

## Section 3: System Demands

This section describes the urban water wholesaler's system demands. It quantifies the current water system demand by sector and projects these demands through the year 2035.

For purposes of the UWMP:

Water demand - means all the water that is used by a water agency for any purpose.

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

This section is divided into the following subsections:

- Water Demands by Sector (*clickable link*)
- Distribution System Losses (*clickable link*)
- Coordination Between Wholesalers and Their Retailers(s) (*clickable link*)

Each subsection concludes with a checklist for ensuring that all requirements and recommended elements have been addressed.

### Why is Accurate Demand Projection Important?

Estimating future demand as accurately as possible allows water agencies to plan their future infrastructure appropriately.

Planning agencies, whether local, regional, or statewide, rely upon reported demand and demand projections from individual agencies in order to manage water resources on a larger scale.

### Factors to Consider in Projecting Demand

Water agencies will need to include estimates of future growth in their water demand projections. This will require coordination with local planning agencies.

Climate change impacts to an agency's water demand should also be included in projected demand estimates. For example, hotter and drier weather may lead to increased demand for landscape irrigation.

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## **Water Demands by Sector** *(Distribution System Losses are covered in the following section, “Distribution System Water Losses”.)*

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

*Quantify, to the extent records are available, past and current water use, and projected water use (over the same five-year increments described in subdivision (a)), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses: ... (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; (I) Agricultural...*

### **Potable and Non-Potable Demand**

In order to clearly distinguish between the potable (drinking water) uses and non-potable uses, agencies will report these uses in separate tables.

Potable Water – Water intended for human consumption, delivered through a public water system, and regulated by a State or local health agency. Potable water demand will be reported in Tables 3-1 and 3-2.

Non-Potable Water -Water supply other than potable. This includes raw water and recycled/reclaimed water. Non-potable demand will be reported in Tables 3-3 and 3-4. Recycled water will be described in fuller detail in Section 5: System Supplies.

### **Demand Sectors Listed in Water Code**

Wholesale suppliers are encouraged to use as many water demand sectors as are applicable in order to provide a full accounting of the total demand.

Agencies are directed to use the water sectors listed in the water code, to the extent that these are available and apply to a wholesaler. 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.

Below are definitions of sectors listed in the Water Code that pertain to wholesale agencies.

Agricultural – Water used for commercial agricultural production where \$1000 or more of agricultural products were sold, or normally would have been sold, during the year. USDA and Census Bureau

Conjunctive use – A management strategy where surplus surface water is stored in an underground aquifer. DWR

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Groundwater recharge – The enhancement of natural ground water supplies using man-made conveyances such as infiltration basins or injection wells. EPA.

Saline water intrusion barriers – Injection of water into a fresh water aquifer to prevent the intrusion of salt water. EPA

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

The water demand sectors below, though not specifically listed in the water code, can help some agencies account for the entirety of their demand.

Environmental – Water used for a managed environmental use to improve an environmental condition. (derived from CWP)

Long Term System Storage- If system storage (groundwater or surface water) is greater at the end of the year than at the beginning, it indicates that water has entered the distribution system but has not been delivered to customers. If the change in distribution system storage is expected to be insignificant, or if data needed to calculate the change in distribution system storage are not available, the water supplier may forgo reporting water demand for this sector.

Other Non-Revenue Water - This includes water used for firefighting, line flushing, and other demands that do not generate revenue. For purposes of UWMPs, distribution system water loss is reported separately.

Other – Any water demand that does not fall into a sector defined above. When using the “Other” category for a water use sector, the agency should include a narrative description of that category in order for readers to understand this water use.

Uncommitted Water – NEED DEFINITION

### **Consistency of Reporting**

Estimates of demand should be consistent throughout the UWMP and with other agency reports of water use.

- Supply should equal demand for the years 2010 and 2015.
- Distribution system water losses should be consistent between the AWWA worksheets and the Water Use tables.
- Data reported in UWMPs should be consistent with Public Water Systems annual reports to the State Water Resources Control Board.



**Table 3-4W Non-Potable Sales to Other Agencies**

14									
15									
16	<b>Table 3-4W: Non-Potable Sales to Other Agencies - Wholesale</b>								
17		<b>2010</b> Water Sold AFY	<b>2015</b> Water Sold AFY	<b>2020</b> Water Sold AFY	<b>2025</b> Water Sold AFY	<b>2030</b> Water Sold AFY	<b>2035</b> Water Sold AFY	<b>2040</b> Water Sold AFY	
18	<b>Units:</b> <i>drop down menu with AF, CCF, MG others</i>								
19	Agency								
20	Agency								
21	Agency								
22	<b>Subtotal</b>								
23									

**Table 3-5W Total Water Use**

	A	B	C	D	E	F	G	H	I
1	<b>Table 3-5W: Total water use- wholesale</b> <i>autofilled</i>								
2	<b>Water Use</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040 - opt</b>	
3	<b>Units:</b> <i>(auto-filled)</i>								
4	Total Potable								
5	Total Non-Potable								
6	<b>Total</b>	0	0	0	0	0	0	0	0
7									

**Checklist**

- Required:** Include completed Tables 3-1W and 3-2W for potable water demand  
Page number or location of the tables. \_\_\_\_\_
  - Provide the information for potable demand identified in (H) through (J) using Table 3-1W.
  - Provide the information for potable demand identified in (G) (Sales to other agencies) using Table 3-2W.
  
- Required:** Include completed Tables 3-3W and 3-4W for non-potable water demand  
Page number or location of the tables. \_\_\_\_\_
  - Provide the information for non-potable demand identified in (H) through (J) using Table 3-3W.
  - Provide the information for non-potable demand identified in (G) Sales to other agencies, using table 3-4W.
  
- Recommended:** Include a narrative description of how demand projections are

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estimated.

Page number or location of the narrative description. \_\_\_\_\_

*Agencies are not required to use any particular method for estimating projected water demands. It is beneficial to the reader and reviewer of plans to have an understanding of how projections were estimated.*



**Recommended:** Provide narrative description of water sectors that differ from the water code, i.e., single family and multi-family are combined as “residential”.

Page number or location of the narrative description. \_\_\_\_\_

## Distribution System Water Losses

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

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

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 pressurized water system and the utility’s storage tanks, up to the point of customer consumption.

The 12 month period used for reporting distribution system water loss must be the same 12-month period used for system demands.

*GUIDANCE PENDING*

### Checklist



**Required:** Include the completed water loss worksheets as an Appendix in the UWMP.

Page number or location of the water loss worksheets \_\_\_\_\_

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- Required:** Record the Real Losses that were calculated in the worksheets in Table 3-1W  
Page number or location of the table. \_\_\_\_\_

### Coordination between Wholesalers and their Retailers

CWC 10631(k) ...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).

Wholesale agencies shall identify and quantify the sources of water available from the wholesaler to the urban water supplier in five year increments for 20 years.

Providing these projections allows both the retail and wholesale agencies to better plan for expected appropriations.

### Checklist

- Required:** Provide the water use projection data found in Tables 3-2W and 3-4W to the wholesale agency's urban water supply customers.
- Required:** Include a statement that such water use projections have been provided.