Thank you for joining early. We’ll get started at 2pm PT.

URBAN WATER MANAGEMENT PLANS: 201

THE CA DEPARTMENT OF WATER RESOURCES’ 2020 UWMP GUIDEBOOK IS OUT

Learn how to craft your plan

Date and Time: Thu, Oct 15, 2-4pm PT
Location: From your computer
URBAN WATER MANAGEMENT PLANS: 201

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WEBINAR AGENDA

• The “Why?” - Bridge from 101 webinar
• Ready, Set, Go - Tools from DWR to support
• The “How?” - UWMP planning process steps
• The “What?” - Completing key sections and data tables
• Crossing the Finish Line
• Breakout Rooms
  1. Water Demand, Climate Change and Energy Intensity
  2. Conservation, Water Loss, Water Storage, and Revenue Impacts
  3. Wholesalers and Regional UWMP Coordination
  4. Crossing the Finish Line and Beyond: Engaging Your Community, Adopting Your Plan & Financing Implementation
THE “WHY?” – BRIDGE FROM 101 WEBINAR
BRIEF RECAP OF THE 101 WEBINAR

1. High-level overview of the UWMP Act and recent changes
2. How to leverage experience from 2015 and lessons learned
3. Key changes expected and dates to be aware of for 2020 UWMPs
4. Actionable next steps and recommended timeline
5. Resources and web links for more information
UPDATES SINCE THE 101 WEBINAR

1. DWR released the draft guidebook (Sep. 1\textsuperscript{st})
2. Public comment period closed (Sep. 28\textsuperscript{th})
3. DWR is expected to release the final guidebook in November
AUDIENCE POLL
Why are we creating these plans?

1. Agency’s Water Story
2. Planning for Reliable Supply to Meet Demands
   1. Integrated Regional Water Management Plans (IRWMP)
   2. Capital Improvement Programs and Master Planning
   3. Financial Planning (e.g. rate studies)
3. Water Supply Assessments
   1. Regional/Local Water Supply Reliability
   2. Water Balance for the Agency
4. State Grants and Loans
5. Public Document Referenced by Others
AUDIENCE POLL
READY, SET, GO: TOOLS FROM DWR TO SUPPORT
Urban Water Management Plans

Who this applies to:

Retail - directly provides potable municipal water to more than 3,000 end users or more than 3,000 acre-feet of potable water annually at retail for municipal purposes

Wholesale - provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes
The Guidebook Planning Tool

1. Voluntary Use
2. Water Code can be tortuous
3. AB1668 and SB606 added several new requirements and modified existing requirements
Structure

• Importance
• Focus
• Enhancements
• New Requirements

Attempt to remain as consistent with 2015 Guidebook as possible
Structure: Who a Section Applies to

4.2.6.1 20-Year Planning Horizon

All Suppliers
In accordance with Water Code Section 10635(a), all Suppliers will need to report their projected water use, in five-year increments through 2040. Suppliers are encouraged to project through 2045 to bridge the data gap between plan cycle years. If water use is not projected through 2045, there will be no 20-year projections available for land or water resources management planning between 2020 and 2025.

Retail Only
If a Retail Supplier receives water from a Wholesale Supplier, the Retail Supplier must provide their projected use of that supply to the Wholesale Supplier. Retail Suppliers are encouraged to also provide their Wholesale Supplier with information regarding the extent to which water use projections consider savings from codes, standards, ordinances, or transportation and land use plans along with applicable citations.

Additionally, in accordance with Water Code Section 10603(d)(2), Retail Suppliers must report their projections for each of the water use sectors identified in section 4.2.1.
Structure: What is Required v. Recommended

**Recommended**

Calculation of baselines and targets is a very important but highly technical portion of the UWMP. To address the nontechnical audience, a Retail Supplier may choose to include a written overview that highlights the importance of these calculations, a reference to the California Department of Water Resources’ (DWR) *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use (Methodologies)*, and the Retail Supplier’s efforts to meet these targeted reductions. This written component may help the lay reader assess the technical components that show the Retail Supplier’s baseline and conservation target. The Methodologies document is located at [https://data.cnra.ca.gov/dataset/2015-urban-water-management-plans-uwmps-historic-information](https://data.cnra.ca.gov/dataset/2015-urban-water-management-plans-uwmps-historic-information).
Stakeholders

1. Two meetings Spring 2020
2. Working Group provided comments on Preliminary Draft
3. September 2020 on-line public meeting for Draft
   • 450+ attendees
   • 20+ individual comment letters/emails
   • Over 350 comments

(THANK YOU!)
Draft Revision – in progress

1. No material changes
2. Lots of typos/edit errors found
3. Clarifications needed
   • Reduced Reliance on the Delta
   • Required, Recommended, Optional
   • Climate Change Analysis
   • Submittal Tables
   • Other topic areas
UWMPs

UWMPs are Due July 1, 2021 – Legislated Deadline

Water Suppliers will upload UWMP text and data via WUEdata portal:
https://wuedata.water.ca.gov/secure/login_auth.asp

Guidebook is available at:
https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans
Anyone Can Access Data and Resources

https://wuedata.water.ca.gov/
Associated Tools (Resources)

- Excel workbooks for:
  - Submittal tables
  - Drought Risk Assessment Planning Tool
  - SBX7-7 Verification (20 by 2020 target compliance)
  - Energy Intensity calculations
  - Reduced Reliance on the Delta Reporting
## Upload Plans and Tables

### Water Use Efficiency Data (WUEdata)

**Main Menu**

<table>
<thead>
<tr>
<th>DWR Population Tool</th>
<th>Urban Water Management Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>DWR’s Population Tool allows urban water suppliers to more accurately calculate their population using GIS and census data.</td>
<td>The UWMP Tool allows urban water suppliers to electronically submit their Urban Water Management Plans (UWMPs) to DWR.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Loss Audit Report Tool</th>
<th>Agricultural Water Management Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Validated Water Audit Report Tool allows water suppliers to electronically submit their AWWA v5 Worksheet and Certified Validation Report to DWR.</td>
<td>The AWMP Tools allow water suppliers to electronically submit Farm Gate Delivery data and Agricultural Water Management Plans (AWMPs) to DWR.</td>
</tr>
</tbody>
</table>

### WUEdata provides the following tools:

- Agricultural Water Management - Farm Gate Delivery and AWMP Electronic Reporting
- Urban Water Management - DWR Population Tool and UWMP Electronic Reporting
- Urban Water Use Efficiency - Validated Water Loss Audit Electronic Reporting

[Sign In](#)
Population Tool – being updated
Studies for Upcoming Requirements

Conservation as a Way of Life Studies - AB1668/SB606 (2018)

Standards (Studies and Recommendations):

- Indoor Residential Water Use
- Outdoor Residential Water Use
- Commercial, Industrial, and Institutional
  - Classification System
  - Performance Measures,
  - Large Landscape Area Irrigated with Dedicated Meters or In-Lieu Technologies
- Variances for unique uses that have a material effects

Methods for Calculating Objectives (Recommendations)
Upcoming Requirements

Conservation as a Way of Life Studies - AB1668/SB606 (2018)

Water Use Objective

• Annual calculation and report starting in January 1, 2024 (enforceable January 1, 2027)
• Based on the standards and aggregated water use
• Include Demand Management Measures (DMMs) implemented or planned to meet Water Use Objective
DWR UWMP Role Going Forward

• Training/Information Workshops:
  • November 2020 – How we addressed comments for the Final
  • Starting December 2020/January 2021 – Training Modules and Q&A
  • May 2021 - WUEData Portal uploading

• Address UWMP preparer questions
• Review submitted UWMPs for consistency with Water Code
• Workshops on studies and recommendations

*Sign up for Stakeholder announcements by sending a request to join DWR’s UWMP list-serve at:*

wue@water.ca.gov
THE “HOW?” - UWMP PLANNING PROCESS STEPS
**TIMELINES & DEADLINES**

- **Gather Your Team**

- **Develop Work Plan and Start Key Sections**

- **Draft UWMP Guidebook Released Aug 2020**

- **Public Workshops & Comment Period on Draft Guidebook Sep 16, 2020**

- **Public Workshops on Final Guidebook Nov-Dec**

- **60-day Notice to Cities/Counties**

- **2-week Public Notice of Draft UWMP**

- **Final UWMP Guidebook Released Mid-Nov**

- **30-day Internal Review to Address Public Comments**

- **Public Meeting to Approve Release of Draft UWMP**

- **2021**

- **Submit Final UWMP**
  - July 1, 2021

- **Retail Water Supplier Board/Council meeting to adopt Final UWMP**

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AUDIENCE POLL
GROUP DISCUSSION

WHERE ARE YOU IN THE PROCESS?

WHAT QUESTIONS DO YOU HAVE?
THE “WHAT?”: COMPLETING KEY SECTIONS AND DATA TABLES

DWR UWMP GUIDEBOOK
Path to Success: Focus on Checklist and Tables

1. **Start**
   - **Build Your Story Using the DWR Standard Checklist**
     - DWR incorporated checklist for past UWMPs

2. **State Water Code**
   - Checklist includes all Water Code requirements

3. **Review Outline**
   - Comment in working document using track change/comment features

4. **Checklist and Data Tables Provide Structure**
   - Use these required inputs to provide structure to complete 2020 UWMP

5. **QA/QC**
   - QA/QC with “fresh eyes” using Checklist

6. **DWR Accepted UWMP**
   - Following the Checklist will gain acceptance for your 2020 UWMP

**Finish**
1. Layperson description is new and needs graphical support (i.e., maps, images, infographics)
2. Wholesaler vs. Retailer roles and responsibilities, data consistency across agencies
3. Partners – wastewater provider, recycled water supplier, conservation program, other outside agencies for review (i.e., land use authority)
KEY IDEAS: IMPORTANT OVERVIEW (cont.)

4. Supply sources – current and future
5. Demands – current and future
6. Conservation and alternative supplies – to reduce demands
7. Service reliability and drought risk with contingency plan
8. Climate change
9. Energy intensity
10. Watch for consistency, plan for “fresh eyes review”
INTRODUCTION AND LAY DESCRIPTION: YOUR ELEVATOR SPEECH STORY (CHAPTER 1)

1. New requirement
2. Wholesaler vs. Retailer roles
3. Audience would be general public and elected officials
4. 8th grade reading level, use infographics and images
5. Think as if your customers only read one short section on the reliability of your future water supply, demands, and drought risk
PLAN PREPARATION
(CHapter 2)

1. How prepared in terms of process
2. Who participated in the preparation
3. Outreach undertaken
4. Public hearing requirements
5. Comments received
6. How comments were addressed
SYSTEM DESCRIPTION
(CHAPTER 3)

1. Where does our water come from?
2. Discussion of the history (i.e., water rights, contractual agreements, etc.)
3. Infrastructure
4. System characteristics on how the community is served
5. Include images and maps

American River, City of Sacramento, E.A. Fairbairn Water Treatment Plant Intake Structure
CUSTOMER WATER USE
(CHAPETR 4)

1. Quantify past demands by Customer Category
   • 14 categories listed (single family, multi-family, commercial, etc.)
   • Includes unique uses, such as agricultural irrigation, saline intrusion, wetlands, sales, losses)
   • Divided into potable and non-potable

2. Water losses from Water System Audits

3. Water use for low income households

4. Climate change considerations
CONSERVATION TARGET COMPLIANCE (CHAPTER 5)

1. Comply with SB X7-7
2. 20% reduction by 2020 in gallons per capita per day (GPCD)
3. Complete the required tables
4. Comment on issues with 2020 Pandemic
1. All Sources and Demands
2. Anything that appears in a table needs a description
3. Quantities are needed for numerous tables
4. Multiple scenarios can be presented
5. Need one primary scenario clearly identified for table inputs
6. Footnote all tables on the supply scenario selected
### DRAFT Submittal Table 6-1 Retail: Groundwater Volume Pumped

### DRAFT Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020

### DRAFT Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020

### DRAFT Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area

### DRAFT Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual

### DRAFT Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use

### DRAFT Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs

### DRAFT Submittal Table 6-8 Retail: Water Supplies — Actual

### DRAFT Submittal Table 6-9 Retail: Water Supplies — Projected

<table>
<thead>
<tr>
<th>Water Supply</th>
<th>Additional Detail on Water Supply</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Reasonably Available Volume</td>
<td>Total Right or Safe Yield (optional)</td>
<td>Reasonably Available Volume</td>
<td>Total Right or Safe Yield (optional)</td>
</tr>
<tr>
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</tr>
</tbody>
</table>

Add additional rows as needed.
WATER SUPPLY RELIABILITY AND DROUGHT RISK ASSESSMENT (CHAPTER 7)

1. Water balance of supplies and demands
2. Need to show reliability of supply exceeding demands under normal conditions
3. Include extra 5 years for SB 221 and SB 610 Water Supply Assessments
## DRAFT Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)

### Year Type
- Base Year
- If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020

### Available Supplies
Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP.

### Supplier Locations
- ________________

### Quantification of available supplies
- Provided in this table as either volume only, percent only, or both.

### NOTES:
- Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Table 7-1, in the “Note” section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.

## DRAFT Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison

### Year Type
- 2025
- 2030
- 2035
- 2040
- 2045 (Opt)

### Supply totals
- (autofill from Table 6-9)
- 0
- 0
- 0
- 0
- 0

### Demand totals
- (autofill from Table 4-3)
- 0
- 0
- 0
- 0
- 0

### Difference
- 0
- 0
- 0
- 0
- 0

## DRAFT Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison

### Year Type
- 2025
- 2030
- 2035
- 2040
- 2045 (Opt)

### Supply totals
- (autofill from Table 6-9)
- 0
- 0
- 0
- 0
- 0

### Demand totals
- (autofill from Table 4-3)
- 0
- 0
- 0
- 0
- 0

### Difference
- 0
- 0
- 0
- 0
- 0

## DRAFT Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison

### Year Type
- First year
- Second year
- Third year
- 2021
- Total

### Gross Water Use
- Total Supplies
- Surplus/Shortfall w/o WSCP Action
- Revised Surplus/(shortfall)
- Resulting % Use Reduction from WSCP action

### Planned WSCP Actions (use reduction and supply augmentation)
- WSCP - supply augmentation benefit
- WSCP - use reduction savings benefit

## DRAFT Submittal Table 7-5: Five-Year Drought Risk Assessment

### Tables to address Water Code Section 10635(b)
1. Numerous new requirements since recent droughts
   • Total of 9 listed on pages 8-4 and 8-5 of Draft 2020 UWMP Guidebook
2. Shortage levels
   • 10% reduction per level with new greater than 50% level (align stages)
3. Communication Protocol
   • Water Shortage Committee (from one person to a full multi-agency team)
4. Annual Supply and Demand Assessment
5. Drought Risk Tool
6. Adjustments in the future triggers
EXAMPLE COMMUNICATIONS PROTOCOL

Water Shortage Committee Responsibilities

Decreasing Impacts
- Monitor Monthly
- Public Outreach Monthly
- Share Resources Monthly

Normal Conditions
- Monitor Quarterly
- Public Outreach Annually
- Share Resources Annually

Severe Water Shortage
- Monitor Weekly
- Public Outreach Weekly
- Share Resources Weekly

Increasing Impacts
- Monitor Monthly
- Public Outreach Monthly
- Share Resources Monthly

Severe Drought
SCALABLE WATER SHORTAGE INTERAGENCY ORGANIZATION STRUCTURE (select what applies)

Water Shortage Advisory Committee

- Customer Group Representative (e.g. Ag. Urban, Rec, Chamber of Commerce)
- USBR
- County
- CA DWR
- CA Fish and Game
- Ag Commissioner
- USFS
- CA Dept of Forestry
- County Fire
- County Conservation
- Natural Resource Conservation Service
- Energy Utility

Board of Directors:

- Wholesaler Board of Directors
- Retailer 1 Board of Directors
- Retailer 2 Board of Directors
- Retailer... Board of Directors

Interagency Coordination Committee (WSICCC):

- Water Shortage Team Leader (WSICCC Leader)
- Retailer 1 Water Shortage Team Leader
- Retailer 2 Water Shortage Team Leader
- Retailer... Water Shortage Team Leader
### Scalable Water Shortage Interagency Organization Structure (Cont.)

<table>
<thead>
<tr>
<th>Wholesaler</th>
<th>Retailer 1</th>
<th>Retailer 2</th>
<th>Retailer...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coordination Support</strong></td>
<td><strong>Retailer 1 Water Shortage Team</strong></td>
<td><strong>Retailer 2 Water Shortage Team</strong></td>
<td><strong>Retailer... Water Shortage Team</strong></td>
</tr>
<tr>
<td>- Policy/Legal</td>
<td>- Engineering Planning</td>
<td>- Engineering Planning</td>
<td>- Engineering Planning</td>
</tr>
<tr>
<td>- Public Outreach</td>
<td>- Monitoring</td>
<td>- Monitoring</td>
<td>- Monitoring</td>
</tr>
<tr>
<td>- Logistics</td>
<td>- Operations</td>
<td>- Operations</td>
<td>- Operations</td>
</tr>
<tr>
<td>Support Staff</td>
<td>- Environmental Quality</td>
<td>- Environmental Quality</td>
<td>- Environmental Quality</td>
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<tr>
<td><img src="https://via.placeholder.com/150" alt="People icons" /></td>
<td>- Policy/Legal</td>
<td>- Policy/Legal</td>
<td>- Policy/Legal</td>
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<tr>
<td></td>
<td>- Communications</td>
<td>- Communications</td>
<td>- Communications</td>
</tr>
<tr>
<td></td>
<td>- Financial</td>
<td>- Financial</td>
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<td></td>
<td>- Ag Conservation</td>
<td>- Ag Conservation</td>
<td>- Ag Conservation</td>
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<tr>
<td></td>
<td>- Urban Conservation</td>
<td>- Urban Conservation</td>
<td>- Urban Conservation</td>
</tr>
<tr>
<td></td>
<td>- Public Outreach</td>
<td>- Public Outreach</td>
<td>- Public Outreach</td>
</tr>
</tbody>
</table>
DEMAND MANAGEMENT MEASURES (CHAPTER 9)

1. Wholesaler lists the descriptions for each DMM
   • Metering
   • Public education and outreach
   • Water conservation coordination and staffing
   • Other measures (regional partnerships, NGOs, incentives, rebates, etc.)

2. Retailer lists the descriptions for each DMM
   • Water waste prevention ordinances
   • Metering
   • Conservation pricing
   • Programs to assess and manage distribution system real losses
   • Water conservation coordination and staffing
   • Other measures (incentives, rebates, direct install programs, etc.)

3. Consider looking ahead to the Future Water Use Objectives
   • What actions are you taking now for lower water demand in the future?
1. Plan ahead
   • Careful “fresh eyes review”
2. Public availability
   • Suggest an earlier Public Review Draft
3. Formal public hearing for adoption
   • Include call for administrative edits
     (e.g., insert final adoption ordinances)
4. Final submissions
   • Plan documents (UWMP and WSCP)
   • Electronic tables
   • Last QA/QC on DWR UWMP Checklist page number references
CROSSING THE FINISH LINE

UWMP GUIDEBOOK CHAPTER 10
ADOPTING THE PLAN – FIVE-STEPS

1. Inclusion of all 2020 data
2. 60-day notice to cities, counties (Water Code §§ 10621, 10642)
3. Newspaper publication (Water Code § 10642; Gov’t Code § 6066)
4. Public hearing (Water Code § 10642)
5. Adoption hearing (Water Code § 10642)
ADOPTING THE PLAN – NOTICE TO CITIES AND COUNTIES SERVED

• At least 60 days before public adoption hearing, must notify any city or county where supplier provides water UWMP will be reviewed or revised

• DWR recommends also listing where UWMP can be viewed, the revision schedule, and contact info

• Provide notice of time and place for the adoption hearing
ADOPTING THE PLAN – NOTICE TO GENERAL PUBLIC

• Publish in local newspaper where UWMP & WSCP can be viewed and time and location of public hearings

• Notice needs to run once a week for 2 successive weeks with 5 days between the publications

• Notice period begins on first day of publication and ends on the 14th day
“Shall” encourage the active involvement of public representing diverse perspectives:

- Socially
- Culturally
- Economically

Engagement “prior to and during” preparation

Suppliers “serving a substantial number of non-English-speaking people” must provide notices in the relevant non-English languages
AUDIENCE POLL
Once the 60-day and 14-day general public notice periods have ended, hold hearing to adopt:

- UWMP
- Water Shortage Contingency Plan (separate agenda item)
Within 30 days of adoption must submit UWMP & Water Shortage Contingency Plan to:

✓ DWR
✓ State Library
✓ Cities and counties served
## SUBMITTING THE PLAN – TABLE 10-1

### Retail Submittal

<table>
<thead>
<tr>
<th>City Name</th>
<th>60 Day Notice</th>
<th>Notice of Public Hearing</th>
</tr>
</thead>
<tbody>
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</table>

*Add additional rows as needed*

<table>
<thead>
<tr>
<th>County Name</th>
<th>60 Day Notice</th>
<th>Notice of Public Hearing</th>
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*Add additional rows as needed*

### Wholesale Submittal

<table>
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<th>City Name</th>
<th>60 Day Notice</th>
<th>Notice of Public Hearing</th>
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</table>

*Add additional rows as needed*

### NOTES:

- Supplier has notified more than 10 cities or counties in accordance with Water Code Sections 10621 (b) and 10642. Completion of the table below is not required. Provide a separate list of the cities and counties that were notified.

- Provide the page or location of this list in the UWMP.

- Supplier has notified 10 or fewer cities or counties. Complete the table below.

- Add additional rows as needed.
## SUBMITTING THE PLAN – WUE PORTAL

**wuedata.water.ca.gov**

### Table 10-1 Retail: Notification to Cities and Counties

<table>
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<th>Notice of Public Hearing</th>
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</table>

**NOTES**

**QUESTIONS / ISSUES? CONTACT THE WUEDATA HELP DESK**
AFTER ADOPTION & SUBMITTAL

DWR reviews UWMP for completion

Make UWMP & WSCP publicly available within 30 days

Send Drought Risk Assessment & Reliability portions to cities and counties within 60 days

Implement the adopted UWMP in “accordance with the schedule set forth in [the] plan”

Amend UWMP & WSCP as needed
MEETING THE JULY 1, 2021 DEADLINE & BEYOND

Red date = Statutory Deadline
Blue date = Example Timeline

March 2021
Release Draft UWMP for Public Review & Comment

Early May 2021
Public input hearing

June 2021
Adoption Hearing

August 1, 2021
Make submitted UWMP & WSCP publicly available

April 2021
(60 Days before adoption hearing)
Public Notice to Cities & Counties

Last 14 Days of May 2021
Run newspaper notice of Adoption Hearing

July 1, 2021
Submit Adopted UWMP to DWR, State Library & Cities/Counties

August 30, 2021
Provide Reliability Assessment & Drought Risk Assessment portion of UWMP to cities & counties

August 1, 2021
Submit Adopted UWMP to DWR, State Library & Cities/Counties

August 30, 2021
Provide Reliability Assessment & Drought Risk Assessment portion of UWMP to cities & counties
5 MINUTE BREAK
BREAKOUT SESSIONS
Water Demand, Climate Change, and Energy Intensity

October 15, 2020

Michelle Maddaus
Maddaus Water Management
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Kendra Olmos
UC Davis Center for Water-Energy Efficiency
kcolmos@ucdavis.edu
Water Demand and Climate Change

October 15, 2020

Michelle Maddaus
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michelle@maddauswater.com
California Fourth Climate Change Assessment

- Central Coast
- Inland Deserts
- Los Angeles
- North Coast
- Sacramento Valley
- San Diego
- San Francisco Bay Area
- San Joaquin Valley
- Sierra Nevada

Source: [https://www.climateassessment.ca.gov/regions/](https://www.climateassessment.ca.gov/regions/)
<table>
<thead>
<tr>
<th>First California Climate Assessment</th>
<th>Second California Climate Assessment</th>
<th>Third California Climate Assessment</th>
<th>Fourth California Climate Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year</strong></td>
<td><strong>Year</strong></td>
<td><strong>Year</strong></td>
<td><strong>Year</strong></td>
</tr>
<tr>
<td>2006</td>
<td>2009</td>
<td>2012</td>
<td>2018</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td><strong>Description</strong></td>
<td><strong>Description</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Understanding climate impacts in California. Developed to provide support for undertaking greenhouse gas emission reductions.</td>
<td>Understanding how climate change will affect specific sectors. Made the case that adaptation could reduce costs.</td>
<td>Increased understanding of vulnerability in natural and human systems, and generated two pilot regional assessments.</td>
<td>Technical and regional reports designed to support adaptation actions at the state, regional, and local level.</td>
</tr>
<tr>
<td><strong>Driver</strong></td>
<td><strong>Driver</strong></td>
<td><strong>Driver</strong></td>
<td><strong>Driver</strong></td>
</tr>
<tr>
<td>Executive Order S-3-05</td>
<td>Policymakers’ desire to know if adaptation was needed</td>
<td>2009 Climate Adaptation Strategy</td>
<td>2015 Climate Change Research Plan</td>
</tr>
<tr>
<td><strong>Outcome</strong></td>
<td><strong>Outcome</strong></td>
<td><strong>Outcome</strong></td>
<td><strong>Outcome</strong></td>
</tr>
<tr>
<td>Assembly Bill (AB) 32</td>
<td>2009 Climate Adaptation Strategy</td>
<td>Supported passage of new climate adaptation laws</td>
<td>Informing the implementation of AB 2800, which requires a report on how engineering standards should be changed to consider climate change. Other outcomes to be determined.</td>
</tr>
</tbody>
</table>
Climate Change Data Example

- Most predicted climate impact will be to water supply sources
- Historic and Predicted Temperature change example
  - Bay Area temperature increased 1.7 degrees Fahrenheit (°F) from 1950–2005
  - Early 21st century (2006–2039) is predicted to warm 1–2°F
  - Mid 21st century (2040–2069) is predicted to increase 3.3°F

Water Demands Including Climate Change

• Incorporating temperature change into water demands using regression analysis
  • Demand Projections Section 3
  • Appendix B on regression analysis for methodology to analyze historical water data and incorporate future climate change

### Example Evaluation of Potential Risks from Climate Impacts

#### EVALUATION OF POTENTIAL RISKS from CLIMATE CHANGE IMPACTS to a RETAIL SYSTEM'S SUPPLY and RELIABILITY: 2020–2045

<table>
<thead>
<tr>
<th>Suggestions for evaluating potential impacts and timelines</th>
<th>Potential Impacts on Retail Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased temperatures (e.g., increased irrigation, cooling demand)</td>
<td>Sea level rise</td>
</tr>
<tr>
<td>Identify impact Level on Agency water system, low (1) - high (5). INDICATE when risk is likely to start impacting Agency system: A. 2020 - 2025, B. 2025 - 2030, C. 2030-2035, D. 2035-2040, E. 2040-2045</td>
<td></td>
</tr>
<tr>
<td>List facilities most impacted</td>
<td></td>
</tr>
<tr>
<td>List operations most impacted</td>
<td></td>
</tr>
</tbody>
</table>

Source: Marty Laporte, ManageWater Consulting, Inc.: [managewaternow@gmail.com](mailto:managewaternow@gmail.com)
### EVALUATION OF POTENTIAL RISKS from CLIMATE CHANGE IMPACTS to a RETAIL SYSTEM'S SUPPLY and RELIABILITY: 2020–2045

<table>
<thead>
<tr>
<th>List potential mitigation actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine if impacts on facilities already addressed in ERP, HMP, Seismic Risk Plan, or another Emergency response plan? If &quot;Yes&quot; list title of plan (reference title) and date.</td>
</tr>
<tr>
<td>Identify available ArcGIS maps showing location of Agency facilities relative to potential impacts. If ArcGIS maps are available, provide hyperlink to map(s).</td>
</tr>
</tbody>
</table>

Note: This list is a general framework and may not include all potential impacts. The list is a starting framework to evaluate potential risks from climate change impacts on the retail service area's supply and reliability. After completing this evaluation, it may be helpful to develop a worksheet for each key facility and operation that is potentially subject to climate change impacts. All Rights Reserved. © ManageWater Consulting, Inc., 2020. CONTACT: MARTY LAPORTE, ManageWaterNow@gmail.com.

Source: Marty Laporte, ManageWater Consulting, Inc.: managewaternow@gmail.com
References

- **DRAFT APPENDIX I, 2020 DRAFT UWMP, DWR, 8/31/20, pp. I-1 to I-29**
  - “Climate change vulnerability screening form for 2020 UWMP”

- **FIRE**
  - [https://ia.cpuc.ca.gov/firemap/](https://ia.cpuc.ca.gov/firemap/)
  - [https://cal-adapt.org/tools/wildfire/](https://cal-adapt.org/tools/wildfire/)

- **FLOODING**
  - [https://planning.smcgov.org/femas-flood-zone-maps](https://planning.smcgov.org/femas-flood-zone-maps)
  - [https://gis.bam.water.ca.gov/bam/](https://gis.bam.water.ca.gov/bam/)

- **SEA LEVEL RISE**
  - [https://seachangesmc.org/vulnerability-assessment/](https://seachangesmc.org/vulnerability-assessment/)
  - [https://www.sciencedaily.com/releases/2020/08/200821103907.htm](https://www.sciencedaily.com/releases/2020/08/200821103907.htm)

- **GROUNDWATER RISE**

- **POWER SHUTOFF**

- **INCREASED TEMPERATURES**
  - [https://cal-adapt.org/](https://cal-adapt.org/)
  - An important impact could be increased water use due to evaporation – for irrigation and cooling. Impacts on water quality could be increased frequency and intensity of algal blooms, nitrification, etc.

- **Public Policy Institute of California (PPIC). (2019). Priorities for California’s Water, accessed online December 2019.**
  - [https://www.ppic.org/publication/priorities-for-californias-water/](https://www.ppic.org/publication/priorities-for-californias-water/)
  - Reference was used for BAWSCA Demand Study (BAWSCA Regional Water Demand and Conservation Projections), June 26, 2020
QUESTIONS

Michelle Maddaus
Maddaus Water Management
michelle@maddauswater.com
Energy may be consumed in each process, depending on the water system assets of each utility.
Methods can be separated into 4 scales based on data resolution:

- **Energy Intensity**
  - **Non-Modeling**
    - Regional Specific
      - CPUC Navigant Calculator
    - Utility Specific
      - Alliance for Water Efficiency
      - The Climate Registry
  - **Modeling**
    - Pressure Zone Analysis
    - Node Level Analysis
      - DWR Urban Water Management Plan
Energy Intensity is a ratio, or metric. Developed by data gathering and tabulation.

\[
\text{Energy Intensity} = \frac{\text{Energy Consumed (kWh)}}{\text{Water Flow (MG)}}
\]
A. Water Supply Process

Separates the Energy/Water ratio for each Water System Process:

- Supply/Extraction
- Conveyance
- Placement into Storage
- Treatment
- Distribution

Bigger data requirements

B. Total Utility

Energy/Water ratio for for the entire Water System

- Less data requirements
- Easiest method

C. Multiple Water Delivery
DATA needs

- For each water system process (or single assets):
  - Water flow meter data
  - Energy meter (billing) data (separated from building energy)
  - Energy data - must know which energy meter goes to which water asset
  - Water and energy data must have same time period
DATA needs

- Total energy use for all water system assets (separated from building energy use)
- Total utility water production
- Water and energy data must have same time period
## Data Needs Comparison

<table>
<thead>
<tr>
<th>Data Need</th>
<th>(A) Water Supply Process</th>
<th>(B) Total Utility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data sources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data help</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Volume per asset/process</strong></td>
<td><strong>Total annual production</strong></td>
<td></td>
</tr>
<tr>
<td>Data sources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data help</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Energy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data sources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data help</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>kWh use per water asset/process</strong></td>
<td><strong>Total system energy use</strong></td>
<td></td>
</tr>
<tr>
<td>Data sources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data help</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Challenges:

- Which energy meter is associated with which water system asset?
- Understanding water + energy use on a per process level
- Data gathering and organization
Questions?

Kendra Olmos
UC Davis Center for Water-Energy Efficiency
kcolmos@ucdavis.edu
Breakout Session #2

Conservation, Water Loss, Water Storage, and Revenue Impacts

WHAT QUESTIONS DO YOU HAVE?

Lisa Maddaus
Maddaus Water Management, Inc.

Sabrina Cook
Department of Water Resources
DEMAND MANAGEMENT MEASURES
(Chapter 9)

1. Wholesaler lists the descriptions for each DMM
   • Metering
   • Public education and outreach
   • Water conservation coordination and staffing
   • Other measures (regional partnerships, NGOs, incentives, rebates, etc.)

2. Retailer lists the descriptions for each DMM
   • Water waste prevention ordinances
   • Metering
   • Conservation pricing
   • Programs to assess and manage distribution system real losses
   • Water conservation coordination and staffing
   • Other measures (incentives, rebates, direct install programs, etc.)

3. Consider looking ahead to the Future Water Use Objectives
   • What actions are you taking now for lower water demand in the future?
WATER LOSS REPORTS (Chapter 4)

- Distribution loss standards to be adopted by SWRCB by July 1, 2021 (originally 2020)
- Attach copies of Water System Audits
- Beginning with 2020 UWMPs and in each following update:
  Include data to show whether the supplier met the distribution loss standards adopted by the SWRCB pursuant to SB 555
Water Shortage Revenue Impacts

- Align with
  - Water Shortage Contingency Plan Stages
  - Water Loss Report documentation for Non-Revenue Losses
  - Sources of Supply
  - Distinguish between Fixed and Variable Costs
  - Net Revenue Change
  - Rate revenue increases needed drought surcharges

### Table 5-5: Revenue Impacts

<table>
<thead>
<tr>
<th>Demand</th>
<th>Baseline</th>
<th>10%</th>
<th>25%</th>
<th>50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Produced (MCF)</td>
<td>8,264,055</td>
<td>7,437,650</td>
<td>6,186,042</td>
<td>4,132,028</td>
</tr>
<tr>
<td>Water Losses (MCF)</td>
<td>306,062</td>
<td>275,956</td>
<td>226,997</td>
<td>153,331</td>
</tr>
<tr>
<td>Water Sales (MCF)</td>
<td>7,957,993</td>
<td>7,161,694</td>
<td>5,959,045</td>
<td>3,978,697</td>
</tr>
<tr>
<td>Potable (%)</td>
<td>92.0%</td>
<td>92.0%</td>
<td>92.0%</td>
<td>92.0%</td>
</tr>
<tr>
<td>Construction (%)</td>
<td>0.3%</td>
<td>0.3%</td>
<td>0.3%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Fire (%)</td>
<td>0.6%</td>
<td>0.6%</td>
<td>0.6%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Recycled (%)</td>
<td>6.3%</td>
<td>6.3%</td>
<td>6.3%</td>
<td>6.3%</td>
</tr>
<tr>
<td>Potable (MCF)</td>
<td>7,383,856</td>
<td>6,945,470</td>
<td>5,537,852</td>
<td>3,691,928</td>
</tr>
<tr>
<td>Construction (MCF)</td>
<td>20,506</td>
<td>18,405</td>
<td>15,380</td>
<td>10,253</td>
</tr>
<tr>
<td>Fire (MCF)</td>
<td>48,171</td>
<td>43,354</td>
<td>36,128</td>
<td>24,086</td>
</tr>
<tr>
<td>Recycled (MCF)</td>
<td>504,880</td>
<td>454,374</td>
<td>376,645</td>
<td>262,430</td>
</tr>
<tr>
<td>Total</td>
<td>7,967,393</td>
<td>7,161,664</td>
<td>5,968,045</td>
<td>3,978,697</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Revenue</th>
<th>Potable (Revenue)</th>
<th>$24,351,114</th>
<th>$21,916,003</th>
<th>$18,263,330</th>
<th>$12,175,557</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Construction (Revenue)</td>
<td>$104,552</td>
<td>$84,124</td>
<td>$76,457</td>
<td>$52,231</td>
</tr>
<tr>
<td></td>
<td>Fire (Revenue)</td>
<td>$327,584</td>
<td>$254,808</td>
<td>$245,673</td>
<td>$103,782</td>
</tr>
<tr>
<td></td>
<td>Recycled (Revenue)</td>
<td>$1,397,919</td>
<td>$1,250,127</td>
<td>$1,048,439</td>
<td>$688,960</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>$26,181,179</td>
<td>$22,563,061</td>
<td>$19,336,884</td>
<td>$13,000,590</td>
</tr>
<tr>
<td></td>
<td>Fixed Monthly/Yearly Charge Revenue</td>
<td>$6,803,271</td>
<td>$6,803,271</td>
<td>$6,803,271</td>
<td>$6,803,271</td>
</tr>
<tr>
<td></td>
<td>Total Revenue</td>
<td>$31,984,450</td>
<td>$29,360,332</td>
<td>$25,436,155</td>
<td>$18,893,861</td>
</tr>
<tr>
<td>Revenue Lost</td>
<td>($2,618,116)</td>
<td>($1,645,296)</td>
<td>($1,090,600)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sources of Supply, Pumping, Treatment</td>
<td>$12,594,001</td>
<td>$12,594,001</td>
<td>$10,495,051</td>
<td>$6,590,701</td>
<td></td>
</tr>
<tr>
<td>Avoided Costs</td>
<td>$1,399,340</td>
<td>$3,496,350</td>
<td>$6,590,701</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Revenue Change</td>
<td>($1,219,771)</td>
<td>($3,048,945)</td>
<td>($5,095,899)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate Revenue Increase Required</td>
<td>5.17%</td>
<td>15.52%</td>
<td>46.85%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Water Use Efficiency Data (WUEdata)

## Main Menu

<table>
<thead>
<tr>
<th>DWR Population Tool</th>
<th>Urban Water Management Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>DWR's Population Tool allows urban water suppliers to more accurately calculate their population using GIS and census data.</td>
<td>The UWMP Tool allows urban water suppliers to electronically submit their Urban Water Management Plans (UWMPs) to DWR.</td>
</tr>
<tr>
<td><img src="launch_icon" alt="Launch Population Tool" /></td>
<td><img src="launch_icon" alt="Launch UWMP Tool" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Validated Water Loss Audit Report Tool</th>
<th>Agricultural Water Management Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Validated Water Audit Report Tool allows water suppliers to electronically submit their AWWA v5 Worksheet and Certified Validation Report to DWR.</td>
<td>The AWMP Tools allow water suppliers to electronically submit Farm Gate Delivery data and Agricultural Water Management Plans (AWMPs) to DWR.</td>
</tr>
<tr>
<td><img src="launch_icon" alt="Launch Water Audit Tool" /></td>
<td><img src="launch_icon" alt="Launch AWMP Tools" /></td>
</tr>
</tbody>
</table>
## Water Supply Tables

**DRAFT Submittal Table 6-9 Retail: Water Supplies — Projected**

<table>
<thead>
<tr>
<th>Water Supply</th>
<th>Additional Detail on Water Supply</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reasonably Available Volume</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Total Right or Safe Yield (optional)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Reasonably Available Volume</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Total Right or Safe Yield (optional)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Drop down list
May use each category multiple times.
These are the only water supply categories that will be recognized by the WUEdata online submittal tool

Add additional rows as needed
# RETAIL TABLES FOR CHAPTER 6

(More Discussion in Breakout Session 2)

## DRAFT Submittal Table 6-1 Retail: Groundwater Volume Pumped

## DRAFT Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020

## DRAFT Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020

## DRAFT Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area

## DRAFT Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual

## DRAFT Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use

## DRAFT Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs

## DRAFT Submittal Table 6-8 Retail: Water Supplies — Actual

## DRAFT Submittal Table 6-9 Retail: Water Supplies — Projected

### Water Supply

<table>
<thead>
<tr>
<th>Additional Detail on Water Supply</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reasonably Available Volume</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Right or Safe Yield</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Right or Safe Yield (optional)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reasonably Available Volume</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Right or Safe Yield</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Add additional rows as needed*

---

*Note: Some or all of the supplier’s future water supply projects or programs are not compatible with this table and are described in a narrative format.*
### DRAFT Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)

| Year Type                        | Base Year | If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020
|----------------------------------|-----------|------------------------------------------------------------------
| Average Year                     | 100%      |                                                                  
| Single-Dry Year                  |           |                                                                  
| Consecutive Dry Years 1st Year   |           |                                                                  
| Consecutive Dry Years 2nd Year   |           |                                                                  
| Consecutive Dry Years 3rd Year   |           |                                                                  
| Consecutive Dry Years 4th Year   |           |                                                                  
| Consecutive Dry Years 5th Year   |           |                                                                  

Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP.

Location __________________________

Quantification of available supplies is provided in this table as either volume only, percent only, or both.

### DRAFT Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison

<table>
<thead>
<tr>
<th></th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045 (Opt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### DRAFT Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison

<table>
<thead>
<tr>
<th></th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045 (Opt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### DRAFT Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison

<table>
<thead>
<tr>
<th></th>
<th>2021</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>First year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Third year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Gross Water Use

Total Supplies

Surplus/Shortfall w/o WSCP Action

### DRAFT Submittal Table 7-5: Five-Year Drought Risk Assessment

Tables to address Water Code Section 10635(b)

<table>
<thead>
<tr>
<th>Planned WSCP Actions (use reduction and supply augmentation)</th>
<th>2021</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>WSCP - supply augmentation benefit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WSCP - use reduction savings benefit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Surplus/Shortfall w/o WSCP Action

Resulting % Use Reduction from WSCP action

#DIV/0!
Additional Reference Slides
USE OF THE UWMP TOOL

This tool streamlines online data submittal of 2015 Urban Water Management Plans.

IF YOU ARE NOT AN AUTHORIZED REPRESENTATIVE OF AN URBAN WATER SUPPLIER, YOUR REQUEST TO USE THE TOOL ON BEHALF OF THAT SUPPLIER MAY BE DENIED.

The UWMP Tool requires the use of Internet Explorer 9 (or newer) or Chrome to function properly. If you are using an older web browser, please upgrade your browser or use a different machine before using this tool.

If you have already populated the final Excel versions of the 2015 UWMP Standardized Tables and SBX7-7 Verification Form, much of the data can be copied/pasted directly into the UWMP Tool tables.

To view an example of how to paste Excel data into the UWMP Tool, click here.

If you need assistance, please contact the WUEdata Help Desk.
If you have already populated the final Excel versions of the 2015 UWMP Standardized Tables and SB X7-7 Verification Form, much of the data can be copied/pasted directly into the UWMP Tool tables.

1. In Excel, select the cells containing the hand-entered data:

<table>
<thead>
<tr>
<th>Public Water System Number</th>
<th>Public Water System Name</th>
<th>Number of Municipal Connections 2015</th>
<th>Volume of Water Supplied 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA3110010</td>
<td>TAHOE CITY PUD - MAIN</td>
<td>2,899</td>
<td>277</td>
</tr>
<tr>
<td>CA3110044</td>
<td>TAHOE CITY PUD - ALPINE PEAKS</td>
<td>96</td>
<td>9</td>
</tr>
<tr>
<td>CA3110032</td>
<td>LAKE FOREST UTILITY COMPANY</td>
<td>118</td>
<td>11</td>
</tr>
<tr>
<td>CA3110011</td>
<td>TAHOE CITY PUD - MCKINNEY/QUAIL</td>
<td>559</td>
<td>53</td>
</tr>
<tr>
<td>CA3110012</td>
<td>AGATE BAY WATER COMPANY</td>
<td>580</td>
<td>55</td>
</tr>
</tbody>
</table>

NOTES:

2. Right-click the selection and choose “Copy”, or press Ctrl+C (Command+C on Mac) on your keyboard:

3. In the UWMP Tool, click the top-left-most user-editable cell in the relevant table:
Launch UWMP Tool using the Agency Below:

<table>
<thead>
<tr>
<th>Water Supplier / Regional Alliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Agency 1</td>
</tr>
</tbody>
</table>

Launch UWMP Tool

Submittal of a Regional Urban Water Management Plan (RUWMP)

Each water supplier within a RUWMP will have its own record in the WUEdata tool and will submit its data on an individual water supplier basis. See more

QUESTIONS / ISSUES? CONTACT THE WUEDATA HELP DESK
Table 7-1 Wholesale: Basis of Water Year Data

One Table for All Water Sources (Switch to Multiple Tables)

Available Supplies if Year Type Beneats

<table>
<thead>
<tr>
<th>Year Type</th>
<th>Average Year</th>
<th>Single-Dry Year</th>
<th>Multiple-Dry Years 1st Year</th>
<th>Multiple-Dry Years 2nd Year</th>
<th>Multiple-Dry Years 3rd Year</th>
<th>Multiple-Dry Years 4th Year (Optional)</th>
<th>Multiple-Dry Years 5th Year (Optional)</th>
<th>Multiple-Dry Years 6th Year (Optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Agency may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If an agency uses multiple versions of Table 7-1, in the “Note” section of each table, state that multiple versions of the Table 7-1 are being used and identify the particular water source that is being reported in each table.

NOTES

Revert Changes  Save and Exit

Questions / Issues? Contact the WUEdata Help Desk

UWMP 201
**Chapter 5: SB X7-7 Baselines and Targets**

*View Table List*

**Table 5-1: Baselines and Targets Summary**

*These values will remain blank until the SB X7-7 Tables are completed (see section "SB X7-7 Form").*

<table>
<thead>
<tr>
<th>Retail Agency or Regional Alliance Only</th>
<th>Average Baseline GPCD*</th>
<th>2015 Interim Target*</th>
<th>Confirmed 2020 Target*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline Period</td>
<td>Start Year</td>
<td>End Year</td>
<td></td>
</tr>
<tr>
<td>10-15 Year</td>
<td>1990</td>
<td>1999</td>
<td>-170</td>
</tr>
<tr>
<td>5 Year</td>
<td>2003</td>
<td>2007</td>
<td>-170</td>
</tr>
</tbody>
</table>

* All values are in Gallons per Capita per Day (GPCD)

**NOTES**

[Revert Changes] [Save and Exit]
### Table 7-1 Wholesale: Basis of Water Year Data

#### One Table for All Water Sources (Switch to Multiple Tables)

<table>
<thead>
<tr>
<th>Year Type</th>
<th>Base Year</th>
<th>Available Supplies if Year Type Repeats</th>
<th>Volume Available (AF)</th>
<th>% of Average Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Year</td>
<td></td>
<td>Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP.</td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>Single-Dry Year</td>
<td></td>
<td>Provide the page or location in the UWMP.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple-Dry Years 1st Year</td>
<td></td>
<td>Quantification of available supplies is provided in this table as either volume only, percent only, or both.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple-Dry Years 2nd Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple-Dry Years 3rd Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple-Dry Years 4th Year (Optional)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple-Dry Years 5th Year (Optional)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple-Dry Years 6th Year (Optional)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Agency may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If an agency uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of the Table 7-1 are being used and identify the particular water source that is being reported in each table.

**NOTES**

[Return to Multiple Tables] [Save and Exit]
WATER SHORTAGE CONTINGENCY PLAN
(CHapter 8)

1. Numerous new requirements since recent droughts
   • Total of 9 listed on pages 8-4 and 8-5 of Draft 2020 UWMP Guidebook

2. Shortage levels
   • 10% reduction per level with new greater than 50% level (align stages)

3. Communication Protocol
   • Water Shortage Committee (from one person to a full multi-agency team)

4. Annual Supply and Demand Assessment

5. Drought Risk Tool

6. Adjustments in the future triggers
EXAMPLE COMMUNICATIONS PROTOCOL

**Normal Conditions**
- Monitor: Quarterly
- Public Outreach: Annually
- Share Resources: Annually

**Decreasing Impacts**
- Monitor: Monthly
- Public Outreach: Monthly
- Share Resources: Monthly

**Severe Water Shortage**
- Monitor: Weekly
- Public Outreach: Weekly
- Share Resources: Weekly

**Increasing Impacts**
- Monitor: Monthly
- Public Outreach: Monthly
- Share Resources: Monthly

Water Shortage Committee Responsibilities

Severe Drought
SCALABLE WATER SHORTAGE INTERAGENCY ORGANIZATION STRUCTURE (select what applies)

Water Shortage Advisory Committee

- Customer Group Representative (e.g. Ag. Urban, Rec, Chamber of Commerce)
- USBR
- County
- CA DWR
- CA Fish and Game
- Ag Commissioner
- USFS
- CA Dept of Forestry
- County Fire
- County Conservation
- Natural Resource Conservation Service
- Energy Utility
## Scalable Water Shortage Interagency Organization Structure (Cont.)

<table>
<thead>
<tr>
<th>Support Staff</th>
<th>Wholesaler</th>
<th>Retailer 1</th>
<th>Retailer 2</th>
<th>Retailer...</th>
</tr>
</thead>
</table>
| **Coordination Support** | • Policy/Legal  
• Public Outreach  
• Logistics | • Engineering Planning  
• Monitoring  
• Operations  
• Environmental Quality  
• Policy/Legal  
• Communications  
• Financial  
• Ag Conservation  
• Urban Conservation  
• Public Outreach | • Engineering Planning  
• Monitoring  
• Operations  
• Environmental Quality  
• Policy/Legal  
• Communications  
• Financial  
• Ag Conservation  
• Urban Conservation  
• Public Outreach | • Engineering Planning  
• Monitoring  
• Operations  
• Environmental Quality  
• Policy/Legal  
• Communications  
• Financial  
• Ag Conservation  
• Urban Conservation  
• Public Outreach |
Breakout Room 3:
Wholesalers and Regional UWMP Coordination

Sarah Triolo
Water Resources Project Manager
SFPUC

Danielle McPherson
Senior Water Resources Specialist
BAWSCA
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Information</th>
<th>Retail</th>
<th>Wholesale</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Service Area Population and Demographics</td>
<td>Information about retail service area population and demographics, including projected population</td>
<td>Integrate into service area description</td>
</tr>
<tr>
<td>4</td>
<td>Projected Water Use</td>
<td>Projected demands for 2021-2025, and 2025-2040 in 5-year increments</td>
<td>Integrate into service area projected water use</td>
</tr>
</tbody>
</table>
| 7       | Water Supply Reliability             | Integrate into supply reliability analysis and 5-year DRA              | • Supply availability for 2021-2025, and then in 5-year increments 2025-2040 under 5-year drought conditions  
• Description of assumptions used for drought sequence  
• Description of other relevant factors impacting supply reliability |
| 8       | Annual WSDA                          | Timing for providing demand projections                                | Timing for providing supply determination                                                        |
Wholesaler | Retailer Common Language

• Regional planning (Chapter 2.3)
• Population and demographics (Chapter 3.4)
• Projected water use (Chapter 4.2.6)
• Climate change considerations (Chapter 4.5)
• Water supply characterization (Chapter 6)
• Energy intensity (Chapter 6.4)
• Water system reliability (Chapter 7)
• Annual Water Supply and Demand Assessment Procedures (Chapter 8)
• Demand management measures (Chapter 9)
Appendix C: Voluntary Reporting of Delta Reliance

• Final guidance is planned be released in November
• Pending details
  • Wholesale agencies that rely on SF Bay Delta water will likely be required to include Appendix C
  • Questions remain about whether the wholesaler’s customers (i.e. urban water suppliers) need to include Appendix C
  • Amending 2015 UWMPs
BREAKOUT SESSION 4

Crossing the Finish Line and Beyond: Engaging Your Community, Adopting Your Plan & Financing Implementation
UWMP ADOPTION PROCESS

EXAMPLE: GOOD CITY WATER AGENCY

GOOD CITY WATER AGENCY

2020 Urban Water Management Plan
ADOPTING GOOD CITY’S 2020 UWMP

• Good City’s water department is governed by the City Council and City Council wants to adopt the 2020 UWMP as part of a regular meeting
• City Council regular meetings are held the first Thursday of each month
• What timeline will Good City need to follow to submit its 2020 UWMP by the July 1, 2021, deadline?
ADOPTING GOOD CITY’S 2020 UWMP

NOTICE PERIOD

• April 1, 2021: Issue Notice of Draft Plan & Public Hearing / Comment Process
  • Publish notice in Good City newspaper for once a week for two consecutive weeks
  • Send notice to cities & counties served
  • Set two public hearings, one for public input & one for adoption
  • Set up process to accept written public comments

• Release Draft UWMP & WSCP
  • Post on Good City’s website
  • Hard copy at the Water Department office
  • Hard copy at Good City’s central library
  • Send to cities, counties & other stakeholders
ADOPTING GOOD CITY’S 2020 UWMP ENGAGEMENT STRATEGIES

• Solicit input early & incorporate feedback
  • E.g., obtain comments from experts on demand management methods and revise UWMP as needed

• Make the process accessible
  • E.g., hold more than one public hearing at different times and locations

• Foster transparency
  • E.g., provide clear information about demand forecasting methodology and the purpose the forecast serves
ADOPTING GOOD CITY’S 2020 UWMP

POTENTIAL STAKEHOLDERS

• Customers
• Local elected officials
• Cities and counties served
• Local advisory boards
• Local Agency Formation Commissions
• Trade or governmental associations
• Community groups and nonprofits
ADOPTING GOOD CITY’S 2020 UWMP PUBLIC INPUT

May 6, 2021: Hold Public Input Hearing
ADOPTING GOOD CITY’S 2020 UWMP ADOPTION HEARING

June 3, 2021: Conduct Adoption Hearing

Consider – Your governing board might have last minute questions or revisions. This timeline doesn’t leave room for another hearing.
ADOPTING GOOD CITY’S 2020 UWMP

SUBMIT & POST

July 1, 2021: Submit the Final UWMP
August 1, 2021: Make Final UWMP & WSCP publicly available
Conventional thinking is that you can only pay for these things out of annual operating cash. But annual rate revenue is often not sufficient to cover large scale investments.
GOOD NEWS!

GASB guidance now clarifies public water resource agencies are authorized to capitalize investments in water use efficiency and conservation.
Utilities can now debt-finance consumer rebate programs under alternative GASB 62 accounting approach.
IMPLEMENTING GOOD CITY’S 2020 UWMP
FINANCING DEMAND MANAGEMENT

3 CRITERIA FOR GASB 62 APPROACH

1. The utility is governed by a board empowered to establish customer rates

2. The rates are designed to recover the costs of the activity, e.g., consumer rebates

3. The rates are reasonably likely to cover the costs of the program
IMPLEMENTING GOOD CITY’S 2020 UWMP
FINANCING DEMAND MANAGEMENT

TAPIN.WATERNOW.ORG/TOOLKIT
COMPLETE OUR SURVEY

Your feedback helps to inform future events!
THANK YOU