



Draft Water Shortage Contingency Plan

UPDATED JANUARY 2022

WESTERN MUNICIPAL WATER DISTRICT





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Prepared by Water Systems Consulting, Inc.



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ACRONYMS & ABBREVIATIONS

°F	Degrees Fahrenheit
AF	Acre Foot
AFY	Acre Feet per Year
AWWA	American Water Works Association
BMP	Best Management Practice
CALWARN	California Water/Wastewater Agency Response Network
CAT	Climate Action Team
CCF	Hundred Cubic Feet
CCR	California Code of Regulations
CFS	Cubic Feet per Second
CII	Commercial, Industrial, and Institutional
CIMIS	California Irrigation Management Irrigation System
CUWCC	California Urban Water Conservation Council
DCR	DWR SWP Delivery Capacity Report
DDW	SWRCB Division of Drinking Water
DFW	California Department of Fish and Wildlife
DMM	Demand Management Measure
DWR	California Department of Water Resources
EPA	United States Environmental Protection Agency
ET	Evapotranspiration
ET_o	Reference Evapotranspiration
GIS	Geographic Information System
GPCD	Gallons per Capita per Day
GPM	Gallons per Minute
LAFCO	Local Agency Formation Commission
MCL	Maximum Contaminant Level
MG	Million Gallons
MGD	Million Gallons per Day
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System

RWQCB	Regional Water Quality Control Board
SBX7-7	Senate Bill 7 of Special Extended Session 7
SWRCB	State Water Resources Control Board
UWMP	Urban Water Management Plan
UWMP Act	Urban Water Management Planning Act
WSCP	Water Shortage Contingency Plan
WFF	Water Filtration Facility
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

Water Shortage Contingency Plan

The Water Shortage Contingency Plan (WSCP) is a strategic plan that Western Municipal Water District (Western) uses to prepare for and respond to foreseeable and unforeseeable water shortages. A water shortage occurs when available water supply is insufficient to meet the normally expected customer water use at a given point in time. A shortage may occur due to a number of reasons, such as water supply quality changes, climate change, drought, regional power outage, and catastrophic events (e.g., earthquake).

Additionally, the State may declare a statewide drought emergency and mandate that water suppliers reduce demands, as occurred in 2014. The WSCP serves as the operating manual that Western will use to address catastrophic service disruptions through proactive, rather than reactive, mitigation of water shortages. The Western WSCP provides a process for an annual water supply and demand assessment and structured steps designed to respond to actual conditions. This level of detailed planning and preparation provide accountability and predictability and will help Western maintain reliable supplies and reduce the impacts of any supply shortages and/or interruptions.

This WSCP was originally prepared in conjunction with Western's 2020 Urban Water Management Plan (UWMP) and adopted in June 2021. This document is compliant with the California Water Code (CWC) Section 10632 and incorporates guidance from the State of California Department of Water Resources (DWR) UWMP Guidebook 2020 (California Department of Water Resources, 2021).

IN THIS SECTION

- Overview of the WSCP
- Western Wholesale WSCP
- Western Retail WSCP

The WSCP is a standalone document and can be modified as needed by Western or as required to comply with future changes to the CWC.

The WSCP was updated in January 2022 to modify the retail water shortage levels in Section 1.3.3 and the retail shortage response actions in Section 1.3.4 to align with modifications to Western’s retail water rate structure that took effect on July 1, 2021.

1.1 Overview of the WSCP

Western serves water to both wholesale and retail customers and this WSCP addresses Western’s response to shortages in both its wholesale and retail systems. Some elements of the WSCP do not apply to the wholesale system and are noted below. The WSCP describes the following:

Water Supply Reliability Analysis

Summarizes Western’s water supply analysis and reliability and identifies any key issues that may trigger a shortage condition.

Annual Water Supply and Demand Assessment Procedures

Describes the key data inputs, evaluation criteria, and methodology for assessing the system’s reliability for the coming year and the steps to formally declare any water shortage levels and response actions.

Shortage Stages

Establishes water shortage levels to clearly identify and prepare for shortages.

Shortage Response Actions

Describes the response actions that may be implemented or considered for each stage to reduce gaps between supply and demand.

Communication Protocols

Describes communication protocols under each stage to ensure customers, the public, and government agencies are informed of shortage conditions and requirements.

Compliance and Enforcement

Defines compliance and enforcement actions available to administer demand reductions.

Legal Authority

Lists the legal documents that grant Western the authority to declare a water shortage and implement and enforce response actions.

Financial Consequences of WSCP Implementation

Describes the anticipated financial impact of implementing water shortage stages and identifies mitigation strategies to offset financial burdens.

Monitoring and Reporting

Summarizes the monitoring and reporting techniques to evaluate the effectiveness of shortage response actions and overall WSCP implementation. Results are used to determine if additional shortage response actions should be activated or if efforts are successful and response actions should be reduced.

WSCP Refinement Procedures

Describes the factors that may trigger updates to the WSCP and outlines how to complete an update.

Plan Adoption, Submittal, and Availability

Describes the process for the WSCP adoption, submittal, and availability after each revision.

1.2 Western Wholesale Water Shortage Contingency Plan

This section of the WSCP describes how Western will respond to a wholesale water shortage.

As a member agency of Metropolitan Water District (Metropolitan), Western provides wholesale imported water to various retail agencies in the region. Western has also secured local groundwater supplies to supplement imported supplies, which provides additional reliability and flexibility in the event of a water shortage.

Not all retail agencies within Western's service area purchase wholesale water from Western; as such, the Wholesale WSCP only applies to Western's wholesale customers, which currently include:

- Box Springs Mutual Water Company
- City of Corona
- City of Norco
- Eagle Valley Mutual Water Company
- Elsinore Valley Municipal Water District
- Temescal Valley Water District
- Rancho California Water District
- Western Retail

Additional information on Western's wholesale customers can be found in Western's 2020 UWMP. Western's wholesale WSCP will apply to any future wholesale customers.

1.2.1 Background

Metropolitan Reliability Planning and Water Supply Allocation Plan

The majority of Western's wholesale supplies are imported via Metropolitan and are subject to availability of Metropolitan supplies. Metropolitan, in coordination with its member agencies, has conducted extensive reliability planning, including the 1996 Integrated Water Resources Plan (IRP) and its three updates in 2004, 2010, and 2015; the 2020 IRP currently in development; the Water Surplus and Drought Management (WSDM) Plan; and the Water Supply Allocation Plan (WSAP).

- The IRP is Metropolitan's evolving long-term plan to secure adequate water supplies for Southern California.
- The WSDM Plan provides policy guidance for managing regional water supplies during surplus and shortage conditions. Similar in concept to the WSCP, the WSDM Plan provides an overall vision for operational supply management and characterizes a flexible sequence of actions to minimize the probability of severe shortages and reduce the likelihood of extreme shortages.
- The WSAP is Metropolitan's policy and formula for equitably allocating available water supplies to member agencies during extreme water shortages when Metropolitan determines it is unable to meet all its demands. Metropolitan's WSAP identifies 10 levels of shortage designed to reduce demands by up to 50%. The WSAP does not prescribe demand reduction or limit the available supply but incentivizes reductions through higher fees for use over the allocation amount.

Additional reliability planning efforts by Metropolitan include its Emergency Storage Objective and its Seismic Risk Assessment and Mitigation Plan. More information on all planning efforts listed above can be found in Metropolitan's 2020 UWMP and WSCP.

Metropolitan's WSCP acknowledges that WSAP allocation is a costly shortage response action that places acute burdens upon member agencies and the public. Other shortage response actions are generally preferred to the extent practicable. Metropolitan's overall strategy considers WSAP allocations to be a fallback option to address any remaining shortages when supply augmentation actions and other demand management measures are insufficient to meet demand reduction objectives. Metropolitan's WSAP is included as Attachment 1.

Western has aligned its water shortage policies with Metropolitan's with respect to imported water supplies.

Western Drought Allocation Plan

Western has adopted a Drought Allocation Plan (DAP) that passes through Metropolitan's WSAP actions for imported water shortages to Western wholesale customers. The DAP was prepared by Western in conjunction with its wholesale customers and mirrors the 10 stages of Metropolitan's WSAP. The DAP establishes a means to allocate limited imported water supplies among Western's imported water agencies if Metropolitan implements various stages of its WSAP. Initially developed in 2008, the DAP was updated in 2015 to reflect changes from Metropolitan and the potential impacts of future droughts. The allocation methodology in the DAP was updated for consistency with Metropolitan's WSAP and agreed upon by Western's wholesale customers. A copy of Western's DAP is included as Attachment 2.

The DAP establishes water allocations based on several variables including base period demand, conservation, growth, regional shortage, availability of local supplies, retail water agency dependence on imported supplies, and conservation demand hardening. The allocation method was designed to be equitable on the wholesale level, while helping to minimize hardships experienced by retail agencies and the customers they serve throughout the region.

As with Metropolitan's WSAP, the DAP does not prescribe how Western's wholesale customers reduce demands during shortage, rather the DAP incentivizes conservation through fees for excessive use. Metropolitan charges penalties for use above an allocation established by implementing one of the 10 stages of its WSAP. At the end of the 12-month allocation year, any allocation surcharges or penalties incurred through excessive use of Metropolitan supplies will be passed along to Western's wholesale customers, prorated to reflect each agency's contribution towards penalty and fee accrual.

Metropolitan's WSAP was incorporated into its WSCP but was not modified as part of Metropolitan's WSCP development. Similarly, Western's DAP is incorporated into this Wholesale WSCP, but has not been changed since it was last updated and adopted in 2015. A copy of Metropolitan's WSAP is included as Attachment 1.

1.2.2 Wholesale Water Supply Reliability Analysis

Understanding water supply reliability, factors that could contribute to water supply constraints, availability of alternative supplies, and what effect these have on meeting customer demands provides Western with a solid basis on which to develop appropriate and feasible response actions in the event of a water shortage. In the 2020 UWMP, Western conducted a Water Reliability Assessment to compare the total water supply sources available to long-term projected water use over the next 25 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. Western also conducted a Drought Risk Assessment to evaluate a drought period that lasts five consecutive water years starting from the year following when the assessment is conducted.

The primary constraint on the availability of water supplies has been in extreme drought conditions. As described in Metropolitan's 2020 UWMP, Metropolitan has made substantial investments to increase imported water supply reliability during periods of extended drought. As a result, Metropolitan's 2020 UWMP projects the ability to meet all imported water demands under normal, single dry year, and multiple dry year conditions, with excess supplies.

Through implementation of the Arlington Groundwater Sustainability Plan (GSP), Western expects its local wholesale supply from the Riverside-Arlington groundwater basin water to be stable and does not anticipate any reduction to supplies in dry years.

An analysis of both assessments determined that Western is reliable and anticipates that sufficient local and imported supplies will be available to meet demands, even in dry years, based on Metropolitan's 2020 UWMP.

1.2.3 Wholesale Annual Water Supply and Demand Assessment

As an urban water supplier, Western must prepare and submit an Annual Water Supply and Demand Assessment for its wholesale system (Wholesale Annual Assessment). The Wholesale Annual Assessment is an evaluation of the near-term outlook for supplies and demands to determine whether the potential for a supply shortage exists and whether there is a need to trigger a WSCP shortage stage and response actions in the current calendar year to maintain supply reliability. This process will take place at the same time each year based on known circumstances and information available to Western at the time of analysis and can be updated or revised at any time if circumstances change. Starting in 2022, the Wholesale Annual Assessment will be due by July 1 of every year, as indicated by CWC Section 10632.1.

As a member agency of Metropolitan, Western's protocols for evaluating water supply and demands and implementing shortage restrictions are integrated with Metropolitan's.

Western will establish and convene a WSCP Team to conduct the Wholesale Annual Assessment each year. The WSCP Team may include the following Western staff:

- Director of Water Resources
- Deputy Director of Water Resources
- Director of Finance
- Director of Strategic Communications
- Water Resources Specialist
- Operations Manager

Western’s Wholesale Annual Assessment procedure, including key data inputs, evaluation criteria and responsible staff is summarized in Table 1. To inform the Annual Assessment, Western will continue to coordinate with its wholesale customers to gain valuable input on the region’s supply and demand needs.

Table 1. Wholesale Annual Assessment Timeline

TIMING	ASSESSMENT ACTIVITIES	PROCEDURE, KEY DATA INPUTS, EVALUATION CRITERIA AND OTHER CONSIDERATIONS	WESTERN STAFF RESPONSIBLE
MARCH	Estimate unconstrained demands for coming year	Each year in July, Metropolitan requests “Member Agency Demand Estimate Surveys” from each of their member agencies as part of their annual budgeting process. Western wholesale customers submit a 5-year demand estimate, subtotaled by imported water source (potable or non-potable) and by delivery point (for the following 12-months only). Western will use the estimates provided the previous July. For other Western wholesale supplies, Western coordinates with wholesale customers each year at budget time (March) to establish demands for the following year.	Water Resources Specialist Director of Water Resources
MARCH	Estimate available supplies for the year, considering the following year will be dry	Western anticipates that sufficient imported supplies will be available to meet demands, even in dry years, based on Metropolitan’s 2020 UWMP. If Metropolitan has declared a WSAP stage (typically done in spring of a given year if needed), water use above the WSAP allocation will be charged a penalty rate. The Arlington Basin Groundwater Sustainability Plan (GSP) framework will be used to estimate available supplies from the Arlington Desalter.	Director of Water Resources
MARCH	Consider potential infrastructure constraints that may impact supply delivery	Identify any known Metropolitan or Western infrastructure issues that may pertain to near-term water supply reliability, including repairs, construction, and environmental mitigation measures that may temporarily constrain capabilities, as well as any new projects that may add to system capacity. Identify any facilities out of service due to water quality problems, equipment failure, etc. that may impact normal water deliveries.	Operations Manager
APRIL	Convene WSCP Team to conduct Wholesale Annual Assessment	Compare supplies and demands and discuss any infrastructure constraints that may impact supply delivery. If the potential for a shortage exists or if Metropolitan has enacted a WSAP stage, determine which Western shortage response stage and actions are recommended to reduce/eliminate the shortage or to pass through the Metropolitan WSAP.	WSCP Team

TIMING	ASSESSMENT ACTIVITIES	PROCEDURE, KEY DATA INPUTS, EVALUATION CRITERIA AND OTHER CONSIDERATIONS	WESTERN STAFF RESPONSIBLE
MAY	Engineering, Operations and Water Resources (EOWR) Committee Update	<p>If a shortage stage and response actions are recommended by the WSCP Team, or if Metropolitan has enacted a WSAP stage, provide an update to the EOWR Committee with the findings of the Wholesale Annual Assessment and planned actions.</p> <p>Western's DAP gives the General Manager the authority to implement the DAP in response to Metropolitan implementing its WSAP without further Board action.</p>	Director of Water Resources
JUNE	Western Board of Directors Update	<p>If a shortage stage and response actions are recommended by the WSCP Team, or if Metropolitan has enacted a WSAP stage, provide an update to the Board of Directors with the findings of the Wholesale Annual Assessment and planned actions.</p> <p>Western's DAP gives the General Manager the authority to implement the DAP in response to Metropolitan implementing its WSAP without further Board action.</p>	Director of Water Resources
ON-GOING	Implement WSCP actions, if needed	Relevant members of Western staff will implement shortage response actions if needed.	WSCP Team
PRIOR TO JULY 1	Submit Wholesale Annual Assessment	Send Final Wholesale Annual Assessment to DWR.	Water Resources Specialist

1.2.4 Wholesale Water Shortage Levels and Response Actions

With the exception of a catastrophic failure of the Mills Gravity Line or other infrastructure failure of similar magnitude, Western does not foresee implementing water shortage levels except under Metropolitan’s direction and according to Metropolitan’s WSAP or as required by a state mandate. If a potential water supply shortage is identified in the Wholesale Annual Assessment, this section provides information on the wholesale water shortage levels and response actions that Western may implement. It is important to note that Western’s system is complex and the ultimate actions taken by Western will depend on the unique issues of each particular condition and the opportunities available during a particular shortage condition.

Western has aligned its Wholesale WSCP shortage levels with the six standard water shortage levels outlined in the Water Code. Shortage levels indicate the gap in supply compared to normal year availability. The six standard water shortage levels correspond to progressively increasing estimated shortage conditions (up to 10-, 20-, 30-, 40-, 50-percent, and greater than 50-percent shortage compared to the normal reliability condition) and align with the response actions that Western would implement to meet the severity of the impending shortages.

Western will evaluate the water shortage conditions on a case-by-case basis and determine which response actions are appropriate to maintain water supply reliability or mitigate potential impacts. In collaboration with its wholesale customers, Western’s response to potential shortages may include increased public outreach throughout the region, exploration of additional supply sources, changes to typical operations, and promoting voluntary actions to reduce demands. If Metropolitan implements its WSAP, Western will implement its DAP to align with Metropolitan. Western’s six water Shortage Levels and corresponding response actions that could be implemented by Western are summarized in Table 2. The following subsections describe Western’s potential response actions in more detail.

Western may also implement additional actions not listed in Table 2. Western may implement a combination of the actions specified below, as appropriate, but not necessarily all six actions for each level. Selected actions will depend on the nature of water shortage conditions at a given time.

Table 2. Wholesale Water Shortage Levels and Potential Response Actions

WHOLESALE WATER SHORTAGE LEVELS ¹	ONGOING WATER USE EFFICIENCY	PUBLIC OUTREACH	SUPPLY AUGMENTATION	OPERATIONAL CHANGES	VOLUNTARY DEMAND REDUCTIONS	IMPLEMENT DROUGHT ALLOCATION PLAN ²
Normal Conditions	✓	✓				
Level 1 (Up to 10%)	✓	✓	✓	✓	✓	✓
Level 2 (Up to 20%)	✓	✓	✓	✓	✓	✓
Level 3 (Up to 30%)	✓	✓	✓	✓	✓	✓
Level 4 (Up to 40%)	✓	✓	✓	✓	✓	✓
Level 5 (Up to 50%)	✓	✓	✓	✓	✓	✓
Level 6 (Above 50%)	✓	✓	✓	✓	✓	✓

¹Percentages represent supply shortage compared to normal conditions.

²Western DAP is only triggered in response to Metropolitan WSAP allocations

Ongoing Water Use Efficiency

Western has been a leader in water use efficiency for many years and actively collaborates with local and regional agencies and the communities it serves to implement innovative programs and drive change. As described in Western's 2020 UWMP, Western implements a variety of wholesale demand management measures (DMMs) on a routine basis intended to promote water use efficiency and partner with its wholesale customers to support sustainable management of regional water supplies.

Communication Plan

During a water shortage condition, including short term supply constraints caused by infrastructure impacts, Western collaborates with its wholesale customers to provide enhanced and coordinated public outreach to communicate current conditions, potential impacts to water service and actions that are being taken by Western and its wholesale customers, and actions the public is being asked to take to help reduce water use during the shortage.

Supply Augmentation

In the event of a shortage in normally available supplies, Western may be able to augment supplies through other local groundwater sources and storage programs, if available at the time of the shortage. Such augmentation actions would be short-term and do not overlap with the normal supplies.

Operational Changes

During shortage conditions, operations may be affected by supply augmentation or demand reduction responses. Western will consider its operational procedures at the time of a shortage to identify changes that can be implemented to address water shortage on a short-term basis. In addition, Western and its neighboring agencies have mutual aid agreements and assist each other, if possible, in emergency situations.

Voluntary Demand Reductions

If Metropolitan implements a WSAP allocation, Western will implement its DAP to align. The WSAP and DAP does not require Western's wholesale customers reduce demands during shortage, rather they incentivize demand reduction through fees for excessive use. Metropolitan charges penalties for use above an allocation established by implementing one of the 10 stages of its WSAP and Western passes any penalties charged through to the respective wholesale customers that contributed to accruing the penalties. Demand reductions are voluntary and supplies beyond the allocation can still be purchased at higher penalty rates.

Additional Mandatory Restrictions

Western does not impose mandatory restrictions on its wholesale customers.

Shortage Response Action Effectiveness

Western is committed to working with its wholesale customers to mitigate the impacts of potential supply shortages. Western expects to address any supply shortages through a combination of public outreach, supply augmentation, operational changes, voluntary demand reductions, and implementation of the DAP. The range of potential supply shortage reductions that could be achieved from each response action is summarized in Table 3.

Table 3. Potential Supply Shortage Reduction for Response Actions

RESPONSE ACTION	POTENTIAL SUPPLY SHORTAGE REDUCTION	DESCRIPTION
Ongoing Water Use Efficiency	N/A	Western supports the water use efficiency programs of its wholesale customers but does not directly track resulting water savings from wholesale customers.
Public Outreach	Supports effectiveness of other actions	Anticipated shortages will involve an appropriately sized outreach campaign to address the targeted demand reduction, which depends on the combined effectiveness of other shortage response actions.
Supply Augmentation	0-100%	Supply augmentation actions consisting of stored water and as-needed flexible supplies are expected to address between 0 to 100 percent of anticipated shortages for any shortage level, depending on availability of those supplies; in lesser WSCP shortage levels, it is more likely that shortages can be completely addressed through supply augmentation.
Voluntary Demand Reductions	0-100 %	Efficacy of demand reduction efforts is difficult to estimate or predict and water savings are a function of the extent to which public information campaigns reach water users and the degree of consumer response to those messages, as well as the response of Western wholesale customers and their ability to utilize other supplies. In lesser WSCP shortage levels (i.e. 10% or Stage 1), it is more likely that shortages can be completely addressed through demand reduction. For higher shortage levels, demand reduction would likely need to be combined with other response actions to address the entire shortage.
Implement Drought Allocation Plan	0-50%	Metropolitan’s WSAP is designed to reduce demands by up to approximately 50 percent of the WSAP’s calculated base demand.

1.2.5 Communication Protocols

Western routinely communicates with local water agencies through quarterly general manager meetings. General managers of all the local water agencies meet and discuss regional and agency specific issues, which may include impacts or changes to wholesale supplies and demands.

In the event of water supply shortage, Western will use this forum for ongoing communication about supply shortages and response actions. The region’s general managers can also utilize these meetings to help coordinate consistent regional messaging in times of drought.

1.2.6 Legal Authorities

Western obtains legal authority to implement its DAP through Ordinance 385, which was approved and adopted on May 20, 2015, by Western’s Board after a public hearing. A copy of Ordinance 385 is included as Attachment 3.

Western shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

1.2.7 Financial Consequences of WSCP

As mentioned above, in times of extreme shortage, Metropolitan may elect to implement its WSAP and Western will implement its DAP in response. The WSAP reduces allocations to Metropolitan's member agencies, including Western. If Western's wholesale agencies consume more water than their allocation, Metropolitan charges Western penalties based on the percentage of use over the allocation amount. Western will pass along any penalties or surcharges incurred to Western's wholesale customers, prorated to reflect each agency's contribution towards penalty and fee accrual.

In the event of a wholesale water shortage, Western anticipates that revenues will decrease as wholesale customers shift to using other supplies, whether in response to short term outages or the WSAP/DAP penalty pricing, if implemented.

1.3 Western Retail Water Shortage Contingency Plan

Western Retail refers to customers that directly purchase and use water from Western, such as single-family residences or commercial businesses. Western provides water to nearly 25,000 connections within the retail service area, including the Riverside Retail Service Area, Murrieta Retail Service Area, and Rainbow Retail Service Area. These three service areas are collectively referred to as Western Retail and cover a total of 104 square miles and serve water to an estimated population of nearly 100,000.

The Riverside Service Area includes a portion of the City of Riverside and unincorporated areas of Riverside County, including the communities of El Sobrante, Eagle Valley, Temescal Creek, Woodcrest, Lake Matthews and March Air Reserve Base. In 2005, Western took ownership of the Murrieta County Water District as a separate retail service area, now called the Murrieta Service Area. The entire area lies within the city of Murrieta. Western also serves a very small area, called the Rainbow Service Area, in an area just south of the City of Temecula in the unincorporated portion of Riverside County.

Western Retail currently obtains approximately 60% of its supply from Metropolitan and 40% of its supply from local groundwater sources. Note that Western treats its retail system as a wholesale customer as it relates to imported water supplies and demands.

1.3.1 Retail Water Supply Reliability Analysis

Understanding water supply reliability, factors that could contribute to water supply constraints, availability of alternative supply sources, and the effect these have on Western's ability to meet customer demands provide Western with a solid understanding used to develop appropriate and feasible response actions in the event of a water shortage. In the 2020 UWMP, Western conducted a Water Reliability Assessment to compare the total water supply sources available to long-term projected water use over the next 25 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. Western also conducted a Drought Risk Assessment to evaluate a drought period that lasts five consecutive water years starting in 2021. An analysis of both assessments determined that Western is reliable and anticipates meeting retail demands through local and imported water sources.

As described in Section 1.2.2, Western Wholesale expects to have sufficient supplies available to meet the demands of Western Retail and its other wholesale customers, even in dry years, based on Metropolitan's 2020 UWMP.

Western Retail also obtains groundwater supplies from several local groundwater basins, including groundwater from the Chino Basin that is treated and distributed by the Chino Desalter Authority (CDA), of which Western is a member. Each of the groundwater sources are closely managed by Watermasters, Groundwater Sustainability Agencies or Groundwater Sustainability Councils. Western plays a key role in the management of the groundwater basins it relies on to meet retail demands and participates in ongoing water conservation measures and regional recharge projects to enhance and protect the reliability of local groundwater.

Western Retail's recycled water supply is not expected to be affected by climatic factors because source wastewater flows coming from indoor use are generally not impacted by temperature and precipitation. However, recycled water supply availability may decline over time as a result of increased indoor conservation measures and efficient upgrades to plumbing and fixtures. Western also obtains supplemental non-potable

water from imported and local sources. It is anticipated that non-potable water will be available as needed, based on effective basin and imported water management.

Western Retail is reliable and anticipates that sufficient local and imported supplies will be available to meet demands, even in dry years.

1.3.2 Retail Annual Water Supply and Demand Assessment

As an urban water supplier, Western must prepare and submit an Annual Water Supply and Demand Assessment for its retail system (Retail Annual Assessment). The Retail Annual Assessment is an evaluation of the near-term outlook for supplies and demands to determine whether the potential for a supply shortage exists and whether there is a need to trigger a WSCP shortage level and response actions in the current calendar year to maintain supply reliability. Starting in 2022, the Retail Annual Assessment will be due by July 1 of every year, as indicated by CWC Section 10632.1. Western's Retail Annual Assessment procedure, including key data inputs, evaluation criteria and responsible staff is summarized in Table 4.

Western will establish and convene a WSCP Team to conduct the Retail Annual Assessment each year. The WSCP Team may include the following Western staff:

- Director of Water Resources
- Deputy Director of Water Resources
- Director of Finance
- Director of Strategic Communications
- Water Resources Specialist
- Operations Manager

Table 4. Retail Annual Assessment Procedure

TIMING	ASSESSMENT ACTIVITIES	PROCEDURE, KEY DATA INPUTS, EVALUATION CRITERIA AND OTHER CONSIDERATIONS	WESTERN STAFF RESPONSIBLE
MARCH	Estimate unconstrained demands for coming year	Western has several potential approaches to estimate demand for the coming year, including a demand climate model that uses a time series regression analysis, estimates developed by the Finance Department based on historical use, and a California Data Collaborative (CaDC) tool. Western tracks demand estimates from multiple approaches compared to actual demand to refine its estimates over time.	Water Resources Specialist Finance Manager
MARCH	Estimate available supplies for the year, considering the following year will be dry	Western anticipates that sufficient imported supplies will be available to meet demands, even in dry years, based on Metropolitan’s 2020 UWMP. If Metropolitan declares a WSAP stage (typically done in spring of a given year if needed), normal quantities of water will still be available, but will be charged at penalty rate above the allocation. Western’s local supplies are from groundwater basins that are sustainably managed to provide long term supply reliability and are not anticipated to be impacted in dry years. In the unlikely event that local supplies are reduced, Western will coordinate with the groundwater management groups in the respective basins and the CDA to identify any supply reductions. Western plays an active role in these groups to help ensure long term water supply reliability for Western Retail customers.	Director of Water Resources
MARCH	Consider potential infrastructure constraints that may impact supply delivery	Identify any known Metropolitan or Western infrastructure issues that may pertain to near-term water supply reliability, including repairs, construction, and environmental mitigation measures that may temporarily constrain capabilities, as well as any new projects that may add to system capacity. Identify any facilities out of service due to water quality problems, equipment failure, etc. that may impact normal water deliveries.	Operations Manager
APRIL	Convene WSCP Team to conduct Retail Annual Assessment	Compare supplies and demands and discuss any infrastructure constraints that may impact supply delivery. If the potential for a shortage exists or if Metropolitan has enacted a WSAP stage, determine which Western shortage response level and actions are recommended to reduce/eliminate the shortage or to reduce demands on Metropolitan. Additionally, if the State declares a drought state of emergency and requires demand reductions, the WSCP Team will determine which water shortage level and response actions are needed to comply with the State mandate.	WSCP Team
MAY	Engineering, Operations and Water Resources (EOWR) Committee	If the potential for a shortage exists, if Metropolitan has enacted a WSAP stage or if the State has mandated demand reductions, the results of the Retail Annual Assessment will be presented to EOWR Committee, including the recommended shortage level and response actions.	Director of Water Resources
JUNE	Western Board of Directors	If the potential for a shortage exists, if Metropolitan has enacted a WSAP stage or the State has mandated demand reductions, the results of the Retail Annual Assessment will be presented to the Western Board of Directors, including the recommended shortage level and response actions. The Board of Directors may order the implementation of a shortage level	Director of Water Resources

TIMING	ASSESSMENT ACTIVITIES	PROCEDURE, KEY DATA INPUTS, EVALUATION CRITERIA AND OTHER CONSIDERATIONS	WESTERN STAFF RESPONSIBLE
		and will adopt a resolution declaring the applicable water shortage level.	Western Board of Directors
ON-GOING	Implement WSCP actions, if needed	Relevant members of Western staff will implement shortage response actions associated with the declared water shortage level.	WSCP Team
PRIOR TO JULY 1	Submit Retail Annual Assessment	Send Final Retail Annual Assessment to DWR.	Water Resources Specialist

1.3.3 Retail Water Shortage Levels

With the exception of a catastrophic failure of the Mills Gravity Line or other infrastructure failure of similar magnitude, Western does not foresee imposing a retail water shortage level except under the State’s direction, or in response to action taken by Metropolitan. If a potential water supply shortage is identified in the Retail Annual Assessment, this section provides information on the retail water shortage levels and response actions that Western may implement.

Western Retail uses six (6) shortage stages to identify and respond to water shortage emergencies, in alignment with the six standard shortage stages recommended by DWR and the Water Code. The six standard water shortage levels correspond to progressively increasing estimated shortage conditions (up to 10-, 20-, 30-, 40-, 50-percent, and greater than 50-percent shortage compared to the normal reliability condition) and align with the response actions that Western would implement to meet the severity of the impending shortages. The six (6) stages are provided in Table 5. Western promotes water use efficiency as a way of life, regardless of water shortage conditions, and keeps Stage 1 in effect at all times, at a minimum.

Table 5. Western Retail Water Shortage Contingency Plan Levels

SHORTAGE LEVEL	PERCENT SHORTAGE RANGE	WATER SHORTAGE CONDITION
1	Up to 10%	Stage 1 - Water Supply Watch – Water Use Efficiency is a Way of Life
2	Up to 20%	Stage 2 - Water Supply Alert
3	Up to 30%	Stage 3 - Water Supply Reduction– Targeting Unsustainable Use
4	Up to 40%	Stage 4 - Water Supply Reduction- Targeting Inefficient Use
5	Up to 50%	Stage 5 - Water Supply Reduction– Targeting Outdoor Use
6	Greater than 50%	Catastrophic Water Supply Loss – Targeting Indoor Use

1.3.4 Shortage Response Actions

Western expects to mitigate supply shortages through a variety of response actions including various supply sources, demand reduction actions, conservation, operational changes, outreach, and if necessary, mandatory prohibitions.

Supply Augmentation

Western currently maintains interconnections with the cities of Riverside and Corona, Eastern Municipal Water District and Elsinore Valley Municipal Water District. During water shortage emergencies, Western may be able to obtain supplemental water supply through these connections, if available.

Western Retail may also purchase additional imported or local groundwater supply from Western Wholesale.

Supply augmentation actions are summarized in Table 6.

Table 6. Supply Augmentation

SHORTAGE LEVEL	SUPPLY AUGMENTATION METHOD	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?	ADDITIONAL EXPLANATION OR REFERENCE
All	Purchased or Imported Water	Up to 100%	Depends on supply availability from neighboring agencies or Western Wholesale

Demand Reduction

In addition to our existing budget-based rates, Western has identified a variety of demand reduction actions to offset supply shortages. These actions include, but are not limited to conservation and rebate programs, leak detection and repair, limitations on irrigation and other voluntary actions to reduce customer demand. Demand reduction actions are summarized in Table 7.

The Water Code Section 10623 (b) now requires that suppliers 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. Non-pool or non-spa water features may use or be able to use recycled water, whereas pools and spas must use potable water for health and safety considerations so limitations to pools and spas may require different considerations compared to non-pool or non-spa water features. Western’s Ordinance 394 includes a demand reduction response action that applies to both water features and swimming pools, requiring them to be equipped with recirculating pumps. While this response action is appropriate for both water features and pools and spas, Western will consider these features separately when the WSCP Ordinance is updated.

Table 7. Demand Reduction Actions

SHORTAGE LEVEL	DEMAND REDUCTION ACTIONS	ESTIMATED SHORTAGE GAP REDUCTION (AFY)	ADDITIONAL EXPLANATION OR REFERENCE	PENALTY, CHARGE, OR OTHER ENFORCEMENT
All	Landscape - Other landscape restriction or prohibition	500	Adjust automatic irrigation timers for weather patterns and landscape requirements; Texas Living Waters (Texas Living Waters Project, 2018)	Yes
All	Other - Require automatic shut of hoses			Yes
All	Landscape - Limit landscape irrigation to specific times	4,800	Texas Living Waters (Texas Living Waters Project, 2018)	Yes
All	Other water feature or swimming pool restriction		Features and pools shall be equipped with re-circulating pumps.	Yes
All	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	6,000	EPA Cases in Water Conservation: How Efficiency Programs Help Water Utilities Save Water and Avoid Costs (United States Environmental Protection Agency, Office of Water, 2002)	Yes
All	Landscape - Restrict or prohibit runoff from landscape irrigation			Yes
All	Water Savings from Rebate Program Participation	100	Historical estimate from Western's internal analyses.	No
3	Irrigation reduced to three (3) days	100	1% of outdoor irrigation usage	Yes
3	Irrigation reduced to two (2) days	1,900	18% of outdoor irrigation usage (California Water Efficiency Partnership (CalWEP), 2021)	Yes
3	Implement Drought Fine on Tier 4 Usage	1,000	Average Tier 4 usage and 25% of dedicated outdoor irrigation	Yes
4	Irrigation reduced to one (1) day	3,700	35% of outdoor irrigation usage (California Water Efficiency Partnership (CalWEP), 2021)	Yes
4	Implement Drought Fine on Tier 3 Usage	1,300	Average Tier 3 usage and 25% of dedicated outdoor irrigation.	Yes

SHORTAGE LEVEL	DEMAND REDUCTION ACTIONS	ESTIMATED SHORTAGE GAP REDUCTION (AFY)	ADDITIONAL EXPLANATION OR REFERENCE	PENALTY, CHARGE, OR OTHER ENFORCEMENT
5	Implement Drought Fine on Tier 2 Usage	10,900	Average Tier 2 usage and all of dedicated outdoor irrigation.	Yes
5 and Up	Other		No new potable service connections, temporary meters, or permanent meters	No
5 and Up	Landscape - Other landscape restriction or prohibition		No new landscapes unless irrigated with recycled water.	No
5 and Up	Landscape - Prohibit all landscape irrigation			Yes

Operational Changes

During shortage conditions, operations may be affected by supply augmentation or demand reduction responses. Western will consider its operational procedures at the time of a shortage to identify changes that can be implemented to address water shortage on a short-term basis.

Additional Mandatory Restrictions

Western has identified additional mandatory restrictions to implement in a water shortage emergency. Such restrictions will first be evaluated on the type of shortage condition and needs to close the gap between supply and demand needs.

Potential restrictions include, but are not limited to:

- Restricting watering to the hours of 8:00 pm to 6:00 am.
- No potable water for washing hard surfaces except to alleviate immediate fire or sanitation hazards, and then only by the use of certain water saving equipment.
- No runoff from irrigation or leaks.
- No installation of new landscapes unless irrigated with recycled water.
- No potable water for construction and dust control, except as necessary for public health, safety, and welfare.

Shortage Response Action Effectiveness

Western has estimated the effectiveness of shortage response actions when data pertaining to such actions is available. Estimates of the effectiveness for actions are included in Table 6 and Table 7. It is expected that response actions effectiveness is also a result of successful communication and outreach efforts, described below.

1.3.5 Communication Protocols

Western prioritizes effective communication, especially in times of a water shortage emergency. Western provides details on droughts, shortage stages and restrictions on its website at <https://www.wmwd.com/391/Drought-Restrictions>.

Western has a Strategic Communications team that oversees public affairs, legislative programs, and initiatives. The Strategic Communications team also develops programs and information about Western's efficiency programs, water reliability initiatives, and other educational programs. Western staff members also engage with their customers through presentations to community service organizations and other groups.

The Strategic Communications team created a strategic outreach plan that provides the framework for customer outreach as needed for Stage implementation for the Water Supply Shortage Contingency Plan.

It will be imperative to swiftly communicate with Western Retail customers as to what will be required and how to achieve the required water efficiency results. The following methods may be used to communicate information about stages to retail customers:

- **Bill message** – bill messages would be placed directly on customer bills and note key information about the specific Stage.
- **Bill insert** – inserts go out in Western's monthly water bills. Bill inserts would contain key information about the specific Stage.
- **Direct mail postcard** – postcards would feature specific information about the specific Stage and be mailed directly to customers.
- **Auto-call greeting/message** – telephonic, recorded message highlighting key information about the specific Stage would be sent to customers.
- **Website content** – website content containing key information about the specific Stage would be posted on Western's website.
- **Social media posts** – social media posts containing key information about the specific Stage would go on the District's Facebook and Twitter accounts; each Stage would utilize roughly 10 posts.
- **Fact sheet** – a fact sheet for each Stage with key information would be used within District offices, at community events, etc.
- **News release and/or advisory** – news release with key information and messages on each specific Stage would be provided to the media.

1.3.6 Compliance and Enforcement

Western always discourages excessive water consumption. Western may issue various penalties, charges, and other enforcement actions in response to violation of prohibitions in effect at a given time and/or stage, in accordance with CWC Section 377. Western’s tiered-rate structure promotes conservation and discourages excessive use during all stages and is modified as more severe stages are enacted to act as a penalty for exceeding the water restrictions set by a stage. Enforcement measures in the WSCP are organized as:

- Notices
- Administrative compliance orders and fines and/or penalties
- Drought fine
- Recovery of costs
- Violations and remedies

Notices

If enforcement of the WSCP is required, Western will issue notices as appropriate. Any notice, notice of violation, cease-and-desist order, and administrative compliance order shall be served pursuant to the requirements of set in Ordinance 394. In addition to or in conjunction with the notice of violation, Western will provide notices as required for administrative compliance orders.

After one written notice of violation, Western may order a special meter reading or readings to ascertain whether wasteful or unreasonable use of water is occurring and may impose a meter reading fee for each meter reading it conducts.

Administrative Compliance Order and Fines and/or Penalties

Separate from, in addition to, or in combination with a notice of violation or cease and desist order, Western may issue an administrative compliance order against the Property Owner and/or occupant of the property where a violation of the WSCP occurred and/or any other Person responsible for a violation of the WSCP. Issuance of a notice of violation or a cease-and-desist order is not a prerequisite to the issuance of an administrative compliance order. The administrative compliance order shall allege the act(s) or failure(s) to act that constitute violations of the WSCP and shall set forth the penalty for the violation(s).

Western may impose administrative monetary fines and/or penalties, in addition to other appropriate action requirements and measures as described in the WSCP and summarized in Table 8.

Table 8. Administrative Compliance Actions

VIOLATION NUMBER	METERS SMALLER THAN 1"		METERS 1" OR LARGER	
	STAGES 1 & 2	STAGES 3, 4, 5 & 6	STAGES 1 & 2	STAGES 3, 4, 5 & 6
First	First written notice identifying violation, potential penalties, and compliance requirements		First written notice identifying violation, potential penalties, and compliance requirements	
Second ¹	Second written notice with copy of Ordinance 394, potential penalties, and compliance requirements		Second written notice with copy of Ordinance 394, potential penalties, and compliance requirements	
Third ¹	Fine of \$50/day for each day of the violation	Fine of \$100/day for each day of the violation	Fine of \$50/day for each day of the violation	Fine of \$150/day for each day of the violation
Fourth ¹	Fine of \$100/day for each day of the violation	Fine of \$200/day for each day of the violation	Fine of \$150/day for each day of the violation	Fine of \$300/day for each day of the violation
Fifth, and subsequent	Installation of flow-restricting device or termination of service; requires compliance and payment of fees prior to restoration of service		Installation of flow-restricting device or termination of service; requires compliance and payment of fees prior to restoration of service	

¹Within the preceding 12 calendar months.

Drought Fines

Any funds collected by Western as penalties for use of water in excess of a property’s allocated water budget during a declared water shortage will be deposited in a designated special funding account for the following uses:

- Enhanced conservation programs designed to reduce water demands;
- Outreach and Education Programs designed to reduce water demands, decrease water waste, or generally raise water awareness;
- Enforcement of any provision of Ordinance 394.

The Drought Fines are summarized in Table 9.

Table 9. Drought Fines

USAGE ABOVE TARGETED RESTRICTIONS	METERS 1" AND SMALLER					METERS LARGER THAN 1"				
	STAGES 1 & 2	STAGE 3	STAGE 4	STAGE 5	STAGE 6	STAGES 1 & 2	STAGE 3	STAGE 4	STAGE 5	STAGE 6
0-15% usage occurring in restricted category	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16-25% usage occurring in restricted category	\$0	\$10	\$20	\$30	\$45	\$0	\$30	\$55	\$80	\$130
26-50% usage occurring in restricted category	\$0	\$20	\$30	\$40	\$55	\$0	\$55	\$80	\$100	\$155
50%+ usage occurring in restricted category	\$0	\$30	\$40	\$45	\$65	\$0	\$80	\$100	\$130	\$185

Recovery of Costs

Western will provide an invoice for costs to the Property Owner and/or occupant, or any other responsible party who is subject to an enforcement action. Additional fines, penalties, or fees, as determined by Western’s Board, may also be applied. These charges may include costs for:

- Visits of an Enforcement Officer or other staff for time incurred for meter reading, follow-up visits, or the installation or removal of a flow- restricting device.
- Monitoring, inspection, and surveillance procedures pertaining to enforcement of the WSCP.
- Enforcing compliance with any term or provision of the WSCP.
- Re-initiating service at a property where service has been discontinued pursuant to the WSCP.
- Processing any fees necessary to carry out the provisions of the WSCP

Violations and Remedies

Violations of the WSCP may result in a variety of responses, including declaration of criminal violation, issuance of a cease-and-desist order, civil actions, or a combination of the three. Violations are considered on-going, as described below.

Criminal Violation

It is unlawful for any person to willfully violate the provisions of the WSCP. Any violation of the WSCP is a misdemeanor, unless made an infraction by the prosecutor, subject to imprisonment in the county jail for not more than 30 days or by fine not to exceed \$1,000, or by both as provided in California Water Code section 377.

Civil Action

In addition to any other remedies provided in the WSCP, any violation of the WSCP may be enforced by civil action brought by Western and the imposition of administrative fines and/or penalties. In any such action, Western may seek, and the court may grant, as appropriate, any or all of the following remedies:

- a temporary and/or permanent injunction
- assessment of the violator for the costs of enforcement of the violation and for the reasonable costs of preparing and bringing legal action under the WSCP
- assessments under this subsection shall be paid to Western to be used exclusively for costs associated with implementing or enforcing the water supply shortage and regulatory provisions of the WSCP.

Cease-and-Desist Order

Western's General Manager may issue a cease-and-desist order directing the Property Owner, or occupant, or other Person in charge of day-to-day operations of any property, and/or any other Person responsible for a violation of the WSCP to immediately discontinue any prohibited use of water pursuant to Ordinance 394 and immediately cease any activity not in compliance with the terms, conditions, and requirements of this Ordinance 394.

Cumulative

All remedies provided in the WSCP shall be cumulative and not exclusive.

On-going

A Person shall be deemed guilty of a separate offense for every day or portion thereof during which any violation of any provision of the WSCP is committed, continued, or permitted.

1.3.7 Legal Authorities

Ordinance 394 was adopted and approved on January 19, 2022, by Western's Board of Directors. Ordinance 394 established Western's WSCP and declared that water resources shall be put to beneficial use to the fullest extent possible. Ordinance 394 provides Western with the authority to implement conservation programs and restrict water in emergencies or during droughts. Ordinance 394, included as Attachment 4, continues to serve as the legal foundation for Western's Retail WSCP.

Western shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

1.3.8 Financial Consequences of WSCP

Western anticipates that revenues will decrease as customers comply with the WSCP and any potential declared shortage stage. A three-point program has been developed to meet the fiscal shortfall from reduced revenues:

- Reduce operation, maintenance, and administration expenses.

- Defer selected capital improvement projects that are non-critical.
- Utilize reserves where needed to offset impact of reduced revenues.

Since most of the rate charged for water delivered to customers is used to pay for the cost of supply (e.g., local supplies purchased from neighboring agencies or imported water purchased from Metropolitan), the net impact from reduced water sales is the loss of revenue contributed by the Operations & Maintenance (O&M) component in the water rate. The O&M component in the water rate is used to help pay for a portion of the cost to provide water service to customers (e.g., water quality testing, maintenance and repairs, meter reading, customer billing, etc.). Revenue from the O&M component can be considered the “net revenue” received from water sales.

In addition, drought fines have encouraged conservation, thereby reducing net revenues from water sales. If the water shortage is deemed temporary, a rate increase may not be required. However, for long-term shortages, rate increases and/or drought surcharges applied to the water rate would be considered to make up for reduced net revenue. A consequence of increasing the commodity cost may be further conservation by customers. Fixed monthly service charges that are not commodity-based are not expected to significantly change due to a water shortage. These charges would continue to provide revenue to pay for O&M expenditures.

Water shortages may also impact construction activities, especially during Stage 5 and 6, when water use for construction is heavily restricted, and a moratorium is in place for new meters and approval of new service. A reduction in construction activities will reduce fees collected by Western from developers, such as capacity charges, as well as engineering related fees, such as plan check fees and annexation fees.

As consumption decreases and additional conservation programs and/or efforts are implemented, purchased water, and purchased power expenses will decrease. Staff costs and other costs for community education, enforcement of ordinances, monitoring and evaluation of water use, drought planning, and assisting with customer questions and complaints are expected to rise. If construction is drastically reduced, staff may not be required for certain functions, but it is expected that the increased workload to deal with water shortage issues will more than offset the reduced workload for construction support. While total labor costs may not increase, the priorities of some existing staff will shift to increase support for implementation of the WSCP. Table 10 summarizes general estimates of potential impacts to revenues and expenditures related to water shortage.

Table 10. Revenue and Expenditure Impacts

REVENUE/EXPENDITURE IMPACT	ESTIMATED DEGREE OF IMPACT
Reduced Sales	Decrease in water sales could range from 10 to 30%.
Reduced Development	Reduction in fees collected during planning and construction activities.
Increased Staff Cost	Existing staff will be used where available, but additional temporary staff may be needed.
Increased O&M Cost	Other non-purchased water/power O&M costs could increase by 1 to 5%, including identifying and quickly repairing all system water leaks.
Increased Cost of Supply	Only if assessed penalties from Metropolitan for exceeding drought determined water allocation.

Western has developed reserve funds to sustain the revenue and expenditure impacts of a short-term water shortage. Reserve funds could be used for a 1- to 2-year period to cover the impact of reduced water sales. However, these reserves will need to be restored to minimum levels after the water shortage. If the water shortage is long-term, rate increases, and drought surcharges are expected to be considered to mitigate the financial impact. Long-term water shortages may also require reducing capital expenditures by delaying projects for major facilities construction, upgrade, or replacement, limiting new connections to decrease operational expenditures and to decrease the likelihood of exceeding imported water allocations, and evaluating methods to reduce administrative overhead. Summaries of measures to overcome revenue and expenditure impacts are provided in Table 11.

Table 11. Mitigation to Financial Impacts

BUDGET SOURCE	POTENTIAL MEASURES
Reduce O&M and Overhead	Defer maintenance where feasible. Defer overhead expenses where possible. If staff reductions are required, service level will be impacted.
Decrease Capital Expenditures	Delay major construction projects for facilities as well as upgrades and replacements.
Reserves	Use of reserves may provide short-term rate stabilization but will require delays in capital expenditures and require rebuilding reserves after the water shortage.

1.3.9 Monitoring and Reporting

Water savings from implementation of the WSCP will be determined by consumption and production meter readings. Customer meters will be read every month in Stages 1, 2, and 3, and weekly in Stages 4, 5, and 6. If necessary, Western may read customer meters more often, especially for customers that exceed their water budget. Western will monitor production meters on a weekly basis.

Under normal conditions, Western monitors sales and deliveries on a monthly and daily basis. All of Western’s water sales are metered and all connections are read monthly. Water orders are scheduled daily with water deliveries recorded daily. Water deliveries and transfers at booster stations can be monitored through Western’s Supervisory Control and Data Acquisition (SCADA) system to determine usage in various portions of the retail area. Western prepares monthly sales and delivery reports that are reviewed and compared to previous reports and statistics for prior months and seasons. Under shortage conditions, Western may prepare these reports daily. In addition, billing reports may be reviewed to identify users who are exhibiting high water use so that Western may work with them to reduce their demand.

1.4 Emergency Response, Seismic Risk Assessment and Mitigation

1.4.1 Emergency Response Plan

In the event of a catastrophic supply interruption, Western would follow its Emergency Response Plan (ERP) in addition to the WSCP.

In 2020, Western completed a Risk and Resilience Assessment (RRA) and Emergency Response Plan (ERP) in accordance with America's Water Infrastructure Act (AWIA) of 2018. The purpose of the RRA and ERP is to meet the AWIA compliance requirements and plan for long-term resilience of Western's infrastructure. The RRA assessed Western's water system in order to identify critical assets and processes that may be vulnerable to human and natural hazards, and to identify measures that can be taken to reduce risk and enhance resilience from service disruption for the benefit of customers. The RRA identifies and characterizes both infrastructure-specific and system-wide vulnerabilities and threats and quantifies the consequences of disruption. The RRA also identifies various options (and constraints) in addressing and mitigating risk. The RRA, in conjunction with the ERP, charts a course for water system resilience. The RRA also provided various recommendations to increase reliability of Western's system. Since critical pieces of infrastructure and specific vulnerabilities are detailed in the RRA and ERP, the contents of the document are confidential and for use by Western staff only.

1.4.2 Seismic Risk Assessment and Mitigation Plan

Per the Water Code Section 10632.5, suppliers are required to assess seismic risk to water supplies as part of their WSCP. Western published a Local Hazard Mitigation Plan (LHMP) in 2017 that identified relevant local hazards, reviewed and assessed past disasters, estimated the probability of future disaster occurrences, and set goals to mitigate potential risks and reduce or eliminate longer-term risks to people and property from both natural and man-made hazards. The LHMP identified risks pertaining to earthquakes, floods, wildfires, landslides, pandemics, high winds, drought, power outages, hazardous materials, terrorism, and several others. On a scale of 0 to 4, the LHMP identified the probability of an earthquake occurring and its severity as a 3. An earthquake was ranked as the 6th most important hazard to plan for, after a pipeline issue, power outage, extreme summer or winter weather, drought, and a severe wind event (Western Municipal Water District, 2017).

Historically, Western has experienced a couple of large earthquakes. The most significant earthquakes in the region both occurred in June 1992 and were the Landers earthquake with a 7.3 magnitude, and the Big Bear earthquake with a 6.4 magnitude (the Big Bear earthquake was an aftershock to the Landers earthquake). Both earthquakes were over 40 miles from Western and did not cause any significant damage to Western's infrastructure (Western Municipal Water District, 2017). It is expected that faults within Western's region could generate an earthquake with an 8.2 magnitude or greater and would severely impact Western's infrastructure.

- The LHMP identified various projects Western has planned to mitigate seismic risks and impacts, including:
- Study to determine if the installation of seismically activated valves for drinking and/or irrigation water would be operationally and fiscally beneficial to maintain water supply and service after an earthquake.

- Acquiring debris removal equipment for use after a disaster. Western can perform typical pipeline repairs and debris removal but may require more robust equipment to remove large amounts of debris after a disaster.
- Develop a staff team trained to evaluate the safety of Emergency Operations Center locations immediately following an earthquake. Project includes training in post-earthquake structural evaluation.
- Purchase a greater variety of materials and sizes for pipeline repair. Items may include PVC pipe, steel pipe, ductile iron fittings, air vacs, and valves. Materials would be stockpiled throughout Western's service area to be readily available after an earthquake.
- Provide additional back-up power for use during large scale power failures at all pump stations.
- Map and possibly relocate pipeline alignments near creeks or areas subject to ground movement such as landslide and rock areas.
- Perform a seismic evaluation of entire water distribution system to determine priority of retrofit projects.
- Perform seismic analysis and retrofits to older tanks that were constructed to past seismic standards.
- Install Compressed Natural Gas (CNG) tanks at natural gas-powered facilities as several transmission mains within Western's service area are powered by natural gas.

1.5 WSCP Refinement Procedures

The WSCP is best prepared and implemented as an adaptive management plan. Western will use results obtained from its monitoring and reporting program to evaluate any needs for revisions. Potential changes to the WSCP that would warrant an update include, but are not limited to, any changes to trigger conditions, changes to the shortage stage structure, changes to rate structures or development of water budgets, and/or changes to customer reduction actions.

Any prospective changes to the WSCP would need to be presented to Western's Board of Directors (Board) for approval. Western will hold a public hearing, obtain any comments, and formally adopt the updated WSCP. Notices for refinement and the public hearing date will be published in the local newspaper in advance of any public meetings.

1.6 Plan Adoption, Submittal, Availability

The WSCP will be presented for adoption to Western's Board at a public meeting. The Board and members of the public may submit any comments prior to approval and adoption. Once the revised WSCP has been adopted by Western's Board, the WSCP will be submitted to DWR.

The WSCP will be made available to all staff, customers, and any affected cities, counties, or other members of the public through Western's website, located under the Water Reliability, Drought and Restrictions section.

References

California Department of Water Resources. (2021). *Urban Water Management Plan Guidebook 2020*. Sacramento: California Department of Water Resources.

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Western Municipal Water District. (2017). *Local Hazard Mitigation Plan*. Riverside: Western Municipal Water District.

Attachment 1 - Metropolitan Water Supply Allocation Plan

Attachment 2 - Western Drought Allocation Plan

Attachment 3 - Western Ordinance 385

Attachment 4 - Western Ordinance 394

Attachment 5 - Adoption Resolution 3198