A wholesale demand.

Water agencies will generally have determined whether their demands are considered sales, transfers, or exchanges; reporting in the UWMPs will reflect the agencies' own determination of any particular water demand. Sales to other agencies, transfers, exchanges, and unallocated water will be reported in Table 4-1 Wholesale, or in Table 4-1 Retail as "Total Wholesale Demand".

For purposes of UWMP reporting, "Sales to other agencies" is considered a "Wholesale Use," even if the agency is not considered a wholesale water agency as per the definition in *CWC 10608.12 (p)* and *(r)*. See section 2.1.1 for more detail.

(h) Conjunctive use – A management strategy where surface water is managed in conjunction with an underground aquifer. For purposes of the UWMP, conjunctive use is seen as a

management strategy, rather than as a water demand. DWR does not recommend using the sector “conjunctive use” as a demand. The water demand would best be reported as groundwater recharge, or as “Other”.

(i) Groundwater recharge (storage or banking) – The managed and intentional replenishment of natural groundwater supplies using man-made conveyances such as infiltration basins or injection wells. Wholesale or retail demand.

When a water supply is sent to a groundwater basin, that volume of water will be reported as a groundwater recharge, storage, or banking demand. (Table 4-1).

If all, or a portion of, that water is subsequently pumped out of the basin in the same year, that water will be reported by the pumping agency as a supply from groundwater (Tables 6-1 and/or 6-8).

(j) Saline water intrusion barriers – Injection of water into a fresh water aquifer to prevent the intrusion of salt water. Wholesale or retail demand.

(k) Agricultural – Water used for commercial agricultural irrigation. Water used for processing agricultural products (food, beverage, or textile manufacturing) may be considered industrial process water (see Chapter 5, Section 5.4), rather than an agricultural water use. To be classified as industrial process water, the water use must fall under Sector 31, 32, or 33 of the North American Industry Classification System (NAICS) code. <http://www.census.gov/cgi-bin/sssd/naics/naicsrch> Wholesale or retail demand.

(l) Distribution System Losses – See Section 4.2 and Appendix L for details on the required methodology for calculating this demand. Wholesale or retail demand.

#### **4.1.2 Demand Sectors in Addition to Those Listed in Water Code**

The water demand sectors below, though not specifically listed in, nor required by the CWC, can help some agencies account for the entirety of their demand.

Exchanges - Agencies will make their own determination as to whether water sent to another agency is a sale, transfer, or exchange. A wholesale demand.

Water exchanges are typically water delivered by one water user to another water user, with the receiving water user returning the water at a specified time or when the conditions of the parties’ agreement are met. Water exchanges can be strictly a return of water on a basis agreed upon by the participants or can include payment and the return of water. The water returned may or

may not be an “even” exchange. Water can be returned on a one-for-one basis or by another arrangement (e.g., for each acre-foot [AF] of water received, 2 AF are returned).

For purposes of UWMP reporting, this is considered a “Wholesale Use,” even if the agency is not considered a wholesale water agency as per the definition in CWC 10608.12 (p) and (r). Sales to other agencies, transfers, exchanges, and unallocated water will be reported in Table 4-1.

Long-Term Surface Storage- Water that has entered the agency’s distribution system and been placed in surface storage but has not been delivered to customers during the same year. This is indicated if surface storage is greater at the end of the year than at the beginning. A wholesale or retail demand.

Surface Water Augmentation - The planned placement of recycled water into a surface water reservoir that is used as a source of domestic drinking water supply. (Used in Chapter 6, Section 6.5 Recycled Water).

Transfers - Agencies will make their own determination as to whether water sent to another agency is a sale, transfer, or exchange. A wholesale demand.

The CWC defines a water transfer as a temporary or long-term change in the point of diversion, place of use, or purpose of use due to a transfer, sale, lease, or exchange of water or water rights.

Transfers can be between water districts that are neighboring or across the state, provided there is a means to convey or store the water. A water transfer can be a temporary or permanent sale of water or a water right by the water right holder, a lease of the right to use water from the water right holder, or a sale or lease of a contractual right to water supply. Water transfers can also take the form of long-term contracts for the purpose of improving long-term supply reliability.

For purposes of UWMP reporting, transfers are considered a “Wholesale Use”, even if the agency is not considered a wholesale water agency as per the definition in CWC 10608.12 (p) and (r). Sales to other agencies, transfers, exchanges, and unallocated water will be reported in Table 4-1.

Wetlands or Wildlife Habitat – Water used for a managed environmental use to improve an environmental condition. A wholesale or retail demand.



Table 4-2 Wholesale: Total Water Demands						
	2010	2020	2025	2030	2035	2040
Potable and Raw Water	<i>Fm Table 4-1</i>					
Recycled Water Demand	<i>Fm Table 6-4</i>					
<b>TOTAL WATER DEMAND</b>	<i>autosum</i>	<i>autosum</i>	<i>autosum</i>	<i>autosum</i>	<i>autosum</i>	<i>autosum</i>

Table 4-2 Retail: Total Water Demands						
	2010	2020	2025	2030	2035	2040
Potable and Raw Water	<i>Fm Table 4-1</i>					
Recycled Water Demand	<i>Fm Table 6-4</i>					
<b>TOTAL WATER DEMAND</b>	<i>autosum</i>	<i>autosum</i>	<i>autosum</i>	<i>autosum</i>	<i>autosum</i>	<i>autosum</i>

### Recommended

Include a narrative description of how demand projections are estimated. Agencies are not required to use any particular method for estimating projected water uses.

Agencies may consider listing any documents used to estimate projected demands.

Water use projections may reflect any expected decrease in demand due to conservation or passive savings (see Section 4.3)

Provide a narrative description of water sectors that differ from the CWC, i.e., if the agency combines single-family and multi-family into one sector, “residential.”

## 4.2 Distribution System Water Losses (*Appendix L*)

*CWC 10631(e)(1) and (2)*

*Quantify, to the extent records are available, past and current water use over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:...(J) Distribution system water loss*

*CWC 10631 (e)(3)*

*(A) For the 2015 urban water management plan update, the distribution system water loss shall be quantified for the most recent 12-month period available. For all subsequent updates, the distribution system water loss shall be quantified for each of the five years preceding the plan update.*

*(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.*

Distribution system water losses (also known as “real losses”) are the physical water losses from the water distribution system and the supplier’s storage facilities, up to the point of customer consumption.

In the 2015 UWMPs water agencies must report their distribution system water loss for the most recent 12-month period available. This will be reported in Table 4-3.

In 2020 and subsequent UWMP reporting cycles, agencies will be required to report losses for each of the last 5 years (2016, 2017, 2018, 2019, and 2020).

<b>Table 4-3 Wholesale: Water Loss Summary Most Recent 12 Month Period Available (as calculated in Appendix L worksheet)</b>	
<b>Reporting Period Start Date (Month/Year)</b>	<b>Loss</b>
	<i>Fm App L</i>

<b>Table 4-3 Retail: Water Loss Summary Most Recent 12 Month Period Available (as calculated in Appendix L worksheet)</b>	
<b>Reporting Period Start Date (Month/Year)</b>	<b>Loss</b>
	<i>Fm App L</i>

### **4.3 Water Savings from Codes, Standards, Ordinances, or Transportation and Land Use Plans (Optional)(Appendix K)**

*CWC §10631 (e)(4)*

*(A) If available and applicable to an urban water supplier, water use projections may display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.*

*(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following: (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.*

Water Savings from Codes, Standards, Ordinances, or Transportation and Land Use Plans are also known as “passive savings.”

Water agencies are not required to consider passive savings when projecting water use in Table 4-1, but they must state the extent to which passive savings were considered in these water use projections, if at all. This will also be noted in Table 4-4.

Table 4-4 Retail Only: Inclusion in Water Use	
Passive Savings Included	Y/N
Lower Income Included	Y/N

**Recommended**

Accounting for passive savings is not required; however, if passive savings are accounted for, agency may complete Table 4-5.

Table 4-5 Retail Only: Passive Savings (optional)						
	2010	2020	2025	2030	2035	2040
Passive Savings (optional)	<i>Fm App K</i>					

**4.4 Water Use for Lower Income Households**

*CWC 10631.1(a)*

*The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.*

*California Health and Safety Code 50079.5 (a)*

*"Lower income households" means persons and families whose income does not exceed the qualifying limits for lower income families... In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.*

Retail water agencies are required to include the projected water use for lower income households in their projected water demands.

Determine the number of lower income single-family and multi-family housing units projected for the service area, as identified in the housing elements of General Plans for cities and counties within the water supplier's service area.

Estimate the projected water use for those lower income housing units.

Verify that the expected water use for low income housing, as estimated above, has been included in the projected water demands. Complete Table 4-4.

A lower income household is defined as a household with an income limit of 80 percent of area median income, adjusted for family size.

## **4.5 Climate Change (Optional)**

### **Recommended**

Including a discussion of potential climate change impacts on an agency's water demand is optional. However, such a discussion can provide a more comprehensive look at the potential impacts on projected demand. For example, hotter and drier weather may lead to increased demand for landscape irrigation. Water agencies are encouraged, but not required, to consider potential climate change impacts to their water demand.

There is no required format for addressing climate change in a UWMP.

DWR recommends that agencies complete the IRWM Climate Change Vulnerability Assessment, found in Appendix I. For this chapter of the UWMP, System Water use, DWR recommends including a narrative summary of the results from the section "Water Demand".

Agencies may also choose to attach a Vulnerability Assessment from an IRWM Plan, if available.

## Chapter 5

# Baselines and Targets

With the adoption of the Water Conservation Act of 2009, also known as the SBX7-7, (see Appendix H), the State is required to reduce urban water use by 20% by the year 2020. Each retail urban water supplier must determine baseline water use during their baseline period and also target water use for the years 2015 and 2020 in order to help the state achieve the 20% reduction.

In the 2015 Plan, water agencies must demonstrate compliance with their established water use target for the year 2015. This will also demonstrate whether or not the agency is currently on track to achieve its 2020 target. Compliance is verified by DWRs review of the SBX7-7 Verification Tables submitted with an agency's 2015 UWMP. The SBX7-7 Verification Tables are found in Appendix E and summarized in Tables 5-1 and 5-2 of this chapter.

Baselines and targets are to be calculated for each retail urban water supplier. This may be done individually or regionally. Regional compliance is done via a Regional Alliance and is addressed in section 5.9.

This chapter of the Guidebook provides an overview and clarifying information regarding the requirements of the Water Conservation Act of 2009. Specific methodologies and calculations are detailed in *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*, DWR 2011 (to be updated in 2015, though not updated as of the publication of this Guidebook).

This chapter includes the following sections:

- 5.1 Guidance for Wholesale Agencies (*all other subsections are for retailers or a regional alliance only*)
- 5.2 Updating Calculations from 2010 UWMP
- 5.3 Baseline Periods
- 5.4 Service Area Population
- 5.5 Gross Water Use
- 5.6 Baseline Daily per Capita Water Use
- 5.7 2015 and 2020 Targets

## 5.8 2015 Compliance Daily per Capita Water Use

## 5.9 Regional Alliance

### GPCD Terminology

When determining water use in a UWMP, two terms are often used interchangeably:

- Daily per Capita Water Use- the amount of water used per person per day. In the UWMP calculations, this is total water use within a service area, divided by population and is measured in gallons.
- Gallons per Capita per Day (GPCD) – This is the “Daily per Capita Water Use” measured in gallons. Therefore, the term commonly used when referring to “Daily per Capita Water Use” is “Gallons per Capita per Day” or “GPCD.”

It may be important to distinguish this GPCD (used in Urban Water Management Plans) from the R-GPCD that is used in drought reporting to the State Water Resources Control Board.

- GPCD is the total water use within a service area (residential, commercial, institutional, etc...) minus allowable exclusions, divided by the population. This is used in UWMPs for purposes of the Water Conservation Act of 2009.
- R-GPCD is solely the estimated residential water use in a service area divided by population.  
[http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/drought/docs/ws\\_tools/guidance\\_estimate\\_res\\_gpcd.pdf](http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/docs/ws_tools/guidance_estimate_res_gpcd.pdf) This is used in drought reporting to SWRCB for purposes of complying with the Governor’s drought declarations and executive orders in 2014 and 2015 (as of the publication of this Guidebook).

### Recommended

Calculation of baselines and targets is a very important but highly technical portion of the UWMP. To address the non-technical audience, agencies may choose to include an overview that highlights the importance of these calculations, a reference to the Methodologies document (DWR 2011), and the agency’s efforts to meet these targeted reductions.

## 5.1 Guidance for Wholesale Agencies

For purposes of identifying baselines and targets, the following definition applies:

*CWC 10608.12*

*(r) “Urban wholesale water supplier” means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.*

*CWC 10608.36*

*Urban wholesale water suppliers shall include in the urban water management plans... an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part.*

Wholesale water suppliers are not required to establish and meet baseline and targets for daily per capita water use. However, wholesale agencies are required to provide an assessment of their present and proposed future measures, programs and policies that will help the retail water suppliers in the wholesale service area achieve their SBX7-7 water use reduction targets.

Such measures could include, but are not limited to, water conservation programs funded or supported by the wholesaler and made available to the retailers, recycled water programs supported or implemented by the wholesaler in its service area, and various policies that may be adopted by the wholesaler to encourage demand reduction in its service area.

Wholesale water suppliers may also participate in a Regional Alliance and represent the urban retail water suppliers that are members of the Alliance. The retail suppliers are responsible for complying with the Alliance’s regional target. Wholesale water agencies participate in a supportive role to assist the retail agencies in meeting their established targets. See section 5.9 for more on a Regional Alliance.

## 5.2 Updating Calculations from 2010 UWMP

*CWC 10608.20*

*(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).*

*Methodologies DWR 2010, Methodology 2 Service Area Population*

*Page 27 - Water suppliers may revise population estimates for baseline years between 2000 and 2010 when 2010 census information becomes available. DWR will examine discrepancy between the actual population estimate and DOF’s projections for 2010; if significant discrepancies are discovered, DWR may require some or all suppliers to update their baseline population estimates.*

### **5.2.1 Target Method**

In 2010 UWMPs, water agencies calculated a 2020 Urban Water Use Target through the use of a selected target method. In 2015 UWMPs, water agencies may update their 2020 Target and may make this calculation using a different target method than was used in 2010. (See Section 5.7.1 for a discussion of the Target Methods)

### **5.2.2 Required Use of 2010 U.S. Census Data**

After examining a sample of data from DOF, DWR has determined that significant discrepancies exist between DOF's projected populations for 2010 (based on 2000 U.S. Census data) and actual population for 2010, based on 2010 U.S. Census data. The average difference between projected and actual was approximately 3%, but the difference for some cities was as high as 9%. The documentation of DWR's determination will be included in the 2015 update to the Methodologies document.

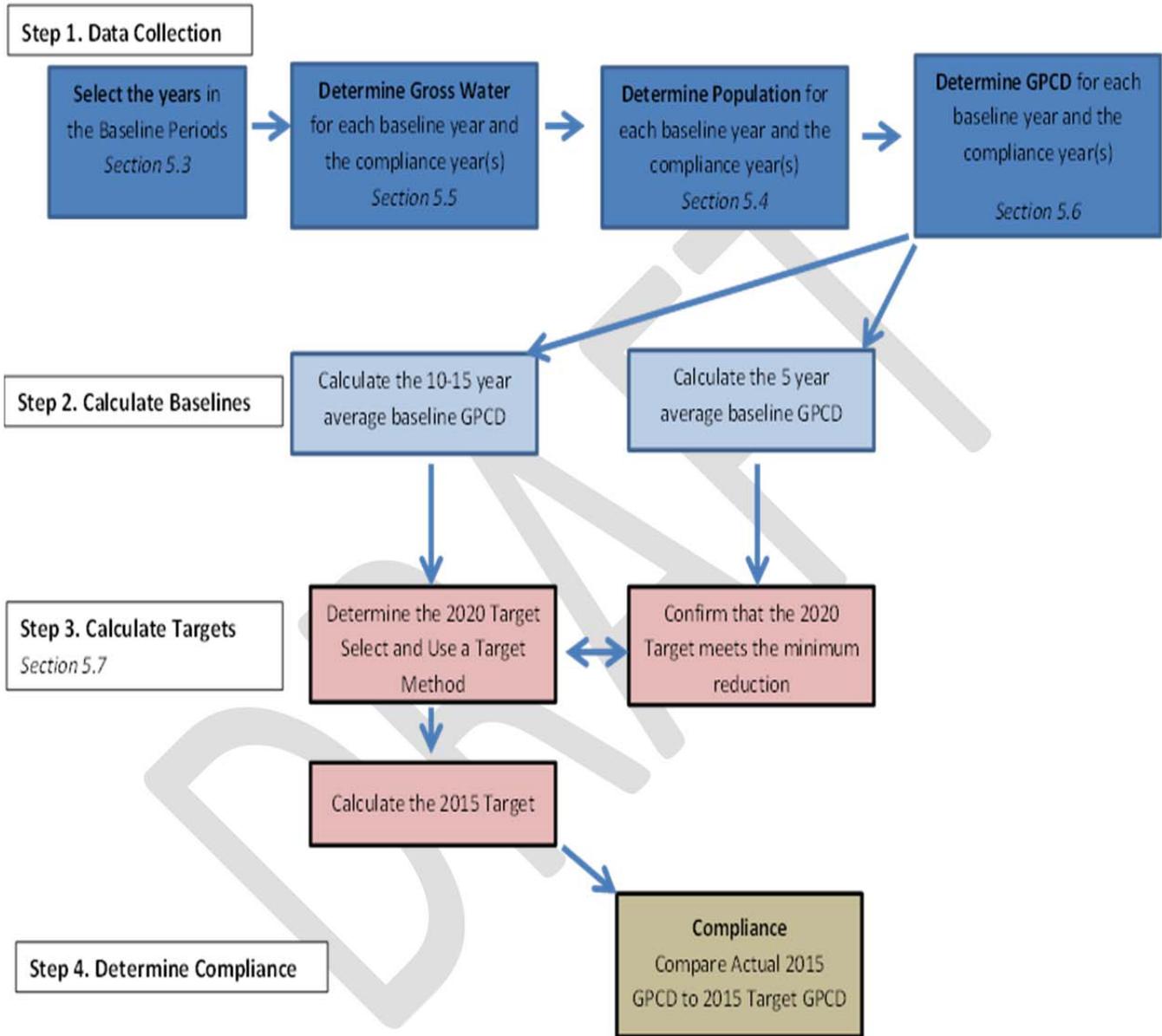
Therefore, if an agency did not use 2010 Census data for their baseline population calculations in the 2010 UWMP (the full census data set was not available until 2012) DWR has determined that these agencies must re-calculate their baseline population for the 2015 UWMPs using 2000 and 2010 Census data. This may affect the baseline and target GPCD values calculated in the 2010 UWMP, which must be modified accordingly in the 2015 UWMP.

### **5.2.3 SBX7-7 Verification Form (Appendix E)**

All retail agencies and Regional Alliances, whether updating their baselines and targets from 2010, or calculating these for the first time in 2015 UWMPs, are required to submit the standardized tables in the SBX7-7 Verification Form (see Appendix E) with their 2015 UWMPs or Regional Alliance report. These standardized tables were not available in 2010 and are required to demonstrate compliance with the Water Conservation Act.

The tables in the SBX7-7 Verification Form are distinguished from the other standardized tables in this guidebook by their name, which will always begin with "SBX7-7", followed by the table number.

Figure 5.1 Flow Chart for Baseline, Target, and Compliance Calculations



### 5.3 Baseline Periods (SBX7-7 Table 1)

*CWC 10608.20*

*(e) An urban retail water supplier shall include in its urban water management plan due in 2010. . . the baseline daily per capita water use...along with the bases for determining those estimates, including references to supporting data.*

*(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).*

In their 2015 UWMPs agencies may change the years they selected for their baseline periods as compared to their 2010 UWMPs. Agencies may choose to make this change based on changes to their calculated population (see section 5.3) and ensuing changes to baseline and target GPCD values.

Water use GPCD must be calculated and reported for two baseline periods, the 10- or 15- year baseline (Baseline GPCD) and the 5-year baseline (Target Confirmation). Whether an agency uses a 10 or 15 year baseline depends on the percentage of recycled water delivered in the year 2008. (See section 5.3.1 for making this determination)

#### 5.3.1 Determination of the 10-15 Year Baseline Period (Baseline GPCD)

Water suppliers must define a 10- to 15-year baseline period for water use and calculate the average water use, in GPCD, over that length of time. This is a 10- to 15-year continuous period ending between December 31, 2004, and December 31, 2010.

*CWC 10608.12*

*(b) "Base daily per capita water use" means any of the following:*

*(1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.*

*(2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.*

To decide the number of years that may be used in the 10- to 15- year Baseline GPCD, the water supplier must determine the percentage of recycled water to total water deliveries for the year 2008.

Is the percentage of recycled water to total water deliveries for the year 2008 at least 10 percent?

If yes, water agency may use up to a 15 year baseline period. If data is not available for the entire 15 years, agencies select a baseline period that is anywhere between 10 and 15 years.

If no, water agency must use a 10 year baseline period.

**Tables.** In SBX7-7 Table 1 enter the recycled water deliveries of 2008 and the total water deliveries of 2008 to calculate the percent of recycled water delivered in 2008. Determine whether or not the agency will use a 10 or 15 year baseline period based on the percentage of recycled water delivered in 2008. Enter the range of years to be used for calculating the 10 to 15 year Baseline GPCD and complete SBX7-7 Table 1 (see Appendix E).

### 5.3.2 Determination of the 5-Year Baseline (Target Confirmation)

*CWC 10608.12 (b)*

*(3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.*

Water suppliers must also calculate water use, in GPCD, for a 5-year baseline period. This will be used to confirm that the selected 2020 target meets the minimum water use reduction requirements (see Section 5.6.2 2020 Target Confirmation). This is a continuous 5-year period that ends no earlier than December 31, 2007, and no later than December 31, 2010.

**Tables.** Determine the range of years to be used for calculating the 5 year baseline GPCD and enter this into SBX7-7 Table 1 (see Appendix E).

## 5.4 Service Area Population (SBX7-7 Tables 2 and 3)

*CWC 10608.20*

*(e) An urban retail water supplier shall include in its urban water management plan due in 2010...the baseline daily per capita water use,...along with the bases for determining those estimates, including references to supporting data.*

*(f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.*

*CWC 10644 (a) (2) The plan... shall include any standardized forms, tables, or displays specified by the department.*

In order to correctly calculate annual GPCD, agencies must determine the population that they served for each of the baseline years of both baseline periods and for the 2015 compliance year.

If an agency did not use 2010 U.S. Census data for its baseline population calculations in the 2010 UWMP (the full census data set was not available until 2012) the agency must re-calculate its baseline population for the 2015 UWMPs using 2000 and 2010 Census data. This may affect the baseline and target GPCD values calculated in the 2010 UWMP, which must be modified accordingly in the 2015 UWMP.

### 5.4.1 Population Methodology

The methodology for estimating an agency's population is provided in Methodology 2 of the Methodologies document. Additional guidance for population estimates is provided below.

Agencies Whose Boundaries Correspond with a City or Census Designated Place. Agencies whose service area boundaries correspond with the boundaries for a city or census designated place (95% or more) during the baseline period and the compliance year 2015 will be able to gather population estimates very easily from tables prepared by the Department of Finance (DOF). The DOF population tables can be found online and are also provided in the SBX7-7 Verification Form, Appendix E.

Agencies Whose Boundaries Do Not Correspond with a City or Census Designated Place. If the agency boundaries do NOT correspond with a city or Census Designated Place, the agency should use the below sources or methodologies:

1. DWR Online mapping and population tool (pending). This tool uses GIS mapping and automates the persons-per-connection method. See Section 5.4.2.

2. **Persons-per-Connection Method.** This method relies upon population estimates from the census years (2000 and 2010), calculated with service area maps in GIS and census data. The census year data is then scaled backward and forward for the non-census years using the residential connection data from the water agency. This method requires that agencies complete Tables SBX 3-A, 3-B (.1 and .2) or 3-B (.1 and .2) from the SBX7-7 Verification Form.
3. **Other Population Methods Based in US Census or DOF Data.** These estimates may be developed in-house, by a wholesaler, CALCOG agency, or consultant. However, DWR must deem the alternate method at least as accurate as the methods recommended by DWR. The agency must provide a description of the method that provides enough detail for DWR to make this evaluation. DWR recommends that the agency seek a pre-review from DWR to assess the adequacy of any proposed alternate population methodologies.

**Tables.** All retail agencies and Regional Alliances are required to submit SBX7-7 Tables 2 and 3. Agencies using the Persons-per Connection method are also required to submit Tables SBX 3-A, 3-B (.1 and .2) or 3-B (.1 and .2)

#### **5.4.2 DWR Online Mapping and Population Tool**

DWR anticipates the release of a free, online mapping and population tool in adequate time for 2015 UWMP preparation. The tool will provide agencies the capability of drawing and downloading a service area boundary map in a GIS format for each of the census years and for 2015. This tool will not require agencies to have GIS capability.

The population tool will use the GIS boundary map to estimate service area population for each of the census years and, using the persons-per-connection method, and connection data from the supplier, will calculate the population for each of the non-census years.

The release of the mapping and population tool will be posted on the 2015 UWMP website:  
<http://www.water.ca.gov/urbanwatermanagement/uwmp2015.cfm>

#### **5.4.3 Map Requirements**

In order to show the basis for an agency's method of estimating population, map with certain boundaries must be included with the UWMP. These boundary maps may be available from the

pending DWR population tool, the [Water Boundary Tool \(WBT\)](#) of the California Environmental Health Tracking Program (CEHTP) [http://cehtp.org/page.jsp?page\\_key=61](http://cehtp.org/page.jsp?page_key=61), Local Agency Formation Commission (LAFCO), a local Council of Governments, a regional wholesale water agency, a private consulting service, or regional university.

- Service area boundary – This boundary includes three distribution system boundaries, to the extent that an agency has all three systems.
  - Potable water distribution system boundary - The boundary containing the distribution system(s) of the agency's Public Water System(s). Exclude any sizeable entity that is completely supplied by a private source or another water supplier. DWRs online mapping tool may be used for this boundary.
  - Raw water distribution system boundary (optional) – The boundary containing the raw water distribution system, as applicable. Note that this does not include any recycled water system.

Recycled Water System (Optional) – See section 6.5.3 for guidance on mapping of a recycled water system.

- Jurisdictional Boundary - This boundary includes the potable and non-potable distribution system boundary(ies) and any additional areas that fall within the water suppliers jurisdiction. For some suppliers, the jurisdictional boundary will be the same as Service Area boundary.
- Municipal boundaries - The boundary of any incorporated city or town, or Census Designated Place (see glossary) that intersects with the service area boundary. This will demonstrate the overlap of the service area with municipal boundaries, as needed for Section 5.3 Determine Service Area Population.
- Boundary Changes - If changes to any of the above boundaries occurred the baseline period, or between the baseline period and 2015, agencies must submit boundary(ies) for 1990, 2000, 2010, and/or 2015, as needed to reflect these changes. See Methodology 1, Step 2 in Methodologies for details on changes to service area.

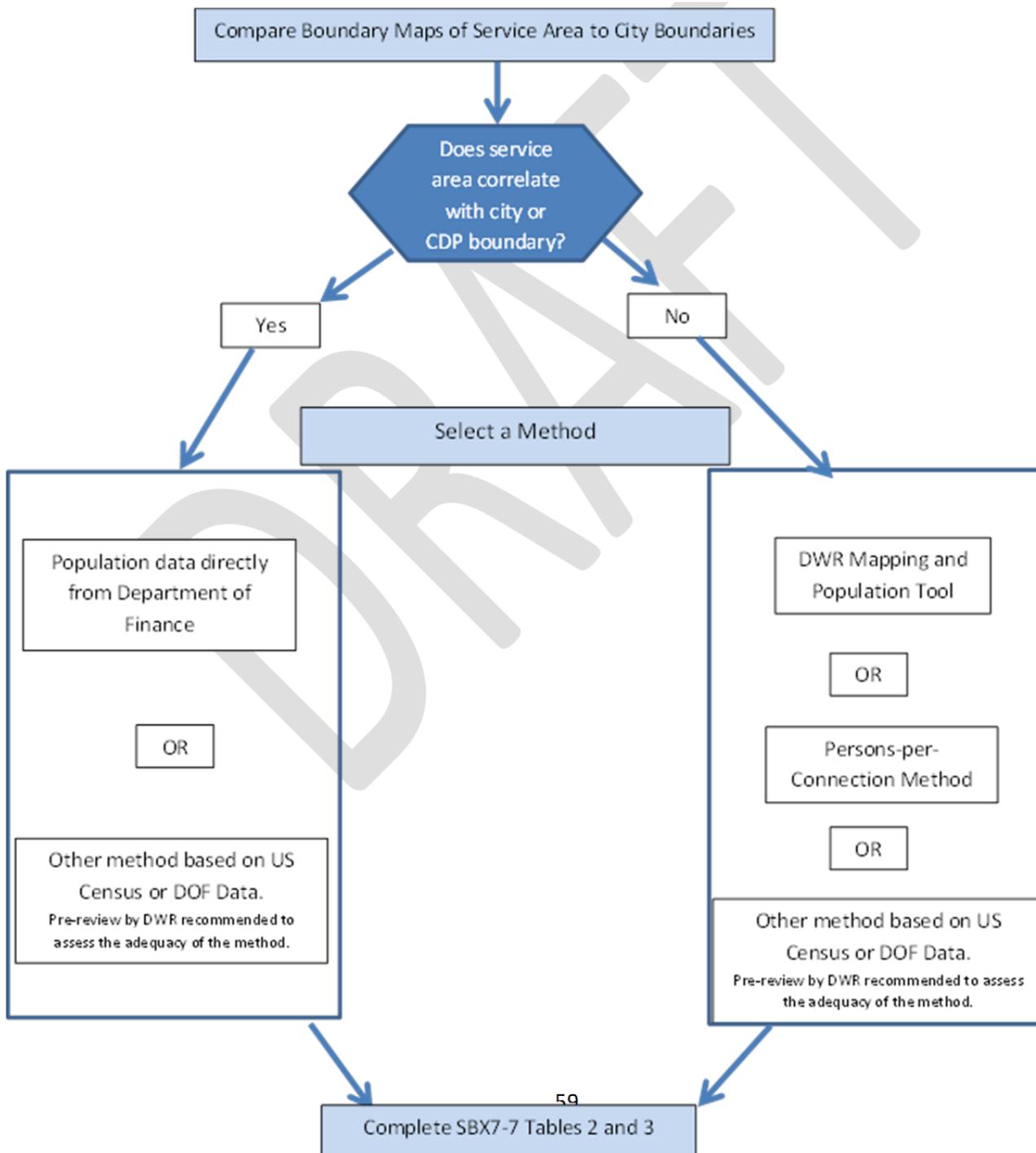
#### **5.4.4 Service Area Boundary Map Format**

An electronic, geospatial shape file (such as in the ArcGIS or KML format) version of the service area boundary for 2015 must be included with the following metadata:

- Map projection
- Contact information to person that created the map
- Information on boundary changes
- Revision dates

- Constraints
- Attribute table explanation
- Base (e.g. quadrangle, digitizing tablet, etc.)

Figure 5. 2 Flow Chart for Determining Service Area Population



## 5.5 Gross Water Use (SBX7-7 Table 4)

*CWC 10608.12*

*(g) "Gross Water Use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:*

- (1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier*
- (2) The net volume of water that the urban retail water supplier places into long term storage*
- (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier*
- (4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.*

*California Code of Regulations Title 23 Division 2 Chapter 5.1 Article*

*Section 596 (a) An urban retail water supplier that has a substantial percentage of industrial water use in its service area is eligible to exclude the process water use of existing industrial water customers from the calculation of its gross water use to avoid a disproportionate burden on another customer sector.*

Detailed guidance for gross water calculations is found in Methodology 1: Gross Water of the *Methodologies* document.

Gross water use is a measure of water that enters the distribution system of the supplier over a 12 month period (may be fiscal or calendar year) with certain allowable exclusions. These exclusions are:

- Recycled water delivered within the service area
- Indirect recycled water (see Methodology 1 from the Methodologies Document, DWR 2011)
- Water placed into long term storage
- Water conveyed to another urban supplier
- Water delivered for agricultural use
- Process water

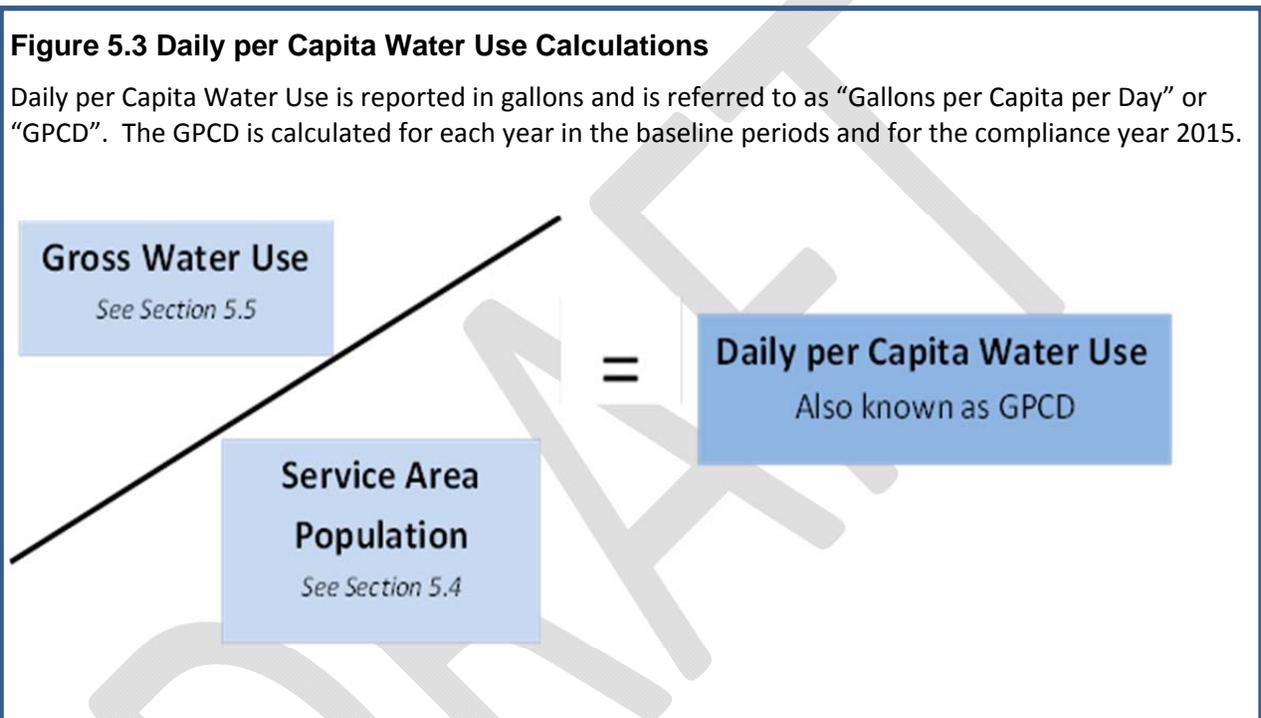
Gross water use is accurately measured at the point that water enters the distribution system. Measuring at this point ensures that all the water, including losses and other non-revenue water (i.e., firefighting, line flushing, etc...) is accounted for.

**Tables.** Gross water use must be calculated for each baseline year. It will also be calculated for the Compliance Year 2015. Complete SBX7-7 Tables 4, 4-A (and any needed sub-tables) in the SBX7-7 Verification Form, found in Appendix E of this Guidebook.

## 5.6 Baseline Daily Per Capita Water Use (GPCD) (SBX7-7 Table 5)

The final step in baseline calculations is to determine the water used per person per day (GPCD) in each of the baseline years.

**Tables.** Once population and gross water have been determined and entered into SBX7-7 Table 5 (Appendix E), the GPCD is automatically calculated in the table.



## 5.7 2015 and 2020 Targets (SBX7-7 Table 7 and sub-tables)

*CWC 10608.20(e)*

*An urban retail water supplier shall include in its urban water management plan due in 2010. . . urban water use target, interim urban water use target, ...along with the bases for determining those estimates, including references to supporting data (10608.20(e)).*

*CWC 10608.20*

*(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan...*

A water supplier may select a different Target Method in its 2015 plan than it selected in its 2010 Plan. Once the 2015 plan is submitted, the Target Method may not be changed in any amendments to the 2015 Plan or in the 2020 Plan.

### 5.7.1 Select and Apply a Target Method

The water supplier has four different methods to choose from when determining the 2020 Urban Water Use Target. Identify which of these four methods was used to determine the Urban Water Use Target. See CWC Section 10608.20(b) in Appendix E and *Methodologies* document for details.

#### Target Method 1: 80% of 10- to 15- Year Baseline GPCD *CWC 10608.20 (b) (1)*

Calculate 80 percent of the base daily per capita water use.

**Tables.** Agencies using Target Method 1 must complete SBX7-7 Table 7-A.

#### Target Method 2: Performance Standards *CWC 10608.20 (b) (2)*

The sum of the following three performance standards:

+ Efficient Indoor Residential Use

*(Methodology 5: Indoor Residential Use)*

+ Landscape Water Use Equivalent to Model Ordinance

*(Methodology 6: Landscaped Area Water Use)*

+ 10% reduction in Commercial, Industrial, and Institutional (CII) Water Use from baseline CII use

*(Methodology 7: Baseline CII Water Use)*

**Tables.** Agencies using Target Method 2 must complete SBX 7-7 Tables 7-B and 7-C.

#### Target Method 3: 95% of Hydrologic Regional Target *CWC 10608.20 (b) (3)*

Identify the hydrologic region where the water agency is located. Online tools are available at <http://www.water.ca.gov/urbanwatermanagement/technicalassistance/> to help water suppliers identify their hydrologic region.

If the water supplier's service area is within more than one hydrologic region, then proportionally calculate a 2020 urban water use target using the proportion that lies within each hydrologic region.

**Tables.** Agencies using Target Method 3 must complete SBX7-7 Table 7-E.

#### Target Method 4: Savings by Water Sector *DWR Method 4*

DWR was directed in CWC 10608.20 (b) (4) to develop a fourth Target Method to calculate 2020 water use targets. This method identifies water savings obtained through identified practices and subtracts them from the agency's baseline GPCD.

Agencies that use Target Method 4 must use the procedures described in *Provisional Method 4 for Determining Water Use Targets*, DWR 2011, and include the Method 4 Calculator found on DWR's website in their 2015 UWMPs.

<http://www.dwr.water.ca.gov/wateruseefficiency/sb7/committees/urban/u4/>

**Tables:** Agencies will complete SBX7-7 Table 7 in the SBX7-7 Verification Form to identify which target method has been selected.

### **5.7.2 5- Year Baseline – 2020 Target Confirmation (SBX7-7 Table 7-F)**

*CWC 10608.22*

*Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivision (b) of Section 10608.12.*

*This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.*

This step verifies that the 2020 water use target that has been calculated will reduce the agency's 2020 water use by a minimum of 5% from the 5-year baseline. This confirmation is automatically calculated in SBX7-7 Table 7.

### **5.7.3 Calculate the 2015 Interim Urban Water Use Target (SBX7-7 Table 8)**

The 2015 Interim Target is the value halfway between the 10- to 15-year Baseline GPCD (from SBX7-7 Table 5) and the confirmed 2020 Target (SBX7-7 Table 7).

To determine the Interim 2015 Target calculate the midpoint between the 10- to 15- year Baseline and the 2020 Target GPCD. Include the value of the Interim 2015 Target in the 2015 UWMP.

SBX7-7 Table 8 automatically calculates the agency's Interim 2015 Target

### **5.7.4 Baselines and Targets Summary**

The SBX7-7 verification tables (see Appendix E) must be submitted in the 2015 UWMPs in order to determine compliance with the Water Conservation Act. DWR recommends that the SBX7-7 tables be submitted in an appendix, and Table 5-1 be included in the body of the UWMP to provide a summary of this information.

**Figure 5. 4 Determine Targets – A Flow Chart**

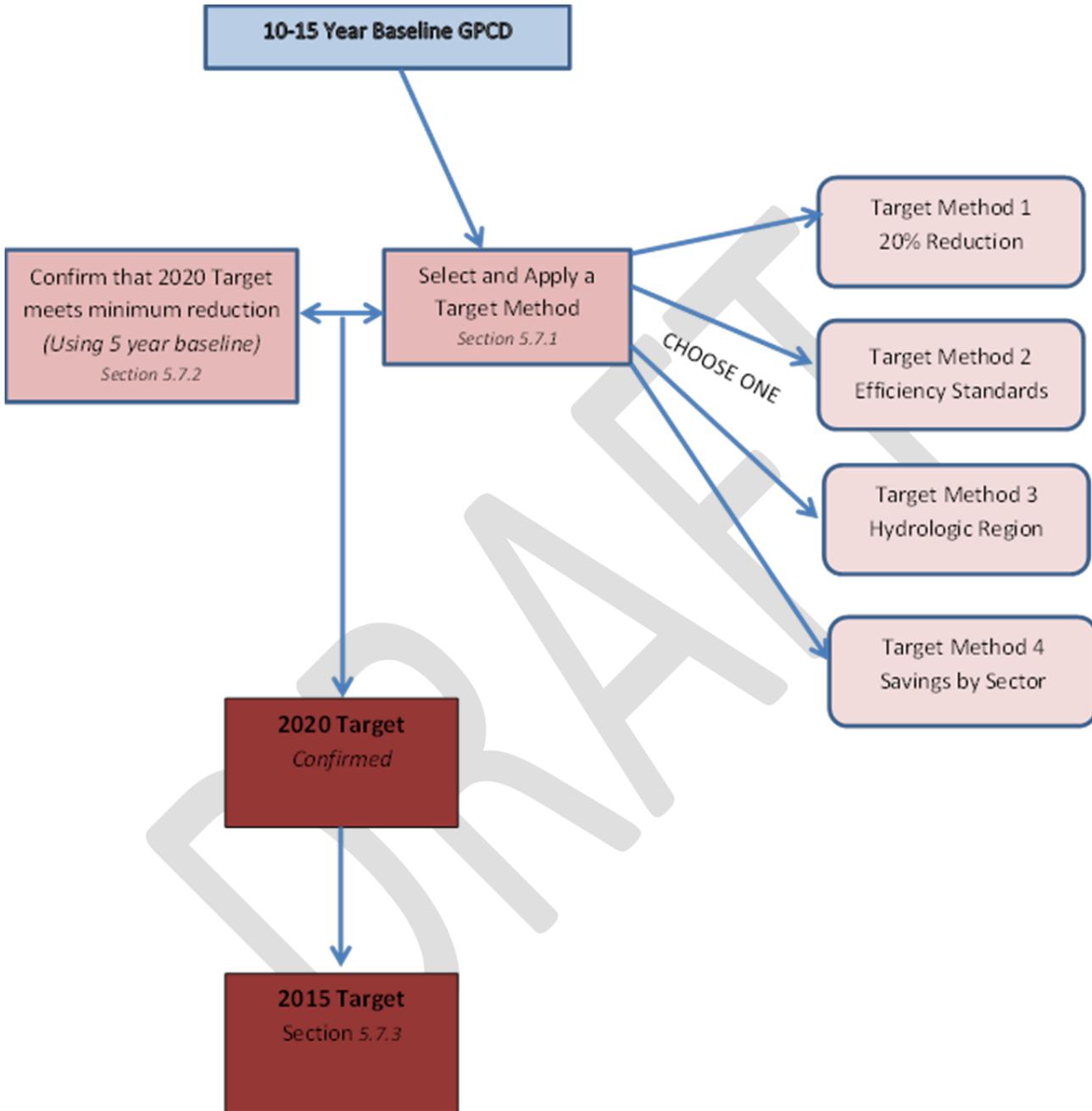


Table 5-1 Baselines and Targets Summary <i>Retail Agency or Regional Alliance Only</i>					
Baseline Period	Start Years <i>From SBX7-7 Table 1</i>	End Years <i>From SBX7-7 Table 1</i>	Average GPCD	2015 Interim Target	Confirmed 2020 Target
10-15 year				<i>SBX Table 8</i>	
5 Year					

### 5.8 2015 Compliance Daily per Capita Water Use (GPCD) (SBX7-7 Table 9)

*CWC 10608.12 (e)*

*“Compliance daily per-capita water use” means the gross water use during the final year of the reporting period...*

*CWC 10608.24 (a)*

*Each urban retail water supplier shall meet its interim urban water use target by December 31, 2015.*

*CWC 10608.20(e)*

*An urban retail water supplier shall include in its urban water management plan due in 2010 . . . compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.*

#### 5.8.1 Meeting the 2015 Target

Water suppliers will calculate their actual 2015 water use (2014-2015 fiscal or 2015 calendar year) to determine whether or not they have met their 2015 target water use and to assess their progress toward meeting their 2020 target water use.

**Table.** Agencies must complete SBX7-7 Table 9 of the SBX7-7 Verification Form.

#### 5.8.2 2015 Adjustments to 2015 Gross Water Use

In 2015 (and 2020) there are several allowable adjustments that can be made to an agency's gross water use. These are detailed in the Methodologies document (Methodology 8: Criteria for

*CWC 10608.24 (d)*

*When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:*

*Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.*

*Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.*

*Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.*

*If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.*

*Methodology Document, Methodology 4*

*This section discusses adjustments to compliance-year GPCD because of changes in distribution area caused by mergers, annexation, and other scenarios that occur between the baseline and compliance years.*

Adjustment to Compliance Daily Per capita Water Use, and Methodology 4: Compliance Daily Per Capita Water Use).

Table 5- 2 (also found as SBX7-7 Table 9) will calculate whether or not the agency has met its 2015 interim target. The agency should complete both tables, include Table 5-2 in the body of the UWMP, include SBX7-7 Table 9 with the SBX7-7 Form, and discuss the agency's progress toward meeting its 2020 water use target.

<b>Table 5-2: 2015 Compliance</b>				
<i>Retail Agency or Regional Alliance Only</i>				
2015 Interim Target	2015 Actual GPCD	Adjustments	Actual as Percent of Target	In Compliance? Y/N
<i>SBX Table 8</i>	<i>SBX Table 5</i>	<i>Fm Pending Tables</i>	<i>Auto Calculate</i>	<i>Auto Calculate</i>

## 5.9 Regional Alliance

Agencies that are choosing to comply with SBX7-7 requirements through a Regional Alliance must report the information from this chapter in the Regional Alliance Report or in a Regional UWMP. See Methodology 9 of *Methodologies*.

DRAFT

## Chapter 6

# System Supplies

This chapter provides guidance for describing and quantifying the sources of water available to the urban water supplier, including supplies from other agencies, surface water, groundwater, recycled water, desalinated water, transfers and exchanges, and any other source water the supplier considers part of its supply portfolio.

For each water source, provide a narrative description that may include a discussion of the origin of the water supply, water quality or quantity issues. Agencies will also include any actions or projects that are anticipated to meet future water demands.

Water volumes presented in Chapter 6 shall reflect expectations for average year conditions. Discussion of supply reliability is discussed in Chapter 7 and water shortage contingency planning is discussed in Chapter 8.

The UWMP preparer may choose to present portions of the water supplies derived from alternative or non-traditional sources (recycled water, stormwater, graywater, or desalinated water) in separate sections of the Plan. This may be preferable for the UWMP preparer especially if the alternate water supply system is complex or involves detailed discussion. If some water supplies are discussed separately, summary information is still to be included in the water supply overview at the end of the water supply chapter.

This chapter covers the following topics:

- 6.1 Purchased Water
- 6.2 Groundwater
- 6.3 Surface Water
- 6.4 Stormwater
- 6.5 Wastewater and Recycled Water
- 6.6 Desalinated Water Opportunities
- 6.7 Exchanges or Transfers
- 6.8 Future Water Projects
- 6.9 Summary of Existing and Planned Sources of Water
- 6.10 Climate Change Impacts to Supply (Optional)

## 6.1 Purchased Water

Urban water suppliers may purchase water from other urban water suppliers or other entities. Agencies will make their own determination as to whether a water supply is a purchased supply, transfer, or exchange. Agencies may provide a narrative description of their purchased water supplies.

**Tables** Provide the volumes in Table 6-8 Water supplies – current and projected. If an agency has more than one source of purchased water, Table 6-8 is able to accommodate this.

## 6.2 Groundwater

Only an agency that pumps groundwater, or expects to pump groundwater, must address the requirements in this section. An agency that uses groundwater pumped by another agency should report this as a purchased supply from another agency. This section may provide a narrative description of the groundwater resources.

Groundwater UWMP reporting requirements apply to any groundwater an agency pumps, including alluvial groundwater basins and fractured volcanics and bedrock. The UWMP should provide an overview of the groundwater resource, the agency's reliance on the groundwater source, groundwater management framework or strategies, and include or provide links to documents that have been developed specifically for groundwater management.

**Tables** Actual volumes of groundwater sources will be reported in Tables 6-1 and 6-8. If an agency has more than one source of groundwater, Tables 6-1 and 6-8 are able to accommodate this.

Groundwater management requirements are covered in detail in Section 10750, et seq. of the CWC and more information can be found at DWR Groundwater Information Center website (<http://www.water.ca.gov/groundwater/>). Changes to groundwater management under the Sustainable Groundwater Management Act (SGMA) are beginning to be implemented. Several of the activities, including adoption of regulations for Groundwater Sustainability Plans, are not expected to be finalized until June 30, 2016, which is when the 2015 UWMPs are due to DWR (July 1, 2016). Therefore, new requirements for groundwater management under SGMA will not apply to the 2015 UWMPs. However, DWR's current efforts to identify overdrafted basins

should be considered when applicable to a water supplier (see section 6.2.3 for more information on overdraft conditions).

The groundwater portion of an UWMP is expected to be prepared by summarizing information from other professionally prepared documents, including those prepared by federal, state, or local agencies or the water supplier. Documents used as references to summarize the hydrogeologic conditions and groundwater management information to meet the UWMP requirements should be cited and included as either an appendix or a link to web location.

### 6.2.1 Basin Description

*CWC 10631 (b) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:  
(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater.*

The description of the agency's source groundwater basin(s) should include the basin and sub-basin name(s). If the agency pumps from an alluvial groundwater basin, the agency must include the name of the basin and sub-basin and number as defined in DWR Bulletin 118. If the agency pumps groundwater from fractured rock or volcanics, the agency only needs to indicate that the source is fractured bedrock or volcanics. If an agency needs additional guidance identifying their groundwater basin, they may contact DWR staff in the respective Regional Office (see section 1.9).

The thorough basin description will include a map of the basin, a list of other known users of the basin, and a discussion of any known issues, including changes in groundwater levels, water quality issues, yield, subsidence, or any information which may impact present or future use of groundwater. DWR Bulletin 118 Update 2003, California's Groundwater (available from <http://www.water.ca.gov/groundwater/>) may be used to provide background and general information for describing the basin(s), if more current information is not available.

## 6.2.2 Groundwater Management

*CWC 10631 (b) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*

*A copy of any groundwater management plan adopted by the urban water supplier... or any other specific authorization for groundwater management.*

*...For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.*

Water agencies are encouraged also to include a brief overview of the groundwater management plan and the basin adjudication, if either of these applies to the groundwater source.

An adopted groundwater management plan or final judgement for an adjudicated basin must be included in the UWMP. This may be done by either including the document as an appendix to the UWMP or providing a website link to the location of the document.

If a groundwater management plan has not been adopted, include a brief discussion of the status of current or planned groundwater management actions occurring within the groundwater basin, if any. Groundwater management actions include groundwater level and water quality monitoring, metering or measuring groundwater pumping, groundwater recharge, conjunctive use programs, water conservation, subsidence monitoring, and use of alternative water supplies.

### RECOMMENDED

As part of the groundwater basin management discussion, the UWMP may include a discussion of any activities occurring in the basin(s) pertaining to the California Statewide Groundwater Elevation Monitoring Program (CASGEM). These include groundwater monitoring activities and the respective Basin Prioritization ranking. The basin prioritization results are posted at [http://water.ca.gov/groundwater/casgem/basin\\_prioritization.cfm](http://water.ca.gov/groundwater/casgem/basin_prioritization.cfm).

Although specific SGMA regulations may still be under development, discussion of current or planned activities to meet anticipated SGMA requirements may be included in a 2015 UWMP.

## 6.2.3 Overdraft Conditions

*CWC 10631(b)(2). For basins that have not been adjudicated, (provide) information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.*

Agencies that draw water from a groundwater basin that is not adjudicated are to provide in the UWMP a discussion of DWR's current assessment of overdraft conditions. As of the publication of this guidebook, DWR's most current assessment of overdrafted basins is in Bulletin 118 (DWR, 2003). DWR is currently in the process of evaluating groundwater basins for critically overdrafted conditions and draft results will be released to the public for review and comment in late August of 2015. Finalization of this list is expected in October of 2015. As a result, groundwater suppliers should be considering this revised groundwater overdraft determination with the intent of including it in their 2015 UWMP. Agencies with groundwater supplies should refer to <http://www.water.ca.gov/groundwater/> for the current status of DWR's review of overdrafted basins and to Bulletin 118 when it is updated in 2016.

#### 6.2.4 Historical Pumping

*CWC 10631 (b) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*

*3) (Provide a) detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.*

Water agencies that have pumped groundwater at any time during the years 2011-2015 are required to complete Table 6-1 with the volume of water pumped from each source for each year within that time period.

Water agencies are also required to discuss the sufficiency of groundwater pumped for the last five years. This may be addressed by describing any limitations or challenges, if any, such as brackish water, dropping water table, which were encountered in obtaining groundwater during this time.

**Tables.** Complete Table 6-1 for either wholesale or retail agencies, or both, as appropriate. See section 2.1.1 to determine if the agency is a wholesaler, a retailer, or both.

Table 6-1 WHOLESALER Groundwater volume pumped						
<input type="checkbox"/>	No Groundwater					
<input type="checkbox"/>	Groundwater Basin					
<input type="checkbox"/>	Groundwater from Fractured Rock					
Basin	Sub-Basin	2011	2012	2013	2014	2015
<i>Drop down lists from Bulletin 118 PLUS "Fractured Rock"</i>						
<b>Total</b>		0	0	0	0	0

Table 6-1 RETAILER Groundwater volume pumped						
<input type="checkbox"/>	No Groundwater					
<input type="checkbox"/>	Groundwater Basin					
<input type="checkbox"/>	Groundwater from Fractured Rock					
Basin	Sub-Basin	2011	2012	2013	2014	2015
<i>Drop down lists from Bulletin 118 PLUS "Fractured Rock"</i>						
<b>Total</b>		0	0	0	0	0

### 6.2.5 Groundwater Recharge, Storage, and Banking

If the groundwater basin has been intentionally recharged for long term storage or water banking, the volume of water utilized for a particular year will be reported as a groundwater recharge, storage, or banking demand for that year (Table 4-1). A source of water that is pumped from groundwater by the reporting agency is simply reported as a groundwater supply for the year it anticipates its use (Table 6-1).

### 6.3 Surface Water

Water drawn from streams, lakes, and reservoirs is considered a surface water supply. If a water agency uses, or plans to use, self-supplied surface water as part of its water supply, the volume of that supply will be reported in Table 6-8.

**Tables** Surface water that is not self-supplied, such as purchases from a wholesaler, transfers or exchanges, will be reported as "Purchased Water" in Table 6-8. If an agency has more than one source of surface water, Table 6-8 is able to accommodate this.

The agency may choose to describe the surface water system in the UWMP. Such a description may include maps, an overview of the water conveyance system(s), the name of the surface water source (i.e., name of stream and/or reservoir), a brief description of the watershed that supplies the source, and a discussion of water rights to that source.

The water agency may also include the name(s) of any agency(ies) responsible for management of the water source and include a link or appendix of any management plans for the surface water source, if any.

## 6.4 Stormwater

Communities are increasingly implementing opportunities to beneficially use stormwater to meet local water supply demands. These actions are motivated by constrained local water resources, new regulations, and relieving strain on overburdened stormwater infrastructure. If stormwater is being intentionally diverted for beneficial reuse, that volume of stormwater can be considered a water supply. Beneficial reuses include: blending with other water supplies for groundwater recharge, redirecting it into constructed wetlands or landscaping, and diverting it to a treatment facility for subsequent reuse.

The UWMP preparer should provide a narrative description of the stormwater recovery system (if any).

**Tables** Provide the volume of beneficially use, or planned use, of stormwater in Table 6-8. If an agency has more than one source of stormwater, Table 6-8 is able to accommodate this.

## 6.5 Wastewater and Recycled Water

Municipal recycled water is municipal wastewater that has been treated to a specified quality to enable it to be used again for a beneficial purpose. The term “recycled water” is defined in the Water Code more broadly than “municipal recycled water.” For purposes of the UWMPs, “recycled water” will mean only municipal recycled water, that is, water that has been treated and discharged from a wastewater facility.

There are two requirements treated municipal wastewater must meet to be classified as recycled water. It must be reused:

Beneficially, in a manner consistent with Title 22

In accordance with a Regional Water Quality Control Board (RWQCB) permit such as National Pollutant Discharge Elimination System (NPDES), waste discharge requirement (WDR), or water recycling requirement (WRR)

Both recycled water supplies and uses are presented in this section, which combines aspects of both Chapter 4 (System Water Uses) and Chapter 6 (System Supplies). Because recycled water is primarily maintained separately from the potable system, DWR prefers that agencies address both aspects of recycled water within one portion of an UWMP and report summarized recycled water use in Chapter 4. If regulatory and operational practices for recycled water supply change over the next few years, future UWMP reporting requirements may be modified accordingly.

Each UWMP preparer is to include wastewater and recycled water discussion in its UWMP as follows:

If recycled water is currently or planned to be used in the service area of an UWMP preparer,

Complete Tables 6-2 to 6-6

Address parts 6.5.1 through 6.5.5 (described below)

If recycled water is not used and there are no plans for use within the planning horizon of the UWMP, address parts 6.5.1, 6.5.2, and 6.5.5 (described below)

There have not been any legislative changes to the CWC regarding recycled water since the preparation of the 2010 UWMPs.

For the 2015 UWMPs, changes to the recycled water tables have been made to improve data reporting. Columns have been added to provide additional clarification, such as the level of treatment to support assessment of the potential use of the water for water supply benefit. Some of the added columns provide optional information and are marked as such. Though not required by the Water Code, the additional information will improve and support consistency in how UWMPs quantify recycled water and facilitate use of the data provided in the UWMPs.

Appendix M provides clarification on how recycled water is to be reported in 2015 UWMPs, including:

What is considered recycled water?

What are beneficial uses of recycled water?

How is recycled water accounted for in an UWMP if multiple agencies are involved in the collection, treatment, and distribution of recycled water?

DWR strongly suggests that UWMP preparers review Appendix M before completing the recycled water section of the UWMP. Appendix M also includes comprehensive guidance for how best to complete the wastewater and recycled water tables (Tables 6-2 through 6-6).

In 2015, DWR and the SWRCB are cooperatively completing a statewide survey of recycled water use. For water suppliers with recycled water in their water supply portfolios, it is DWR's objective that there is consistency between the data compiled for the survey and the data reported in the UWMPs. Please see Appendix M for additional discussion of the survey. If there are additional questions during preparation of an UWMP, please contact Toni Pezzetti at DWR (916)651-7024 or [tpezzett@water.ca.gov](mailto:tpezzett@water.ca.gov).

The following sections are recommended for presenting recycled water information in an UWMP. They do not have to be labeled as 6.5.1, 6.5.2, etc., but the organization is provided as a reference both for the Guidebook and as potential UWMP sections.

### 6.5.1 Recycled Water Coordination

*CWC 10633*

*The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.*

Each UWMP preparer is to:

Coordinate with any wastewater facility or agency that collects or treats wastewater within the urban water supplier's service area regarding the quality and availability of wastewater for beneficial reuse. In addition, other water supply and planning agencies should be considered regarding the existing and potential availability and uses of recycled water. These discussions can occur within the framework of an IRWM or other local and regional planning organization. Each of the types of organizations identified in the CWC 10633 should also be considered.

Identify in a bullet list or similar format the agencies collecting, treating, or discharging municipal wastewater both generated and treated within the service area, and indicate their roles.

### 6.5.2 Wastewater Collection, Treatment, and Disposal

*CWC 10633 (a) (Describe) the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.*

This section summarizes collection and treatment of wastewater generated within the service area.

- Describe how the agencies identified in section 6.5.1 interact and any joint ventures or joint operations. For example, one agency collects wastewater and delivers it to another agency that operates the treatment facility.

Table 6-2 summarizes information on collection of wastewater generated within the service area. It is to be completed for each UWMP, whether recycled water is used within the service area or not. To complete Table 6-2:

- Determine, to the best of the UWMP preparer's ability, the percentage of the service area and the population percentage served by the wastewater collection system.
- Contact the owners and operators of each agency that collects or treats wastewater in the supplier's service area regarding the volume of wastewater collected within the service area, to the best of the UWMP preparer's ability. Identify the facility that treated the collected wastewater.
- If wastewater generated from outside the service area is treated within the service area, indicate that.
- If a third-party organization operates a facility under contract, DWR requests that that information (yes or no) be indicated.

Table 6-3 identifies the treated wastewater disposed of within the service area, which may include wastewater that originated from outside the water supplier's area.

Identify the specific location of the discharge, the volume annually discharged, and the level of treatment of the discharged water.

If wastewater is not treated or disposed within the service area, Table 6-3 does not need to be completed. Instead, provide in the narrative a brief discussion of the disposal and/or recycling of treated wastewater at the facility that receives the service area wastewater.

Table 6-2 Wastewater generated within service area in 2015						
Percentage of 2015 service area covered by wastewater collection system						
Percentage of 2015 service area population covered by wastewater collection system						
Wastewater Collection Agency	Wastewater Treatment Agency	Treatment Plant Name	Is WWTP Located Within Service Area?	Is WWTP Operation Contracted to a Third Party? (optional)	Was Volume Measured or Estimated?	Volume of Wastewater Collected from the Service Area 2015
			Y/N	Y/N	Met/Meas/Est	
Total Wastewater Collected from Service Area						

*CWC 10633 (b) (Describe) the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.*

Table 6-3 Wastewater treatment and discharge within service area in 2015											
Name of Wastewater Treatment Plant	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID No. (optional)	Method of Disposal	Does this Include Wastewater Generated Outside the Service Area?	Treatment Level	2015 Volumes				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area, in other UWMP	Recycled Outside of Service Area, not in other UWMP
				drop down menu	Yes/No	drop down menu					
Total Wastewater Generated in UWMP Area											

### 6.5.3 Recycled Water System

*CWC 10633(c) (Describe) the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.*

For UWMP preparers implementing or planning recycled water use within the service area, this section provides an overview of the current recycled water system.

Provide text describing the recycled water system operating in the service area.

Identify each agency involved in the recycled water system collection, treatment, and distribution, including wholesalers, retailers, special districts, or joint ventures.

Provide information on the system's history and operation.

Provide a map or specific physical description of the coverage of the distribution system providing recycled water in 2015.

Attach or provide a reference by website link to a Recycled Water Master Plan or similar document, if one has been prepared.

#### **6.5.4 Recycled Water Beneficial Uses**

*CWC 10633(d) (Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses .*

*CWC 10633(e) (Describe) the projected use of recycled water within the supplier's service area at the end of 5, 10, 15 and 20 years...*

For UWMP preparers implementing or planning recycled water use within the service area, this section discusses current and planned recycled water uses within the service area.

The definition of recycled water (see Appendix M) includes the term "direct beneficial use", which in turn is defined in the Code of California Regulations, Title 22, §60301.200 as "the use of recycled water that has been transported from the point of treatment or production to the point of use without an intervening discharge to waters of the State." Appendix M provides more detailed discussion of how to apply these terms to recycled water.

Complete Table 6-4 by quantifying for each direct beneficial use the amount of recycled water currently being used within the urban water supplier's service area, as well as projected volumes and uses into the future. If more than one supplier provides recycled water within the service area, separate tables may be provided for each (e.g., duplicating Table 6-4 and referring to the resulting tables as Table 6-4a and Table 6-4b to correspond to data from two different recycled water suppliers). Please refer to Appendix M before completing Table 6-4. Appendix M provides additional discussion on how recycled water should be quantified and discusses common errors in evaluating recycled water volume and uses.

Table 6-4 Current and Projected Recycled Water Uses								
Name of Agency Producing (Treating) the Recycled Water								
Name of Agency Operating (Distributing) the Recycled Water								
Beneficial Use Type	General Description of 2015 Uses	Level of Treatment	2015	2020	2020	22030	2035	2040 (opt)
Sales to other agency	<i>Agency name</i>	<i>drop down menu</i>						
Agricultural irrigation								
Landscape Irrigation (ex. Golf course)								
Golf Course Irrigation								
Commercial Use								
Industrial Use								
Geothermal or energy production								
Seawater intrusion barrier								
Recreational impoundment								
Wetlands or wildlife habitat								
Groundwater recharge								
Surface water augmentation								
Direct potable reuse								
Unallocated Water								
Other								
<b>TOTAL</b>								

Text accompanying Table 6-4 should:

Provide a narrative overview of the level of treatment (there may be more than one) of recycled water used and the types of uses. The UWMP preparer may consider highlighting innovative uses of recycled water or a particular organization that has demonstrated commitment to the use of recycled water.

Provide information on the quality of water (i.e., level of treatment) provided and the specific types of recycled water uses, including such information as crops irrigated or type of landscapes irrigated.

Provide a summary of planned future projects, including technical and economic feasibility.

The total recycled water use for each of the 5-year increments shown in Table 6-4 is to be included in Table 4-5 in Chapter 4.

*CWC 10633(e)*

*(Describe) the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.*

<b>Table 6-5: 2010 UWMP Use Projection Compared to 2015 Actual Use</b>		
<b>Use Type</b>	<b>2010 Projection for 2015</b>	<b>2015 Actual Use</b>
Sales to other agencies		
Agricultural irrigation		
Landscape irrigation (ex golf courses)		
Golf course irrigation		
Commercial use		
Industrial use		
Geothermal / energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge		
Other (define)		
<b>Total</b>	<b>0</b>	<b>0</b>

Each UWMP which has recycled water use is to provide a comparison of earlier projected use of recycled water to actual uses. This is accomplished by completing Table 6-5. From the urban water supplier's 2010 UWMP, provide the 2015 projected estimates of recycled water use. Compare those estimates to the actual 2015 recycled water use as reported in Table 6-4. Note that the highlighted cells in the total rows of Tables 6-3, 6-4, and 6-5 should be the same.

### 6.5.5 Actions to Encourage and Optimize Future Recycled Water Use

*CWC 10633(f) (Describe the) actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre- feet of recycled water used per year.*

*CWC 10633(g) (Provide a) plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.*

Each UWMP preparer is to complete this section, whether recycled water is used, planned, or not planned to be used.

Assess potential uses of recycled water, whether or not it is currently being used in the service area.

Discuss the issues constraining recycled water implementation and expansion and what could be done to address those limitations.

Describe the approaches the urban water supplier is implementing or is planning to implement to increase or encourage the use of recycled water within its service area, building upon the discussion of planned future expansion of recycled water use in the service area. Summarize them in Table 6-6. These actions may include financial incentives, funding for onsite retrofits for industrial or commercial users, public outreach, demonstration projects, building code modification, ordinances, etc.

Provide estimates of the volume of additional recycled use that could be realized by implementing any of the actions (Table 6-6).

If recycled water use is not planned to be implemented within the planning horizon of the UWMP, identify the reasons recycled water is not being considered as a potential water supply.

Identify the nearest known availability of recycled water and the obstacles (if any) to accessing this resource.

If a feasibility study has been prepared, include a reference and website link or attachment (optional).

<b>Actions</b>	<b>Description</b>	<b>Planned Implementation Year</b>	<b>Expected increase in recycled water supply (AFY)</b>
Name of Action			
Name of Action			
Name of Action			
<b>Total</b>			<b>0</b>

The water supplier may not be the organization responsible for the treatment or distribution of recycled water in the service area. However, water agencies will need to coordinate with the local wastewater treatment operator and recycled water purveyor in order to address opportunities to expand recycled water use, assess revenue impacts to both agencies, and identify common benefits. These actions can include supporting the wastewater agencies plant upgrades to increase recycled water use. These actions should be included in Table 6-6, as applicable.

## 6.6 Desalinated Water Opportunities

*CWC 10631(h)*

*Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.*

UWMP preparers are required to consider the potential for desalinated water as a water supply option. Identify and discuss opportunities for development of desalinated water supplies from ocean water, brackish surface water, and brackish groundwater. Indicate the level to which desalination is being considered.

**Tables** If surface water, groundwater, or seawater is being desalinated, or planned to be desalinated, the current and/or projected volume(s) will be reported in the desalinated water entry on Table 6-8. The source of the water and the measurement of total dissolved solids (TDS) may be included in the “Detail” column of Table 6-8, or as a narrative.

If the water supplier deems that there are no opportunities for development of desalinated water sources within the planning horizon of the 2015 UWMP, the supplier is to clearly indicate that desalination is not being considered and discuss why.

## 6.7 Exchanges or Transfers

*CWC 10631(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.*

Describe any planned or potential future water exchanges or transfers. The narrative description may include the name(s) of any other agencies participating in the transfer or exchange, the volume of water expected to be transferred or exchanged, and a description of the expected

time frame, whether the exchange or transfer is long or short term, and over what time period it is expected to occur.

For purposes of the UWMP, water agencies will make their own determination as to whether a water demand is an exchange, transfer, or a sale.

**Tables.** Enter exchange and transfer information into Table 6-8.

### **6.7.1 Exchanges**

Water exchanges are typically water delivered by one water user to another water user, with the receiving water user returning the water at a specified time or when the conditions of the parties' agreement are met. Water exchanges can be strictly a return of water on a basis agreed upon by the participants or can include payment and the return of water. The water returned may or may not be an "even" exchange. Water can be returned on a one-for-one basis or by another arrangement (e.g., for each acre-foot [AF] of water received, 2 AF are returned).

### **6.7.2 Transfers**

The California Water Code (CWC) defines a water transfer as a temporary or long-term change in the point of diversion, place of use, or purpose of use due to a transfer, sale, lease, or exchange of water or water rights. Temporary water transfers have a duration of one year or less (CWC Section 1725). Long-term water transfers have a duration of more than one year (CWC Section 1728).

Transfers can be between water districts that are neighboring or across the state, provided there is a means to convey or store the water. A water transfer can be a temporary or permanent sale of water or a water right by the water right holder, a lease of the right to use water from the water right holder, or a sale or lease of a contractual right to water supply. Water transfers can also take the form of long-term contracts for the purpose of improving long-term supply reliability.

### **6.7.3 Emergency Interties**

Emergency interties are addressed in Chapter 7, Water Supply Reliability.

## 6.8 Future Water Projects

*CWC 10631(g) ...The urban water supplier shall include a detailed description of expected future projects and programs... that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.*

Identify and describe expected future projects and programs that the supplier may implement to increase their water supply. Include a description of the expected increase in water supply and an estimated timeline for implementation.

Capital improvement projects that do not increase the water supply to the water agency should not be included in Table 6-7.

**Table.** Complete Table 6-7.

Table 6-7 Wholesale Future Water Supply Projects				
Actions	Joint Project with other agencies?	Description	Planned Implementation Year	Expected increase in water supply (AFY)
<input type="checkbox"/>	No Future Water Supply Projects			
Name of Action	Y/N	Agency Name		
Name of Action				
Name of Action				
<b>Total</b>				<b>0</b>
Table 6-7 Retail Future Water Supply Projects				
Actions	Joint Project with other agencies?	Description	Planned Implementation Year	Expected increase in water supply (AFY)
<input type="checkbox"/>	No Future Water Supply Projects			
Name of Action	Y/N	Agency Name		
Name of Action				
Name of Action				
<b>Total</b>				<b>0</b>

## 6.9 Summary of Existing and Planned Sources of Water

*CWC 10631*

*(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision 10631(a).*

*(4) (Provide a) detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.*

**Table 6-8 WHOLESALE Water supplies — current and projected**

Drop down menu - May use each category multiple times.	Detail	2015			2020		2025		2030		2035		2040 (opt)	
		Actual Volume	Level of Treatment of Source Water	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Purchased Water	Name of Supplying Agency		Drop Down											
Groundwater	Name of Basin or Area		Raw or Potable											
Surface water														
Recycled Water	Name of Supplying Agency													
Desalinated Water														
Stormwater Use														
Transfers	Name of Supplying Agency													
Exchanges	Name of Supplying Agency													
Other														
<b>Total</b>				0	0	0	0	0	0	0	0	0	0	0

**Table 6-8 RETAIL Water supplies — current and projected**

Drop down menu - May use each category multiple times.	Detail	2015			2020		2025		2030		2035		2040 (opt)	
		Actual Volume	Level of Treatment of Source Water	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Purchased Water	Name of Supplying Agency		Drop Down											
Groundwater	Name of Basin or Area		Raw or Potable											
Surface water														
Recycled Water	Name of Supplying Agency													
Desalinated Water														
Stormwater Use														
Transfers	Name of Supplying Agency													
Exchanges	Name of Supplying Agency													
Other														
<b>Total</b>				0	0	0	0	0	0	0	0	0	0	0

**Table 6-8** Wholesale agencies will use the wholesale table, retail agencies will use the retail table, and agencies that are both retail as wholesale shall complete both tables. See section 2.1.1 to determine if the agency is a wholesaler, a retailer, or both.

Provide the volume of water, by source, as the volume that is reasonably available, based on historical deliveries for average years. The table also provides a column for optional reporting of the volume of the agency’s total water right or total capacity. For some agencies, these values will be identical. State Water Project (SWP) reliability projections are an excellent source of reasonably available water volumes for agencies that are contractors to the SWP. Water

supply projections from wholesale agencies are also a source for reasonably available supplies for retail agencies that receive water from wholesalers.

**Note:** For purposes of the UWMP, water conservation is not classified as a source of water, but should be reflected as a decrease in demand, as described in Chapter 4.

### **6.10 Climate Change Impacts to Supply (Optional)**

DWR recommends that water agencies complete the IRWM Climate Change Vulnerability Assessment (Appendix I) and include in this chapter a narrative summary of “Section II Water Supply”.

DRAFT

## Chapter 7

# Water Supply Reliability Assessment

Assessment of water supply reliability is complex and dependent upon a number of factors, such as the number of water sources, regulatory and legal constraints, climate change, and expected growth, among others. Water agencies are to make their best determination of the reliability of their water supply(ies) based upon what is known by the agency at the time the 2015 UWMP is prepared.

This chapter of the Guidebook provides guidance for describing the long term reliability of an urban water supplier's water supplies. Shorter term reliability planning that may require immediate action, such as drought or a catastrophic supply interruption, is addressed in Chapter 8, Water Shortage Contingency Planning.

Specific guidance an urban water supplier should consider in preparing this part of a UWMP includes:

DWR's Draft State Water Project Delivery Capability Report 2015  
Weather information from The National Weather Service (<http://www.nws.noaa.gov/>)  
Runoff data from  
DWR (<http://cdec.water.ca.gov/>),  
US Geological Survey (<http://waterdata.usgs.gov/ca.nwis/sw>)  
Operators of local dams

The following subsections are included in this chapter:

- 7.1 Constraints on Water Sources
- 7.2 Reliability by Type of Year
- 7.3 Supply and Demand Assessment
- 7.4 Regional Supply Reliability

## 7.1 Constraints on Water Sources

*CWC 10631(c)(2)*

*For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.*

*CWC Section 10634*

*The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.*

Provide a description of any constraints on the agency's water supply, such as inconsistent availability or water quality issues, that have been identified by the water agency. Also include the management strategies that have been, or will be, employed to address the constraint. This narrative description is critical to explaining the degree and probability of any constraint to a water source.

Agencies that are both wholesalers and retailers should clearly identify if a particular constraint is related to their wholesale or retail operation.

The narrative will include:

- A description of any particular circumstances that would make a source inconsistent, for example, a legal, environmental or climatic factor. This estimation of inconsistent sources is determined by the water agency, is based on the information known by the water agency at the time the 2015 UWMP is prepared, and projects to the foreseeable future.
- Known future constraints on water supplies, such as declining groundwater levels, sea level rise, or diminishing snow pack.
- A description of the quality of source water and how the water quality may affect water management strategies and/or supply reliability for the water agency. The estimation that water quality may impact management strategies or water supply is determined by the water agency, is based on the information known by the water agency at the time the 2015 UWMP is prepared, and projects to the foreseeable future.
- Planned actions and water management strategies to address noted vulnerabilities and inconsistencies.
  - A description of plans to supplement or replace these sources with alternative sources or water demand management measures, to the extent practicable.

If there is another section within the UWMP that describes a constraint on a particular water source and/or plans to supplement this source, there is no need to repeat this information in this section. Simply refer the reader to the other sections within the UWMP that provide these details.

### Recommended

Agencies may choose to include the most recent Consumer Confidence Report for their water supplies as an appendix.

Maps, charts, graphs, or other visual tools are recommended when they can illustrate a water quality issue.

Include a summary of the water quality information from such documents as the Climate Change Vulnerability Assessment, Groundwater Management Plans, Salt and Nutrient Plans and other relevant documents, as applicable.

## 7.2 Reliability by Type of Year

*CWC 10631(c) (1)*

*Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following: (A) an average water year, (B) a single dry water year, (C) multiple dry water years.*

Describe the historic reliability of the water supply and any vulnerability to seasonal or climatic shortage, to the extent practicable.

**Table 7-1** Bases of Water Year Data. This table lists the years that the agency identifies as their historical average, single driest year, and driest multi-year period. These years are known as the “Base Years”. In the “Base Year” column of the table, the UWMP preparer will specify the years that represent each year type. Historic hydrologic data are commonly used to establish water year types.

In the “Available Supplies” column, the preparer will specify the percentage and/or volume of water supply expected if there were to be a repeat of the hydrology from that type of year.

- **Percentage.** The percentage of an average year water supply that would be available if the dry year hydrology were repeated.

- **Volume.** The volume of water that would be available if the dry year hydrology were repeated.

**Narrative.** Provide the source, or describe the method used, to estimate water reliability and to determine which years represent the agency’s average, single-dry and multiple-dry years.

### 7.2.1 Types of Years

*Average Year* — a year, or an averaged range of years, that most closely represents the median water supply availability to the agency. The UWMP Act uses the term “normal.” conditions. Within this guidebook the terms “normal” and “average” are used interchangeably.

*Single-dry year* —the year with the lowest water supply availability to the agency. Generally considered to be the lowest annual runoff for a watershed since the water-year beginning in 1903.

*Multiple-dry year period* —the lowest average water supply availability to the agency for a consecutive multiple year period (three years or more). Generally considered to be the lowest average runoff for a consecutive multiple year period (three years or more) for a watershed since 1903. DWR has interpreted “multiple dry years” to mean three dry years. But water agencies may choose to project their water supplies for a multiple dry year period that lasts longer than three years.

For State Water Project contractors, information on the water supply available in these water year categories is contained in the SWP Delivery Capability Report.

Weather information is available at:

The National Weather Service website <http://www.nws.noaa.gov/>.

California Irrigation Management Information Systems (CIMIS)  
<http://www.cimis.water.ca.gov/>

Runoff data are available at:

DWR (<http://cdec.water.ca.gov/>),

US Geological Survey (<http://waterdata.usgs.gov/ca/nwis/sw>),

Operators of local dams

Groundwater information is available at:

State of California Sustainable Groundwater Management Website  
<http://groundwater.ca.gov/cagroundwater/index.cfm>

California Statewide Groundwater Elevation Monitoring (CASGEM)  
<http://www.water.ca.gov/groundwater/casgem/>

Table 7-1 Wholesale: Bases of water year data			
Year Type	Base Year	Available supplies if year type repeats	
		Agency may complete these columns for volume only, percent only, or both	
		Volume available	% of avg supply
Average Year			100%
Single-Dry Year			
Multiple-Dry Years 1st Year			
Multiple-Dry Years 2nd Year			
Multiple-Dry Years 3rd Year			

Table 7-1 Retail: Bases of water year data			
Year Type	Base Year	Available supplies if year type repeats	
		Agency may complete these columns for volume only, percent only, or both	
		Volume available	% of avg supply
Average Year			100%
Single-Dry Year			
Multiple-Dry Years 1st Year			
Multiple-Dry Years 2nd Year			
Multiple-Dry Years 3rd Year			

### 7.2.2 Agencies with Multiple Sources of Water

#### RECOMMENDED

An agency may have multiple water sources and each may have a different hydrology, resulting in different base years. For example, an imported source of water may have been very constrained in a different year compared to a local water source.

**Table 7.1** Agencies may report the basis of water year data either as an estimated aggregation of all their water sources, or by individual water source. If an agency chooses to report the bases by individual water source, additional tables may be included in the UWMP.

**Tables 7-2 and 7-3** Agencies may report total projected water supplies for single and multiple dry years either as an estimated aggregation of all their water sources or by individual water source. If an agency chooses to report projections by individual water source, additional tables may be included.

### 7.3 Supply and Demand Assessment

*CWC 10635(a)*

*Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional or local agency population projections within the service area of the urban water supplier.*

Water agencies are to make their best determination of the reliability of their water supply(ies) based upon what is known by the agency at the time the 2015 UWMP is prepared.

Assess the water agency's supply reliability for normal (average), single-dry year, and multiple-dry years for 2015, 2020, 2025, 2030 and 2035. Provide the water supply reliability assessment in two formats:

- **Tables.** Quantify supply and demand for the various types of years using Tables 7-2, 7-3, and 7-4.

NOTE: Table 7-2 reports the data for a normal year and these values will already have been entered into Tables 4-3 (Demand) Table 6-8 (Supply). Therefore, this table (Table 7-2) will be automatically filled using the previously entered data from Table 4-3 and Table 6-8.

- **Narrative.** Provide a narrative that summarizes the information found in the Tables.

<b>Table 7-2 Wholesale: Normal Year Supply and Demand Comparison</b>						
	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040 -Opt</b>
Supply totals (autofill)						
Demand totals (autofill)						
Difference	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)

<b>Table 7-2 Retail: Normal Year Supply and Demand Comparison</b>						
	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040 -Opt</b>
Supply totals (autofill)						
Demand totals (autofill)						
Difference	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)

For Table 7-3 and 7-4, enter the estimated dry and multiple dry water year supplies and demands for the 20 year planning horizon.

The tables will display a negative value for years where demands are higher than supplies. If a supply shortage is shown on any of the tables, consider including a discussion of management actions that the agency will take to address the potential shortage.

Supply

Generally, supply projections for a single dry year are the normal/average expected supply (from Table 7-2) multiplied by the percentage for a single dry or multiple dry year(s) (from Table 7-1). If another method is used to assess projected supply, include a description of the method.

Demand

Include a narrative description of the methodology used to assess the projected demand totals for single dry and multi-dry years. Some factors to consider include, potential for supplemental water supplies, potential for increased irrigation demand because of low rainfall, expected demand reduction due to increased implementation of demand management measures, implementation of drought stages, savings from codes and standards, and increased drought messaging.

Table 7-3 Wholesale: Single Dry Year Supply and Demand Comparison						
	2015	2020	2025	2030	2035	2040 -Opt
Supply totals						
Demand totals						
Difference	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison						
	2015	2020	2025	2030	2035	2040 -Opt
Supply totals						
Demand totals						
Difference	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)

Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison							
		2015	2020	2025	2030	2035	2040 Opt
First year	Supply totals						
	Demand totals						
	Difference	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)
Second year	Supply totals						
	Demand totals						
	Difference	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)
Third year	Supply totals						
	Demand totals						
	Difference	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison							
		2015	2020	2025	2030	2035	2040 Opt
First year	Supply totals						
	Demand totals						
	Difference	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)
Second year	Supply totals						
	Demand totals						
	Difference	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)
Third year	Supply totals						
	Demand totals						
	Difference	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)	(auto-calculate)

## 7.4 Regional Supply Reliability

*CWC 10620 (f)*

*An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.*

Provide a summary of the water management tools and options that are being implemented, or are planned for implementation, that maximize the use of local water resources and minimize the need to import water from other regions. For example, this description may include actions such as increased implementation of demand management measures, increased use of recycled water, enhanced groundwater management, or improvements in regional water management and coordination, among other actions.

### Optional

Water suppliers may quantify increased regional supply reliability by completing Table 7-5. This Table may be completed for an individual agency, or may be completed for a region.

#### Conservation as Water Supply

For the purposes of Table 7-5 only, conservation is included as a water supply. Table 6-8 in Chapter 6 does not allow for the inclusion of “conservation” as a supply. Rather, it is reflected as a reduction in demand, as reported in Table 4-3.

#### Calculating conservation savings as a water supply volume for use in Table 7-5.

DWR has provided a method which may be used by agencies to determine the volume of conservation savings for Table 7-5. The method is in Appendix P

**Table 7-5 Wholesale: Increasing Regional Supply Reliability (Optional)**

Water Supply Sources (Drop Down Menu)	1980 (Actual)		1990 (Actual)		2000 (Actual)		2010 (Actual)		2020 (Projected)		2030 (Projected)	
	Volume	% of Supply	Volume	% of Supply	Volume	% of Supply	Volume	% of Supply	Volume	% of Supply	Volume	% of Supply
Local groundwater	<i>if available</i>		<i>if available</i>									
Local surface water												
Recycled water												
Desalination ocean												
Desalination brackish water												
Storm water capture												
Imported Water (By Source)												
Transfers into Service Area												
Other												
Conservation <sup>1</sup>												
<b>Total Water Supplies</b>												

<sup>1</sup>Conservation is included as a source of water for this table only. It may not be considered a source for use in the tables found in Chapter 6.

**Table 7-5 Retail: Increasing Regional Supply Reliability (Optional)**

Water Supply Sources (Drop Down Menu)	1980 (Actual)		1990 (Actual)		2000 (Actual)		2010 (Actual)		2020 (Projected)		2030 (Projected)	
	Volume	% of Supply	Volume	% of Supply	Volume	% of Supply	Volume	% of Supply	Volume	% of Supply	Volume	% of Supply
Local groundwater	<i>if available</i>		<i>if available</i>									
Local surface water												
Recycled water												
Desalination ocean												
Desalination brackish water												
Storm water capture												
Imported Water (By Source)												
Transfers into Service Area												
Other												
Conservation <sup>1</sup>												
<b>Total Water Supplies</b>												

<sup>1</sup>Conservation is included as a source of water for this table only. It may not be considered a source for use in the tables found in Chapter 6.

**Table 7-5 Regional: Increasing Regional Supply Reliability (Optional)**

Water Supply Sources (Drop Down Menu)	1980		1990		2000		2010		2020		2030	
	Volume	% of Supply	Volume	% of Supply	Volume	% of Supply	Volume	% of Supply	Volume	% of Supply	Volume	% of Supply
Local groundwater	<i>if available</i>		<i>if available</i>									
Local surface water												
Recycled water												
Desalination ocean												
Desalination brackish water												
Storm water capture												
Imported Water (By Source)												
Transfers into Service Area												
Other												
Conservation <sup>1</sup>												
<b>Total Water Supplies</b>												

<sup>1</sup>Conservation is included as a source of water for this table only. It may not be considered a source for use in the tables found in Chapter 6.

## Chapter 8

# Water Shortage Contingency Planning

Water shortage contingency planning is a strategic planning process to prepare and respond to water shortages. Good planning and preparation can help agencies maintain reliable supplies and reduce the impacts of supply interruptions.

This chapter provides guidance for describing the water shortage contingency planning of an urban water supplier. Included is guidance for reporting the staged response to a water shortage, such as a drought, that occur over a period of time, as well catastrophic supply interruptions which occur suddenly.

A water shortage contingency plan (WSCP) is a document that can be created separately from the UWMP, and amended as needed without amending the corresponding UWMP. However, the most current version of the WSCP must be included as part of the UWMP when the UWMP is submitted to DWR.

Specific guidance an urban water supplier should consider in preparing this part of a UWMP includes:

DWRs Urban Drought Guidebook 2008 Edition - provides extensive guidance for water shortage contingency planning, more detail than can be addressed in one chapter of the 2015 UWMP Guidebook.

[http://www.water.ca.gov/pubs/planning/urban\\_drought\\_guidebook/urban\\_drought\\_guidebook\\_2008.pdf](http://www.water.ca.gov/pubs/planning/urban_drought_guidebook/urban_drought_guidebook_2008.pdf)

DWRs California Drought Contingency Plan (2010)

[http://www.water.ca.gov/waterconditions/docs/Final\\_CA\\_Drought\\_Contingency\\_Plan-11-18-2010a.pdf](http://www.water.ca.gov/waterconditions/docs/Final_CA_Drought_Contingency_Plan-11-18-2010a.pdf)

California's Most Significant Droughts: Comparing Historical and Recent Conditions, DWR 2015

[http://www.water.ca.gov/waterconditions/docs/California\\_Significant\\_Droughts\\_2015\\_small.pdf](http://www.water.ca.gov/waterconditions/docs/California_Significant_Droughts_2015_small.pdf)

The following sections are included in this chapter:

8.1 Stages of Action

8.2 Prohibitions on End Users

8.3 Penalties, Charges, Other Enforcement of Prohibitions

8.4 Consumption Reduction Methods by Agencies

8.5 Determining Reductions

8.6 Revenue and Expenditure Impacts

8.7 Resolution or Ordinance

8.8 Catastrophic Supply Interruption

8.9 Minimum Supply Next Three Years

DRAFT

*CWC 10632 (a)*

*The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier.*

Water agencies are only required to submit information in a WSCP that is within their authority.

## 8.1 Stages of Action

*CWC 10632 (a)*

*(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.*

The number of stages in a WSCP is at the discretion of the water supplier. Typically, water agencies will have between 3 and 5 stages. The stages will demonstrate increasing water shortages and increasing levels of prohibitions and consumption reduction methods. **Agencies must include a stage that addresses a reduction of 50 percent in water supply.** Many agencies include a water waste prohibition stage in the WSCP that is always in force.

**Tables** The water supply conditions that identify each stage are identified in Table 8-1. In this table, water agencies may identify the stage by either the percent supply reduction, or the water supply condition. Table 8-2 (retail only) reports the prohibitions that the agency places on end-users in each stage. Table 8-3 (retail only) reports consumption reduction methods that are implemented specifically by the water agency in each stage. Agencies will make their own determination as to which prohibitions, and at which stage a prohibition should be enforced, as appropriate for their service area.

**Narrative** Include an outline of the specific water supply conditions applicable to each stage. Many agencies have more than one water source and will rely on the different sources as they are available. This situation provides a level of complexity that is not easily captured in a data table. Therefore, a narrative description is necessary. Some examples of water supply condition include specific reservoir levels, levels of precipitation, groundwater availability, or water delivery estimates from other water agencies.

**Recommended**

The description of the stages should include a description of the process that will be used to implement the stages of action. Perhaps moving from one stage to another is automatically triggered once water supplies have reached a certain percent of average supply or perhaps the governing board is required to make the determination that it is necessary to move to another stage.

**Recommended for Extreme Drought**

Though not required by the Water Code, DWR recommends that water agencies include a stage, or a plan of action, to address severe water shortages of over a 50% reduction in water supply. This can be especially important in a series of dry years and particularly for water agencies that have only one source of supply. A description of this stage, or plan of action, may include a discussion of possible sources of additional water supply and a discussion of actions that may be implemented to address basic health and safety needs of the community.

<b>Table 8-1 Wholesale: Stages of WSCP</b>		
<b>Stage</b>	<b>Complete One or Both</b>	
	<b>Percent Supply Reduction<sup>1</sup></b>	<b>Water Supply Condition</b>
	<i>numerical value as percent</i>	<i>narrative description</i>
<b>Table 8-1 Retail : Stages of WSCP</b>		
<b>Stage</b>	<b>Complete One or Both</b>	
	<b>Percent Supply Reduction<sup>1</sup></b>	<b>Water Supply Condition</b>
	<i>numerical value as percent</i>	<i>narrative description</i>

## 8.2 Prohibitions on End Users

### RETAIL ONLY

*CWC 10632 (a)*

*(4) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.*

*(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.*

Agencies may reference any document in this section that provides additional details of prohibitions and stages in order to capture specific language.

**Categories of Prohibitions.** Agencies are not required to utilize any of these categories of prohibitions. They are provided in Table 8-3 in a drop down menu simply for ease of reporting and data collection. This list was compiled from 2010 UWMPs. Note that the option of “Other” is also included in the drop down and should be used for any other prohibitions not captured in the drop down menu. Agencies will make their own determination as to which stage and prohibitions are most appropriate for their service area.

A column in Table 8-2 provides an optional field for the UWMP preparer to include additional detail about the restriction or prohibition category selected, if needed. This table also includes a column for reporting of any penalties, charges or other enforcement (see Section 8.3) that may be associated with the listed prohibitions.

#### 8.2.1 Landscape Irrigation

Restrict or prohibit runoff from landscape irrigation – Examples include: Irrigation runoff is to be prevented. Excessive irrigation runoff is prohibited. Irrigation runoff is prohibited.

Limit landscape irrigation to specific times – Examples include: Landscape irrigation is limited to between the hours of 9:00pm and 6:00am. Landscape irrigation is limited to eight minutes per day duration.

Limit landscape irrigation to specific days – Examples include: Even numbered addresses are allowed to water only on Tuesday, Thursday, and Saturday. Landscape irrigation is allowed only two days per week. Landscape irrigation is only allowed one day per week.

Prohibit certain types of landscape irrigation – Examples include: The use of sprinkler irrigation is prohibited. Irrigation of turf is prohibited, except with recycled water. Only irrigation of trees and shrubs is allowed.

Prohibit all landscape irrigation – Examples include: All landscape irrigation using potable water is prohibited. All landscape irrigation is prohibited.

Other landscape restriction or prohibition – Examples include: Any other landscape restriction or prohibition utilized by the agency.

### **8.2.2 Commercial, Industrial, Institutional (CII)**

Lodging establishment must offer opt out of linen service – Examples include: Lodging establishments are required to place notices in each room that informs the guest that they may opt out of linen service.

Restaurants may only serve water upon request – Examples include: Restaurants may not serve water to customers unless requested.

Commercial kitchens required to use pre-rinse spray valves – Examples include: Any commercial kitchen is required to use a pre-rinse spray valve as part of their dish washing operation.

Other CII restriction or prohibition – Examples include: Any other CII restriction or prohibition selected by the agency.

### **8.2.3 Water Features and Swimming Pools**

Restrict water use for decorative water features, such as fountains – Examples include: Decorative water features may only be operated if they use recirculating water. Decorative water features shall not be allowed to operate.

Require covers for pools and spas – Examples include: Every swimming pool and spa is required to cover the surface of the pool or spa with a cover that reduces evaporation during hours that the pool or spa is not in use.

Restrict filling of residential swimming pools – Examples include: Swimming pools may not be filled unless authorized by a permit. Only new swimming pools are allowed to be filled. Water may not be used to fill a pool or to replace water lost to evaporation and use.

Other water feature or swimming pool restriction – Examples include: Any other restriction or prohibition selected by the agency for reducing water use in water features or swimming pools.

### 8.2.4 Defining Water Features

*CWC 10632*

*(b) Commencing with the urban water management plan update due July 1, 2016, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.*

*Health and Safety Code Section 115921*

*As used in this article the following terms have the following meanings:*

*(a) "Swimming pool" or "pool" means any structure intended for swimming or recreational bathing that contains water over 18 inches deep. "Swimming pool" includes in-ground and aboveground structures and includes, but is not limited to, hot tubs, spas, portable spas, and non-portable wading pools.*

If an agency chooses to include a limitation or prohibition of water use in water features, this prohibition or limitation is limited to decorative water features and does not apply to swimming pools or spas, which must be listed separately.

Agencies that wish to include limitations on pools or spas must specifically list those limitations separately from limitations on water features.

### RECOMMENDED

Agencies may provide a definition that distinguishes water features from swimming pools. An example of this would be to divide the two uses as “decorative water features” and “recreational water features.”

### 8.2.5 Other

Customers must repair leaks, breaks, and malfunctions in a timely manner – Examples include: Broken or malfunctioning sprinkler heads must be repaired within 48 hours after the customer receives a notification from the water agency. All leaks or breaks must be repaired by the customer within 48 hours of receiving a notification from the water agency.

Require automatic shut of hoses – Examples include: Hoses may only be operated out of doors if they are equipped with an automatic shut off nozzle.

Prohibit use of potable water for construction and dust control – Examples include: Potable water may not be used for construction or dust control.

Prohibit use of potable water for washing hard surfaces – Examples include: Potable water may not be used to wash hard surfaces, such as driveways or sidewalks, except in cases of health and safety.

Prohibit vehicle washing except at facilities using recycled or recirculating water – Examples include: Vehicles may not be washed except at a facility that uses recycled or recirculating water.

Other – Examples include: Any other restriction or prohibition selected by the water agency to reduce water consumption.

### **Recommended**

Key savings are to be found in mandatory measures that address irrigation of landscape, particularly turf. Water agencies are encouraged to include measures that limit turf and other landscape irrigation.

Agency may choose to discuss the expected water savings at each stage based on the actions that will be taken. These expected savings may be estimated based on an agency's past experiences, or from studies and reports that have determined savings based on specific implementation.

## **8.3 Penalties, Charges, Other Enforcement of Prohibitions**

### **RETAIL ONLY**

Wholesale water agencies will report any mechanism used to enforce consumption reduction or supply management as part of their WSCP in Section 8.4.

*CWC 10632 (a)*

*(6) Penalties or charges for excessive use, where applicable.*

**Table 8.2** In the last column of Table 8.2, indicate whether or not the water agency has a penalty, charge, or other mechanism for enforcing the stated limitation or prohibition.

## **Narrative**

Include a narrative description, as applicable, of how the agency will enforce prohibitions from Section 8.2 that are listed in Table 8-2. For example, in the case of most prohibitions, agencies will issue a warning followed by increasing levels of fines for repeat offenses.

If an agency utilizes their rate structure as an enforcement mechanism, they may provide detailed information of their drought and/or conservation rate structures in an appendix and summarize the key points in the main body of the UWMP in the following sections, as applicable:

- Section 8.3 Penalties, Charges, and Other Enforcement
- Section 8.6.1 Impacts to Revenue and Expenditure
- Section 9.1.3 Conservation rate structures

Table 8-2 Retail Only: Restrictions and Prohibitions on End Users			
Stage	Restrictions and Prohibitions to End Users <i>Drop down menu with categories</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? Y/N
	<b>Landscape Irrigation</b>		
	Restrict or prohibit runoff from landscape irrigation		
	Limit landscape irrigation to specific times		
	Limit landscape irrigation to specific days		
	Prohibit certain types of landscape irrigation		
	Prohibit all landscape irrigation		
	Other landscape restriction or prohibition		
	<b>CII</b>		
	Lodging establishment must offer opt out of linen service		
	Restaurants may only serve water upon request		
	Commercial kitchens required to use pre-rinse spray valves		
	Other CII restriction or prohibition		
	<b>Water Features and Swimming Pools</b>		
	Restrict water use for decorative water features, such as fountains		
	Require covers for pools and spas		
	Restrict filling of residential swimming pools		
	Other water feature or swimming pool restriction		
	<b>Other</b>		
	Customers must repair leaks, breaks, and malfunctions in a timely manner		
	Require automatic shut of hoses		
	Prohibit use of potable water for construction and dust control		
	Prohibit use of potable water for washing hard surfaces		
	Prohibit vehicle washing except at facilities using recycled or recirculating water		
	Other		

## 8.4 Consumption Reduction Methods by Agencies

Consumption reduction methods are actions that are taken solely by the water agency.

*CWC 10632 (a)*

*(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.*

### 8.4.1 Retail Agencies

**Categories of Consumption Reduction Methods** The categories of consumption reduction methods are listed below along with examples of specific actions that could fall into each category. Agencies are not required to utilize any of these consumption reduction methods. They are provided in Table 8-3 in a drop down menu simply for ease of reporting and data collection. This list was compiled from 2010 UWMPs. Note that the option of “Other” is also included in the drop down and should be used for any other methods not captured in the drop down menu. Agencies will make their own determination as to which stage and consumption reduction methods are most appropriate for their service area.

Expand Public Information Campaign – Begin or enlarge media campaign. Create bill insert with conservation information. Write articles for local newspaper. Conduct water efficiency workshops for different customer sectors.

Improve Customer Billing – Increase billing frequency. Change format to report consumption in gallons per capita per day. Add information to the bill comparing the customer’s use to similar customers.

Increase Frequency of Meter Reading – Change from bi-monthly to monthly meter reading. Employ AMI so that meters are read in real time.

Offer Water Use Surveys – Actively reach out to high water users to offer water use surveys. Expand water use survey program to include new sectors.

Provide Rebates or Giveaways of Plumbing Fixtures and Devices – Implement new (toilet, clothes washer, etcetera) rebate programs. Implement new (shower head, aerator, etcetera) giveaway programs. Expand rebate programs by including new types of rebates. Offer a higher dollar value for each rebate. Expand funding for existing rebate or giveaway programs

Provide Rebates for Landscape Irrigation Efficiency – Implement a new landscape efficiency rebate program that provides rebates for landscape conversion, irrigation controllers, sprinkler heads, etc... Expand an existing rebate program that provides rebates for landscape conversion, irrigation controllers, sprinkler heads, etc...

Decrease Line Flushing – Decrease the length of time for each line flushing. Decrease the frequency of line flushing.

Reduce System Water Loss – Implement a water audit program to identify leaks in the water system. Expand the leak repair program to control system losses. Refer to Chapter 4, section 4.2 for audit protocols.

Increase Water Waste Patrols – Implement a Water Waste Patrol program. Increase staffing for Water Waste Patrol. Increase authority of Water Waste Patrol.

Moratorium or Net Zero Demand Increase on New Connections – The water supplier does not approve new water service connections, or the water supplier will only approve a new connection if the applicant can demonstrate a net zero demand increase for the new connection. “Net Zero Demand Increase” requires that a project’s water use is offset with conservation projects inside or outside of the project area.

Implement or Modify Drought Rate Structure or Surcharge – (see Section 8.4.2) Implement a drought rate structure. Modify a drought rate structure. Implement a drought surcharge on all customers.

Drought Rate Structures or Surcharge - Water agencies may rely solely on their rate structures for consumption reduction, particularly if they have a drought rate structure in place for use as needed during a water shortage.

Water agencies should seek legal counsel when considering a change or addition to a drought or conservation rate structure. A drought rate structure or surcharge that is implemented in times of water shortage is different than a conservation rate structure, which is in place at all times. When considering a new rate structure, some agencies have embedded a drought rate structure within their proposed conservation rate structure. This avoids the difficulty and delay of instituting a drought structure during an emergency and streamlines the public process so that all rate structures are reviewed together.

Appendix N provides a case study of a retail water agency’s experience changing to a new rate structure that included a water shortage contingency plan with an embedded drought rate structure.

Agencies may choose to provide detailed information of their drought and/or conservation rate structures in an appendix and summarize the key points in the main body of the UWMP in the following sections:

- Section 8.4 Penalties, Charges, and Other Enforcement
- Section 8.6 Impacts to Revenue and Expenditure
- Section 9.1.3 Conservation rate structures

Other – Any other action that the agency may take to reduce water consumption.

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**Table 8-3** provides a drop down menu of common categories of consumption reduction methods that can be used by a water agency. An adjacent column in Table 8-3 provides a field for the UWMP preparer to include additional details about the consumption reduction methods, if needed. The categories of consumption reduction methods are listed below along with examples of specific actions that could fall into each category.

<b>Table 8-3 Retail Only: Stages of WSCP - Consumption Reduction Methods</b>		
<b>Stage</b>	<b>Consumption Reduction Methods by Water Supplier</b> <i>Drop down menu with categories</i>	<b>Additional Explanation or Reference (optional)</b>
	Expand Public Information Campaign	
	Improve Customer Billing	
	Increase Frequency of Meter Reading	
	Offer Water Use Surveys	
	Provide Rebates on Plumbing Fixtures and Devices	
	Provide Rebates for Landscape Irrigation Efficiency	
	Provide Rebates for Turf Replacement	
	Decrease Line Flushing	
	Reduce System Water Loss	
	Increase Water Waste Patrols	
	Moratorium or Net Zero Demand Increase on New Connections	
	Implement or Modify Drought Rate Structure or Surcharge	
	Other	

### 8.4.2 Wholesale Agencies

The water shortage contingency analysis for wholesale agencies must describe the agency’s plan for reducing consumption, or, perhaps more aptly for a wholesaler, the agency’s strategy for supply management.

## Recommendation

If the wholesale agency has a Supply and Drought Management and/or Allocation Plan, this should be attached to the UWMP and briefly summarized in this section.

## 8.5 Determining Reductions

*CWC 10632(a)*

*(9) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.*

Discuss how the water supplier will measure and determine actual water savings made from implementing the stages of the water shortage contingency plan.

This requirement may be addressed by relying upon water meters to record the production and consumption of water. If the water agency is not metered, a description of the method used to measure consumption reduction must be included in the UWMP.

## 8.6 Revenue and Expenditure Impacts

*CWC 10632 (a)*

*(7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.*

Discuss the expected change in revenue and expenditure to the water agency as a result of implementing the Water Shortage Contingency Plan. Agencies typically experience a decrease in revenue with reduced water sales. Expenditures can also be expected to increase during water shortages as a result of increased outreach to customers about water conservation, possibly as a result of purchasing new water supplies, and possibly as a result of developing and implementing a drought rate structure.

### 8.6.1 Drought Rate Structures, Surcharges (also see Section 8.4.2)

Well-designed rate structures can reduce the potential financial effects of water shortages and enable the supplier to recover its purchase, treatment, and delivery costs, as well as the additional costs related to the water shortage response program.

If an agency includes a discussion of rate structures as part of the revenue and expenditure discussion, they may provide detailed information of their drought and/or conservation rate structures in an appendix and summarize the key points in the main body of the UWMP in the following sections, as applicable:

- Section 8.4 Penalties, Charges, and Other Enforcement
- Section 8.6 Impacts to Revenue and Expenditure
- Section 9.1.3 Conservation rate structures

Drought surcharges are not tied to a rate structure but impose a surcharge on customers during a water shortage. The surcharge enables the water agency to cover the additional expenses incurred during a water shortage, such as additional public outreach on conservation and acquisition of additional or more expensive water supplies.

### **8.6.2 Use of Financial Reserves**

Discuss the agency's planned use of financial reserves to address decreased water sales during a water shortage (if applicable). Water suppliers may maintain a dry-year contingency reserve fund to protect revenue through two or more consecutive years of supply reductions below normal demand levels.

### **8.6.3 Other Measures**

Include a discussion of any other proposed measures that the water agency may take to overcome impacts to revenues and expenditures. For example, some agencies may consider postponement of capital improvements, a capital improvement reserve fund, or reduction in agency staff.

## **8.7 Resolution or Ordinance**

*CWC 10632 (a) (8)*

*A draft water shortage contingency resolution or ordinance.*

Water agencies are required to develop a water shortage contingency resolution or ordinance for submittal with the UWMP. Include a draft or approved/adopted water shortage contingency resolution or ordinance in the UWMP.

It is at the discretion of the agency to choose to adopt a water shortage contingency resolution or ordinance in advance of a water shortage, or to hold it as a draft to be adopted when needed. The WSCP and the resolution or ordinance may be adopted with the UWMP or may be adopted

separately. The WSCP is considered a stand-alone document; if the WSCP is updated after the UWMP has been submitted to DWR, it is not necessary to amend the UWMP. The most recent WSCP (draft or adopted) must be included when a UWMP is adopted by the governing body of the water agency.

## 8.8 Catastrophic Supply Interruption

*CWC 10632(a)(3)*

*Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.*

Identify what actions will be taken by a water supplier if there is a catastrophic reduction in water supplies. Catastrophic supply interruptions differ from the staged drought responses addressed earlier in this chapter in that catastrophic interruptions occur suddenly and can immediately jeopardize a large portion, or all, of an agency's water supply.

The Water Code requires that agencies specifically address catastrophic interruptions due to a regional power outage or an earthquake.

Some actions that agencies may have in place include system interconnections with suppliers in the region, participation in comprehensive regional disaster plans, or participation in the Water/Wastewater Agency Response Network (WARN), a network of agencies which supports and promotes statewide emergency preparedness, disaster response, and mutual assistance matters for public and private water and wastewater utilities. Their website address is [www.calwarn.org](http://www.calwarn.org).

To address this requirement, an agency may summarize language from its Emergency Response Plan (ERP), as required by the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Public Law 107-188). Section 1433(b) requires community water systems serving populations greater than 3,300 to either prepare or revise an ERP that incorporates the results of its Vulnerability Assessment, found in section 1433(a).

## 8.9 Minimum Supply Next Three Years

*CWC 10632 (a) (2)*

*An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.*

Water agencies must provide an estimate of the minimum water supply available during each of the next three water years, 2016, 2017, and 2018. This will reflect the combined availability of all water sources assuming that the hydrology will be the same as the hydrology during the historical multiple-dry year period reported in Chapter 7, Section 7.4.

<b>Table 8-4 Wholesale: Minimum Supply Next Three Years</b>			
	<b>2016</b>	<b>2017</b>	<b>2018</b>
Available Water Supply			

<b>Table 8-4 Retail: Minimum Supply Next Three Years</b>			
	<b>2016</b>	<b>2017</b>	<b>2018</b>
Available Water Supply			

## Chapter 9

# Demand Management Measures

The goal of the Demand Management Measures (DMM) section in a UWMP is to provide a comprehensive description of the water conservation programs that a supplier has implemented, is currently implementing, and plans to implement in order to meet its urban water use reduction targets.

This section of the CWC was significantly modified in 2014 by Assembly Bill 2067, as recommended by the Independent Technical Panel (ITP). In its report to the Legislature, the ITP recommended that the Urban Water Management Planning Act should be amended to simplify, clarify, and update the demand management measure reporting requirements. The ITP recommended, and the legislature enacted, streamlining the retail agency requirements from 14 specific measures to six more general requirements plus an “other” category. For wholesalers the requirements changed to three specific measures, an “other” category, and a narrative description of asset management and wholesale supplier assistance programs.

The DMM chapter of a UWMP provides the opportunity for water suppliers to communicate their efforts to promote conservation and to reduce the demand on the water supply.

The following organization is not required. Agencies may organize by type of DMM and under each, describe past and future implementation.

This chapter contains the following sections:

- 9.1 Demand Management Measures for Wholesale Agencies
- 9.2 Demand Management Measures for Retail Agencies
- 9.3 Implementation over the Past Five Years (*Retail agencies only*)
- 9.4 Planned Implementation to Achieve Water Use Targets (*Retail agencies only*)
- 9.5 Members of the California Urban Water Conservation Council

## 9.1 Demand Management Measures for Wholesale Agencies

*CWC 10631 (f)*

*Provide a description of the (wholesale) supplier's water demand management measures. This description shall include all of the following:*

*(1)(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:*

- (ii) Metering.*
- (iv) Public education and outreach.*
- (vi) Water conservation program coordination and staffing support.*
- (vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.*

*(2) For an urban wholesale water supplier, as defined in Section 10608.12, (provide) a narrative description of the items in clauses (ii), (iv), (vi), and (vii) of subparagraph (B) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs.*

Wholesale agencies must provide narrative descriptions of four specific measures, metering, public education and outreach, water conservation program coordination and staffing support, and other demand management measures, as well as a narrative of asset management and wholesale supplier assistance programs.

### 9.1.1 Metering

An agency that is fully metered should state that fact in the UWMP.

If an agency is not yet fully metered, it should discuss its plans for becoming fully metered.

Agencies are encouraged to include a discussion of their programs for meter replacement and/or calibration.

### 9.1.2 Public education and outreach

Describe the public education and outreach efforts by the wholesale water agency. This may include actions that are taken to assist the retail agencies that are served by the wholesaler.

Examples include:

- Offering water audits to customers (residential or CII),
- Marketing of rebates and give-aways,
- School education programs,
- Fairs and public events,
- Newsletters,
- Website or online tools, and social media

- Newspaper articles
- Other activities not listed here

### **9.1.3 Water conservation program coordination and staffing support**

Describe the activities of the water conservation program and staff duties, if any. The description may include the name and contact information of the water conservation coordinator(s), the number of staff in the program and how the program is funded.

### **9.1.4 Other demand management measures**

This category provides agencies the ability to report additional or innovative approaches to demand management that do not belong to either of the categories above.

If a wholesale agency will include a discussion of rate structures or supply management as part of the demand management measure discussion, they may provide detailed information in an appendix and summarize the key points in the main body of the UWMP in the following sections, as applicable:

- Section 8.4 Consumption Reduction Methods
- Section 8.6 Impacts to Revenue and Expenditure
- Section 9.1.3 Other demand management measures

### **9.1.5 Asset management**

Provide a narrative description of its distribution system asset management program. Asset management programs will vary greatly from one agency to another, from responding to needed repairs as they arise, to sophisticated GIS mapping with a formal improvement and repair program.

#### **Recommended**

Provide, or reference, any documentation that has been prepared by the agency related to their asset management.

### **9.1.6 Wholesale supplier assistance programs**

Provide a description of the wholesale supplier's assistance programs to the retail water agencies that it serves. This may include assistance with rebate programs, public education on water conservation, performing surveys for end users, or other efforts to reduce water demand. It is not necessary to duplicate descriptions that may have been provided in Section 9.1.2 Public

Education and Outreach. UWMP preparers may simply provide a reference to that section, as applicable.

## 9.2 Demand Management Measures for Retail Agencies

*CWC 10631 (f)*

*(A) ...A narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.*

*(B)The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:*

- (i) Water waste prevention ordinances.*
- (ii) Metering.*
- (iii) Conservation pricing.*
- (iv) Public education and outreach.*
- (v) Programs to assess and manage distribution system real loss.*
- (vi) Water conservation program coordination and staffing support.*
- (vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.*

Describe the planned efforts of the water agency in implementing each of the following DMM categories to meet water use targets. Agencies are also required to report these efforts over the previous 5 years, guidance for this is provided in Section 9.3.

### 9.2.1 Water waste prevention ordinances *(Retail agencies only)*

A water waste ordinance explicitly states that the waste of water is to be prevented and may prohibit specific actions that waste water, such as excessive runoff from landscape irrigation, or use of a hose outdoors without a shut off nozzle.

A water waste prevention ordinance is in place at all times and is not dependent upon a water shortage for implementation. However a water waste ordinance could include increasingly restrictive prohibitions that may be implemented in response to shortages. Some agencies include a water waste prohibition in Stage 1 of their WSCP and this stage is always in place.

If the water supplier has a water waste prevention ordinance in place, or another equivalent mechanism, it should be included as an attachment in the UWMP.

### 9.2.2 Metering

An agency that is fully metered should state that fact in the UWMP.

If an agency is not yet fully metered (the CWC requires full metering by 2025), it should discuss its plans for becoming fully metered in accordance with CWC 527 (see text box below).

*CWC 527 (a) An urban water supplier that is not subject to Section 526 shall do both the following:  
(1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.*

Agencies are encouraged to include a discussion of their programs for meter replacement and/or calibration.

Agencies may choose to include a discussion of any significant sub-metering programs, especially landscape irrigation sub-metering, that they have implemented or plan to implement.

Agencies should also consider including a discussion of any innovative metering programs, such as Advanced Metering Infrastructure (AMI), or Automatic Meter Reading (AMR) that are employed within their service area.

### **9.2.3 Conservation pricing (*Retail agencies only*)**

In this section, describe the conservation pricing structure that is used by the water agency. A conservation pricing structure is always in place and is not dependent upon a water shortage for implementation, although a conservation rate structure could include drought rate structures. See Appendix N for an example of a conservation rate structure that includes a drought rate structure that would be implemented as needed. Drought rate structures and surcharges are addressed in Chapter 8, Water Shortage Contingency Planning.

Conservation pricing sends a signal to customers regarding their water use. A common example of conservation pricing is a tiered rate structure, where low water use is priced in a low priced tier, and higher water use is in progressively higher priced tiers. Another example is the use of water budgets, wherein each customer is given a water budget and if that budget is exceeded, they must pay a penalty or pay a higher water rate for excessive use.

Agencies may provide detailed information of their drought and/or conservation rate structures in an appendix and summarize the key points in the main body of the UWMP in the following sections, as applicable:

- Section 8.4 Penalties, Charges, and Other Enforcement
- Section 8.6 Impacts to Revenue and Expenditure
- Section 9.1.3 Conservation Rate Structures

The UWMP preparer may choose to use the language from the agency's CUWCC report, if applicable, when describing the conservation rate structure.

### **9.2.4 Public education and outreach**

Describe the public education and outreach efforts by the water agency.

This may include:

- Offering water audits to customers (residential or CII),
- Marketing of rebates and give-aways,
- Communicating water use via water bills (e.g., increased frequency of billing, an easy to understand bill format, or bills that rate a customer's water use),
- School education programs,
- Fairs and public events,
- Newsletters,
- Website or online tools, and social media
- Newspaper articles
- Other activities not listed here

### **9.2.5 Programs to assess and manage distribution system real loss (*Retail agencies only*)**

Describe the agency's programs to detect and repair distribution system leaks. A mention of the measured losses reported in Chapter 4 may also be included here.

An agency may also choose to include a description of routine and planned system maintenance to prevent losses.

### **9.2.6 Water conservation program coordination and staffing support**

Describe the activities of the water conservation program and staff duties, if any. The description may include the name and contact information of the water conservation coordinator(s), the number of staff in the program and how the program is funded.

### **9.2.7 Other demand management measures**

This category provides agencies the ability to report additional or innovative approaches to demand management that do not belong to any of the categories above. This may include rebate programs offered by the agency.

### 9.3 Implementation over the Past Five Years

*CWC 10631*

*(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:*

*(1) (A) ... a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years.*

Suppliers shall provide a narrative addressing the nature and extent of each DMM implemented over the past five years, from 2010 through 2015. Each DMM listed in section 9.1 for wholesaler and 9.2 for retailers must be addressed.

Retail water suppliers should clearly describe those DMMs that are implemented by a wholesale agency on their behalf. This will avoid double counting DMM implementation.

**Nature** – Describe the activities of the particular DMM program (e.g. the dollar amount rebated for fixture replacement, the process used to inform customers of a DMM program, or the content of an education program.)

**Extent** – Quantify the DMM implementation (e.g., the number of toilets rebated, number of large landscape accounts with budgets, or the number of school presentations).

#### **Recommended**

Agencies may choose to include an overview that describes the effectiveness of the implemented DMMs in meeting their 2015 interim water use targets.

For DMMs listed in Section 9.1 or 9.2 that were not implemented, agencies may choose to include a description of the rationale for not implementing the DMMs, such as the agency is focusing all resources on the most effective DMM(s), or a description of the obstacles that prevented implementation, such as funding constraints or the lack of authority.

## 9.4 Planned Implementation to Achieve Water Use Targets *(Retail agencies only)*

*CWC 10631*

*(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:*

*(1) (A) ...The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.*

Using the list of DMMs in section 9.1, describe the DMMs that the agency plans to implement in order to achieve its water use targets (as described in CWC 10608.20 and Chapter 5 Baselines and Targets).

### **Recommended**

Water agencies may choose to include:

An overview describing the effectiveness of the DMMs in meeting their 2020 water use targets.

A description of steps necessary to implement planned measures.

How the DMM is or will be marketed or advertised.

A description of the methods that will be used to estimate the expected conservation savings for DMMs.

## 9.5 Members of the California Urban Water Conservation Council

*CWC 10631 (i) For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivision (f) by complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.*

CUWCC members have the option of submitting their 2013–2014 BMP annual reports in lieu of, or in addition to, describing the DMMs in their UWMP if the supplier is in full compliance with the CUWCC's Memorandum of Understanding (CUWCC MOU). The submitted reports must include documentation from the CUWCC that supplier has met the MOU coverage requirements and is in full compliance with the MOU.

## **Chapter 10**

# **Plan Adoption, Submittal, and Implementation**

This Section provides information on the requirements for a public hearing, the adoption process for the UWMP, how to submit an adopted UWMP, plan implementation, and the process for amending an adopted UWMP.

This chapter includes the following sections:

- 10.1 Inclusion of All 2015 Data
- 10.2 Notice of Public Hearing
- 10.3 Public Hearing and Adoption
- 10.4 Plan Submittal
- 10.5 Public Availability
- 10.6 Plan Implementation
- 10.7 Amending an Adopted UWMP

## 10.1 Inclusion of All 2015 Data

2015 UWMPs must include the water use and planning data for the entire year of 2015. If an agency is reporting on a calendar year basis, this means that the 2015 UWMP cannot be completed before the end of the calendar year 2015. If an agency is reporting on a fiscal year basis, they may complete their 2015 UWMP at the end of their fiscal year.

## 10.2 Notice of Public Hearing

Water suppliers must hold a public hearing prior to adopting the Plan. There are two audiences to be noticed for the public hearing:

Notice to cities and counties

At least 60 days prior to the public hearing, notification of UWMP review

A notice of the time and place of the public hearing

Notice to the public, as specified in Government Code 6066

### 10.2.1 Notice to Cities and Counties

#### *CWC 10621 (b)*

*Every urban water supplier required to prepare a plan shall... at least 60 days prior to the public hearing on the plan ... notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.*

#### *CWC 10642*

*The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area.*

#### 60 Day Notification

The Water Code states that the notification to cities and counties must be sent AT LEAST 60 days prior to the public hearing on the plan. Also see Section 2.4.1.

#### **Recommended**

Water agencies may send this notification to cities and counties well in advance of the 60 days, in order to provide the cities and counties ample opportunity to participate in the UWMP process. This can be noted in in Tables 2-4 and 10-1.

Notice of Public Hearing

The water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. This applies to both public and private water suppliers.

**Recommended**

Notification letters can be addressed to the City Manager or County Administrator for the cities and counties to be noticed.

The notices to the cities and counties should include the location where the 2015 UWMP can be viewed, the UWMP revision schedule, and contact information of the UWMP preparer.

<b>Table 10-1: Notification to cities and counties</b>		
<b>Names of cities and counties</b>	<b>60 Day Notice (CWC 10621 (b))</b>	<b>Notice of Public Hearing (CWC 10642)</b>
	<input type="checkbox"/>	<input type="checkbox"/>
<b>Expandable table</b>	<input type="checkbox"/>	<input type="checkbox"/>

**10.2.2 Notice to the Public**

*CWC 10642*

*Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection*

*...*

*Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code.*

*Government Code 6066*

*Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.*

The public hearing must be noticed in a local newspaper as prescribed in Government Code 6066. This notice must include time and place of hearing, as well as the location where the plan is available for public inspection.

In order to verify that this notification has taken place, the UWMP shall include a copy of the public notice.

### 10.3 Public Hearing and Adoption

*CWC 10642*

*Prior to adopting a plan, the urban water supplier ...shall hold a public hearing thereon.*

*CWC 10608.26*

*(a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:*

*(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.*

*(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.*

*(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20 for determining its urban water use target. (RETAIL AGENCIES ONLY)*

The public hearing provides an opportunity for the public to provide input to the plan before it is adopted. The governing body shall consider all public input.

The public hearing may take place at the same meeting as the adoption hearing of the governing board. If a water supplier chooses to combine these meetings, the agenda must include the public hearing as an agenda item.

In order to verify that this had been accomplished, the UWMP shall include either an agenda of the public hearing, or an agenda of the adoption hearing that includes the public hearing as an agenda item.

#### RETAIL

As part of the public hearing, the retail supplier shall provide information on their baseline values, water use targets, and implementation plan required in the Water Conservation Act of 2009. This information is fully explained in Chapter 5 Baselines and Targets.

#### 10.3.1 Adoption

*CWC 10642*

*After the hearing, the plan shall be adopted as prepared or as modified after the hearing.*

The adoption hearing of the governing body may be combined with the public hearing; however the public hearing portion must take place before the adoption portion. This allows the governing body the opportunity to modify the UWMP in response to public input before adoption.

The governing body of the water agency shall make a determination as to whether or not the UWMP shall be modified in response to public comment, or adopted as presented.

Once revisions have been made, if any, the governing board must formally adopt the UWMP.

In order to verify that the governing body has adopted the UWMP, water agencies shall include the adoption resolution.

## 10.4 Plan Submittal

*CWC 10621(d)*

*An urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.*

*CWC 10644(a)*

*An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption.*

*CWC 10635 (b)*

*The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.*

### 10.4.1 Submitting UWMP to DWR

UWMP submittal will be done electronically through a pending DWR website that will be prepared in adequate time for UWMP submittal.

After a supplier submits its Plan, DWR will review the plan utilizing the provided checklist (Appendix F) and make a determination as to whether or not the UWMP addresses the requirements of the CWC. The DWR reviewer will contact the water supplier at that time and the Department will issue a letter to the agency with the results of the review.

#### **10.4.2 Electronic Data Submittal**

DWR is in the process of developing an online submittal tool that will be used for the 2015 UWMPs. When the tool is ready for use, DWR will make an announcement to the Guidebook Advisory Committee, the Urban Stakeholder Committee, its UWMP list serve, the Water Plan ENews, and the DWR Urban Water Management webpage <http://www.dwr.water.ca.gov/urbanwatermanagement/>

#### **10.4.3 Submitting UWMP to the California State Library**

No later than 30 days after adoption, the water agency shall submit a CD copy of the adopted 2015 UWMP to the California State Library at:

*California State Library  
Government Publications Section  
P.O. Box 942837  
Sacramento, CA 94237-0001  
Attention: Coordinator, Urban Water Management Plans*

If delivered by courier or overnight carrier to the State Library, use the following street address instead of the PO Box:

*900 N Street  
Sacramento, CA 95814*

#### **10.4.4 Submitting UWMP to the Cities and Counties**

No later than 30 days after adoption, the water agency shall submit a copy of the adopted 2015 UWMP to any city or county to which the supplier provides water. This will also satisfy Water Code Section 10635(b).

### **10.5 Public Availability**

*CWC 10645*

*Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.*

Include a statement in the UWMP that describes the availability of the adopted UWMP for public review during normal business hours. For example, a supplier may leave a copy of their plan at the front desk, or post their plan on their website for public viewing.

## 10.6 Plan Implementation

*CWC 10643*

*An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.*

Include a discussion of the planned implementation of the adopted UWMP.

### Recommended

Specific sections that may be addressed include:

- Chapter 5 Baselines and Targets (RETAIL ONLY),
- Chapter 6 Sections 6.5.5 Actions to Encourage and Optimize Future Recycled Water Use and 6.8 Future Water Projects,
- Chapter 7, Section 7.1 Supplementing Inconsistent Sources,
- Chapter 8 Section 8.9 Minimum Supply Next Three Years, and
- Chapter 9 Demand Management Measures

## 10.7 Amending an Adopted UWMP

*CWC 10621(c)*

*The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).*

*CWC 10644(a)*

*Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.*

If the supplier amends an adopted UWMP, each of the steps for notification, public hearing, adoption, and submittal must also be followed for the amended plan.

The only exception to this is the 60 day notification to cities and counties to whom the supplier provides water. The 60 day notification that was sent when the original plan was being developed addresses the requirement.

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