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Water Shortage Contingency Plan

San Diego County Water Authority

Maureen A. Stapleton, General Manager
Sandra L. Kerl, Deputy General Manager
Dennis A. Cushman, Assistant General Manager

This plan prepared under the direction of:

Bob Yamada, Director of Water Resources
Jason Foster, Director of Public Outreach and Conservation

Prepared by:

Dana Friehauf, Water Resources Manager
Jeff Stephenson, Principal Water Resources Specialist
Tim Bombardier, Principal Water Resources Specialist
Alexi Schnell, Water Resources Specialist
Stu Williams, Water Resources Specialist
Jessica Hahn, Senior Office Assistant

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<tr>
<td>AAC</td>
<td>All-American Canal</td>
</tr>
<tr>
<td>AF</td>
<td>acre-feet</td>
</tr>
<tr>
<td>AF/YR</td>
<td>acre-feet per year</td>
</tr>
<tr>
<td>Board</td>
<td>Water Authority Board of Directors</td>
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<tr>
<td>CC</td>
<td>Coachella Canal</td>
</tr>
<tr>
<td>CII</td>
<td>Commercial, Industrial, and Institutional</td>
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<td>CRA</td>
<td>Colorado River Aqueduct</td>
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<td>CSP</td>
<td>Carryover Storage Project</td>
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<td>CVP</td>
<td>Central Valley Project</td>
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<td>Department of Water Resources</td>
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<td>EO</td>
<td>Executive Order</td>
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<td>ESP</td>
<td>Emergency Storage Project</td>
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<td>Emergency Water Delivery Plans</td>
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<td>Fiscal Year</td>
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<td>GPCD</td>
<td>gallons per capita per day</td>
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<td>IAWP</td>
<td>Interim Agricultural Water Program</td>
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<td>ICP</td>
<td>Integrated Contingency Plan</td>
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<td>IID</td>
<td>Imperial Irrigation District</td>
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<td>Lewis Carlsbad Desalination Plant</td>
<td>Lewis Carlsbad Desalination Plant</td>
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<td>MAAT</td>
<td>Member Agency Advisory Team</td>
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<td>M&amp;I</td>
<td>municipal and industrial</td>
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<td>MCB Camp Pendleton</td>
<td>Marine Corps Base Camp Pendleton</td>
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<td>MWD</td>
<td>Metropolitan Water District of Southern California</td>
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<tr>
<td>MGD</td>
<td>Million Gallons per Day</td>
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<td>Model Drought Ordinance</td>
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<td>Rate Stabilization Fund</td>
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<td>Senate Bill</td>
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<td>Urban Water Management Plan</td>
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Section 1
Introduction

1.1 Introduction

The San Diego County Water Authority’s (Water Authority) Board of Directors (Board) approved the Drought Management Plan (DMP) in 2006. The DMP outlined a series of orderly, progressive steps for the Water Authority and its member agencies to take during shortages to minimize impacts to the region’s economy and quality of life. It also included an allocation methodology to equitably allocate water supplies to the member agencies. The DMP was activated just a year later in response to the Metropolitan Water District of Southern California (MWD) drawing water from storage to meet demands, and deactivated in 2011 when supply conditions improved.

In 2008, the Board approved another drought management document, the Model Drought Response Conservation Program Ordinance (Model Drought Ordinance). The Model Drought Ordinance focuses on core water use restrictions and is intended to assist the member agencies when updating or drafting local drought response ordinances and to provide regional consistency in drought response levels and messaging to the public and media. Also in 2008, the Board adopted Resolution 2008-11 that established procedures to administer the supply allocation methodology contained in the DMP.

Using lessons from previous shortage periods, in 2012, the DMP’s supply allocation methodology was updated and the DMP was renamed the Water Shortage and Drought Response Plan (WSDRP). In 2014, the WSDRP was activated due to critically dry weather in California and the impact on water supply conditions. It was deactivated in 2016 when supply conditions improved.

In each instance when the DMP and WSDRP were activated, a smooth transition into and out of water allocations for the member agencies was possible due to the advanced planning efforts of the Water Authority and its member agencies. Those planning efforts also resulted in a framework that allowed for regional consistency in public drought messaging. To ensure that the Water Authority and its member agencies continue to proactively plan for future water supply shortages, the Water Authority has revised its WSDRP and renamed it the Water Shortage Contingency Plan (WSCP). The plan was named the WSCP for consistency with the long-term framework contained in the April 2017 Final Report, Making Water Conservation a California Way of Life, Implementing Executive Order B-37-16. The long-term framework builds on the Executive Order (EO) and provides recommendations on implementation of long-term improvements to water supply management to support water conservation. New elements incorporated into the WSCP include:

- Evaluation criteria and a process that will be used to conduct an annual water supply reliability analysis.
- Revised WSCP regional stages that provide consistency with shortage response levels.
- An updated communication plan based on lessons learned.
- The shortage contingency analysis, including information on catastrophic shortages, from the Water Authority’s 2015 Urban Water Management Plan’s (UWMP).
- Carryover Storage Policy Guidelines (CSPG) approved by the Board in December 2016.
- Information on the Transitional Special Agricultural Water Rate (TSAWR) Program approved by the Board in June 2015.

It is important to note that because the allocation methodology was updated in 2012, no changes were made to the allocation methodology during preparation of the WSCP. In addition, because there was uncertainty as to when the State Water Resources Control Board (SWRCB) would complete its rulemaking process regarding the addition of new permanent water waste prohibitions, the Model Drought Ordinance was not updated. See Section 6 for more information.

The process to draft the WSCP began with a workshop-type meeting with the member agency managers in March 2017, to solicit feedback on potential revisions to the WSDRP. The member agency managers also provided comments on the draft WSCP. In addition, a special meeting of the Board of Director’s Water Planning Committee was held in April 2017, to present proposed revisions to the WSDRP. The Board of Directors approved the WSCP in August 2017.

The state’s long-term framework, released in April 2017, includes a timeline on implementation of the report’s elements. According to the timeline, urban water suppliers will be required to prepare an updated WSCP by 2020, at the same time they are updating their UWMPs. State legislation is being considered during the 2017-2018 legislative session to implement the framework’s water shortage contingency planning recommendations. Staff will return to the Board with recommended revisions to the WSCP consistent with any future legal requirements.

1.2 Reliability

The Water Authority’s mission is to provide a safe and reliable supply of water to its member agencies serving the San Diego region. The Water Authority and its member agencies continue to make great strides to develop a more drought-resilient mix of water resources, thereby increasing the region’s ability to manage and avoid shortage situations. In partnership with and support of its member agencies, the region has conserved an average of 72,000 acre-feet per year (AF/YR) of water over the last five years when compared to the benchmark year of demand in 1991, when the population was 27 percent less than its current level.

In 2012, the Water Authority entered into a Water Purchase Agreement to purchase supplies from the 50 million gallons per day (MGD) Claude “Bud” Lewis Carlsbad Desalination Plant (Lewis Carlsbad Desalination Plant). This project is the largest seawater desalination facility in North America and came on-line in December 2015. The Lewis Carlsbad Desalination Plant provides a long-term drought-resilient water supply for the San Diego region. The San Vicente Dam raise was completed in 2014, providing both additional emergency storage and carryover storage for the region. The carryover storage capacity is critical to having a
drought-resilient resource mix. It allows the region to store water in years when supplies are available and utilize those supplies during times of shortage.

Deliveries of conserved agricultural transfer water from the Imperial Valley were 100,000 AF/YR in 2017. Deliveries of conserved transfer water will reach a maximum of 200,000 AF/YR by 2021. The Water Authority also continued to take delivery of 77,700 AF/YR of conserved water from projects to line the All-American Canal (AAC) and Coachella Canal (CC). Locally, the Water Authority’s member agencies continue to evaluate, plan and implement local supply development through recycled water, brackish groundwater recovery and potentially potable reuse. In the future, the additional increment of supply to reduce reliance on imported sources and ensure drought-resilient supplies is expected to come from these efforts.

Demand management, or water-use efficiency, is an important ongoing component of the Water Authority’s long-term strategy to increase the reliability of the San Diego region’s water supply through diversification of its water supply portfolio. Since 1991, in partnership with and support of its member agencies, the Water Authority’s programs and initiatives cumulatively have conserved more than 1 million AF of water. The savings were achieved through various measures, including incentives for water-efficient devices, legislative efforts, code changes, outreach campaigns and programs.

In June 2015, the Water Authority approved extending its TSAWR program for an additional five years. The TSAWR program is a water management program that provides additional water to the municipal and industrial (M&I) sector during water supply shortages. Eligible agricultural customers receive a cost benefit on their water rates and in return take a greater cutback during a supply shortage. For additional information on the TSAWR program, see Section 4.3.

While the region has plans to provide a high level of water reliability, there will always be some level of uncertainty associated with maintaining and developing local and imported supplies. Therefore, as a prudent measure, the Water Authority and its member agencies have developed a comprehensive WSCP in the event that the region faces a water supply shortage.

### 1.3 Defining Drought

The definition of drought can vary depending on perspective. For the WSCP, the definition of drought is consistent with the definition used by the California Department of Water Resources (DWR). The DWR drought brochure, *Drought in California*, includes the following definition:

> “From a water use perspective, drought is best defined by its impacts to a particular class of water users in a particular location. Hydrologic conditions constituting a drought for water users in one location may not constitute a drought for water users in a different part of the state or with a different water supply.”

Therefore, water supply shortages in different regions of the state do not necessarily
constitute a drought in the San Diego region.

1.4 Executive Order B-37-16

On May 9, 2016, Governor Brown issued EO B-37-16, which built on temporary statewide emergency water restrictions to establish longer-term water conservation measures, including permanent monthly water use reporting and new permanent water use standards that go beyond the 20 percent reduction in per capita urban water use required in Senate Bill (SB) X7-7. The executive order also permanently banned wasteful practices such as hosing off sidewalks, driveways and other hardscapes, and called for long-term improvements in local drought preparation.

The directives in the executive order related to improvements in local drought preparation are Items 8 and 9. Item 8 requires DWR to strengthen requirements for urban water shortage contingency plans to include adequate actions to respond to droughts that last at least five years, as well as more frequent and severe periods of drought. The WSCP addresses these requirements. Item 9 requires DWR to work with stakeholders to update the requirements for water shortage contingency plans. The executive order also directed the SWRCB to make adjustments to the emergency water conservation regulation in recognition of the differing water supply conditions across the state. This directive resulted in a change from the mandated conservation standard to a self-certification approach that recognized the unique supply conditions of each region/community.

1.5 Organization of the Water Shortage Contingency Plan

The WSCP is organized into the following 10 sections and appendices:

Section 1: Introduction, discusses the purpose of the WSCP and provides an overview of its content. Governor Brown’s Executive Order B-37-16, which requires urban water suppliers to prepare a separate Water Shortage Contingency Plan, is also discussed. An overview of the Water Authority’s actions to increase the region’s water supply reliability, as well as a discussion on defining drought, is included in the section.

Section 2: Plan Preparation and Re-Evaluation, provides information on preparation of the WSCP and background information on preparation of the 2006 DMP, which was updated in 2012 to become the WSDRP. The section outlines a procedure to evaluate implementation and make potential updates to the WSCP.

Section 3: Drought Response and Shortage Management Actions, includes a review of historic drought periods and the Water Authority’s actions during those periods. The section also includes lessons learned from the events.

Section 4: Annual Municipal and Industrial Reliability Analysis, contains a discussion on the annual reliability analysis, including the need to perform the analysis and the process. It provides details on the evaluation criteria to be used and basic supply and demand assumptions.

Section 5: Drought Response Actions and Levels, provides an overview of regional shortage
response actions and levels, including the percent action required at each level and the water supply conditions that trigger the response levels. The section also discusses the potential scenarios that would trigger a certain shortage response level.

Section 6: Extraordinary Demand Reduction Measures, identifies a list of potential consumer water use restrictions and extraordinary measures to reduce demands during shortage events. These measures, along with the response level information discussed in Section 5, form the basis for an updated Model Drought Ordinance. Section 6 also discusses potential measures that the member agencies and municipalities can take to conserve water.

Section 7: Municipal and Industrial Supply Allocation Methodology, provides a detailed description of the supply allocation methodology. The methodology provides the Water Authority a means to allocate its supplies to its member agencies in a water supply shortage situation. To help describe and demonstrate the calculation procedure, an example is included for illustrative purposes.

Section 8: Catastrophic Water Shortage, describes how the Water Authority manages catastrophic water shortages caused by an event such as an earthquake. The section includes a discussion on the Integrated Contingency Plan, Emergency Water Delivery Plans and Emergency Storage Program.

Section 9: Communication Plan, describes the elements of the communication plan, including coordination, key audiences, and communication objectives. It also discusses strategies and tactics for each water supply shortage level.

Section 10: Implementation, summarizes the role of the Board to activate the plan and consider potential shortage response actions. It also includes a discussion on the role of the Member Agency Advisory Team during a water supply shortage event and how the Water Authority will manage reduced revenues due to implementation of demand reduction measures.

Appendix A: Carryover Storage Policy Guidelines

Appendix B: Model Drought Ordinance

Appendix C: Examples of Potential Customer Water Use Prohibitions

Appendix D: Water Authority Board Resolution 2008-11
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Section 2
Plan Preparation and Re-Evaluation

Section 2 discusses the process to prepare the original 2006 DMP, the update process for the DMP's allocation methodology in 2012, preparation of the 2017 WSCP, and the schedule to re-evaluate the WSCP in future years.

2.1 Drought Management Plan (2006)

In 2006, the DMP was prepared to identify the actions that the Water Authority and its member agencies would take if faced with drought conditions, and specifically, how supplies would be allocated. The process to draft the DMP was extensive and included multiple meetings with member agency staff and multiple presentations and reports to the Board. An overview of the process is detailed below.

2.1.1 Member Agency Technical Advisory Committee

Preparation and implementation of the DMP included input and support from the Water Authority's member agencies. Recognizing the importance of member agency involvement, the Water Authority formed a Technical Advisory Committee (TAC) to provide input on development of the DMP. The TAC met 10 times between March 2005 and February 2006, and included a representative from each of the member agencies. Key to the successful preparation of the plan was full involvement from all member agencies which ensured effective communication and understanding of member agencies’ issues and concerns. To assist in the effort, a consultant team was hired to facilitate the TAC meetings and assist with technical details, such as the historic context of drought plans in Southern California and the development of the allocation model. The TAC members worked together successfully to develop the elements of the DMP.

2.1.2 Principles

Twenty-three principles were developed to provide guidance to the Water Authority and its member agencies to develop and implement the 2006 DMP. The principles were initially drafted based on results from a questionnaire that was completed by the TAC members. The principles were then revised and finalized based upon input received during a series of TAC meetings.

The principles are shown below and were grouped into the following five categories: Overall Plan; Communication Strategy; Drought Supply Enhancement; Drought Response Stages; and Allocation Methodology.

Overall Plan

1. The DMP will be developed in cooperation with the member agencies and include all aspects of drought planning – including steps to avoid rationing, drought response stages, allocation methodology, pricing, and communication strategy.
Communication Strategy

2. An on-going, coordinated and regional public outreach program shall be developed by the Water Authority that provides a clear and consistent message to the public regarding water supplies and specific conservation measures. The outreach program will also recognize and support member agency communication efforts that address specific retail level allocations.

3. A Drought Coordination Team, made up of one representative from each member agency, will be established to assist the Water Authority in implementation of the DMP. This includes items such as formulation and implementation of the public outreach program, timing of drought stages, selection of drought supply actions, and addressing potential issues surrounding implementation of the shortage allocation methodology.

4. The drought management plan should specify actions and timing of communications.

Drought Supply Enhancement

5. The Water Authority and its member agencies will work cooperatively to avoid and/or minimize rationing during droughts through supply enhancement and voluntary demand reduction measures.

6. Future Water Authority carryover storage supplies will be managed and utilized to assist in meeting M&I demands during drought periods. Member agencies will be encouraged to develop carryover storage.

7. The Water Authority will consider securing option and/or spot water transfers to meet the reliability goal set by the Board. The cost of this regional supply will be melded into the Water Authority’s supply costs for all classes of service that benefit.

8. Subject to the Water Authority’s wheeling policy, if a member agency purchases transfer water from a source other than the Water Authority, the full cost of the transfer, including, but not limited to, purchase costs, wheeling costs, and administrative costs, will be borne by said member agency.

9. Emergency Storage Project (ESP) supplies may be available when any member agency’s non-interruptible firm demands drop below a 75 percent service level.

10. The quantities of supplies from the ESP to be removed from storage will be based on a minimum amount necessary to meet essential health, safety, and firefighting needs, and maximum amount based on the need to ensure adequate supplies remain for a catastrophic event (e.g. earthquake).
Drought Response Stages

11. Develop drought response stages, which at a minimum, accomplish the following:
   • Can be easily communicated to the public;
   • Flexible to handle unexpected changes in demand and supply conditions;
   • Includes percent reduction (voluntary or mandatory) per stage; and
   • Includes both supply enhancement and emergency demand reduction methods.

12. Targets for achieving the emergency demand reduction measures should take into account the region’s already aggressive long-term water conservation program.

13. The decision on when, and in which sequence drought enhancement supplies will be utilized during different stages will include consideration of the following factors:
   • Location – Out-of-region supplies will be utilized in the earlier stages, prior to in-county storage, because these supplies are more vulnerable to implementation risks such as seismic events;
   • Cost – Priority will be given to maximizing supply reliability and at the same time using the most cost-effective supplies; and
   • Limitations – Potential restrictions on the use of drought enhancement supplies is a factor in determining supply availability (e.g. potential restrictions on ESP supplies).

Allocation Methodology

14. The allocation methodology will be equitable, easy to administer, contain financial penalties and pricing signals, and a communication strategy to ensure member agencies and the public are informed and understand the need to conserve.

15. In order to protect the economic health of the entire region, it is very important for the allocation methodology to avoid large, uneven retail impacts across the region. The methodology should include a minimum level of retail agency reliability to ensure equitable allocation among the member agencies.

16. With the exception of allocating water from the ESP, the Water Authority shall make no distinction among customers paying the same M&I rate (e.g. non-Interim Agricultural Water Program (IAWP) agriculture, residential, commercial, and industrial).

17. Additional IAWP cutbacks beyond the initial 30 percent faced by IAWP customers should be equally applied to both IAWP and M&I customers.

18. A member agency that has developed local projects and instituted conservation measures should not be penalized in the computation of allocations.
19. To help balance out the financial costs and risks associated with development of local resources, the shortage allocation methodology should provide an incentive to those member agencies that have developed local supplies.

20. The base-year, upon which allocations will be derived, will be based on historic demands. Adjustments to the base-year will be made for demographic changes, growth, local supplies, demand hardening, and supplies allocated under interruptible service programs.

21. A member agency’s base-year will be adjusted to reflect the regional financial contribution from the Water Authority for development of local projects. The adjustment will take into account the risks associated with developing the local projects.

22. A member agency will not be able to market its unused allocation to other agencies within the Water Authority’s service area at a cost higher than the Water Authority’s charges for those supplies.

23. Penalty rates, along with other demand reduction measures, will be used by the Water Authority to encourage conservation during a drought.

2.1.3 Report Approval

Water Authority staff, with consultant assistance, prepared an initial draft of the DMP based on results from the TAC member discussions on DMP elements. TAC members reviewed the draft report and their comments were incorporated. In February 2006, the TAC supported forwarding the report to the Board’s Water Planning Committee for consideration. The DMP elements were presented to the Board through a series of meetings and workshops, with final approval of the DMP in May 2006.

2.2 Water Shortage and Drought Response Plan (2012)

The DMP was activated in 2007 and deactivated in 2011. During the activation period, MWD allocated supplies to its member agencies, including the Water Authority, from July 2009 to April 2011. In response to the allocation from MWD, the Water Authority activated the mandatory cutback stage of its DMP and allocated supplies to its member agencies.

An evaluation of the implementation of the Water Authority’s allocation methodology revealed that there was consensus among Water Authority and member agency staff that the allocation methodology worked as envisioned and served as an effective, equitable means to allocate supplies. However, the evaluation also revealed that specific elements of the allocation methodology could be improved.

A series of member agency meetings were held to gain input and aid staff in the development of modifications to the allocation methodology. The first meeting was in May 2011. Additional meetings were postponed until MWD finalized adjustments to its Water Supply Allocation Plan (WSAP) in September 2011. Water Authority staff resumed meetings with member
agency staff between October 2011 and March 2012. At the completion of the meetings a technical report was prepared by Water Authority staff to provide a detailed description of the modifications. The Board approved the updated allocation methodology in April 2012, and formally renamed the DMP as the WSDRP. The updated allocation methodology can be found in Section 7.

2.3 Water Shortage Contingency Plan (2017)

The process to develop the WSCP began with a workshop-type meeting with the member agency managers in March 2017. It continued with monthly progress updates with the member agency managers. The member agency managers also provided comments on the draft WSCP. In April 2017, a special meeting of the Board’s Water Planning Committee was held to present proposed revisions to the WSDRP. The final draft WSCP was approved by the Board on August 24, 2017.

The WSCP is a comprehensive shortage planning document that incorporates elements not previously included in the WSDRP. Those elements include information on catastrophic water shortage planning (Section 8), Board-approved guidelines to manage carryover storage and an annual M&I reliability analysis (Section 4). The communication plan (Section 9) in the WSDRP was updated in the WSCP based on lessons learned from previous shortage periods. The WSCP also contains new elements from the state’s long-term framework document, *Making Water Conservation a California Way of Life, Implementing Executive Order B-37-16*, which was released in April 2017. Because some elements of the state’s long-term framework are being implemented through a rulemaking process, including the drafting of the permanent water waste prohibitions, the Water Authority’s Model Drought Ordinance will not be updated until that process is complete. The allocation methodology was updated in 2012 and therefore, it was not updated in the WSCP.

2.4 Plan Re-Evaluation

The WSCP will be re-evaluated at least every five years in coordination with the urban water management plan update, but the frequency of the re-evaluations could increase based on the needs of the Water Authority and its member agencies. Re-evaluations will be based on lessons learned, new statutory requirements, continued local supply development, and other factors.
Section 3

Historic Drought Response
and Shortage Management Actions

The Water Authority has activated its drought planning document twice since 2006. The first time was during the period of 2007 to 2011. During that period, the WSDRP was known as the DMP and was activated in response to MWD withdrawing water from storage to meet demands. By 2012, the DMP had been renamed the WSDRP, and was activated in 2014 in response to the Governor’s declaration of a state of emergency due to severe drought conditions, as well as in response to drought response actions being considered at MWD. In each instance, the advanced planning efforts of the Water Authority and its member agencies allowed for a smooth transition into and out of water allocations. Additional information on the drought management actions taken during the drought periods are discussed below.

3.1 Significant Drought and Shortage-Related Events (2007 to 2011)

2007

The 2007–2011 California drought marked the beginning of increased restrictions on State Water Project (SWP) pumping from the Bay-Delta due to environmental considerations. The Colorado River was in the midst of a prolonged multi-year drought that began in 2000. In April 2007, MWD notified its member agencies that it expected challenges in meeting demands due to insufficient imported water supplies from the SWP and the Colorado River. In order to meet demands, MWD announced that it would implement shortage-related actions consistent with its Water Surplus and Drought Management (WSDM) Plan, including a need to draw upon its storage to meet expected 2007 demands. MWD adopted its WSDM Plan in 1999 as guidance for managing regional water supplies during both surplus and shortage situations. MWD’s announcement that it would need to draw upon its storage to meet demands triggered implementation of the Water Authority’s WSDRP. The Water Authority began to implement a series of response measures identified in its WSDRP to reduce potential shortage impacts, starting with a call for voluntary conservation, and securing dry-year water transfers and storage programs for the region.

2009

As dry conditions persisted into 2009, the Water Authority and its member agencies intensified their drought response activities. In April 2009, for the first time in decades, MWD’s Board voted to allocate urban water deliveries to its member agencies in fiscal year (FY) 2010. In turn, the Water Authority allocated water deliveries to its member agencies using the supply allocation methodology contained in the WSDRP. The Water Authority’s long-term strategy to improve water supply reliability by diversifying the region’s water supply portfolio helped offset some of the required cutbacks from MWD. In order to ensure deliveries remained under the allocation target, many agencies went from voluntary conservation to mandatory water use restrictions. Residences and businesses responded to
the call for conservation, and urban water use fell throughout San Diego County. Although hydrologic conditions began to improve in 2010, storage reserves remained low, and allocations continued into FY 2011 to help restore storage reserves and prepare for a potential dry water year.

2011

Supply conditions continued to improve throughout the winter and into the spring 2011. Storage water began to rise to levels seen before the start of the 2007 drought. In April 2011, MWD terminated water allocations to its member agencies. Subsequently, the Water Authority discontinued allocations to its member agencies and deactivated the WSDRP in April 2011. With the drought over and deactivation of the WSDRP, the Water Authority, in coordination with its member agencies, conducted an evaluation of the WSDRP, including the allocation methodology, based on lessons learned through implementation during the 2007-2011 shortage period.

Table 3-1 contains a timeline of significant drought and shortage-related events during the drought period of 2007 to 2011.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 2007</td>
<td>MWD announced it will need to draw from storage supplies to meet expected 2007 demands, consistent with Water Surplus and Drought Management Plan.</td>
</tr>
<tr>
<td>October 2007</td>
<td>MWD announced plans to reduce agricultural deliveries to customers participating in Interim Agricultural Water Program by 30 percent, effective January 1, 2008, consistent with WSDM Plan.</td>
</tr>
<tr>
<td>December 2007</td>
<td>Water Authority Board declared implementation of Stage 2, Supply Enhancement, of the DMP. Judge Wanger issues an interim order to direct actions at the export facilities to protect Delta smelt until a new biological opinion is completed.</td>
</tr>
<tr>
<td>January 2008</td>
<td>MWD implemented 30% cutback to Interim Agricultural Water Program participants, consistent with MWD's WSDM Plan.</td>
</tr>
<tr>
<td>Date</td>
<td>Action</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>February 2008</td>
<td>MWD approved its Water Supply Allocation Plan (WSAP).</td>
</tr>
<tr>
<td>March 2008</td>
<td>Water Authority released Model Drought Ordinance for use by member agencies that outlined potential mandatory use restrictions for retail customers under four levels.</td>
</tr>
<tr>
<td>April 2008</td>
<td>Water Authority notified member agencies of Drought Response Level 1, Drought Watch (up to 10% voluntary conservation), under Model Drought Ordinance (Stage 2 of DMP continued). Judge Wanger invalidated National Marine Fisheries Service biological opinion related to operations of the Central Valley Project (CVP) and SWP.</td>
</tr>
<tr>
<td>June 2008</td>
<td>Governor Schwarzenegger proclaimed statewide emergency due to drought and issued Executive Order S-06-08, that directed DWR to respond to drought conditions through a variety of actions, including facilitating water transfers and increasing conservation and outreach.</td>
</tr>
<tr>
<td>December 2008</td>
<td>US Fish and Wildlife Service released revised biological opinion on Delta smelt.</td>
</tr>
<tr>
<td>February 2009</td>
<td>Governor Schwarzenegger declared a statewide drought emergency on February 27.</td>
</tr>
<tr>
<td>April 2009</td>
<td>MWD announced allocation of M&amp;I deliveries to its member agencies, including estimated 13 percent cutback to San Diego region for FY 2010. Water Authority Board enacted DMP Stage 3, Mandatory Supply Cutbacks, and Drought Response Level 2 (Drought Alert, up to 20% mandatory conservation), in anticipation of 8 percent cutback to its member agencies in FY 2010. Water Authority Board authorized utilization of approximately 16,000 AF of dry-year transfers acquired in 2009.</td>
</tr>
<tr>
<td>June 2009</td>
<td>National Marine Fisheries Service released final biological opinion and concluded that CVP and SWP pumping operations should be changed to protect the winter and spring run Chinook salmon, Central Valley steelhead, North American green sturgeon, and southern resident killer whales.</td>
</tr>
</tbody>
</table>
### Section 3 – Historic Drought Response and Shortage Management Actions

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 2010</td>
<td>Water Authority Board voted to continue DMP Stage 3, Mandatory Cutbacks, and Drought Response Level 2.</td>
</tr>
<tr>
<td>March 2011</td>
<td>Governor Brown proclaimed an end to the state’s drought.</td>
</tr>
<tr>
<td>April 2011</td>
<td>MWD terminated implementation of its WSAP and IAWP supply cutbacks. Water Authority deactivated Water Shortage and Drought Response Plan (formerly DMP), suspended special agricultural water rate cutbacks, and declared an end to drought response levels contained in Model Drought Ordinance.</td>
</tr>
</tbody>
</table>

#### 3.2 Significant Drought and Shortage-Related Events (2014 to 2017)

**2014**

In January 2014, Governor Brown proclaimed a state of emergency throughout California, calling for increased conservation across the state. In response to the governor’s drought declaration and call for conservation, the Water Authority activated its WSDRP for the second time since its adoption in 2006, declaring in February 2014, a regional drought response Stage I, Voluntary Supply Management, and notifying the member agencies of a voluntary Drought Watch condition under the Model Drought Ordinance. The Water Authority recognized that voluntary measures to reduce water use would be instrumental in helping preserve critical water reserves should dry conditions continue.

As drought conditions intensified across the state, with smaller communities in the Central Valley at risk of significant water supply shortages, in April 2014, the governor directed the SWRCB to adopt emergency regulations to prevent “the waste and unreasonable use of water,” calling for a voluntary 20 percent reduction in urban water use statewide. In July 2014, the SWRCB adopted an emergency regulation for urban water conservation aimed at reducing outdoor water use, which established prohibitions on water waste and identified actions local water agencies should take to reduce water demand in their service areas. Consistent with the governor’s call for statewide conservation, in July 2014, the Water Authority increased the regional drought response to Stage II, Supply Enhancement, and Drought Alert under the regional Model Drought Ordinance, which includes mandatory water-use restrictions with a regional savings target of up to 20 percent.

**2015**

Dry conditions continued to worsen into a fourth year in the spring of 2015, as reflected by a record low level of snow water content in the northern Sierra Nevada of 5 percent of average for April 1, the date that usually marks the maximum accumulation of snowpack before it begins to melt. On April 1, 2015, the governor directed the SWRCB to impose restrictions on
urban suppliers to achieve a statewide reduction in potable urban use of 25 percent. Following this direction, in May 2015, the SWRCB amended and readopted its emergency regulation to require a 25 percent reduction statewide in overall potable water use effective June 2015 through February 2016. The regulation included water conservation standards for retail urban water suppliers based on a reduction in water use that varied between 4 and 36 percent depending on residential gallons per capita per day (GPCD), compared with 2013 water-use levels. This marked the first time in California’s history that conservation measures were mandated statewide to respond to drought conditions.

In April 2015, MWD’s Board announced that it would implement its WSAP, calling for a 15 percent cutback in FY 2016 deliveries in its service area. In response to these cutbacks and the SWRCB emergency regulation, in May 2015, the Water Authority declared the Mandatory Supply Cutback stage under its WSDRP and approved member agency M&I and TSAWR supply allocations for FY 2016. The Water Authority member agencies also were required to limit outdoor irrigation of ornamental landscapes and turf with potable water to no more than two days per week.

An important element to drought response planning is determining the regional shortage level based on available supplies and projected demands. This analysis was conducted in 2015 for FY 2016, based on the supply allocation from MWD. The MWD supply allocation was combined with member agency dry-year local supplies, supplies from the Water Authority’s Colorado River transfers of conserved water, and deliveries from the Lewis Carlsbad Desalination Plant. The total supplies available were calculated as 521,000 AF. Normal water demands were calculated for FY 2016 based on FY 2014 demands. The analysis showed a projected shortage of less than one percent for the region, which demonstrated that the planning and actions taken by the Water Authority and its member agencies are effective in managing severe multi-year droughts. Unfortunately, the SWRCB emergency regulation did not take into account the supplies water agencies had available during the drought and the required agency reduction levels did not reflect the supply reliability investments agencies had made to avoid or mitigate shortage due to drought.

Under the SWRCB’s May 2015 emergency regulation, the Water Authority member agencies were required to reduce their monthly water use on a cumulative basis starting June 2015 through February 2016, by 12 to 36 percent compared to 2013 water-use levels, for a total aggregate region-wide reduction in water use of 20 percent. The San Diego region effectively reduced its cumulative potable water use by 21 percent from June 2015 through February 2016, outperforming the state’s aggregate regional target of 20 percent during the initial phase of unprecedented state water-use mandates.

In November 2015, the governor issued EO B-36-15, extending the regulation until October 2016 and directing the SWRCB to consider modifications to the regulation. The Water Authority advocated for revisions to the regulation that take into account investments in drought resilient supplies.

2016

In February 2016, the SWRCB amended the emergency regulation to allow for adjustments to the conservation standards, including for new local drought-resilient supplies developed after 2013. In March 2016, the SWRCB certified supply from the Lewis Carlsbad Desalination Plant as drought-resilient, which lowered the range of member agencies’ conservation standards to between 8 percent and 28 percent, with the regional aggregate water conservation goal
reduced from 20 percent to approximately 13 percent. Under the regulations, a water supplier’s conservation standard required at least an eight percent reduction in water use, regardless of supply availability.

California’s supply conditions improved somewhat during the winter of water year 2016, with an El Niño weather pattern bringing rain and snow to parched California. In March 2016, the Water Authority Board revised its regional drought management actions, rescinding its declaration of a regional Level 2 Drought Alert condition under the Model Drought Ordinance, recognizing that the SWRCB individual water supplies conservation standards are driving member agency-specific, rather than regional, water-use restrictions.

In May 2016, due to the improved supply conditions and sufficient supply availability, MWD terminated its member agency allocations. The Water Authority then ended allocations to its member agencies, consistent with the WSDRP. Also in May 2016, the SWRCB adopted an emergency regulation that replaced the prior percentage reduction-based water conservation standard with a localized “stress test” approach. The Water Authority and its member agencies advocated for the stress test approach since it took into account local supply investments and actual shortages being experienced within a community. Utilizing the conservative stress test criteria, the Water Authority and its member agencies demonstrated the availability of adequate supplies to meet demands for the years 2017, 2018, and 2019, should dry conditions continue.

**2017**

In January 2017, supported by the results of the self-certification stress test analysis and improved statewide water supply conditions that bolstered and enhanced the analysis, the Board adopted Resolution No. 2017-01, declaring an end to drought conditions in San Diego County.

Despite objections by the Water Authority and other water suppliers throughout the state, the SWRCB, in February 2017, re-adopted and extended the emergency regulation for another 270 days or until the Governor rescinded or modified the drought declaration. The action maintained the stress test approach and kept in place existing water use reporting requirements and prohibitions on wasteful water use practices. In April 2017, Governor Brown issued Executive Order B-40-17, which lifted the drought emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne. The action ended the statewide emergency drought proclamation put in place by the Governor in January 2014. Through establishment of its drought awareness effort, the Water Authority continued its messaging and outreach to residents and businesses to ensure an ongoing community commitment to water-use efficiency across the region.

Table 3-2 contains a timeline of key events during the statewide drought emergency declared by the Governor in January 2014 and ended in April 2017.
# Table 3-2

**Timeline of Significant Drought and Shortage-Related Events**

(2014 – 2017)

<table>
<thead>
<tr>
<th>Month</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2014</td>
<td>Governor Brown declared a state of emergency throughout California due to severe drought, and called for increased voluntary conservation to reduce water use by 20 percent.</td>
</tr>
<tr>
<td>February 2014</td>
<td>Water Authority notified member agencies of a Level 1, Drought Watch condition, under the regional Model Drought Ordinance, and declared implementation of Stage I, Voluntary Supply Management, under WSDRP.</td>
</tr>
<tr>
<td>April 2014</td>
<td>Governor Brown issued a proclamation that the drought emergency continues in California, and called for increased statewide conservation.</td>
</tr>
<tr>
<td>July 2014</td>
<td>SWRCB adopted emergency regulation for statewide urban conservation. Water Authority notified member agencies of a Level 2, Drought Alert condition, under the regional Model Drought Ordinance, and declared implementation of Stage II, Supply Enhancement, under WSDRP.</td>
</tr>
<tr>
<td>April 2015</td>
<td>Governor Brown issued Executive Order B-29-15, instituting emergency actions and mandatory water-use restrictions for California. MWD imposed Level 3 under its WSAP, effective July 2015, reducing MWD supplies by 15 percent.</td>
</tr>
<tr>
<td>May 2015</td>
<td>SWRCB issued additional requirements to its emergency regulation, including mandatory water-use reductions that ranged from 12 to 36 percent for Water Authority member agencies with an aggregate water conservation target of 20 percent. Water Authority declared implementation of Stage III, Mandatory Supply Cutback, under WSDRP, adopted Ordinance No. 2015-02, allocating M&amp;I and TSAWR supplies to its member agencies and requiring member agencies to restrict irrigation of ornamental landscapes and turf with potable water to no more than two days a week.</td>
</tr>
<tr>
<td>November 2015</td>
<td>Governor Brown issued Executive Order B-36-15 calling for extensions of urban water use restriction through October 2016, should drought conditions persist through January 2016, and directs SWRCB to consider modifying restrictions.</td>
</tr>
<tr>
<td>February 2016</td>
<td>SWRCB extended the emergency regulation through October 2016, and provides for adjustments to conservation standard for significant investment in new, local, drought-resilient sources of potable supply, climate differences and growth.</td>
</tr>
</tbody>
</table>
### 3.3 Lessons Learned

As noted at the beginning of Section 3, the Water Authority has activated its shortage management plan twice since 2006. The first time, in 2007 when it was named the DMP, was in response to MWD’s withdrawal of storage to meet demands. The DMP was active for approximately four years and deactivated in 2011. The second time the shortage management plan was activated was in 2014 when it was named the WSDRP. The plan was activated in response to the Governor’s declaration of a state of emergency due to severe drought conditions, as well as in response to drought response actions being considered at MWD. The WSDRP was deactivated in 2016. In both instances, the region was able to smoothly and successfully transition into and out of allocations. This is a reflection of the comprehensiveness of the documents and coordinated effort that went into preparation of the documents. Because activation of the previous two versions of the shortage management documents were successful, this WSCP retains the same allocation methodology and many of the same elements included in the DMP and WSDRP. However, the WSCP adds new elements.

In addition to the successful activation and deactivation of the DMP and WSDRP, the advanced planning and foresight shown by the Water Authority and its member agencies after the drought in the early 1990s prepared the region to withstand the recent drought conditions. In fact, the water supply diversification strategies implemented by the Water Authority and its member agencies, combined with more than 25 years of aggressive water use efficiency programs, ensured sufficient water supplies for the region during the 2014-2017 drought period. As a result of being prepared for drought conditions, the Water Authority’s member agencies were not assigned a conservation standard under the state’s “stress test” methodology which was used to calculate a water supplier's water conservation standard. The benefits of supply diversification and water use efficiency will continue to be promoted by the Water Authority and its member agencies as methods to mitigate the impacts from drought conditions.

In the area of communication, past droughts have shown that clear and effective communication between the Water Authority, its member agencies, the public, and other stakeholders is critical to successful management of drought conditions. There are challenges associated with maintaining clear and effective communication. In some instances, the diversity between the Water Authority’s member agencies can limit the scope of region-wide messaging since the messaging by individual member agencies may differ. In addition, the region can be subject to messaging from MWD that is designed to target MWD’s entire service area, rather than just the San Diego region. Furthermore, state-wide campaigns such as “Save Our Water” may also lead to public confusion since the severe drought conditions that exist in other regions of California may not exist in the San Diego region. Information on the WSCP’s communication plan can be found in Section 9.
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Beginning in the 1990s, the Water Authority and its member agencies started to develop a diverse portfolio of water supplies to mitigate against potential water supply shortages. These supplies include core supplies, such as seawater desalination, and supply augmentation projects, such as carryover storage. Despite the development of a diverse water supply portfolio, supply uncertainties still exist, but are primarily associated with the availability of imported supplies from MWD. The supply risks are the result of factors such as climate change, drought, and regulatory permitting. For consistency with the state’s long-term water conservation framework as outlined in the April 2017, Final Report, *Making Water Conservation a California Way of Life, Implementing Executive Order B-37-16*, an annual reliability assessment of water supplies available to serve the San Diego region will ensure that the Board, member agencies, the public, and state and local agencies are informed as to the region’s water supply conditions and the likelihood of water shortages.

This section describes the process and evaluation criteria used to perform the annual reliability analysis. The analysis is performed annually in May, although additional analyses could be done at any time based on supply conditions. The analysis focuses on the demand and supplies available to M&I customers. The availability of water supplies associated with the Water Authority’s TSAWR program is discussed in Section 4.3.

The annual evaluation process is conducted in steps to determine if a regional customer demand reduction is needed, and if so, at what level. If a regional shortage exists, the next action is to determine the appropriate shortage response level and actions, which are discussed in Section 5. It is important to note that this is a regional shortage response level and the actual response level of each member agency may differ slightly depending on the availability of local supplies.

The basic steps in the analysis process are outlined below. The evaluation would be done for the current year and additional years, if necessary. This process is provided as a guideline and could be modified based on conditions present during the evaluation period.

1. Analysis of Water Authority Supplies
   a. Evaluate the Water Authority’s core water supplies and member agency demands on the Water Authority to determine if there is a water supply shortfall.
   b. Evaluate management and potential utilization of carryover storage reserves based on the Board adopted CSPG (See Appendix A) and determine if additional supply augmentation, such as dry-year transfers, is required to mitigate a potential water supply shortfall.

2. Calculation of Regional Shortage Level
a. If a water supply shortfall exists after the analysis of Water Authority supplies, calculate the regional shortage level considering total demands and both Water Authority and member agency supplies.

4.1 Analysis of Water Authority Supplies and Demands

This section describes the analysis to evaluate the Water Authority's M&I supplies and projected water demands. The analysis is used to determine if there is a shortfall in Water Authority supplies. If the analysis identifies a shortfall in Water Authority supplies, the supplies available will be allocated based on the allocation methodology in Section 7.

4.1.1 Water Authority Core Water Supplies

The Water Authority’s core water supplies that are considered as part of the annual analysis are described below. The core supplies include water supplies from the Lewis Carlsbad Desalination Plant, the Quantification Settlement Agreement (QSA), and MWD.

*Claude “Bud” Lewis Carlsbad Desalination Plant*

The Lewis Carlsbad Desalination Plant, located at the Encina Power Station in Carlsbad, began commercial operation in December 2015, and provides a highly reliable local treated water supply of up to 56,000 AF/YR. Of the total Lewis Carlsbad Desalination Plant annual production of 48,000 to 56,000 AF/YR, 6,000 AF is considered a member agency local supply.

*Quantification Settlement Agreement*

In 2003, as part of the execution of the QSA, the Water Authority contracted for 77,700 AF/YR of conserved water from projects to line the AAC and CC. The water is considered Priority 3(a) water and has a higher priority than that of several other water users on the Colorado River, including MWD. Also in 2003, the Water Authority and Imperial Irrigation District (IID) executed an amendment to a 1998 transfer agreement that makes Colorado River water that is voluntarily conserved by Imperial Valley farmers available to the Water Authority. The amendment modified certain aspects of the transfer agreement to be consistent with the terms and conditions of the QSA and related agreements. The volume of water available to the Water Authority through the transfer agreement will increase over time until it reaches 200,000 AF/YR in 2021.

*Metropolitan Water District of Southern California*

Under normal conditions, MWD is able to meet the Water Authority’s supplemental water needs. However, during drought conditions, MWD may implement its WSAP and allocate water to its member agencies. Under MWD’s WSDM Plan, MWD is scheduled to inform its member agencies, including the Water Authority, in April of any potential cutback for the coming fiscal year and if necessary, the agency’s allocation. The Water Authority will factor that information into the analysis.
4.1.2 Member Agency Projected Water Demands on the Water Authority

Demand for water in the Water Authority’s service area falls into two classes of service: M&I and TSAWR demand. The WSCP’s annual reliability analysis considers only M&I water use, which encompasses a wide range of water uses, including residential demand (water used for human consumption in the home, domestic purposes, and outdoor residential landscaping) and water used for commercial, industrial, and institutional (CII) purposes.

Short-term water use trends in the region are closely linked to the economy and weather. Over the last several decades, economic growth cycles stimulated local development, which in turn, produced an increase in water demand. However, the recent combination of MWD supply allocations, implementation of member agency mandatory water-use restrictions, an extraordinary conservation ethic, and state-mandated emergency water regulations resulted in a decrease in water demand. To project M&I water demands on the Water Authority for the annual reliability analysis, the Water Authority uses a short-term forecast model that considers multiple variables, including historic water demand patterns, weather, local economic index, and anticipated conservation levels. Demand on the Water Authority is also influenced by member agency local supply levels.

4.1.3 Supply Augmentation

If a water supply shortfall is identified based on the analysis of core water supplies and projected water demands, the next step is to evaluate the use of stored water reserves from the Water Authority’s Carryover Storage reserves or to pursue additional supply augmentation measures, such as dry-year transfers, to reduce or eliminate the shortfall. If a shortage doesn’t exist, consistent with the CSPG, Water Authority staff will analyze how to most effectively manage storage supplies to avoid potential shortages in the future. The Water Authority’s supply augmentation programs and projects are discussed below.

Water Authority Carryover Storage Reserves

To more effectively manage supplies and increase reliability during shortage periods, the Water Authority invested in carryover storage. With carryover storage capacity, the Water Authority can store water for use during times of drought, or to avoid or minimize the impact of supply shortages. Carryover storage provides the following three benefits to the region during a supply shortage:

1. Enhanced reliability of the water supply - During dry weather periods, increased regional demand for water may exceed available supplies, resulting in potential water shortages. Carryover storage provides a reliable and readily available source of water during periods of shortage.

2. Increased system efficiency - Carryover storage provides operational flexibility to serve above normal demands, such as those occurring during peak summer months or extended droughts, from locally stored water rather than by the over-sizing of the Water Authority’s imported water transmission facilities.
3. **Improved management of water supplies** - Carryover storage allows the Water Authority to accept additional deliveries from its existing SWP- and Colorado River-derived sources during periods of greater availability, such as during wet years. This results in more water available locally during periods of shortage.

The Water Authority's carryover storage includes surface water storage in the San Vicente Reservoir. In December 2002, the Water Authority's Water Facilities Master Plan identified the need for approximately 100,000 AF of carryover storage to assist in maintaining a secure and reliable water supply for the region during shortage periods. The San Vicente Dam Raise CSP meets that need by providing approximately 100,000 AF of local storage capacity, thereby facilitating the reliable and efficient delivery of water to residents in the Water Authority's service area during times of shortages. Construction of the San Vicente Dam raise was completed in 2014. By June 2016, the carryover pool was filled to its target storage level of 100,000 AF.

The Water Authority's carryover storage also includes out-of-region groundwater storage in California's Central Valley. Following a Request for Proposal process in 2008, the Water Authority executed a groundwater banking agreement with Semitropic-Rosamond Water Bank Authority to store and recover water in its groundwater basins. The Water Authority also acquired storage rights in Semitropic’s Original Water Bank through an acquisition of Vidler Water Company's storage rights. The Central Valley out-of-region groundwater agreements provide 70,000 AF of storage capacity, with more than 9,000 AF/YR of put capacity and more than 14,000 AF/YR of recovery capacity. These rights expire December 31, 2035, unless the agreements are renewed.

**Utilization of Carryover Storage Supplies**

In December 2016, the Board approved CSPG to provide policy guidance on how the Water Authority's carryover storage supplies should be managed during supply shortage events and normal (non-shortage) periods to help minimize or avoid potential cutbacks to member agencies during drought. The CSPG are included in Appendix A.

**Water Authority's Dry-Year Transfer Program**

To ensure adequate water supplies during drought conditions and periods of regulatory constraints, the Water Authority may consider securing water transfers as part of its WSCP. Considerations on whether to pursue transfers are based on a range of factors, such as source location, federal and state agency approvals, price, call period, and capacity in the SWP system.

To lessen the impact of shortages during the 2007–2011 drought, in 2009, the Water Authority acquired 20,000 AF of water under a one-year transfer agreement with Placer County Water Agency in Northern California to lessen the impact of water supply reductions on the San Diego region. The transfer eased the region's transition from voluntary conservation to mandatory water-use restrictions by keeping the regional water savings target for the year at a manageable level.

The Water Authority did not pursue transfers during the 2012 - 2017 drought for a number of reasons, including limited availability of transfers, high cost, and the ability of the Water Authority and the member agencies to manage the drought with the current available supplies. In addition, securing dry-year transfers with the SWRCB's May 2015 emergency
regulation in place would not have alleviated the state-mandated cutback levels. Supply availability was not taken into account when the state established the reduction mandates.

Figure 4-1 provides an overview of the process used to evaluate the Water Authority’s core supplies, demands on the Water Authority, and management of carryover supplies.

### Figure 4-1
Analysis Process Overview

![Diagram showing analysis process overview]

CSPG = Carryover Storage Policy Guidelines

#### 4.2 Regional Reliability Analysis Calculation

If a regional water supply shortfall still exists after consideration of augmented supplies, the next step is to calculate a regional shortage level at the customer level in order to identify the appropriate M&I shortage response actions. The potential M&I shortage response actions are listed in Section 5. The regional shortage level is calculated by projecting total water demands within the Water Authority’s service area and comparing these demands to the available Water Authority and member agency water supplies. As part of the analysis, the Water Authority will contact the member agencies to confirm and determine the appropriate local supply figures to use in the evaluation. This includes supplies such as surface water, groundwater, potable reuse water and non-potable recycled water. *It is important to note that this analysis calculates a regional shortage response level, but the actual shortage response level of each of the member agencies may differ depending on the amount of local supplies available to that member agency.*

#### 4.3 Transitional Special Agricultural Water Rate

The Water Authority Board, in October 2008, approved the TSAWR program and made it available to customers who opted out of MWD’s IAWP. As a condition of TSAWR program participation, TSAWR deliveries to the member agencies are exempt from the Storage Charge calculation. In return, agricultural customers receive half the M&I level of service under the
ESP and no deliveries under the CSP. The cutback to TSAWR deliveries during a shortage is equivalent to the cutback level from MWD. In June 2015, as part of its annual rate-setting process, the Board approved a five-year extension of the TSAWR program through calendar year 2020. During the last drought, under the SWRCB May 2015 emergency regulation, urban commercial agriculture was exempt from the emergency conservation mandates, consistent with how the agricultural sector was treated throughout the state. Per TSAWR program guidelines, agricultural customers were still required to cutback consistent with the Water Authority’s cutback level from MWD.

### 4.4 Reliability Analysis Tentative Timeline

To ensure an accurate analysis of regional supply and demand conditions each year, up-to-date data on supply availability is needed from both the Water Authority’s member agencies and MWD. In addition, information on local and statewide hydrologic conditions will also be helpful in conducting the evaluation. A tentative timeline, in order to complete the analysis in May, is for Water Authority staff to begin coordinating with the member agencies in late March or early April to gather the necessary information to conduct the analysis. The information collected would include the member agencies’ projections for production of local supplies, such as recycled water (potable and non-potable), groundwater, and surface water. Water Authority staff will also monitor imported water supply conditions, including the status of QSA delivers and the potential for supply allocations from MWD. According to the schedule in MWD’s WSDM plan, member agencies will generally be notified of any potential allocations in the April time frame when the outlook for imported supplies is known to a fairly high degree of certainty. Based on the results of the analysis, Water Authority staff may also recommend an appropriate regional shortage response level for Board consideration to effectively manage the supply situation. It should be noted that this timeline serves as a guideline for preparing the annual assessment and could be modified based on circumstances relevant at that time.
Section 5
Regional Shortage Response Actions and Levels

Section 4 discussed the annual M&I reliability analysis that is used to determine the current regional supply situation for the San Diego region and if any shortage is anticipated. Based on the analysis, a water shortage level may need to be activated. If a water supply shortage is identified, Section 5 provides information on the regional water shortage levels and response actions associated with the water supply situation. Section 5 also discusses the water supply conditions that could potentially trigger a certain regional water shortage level. Included is a description of the percent reduction required at each level and whether it is mandatory or voluntary.

5.1 Regional Shortage Levels and Response Actions

In times of potential water supply shortages, the Water Authority needs to take actions to try to both reduce and eliminate the shortage. The Shortage Response Matrix was developed to provide guidance to the Board to select potential regional actions to lessen the existing or future severity of water supply shortages. The matrix includes a list of potential shortage response actions available to the Water Authority at each of the six levels. The six levels and percent reductions are consistent with the six levels identified in the state’s long-term framework document, *Making Water Conservation a California Way of Life, Implementing Executive Order B37-16*. The Shortage Supply Matrix is shown as Figure 5-1.
The reduction levels are defined as “up to” or “above” a specified percentage to provide more flexibility for the member agencies to establish the appropriate local reduction level should their reduction not equate exactly to the regional number. As mentioned in Section 4, the regional percent reduction may differ slightly from a member agency’s figure depending on the amount of local supplies available.

To determine the specific actions that should be taken at each level, the Water Authority and its member agencies will evaluate conditions specific to the timing, supply availability, and cost, along with other pertinent variables. Numerous variables can influence the supply reduction levels during a water supply shortage. These variables include, but are not limited to, SWP allocation, conditions on the Colorado River, Water Authority supplies, local storage, local demands, and timing. Member agencies will independently adopt retail-level actions to manage potential water supply shortages.

Depending on the situation, the Board may not implement each of the identified actions in a response level, but select only those that are appropriate. For example, at Level 2, the matrix lists six actions the Board could consider adopting, but based on local and statewide supply conditions, would only decide to implement four of the actions. In addition, the Board may adopt additional actions not listed in the matrix. This occurred during the 2014-2017 statewide drought, when the SWRCB instituted emergency conservation mandates for urban
retail water suppliers statewide, regardless of local supply conditions (see Section 3). In the future, should the state mandate emergency conservation standards that would require the Water Authority to deviate from the process outlined in the WSCP, extensive collaboration would occur with the member agency managers to develop recommended regional actions for Water Authority Board consideration.

The following is a brief description of each of the potential shortage response actions in the Shortage Response Matrix.

**Ongoing Water Use Efficiency**

The Water Authority and its member agencies continuously promote water use efficiency, regardless of water supply conditions. Water use efficiency measures target all sectors of water users. Over the last several years, the focus of water use efficiency efforts shifted from indoor to outdoor water conservation due to 25 years of indoor water conservation activities. Those activities included retrofits of indoor plumbing devices and audits to identify inefficient practices. Current activities include landscape retrofits that are the result of market transformation efforts and outreach campaigns such as the Water Authority’s “Live WaterSmart” campaign. Ongoing water use efficiency efforts will be coordinated with the Communication Plan and will take place throughout all regional response shortage levels.

**Communication Plan**

The Communication Plan will be in place prior to a water supply shortage and be initiated in Level 1 of the Shortage Response Matrix. Activation of the Communication Plan will continue through all subsequent levels of the matrix and be coordinated between the Water Authority and its member agencies. Refer to Section 9 for additional information on the Communication Plan.

**Supply Augmentation**

Supply augmentation can be initiated under Level 1, and can include storage withdrawals, spot transfers, and other actions. As discussed in Section 4, the Water Authority may withdraw water from its carryover supplies in accordance with the CSPG. At the Board’s discretion, storage supplies may be withdrawn from the ESP to mitigate severe shortages. Supply augmentation also includes transfer option contracts for supplies from outside of the region. Transfer options are multi-year contracts that allow the Water Authority to obtain a specified quantity of water at a future date. The amount of water secured will depend on the supply shortage, availability of supply and cost. A minimum payment for water is usually required in order to secure the transfer. This payment must be made even if the water is not needed. The Water Authority may also buy spot transfers from outside of the region. Spot transfers make water available for a limited duration (typically one year or less) through a contract entered into in the same year that the water is delivered. Additional information on supply augmentation is available in Section 4.

**Call for Extraordinary Demand Reduction Measures**

Extraordinary demand reduction measures are those measures that reduce water customers’ demand beyond the reductions that result from ongoing water use efficiency activities. They are measures that could be implemented when the regional water shortage response level reaches Level 2 and a mandatory reduction in water use of up to 20 percent is required. An example of an extraordinary demand reduction measure is restrictions on outdoor water use. Implementation of the specific demand reduction measures would occur at the member agency level. Please refer to Section 6 for additional information.
**Member Agency Municipal & Industrial Supply Allocation**

Implementation of the Water Authority’s M&I supply allocation methodology would be considered when a mandatory reduction in water use is needed (Level 2). Information on the supply allocation methodology can be found in Section 7.

### 5.2 Potential Response Level Triggers

Response level triggers vary depending on whether the regional water shortage response stage is voluntary or mandatory. For the voluntary level, the scenarios that could trigger a response include the likelihood of potential core supply shortages in the near-term or a shortage in core supplies that could be mitigated through carryover storage reserves. For mandatory levels, a potential scenario that could trigger a response is inadequate Water Authority core supplies to meet demands and supply augmentation does not fully mitigate a core supply shortage. In addition, the response to a catastrophic emergency could occur under any response level. The potential scenarios are summarized in Figure 5-2.

**Figure 5-2**

**Potential Response Level Triggers**

<table>
<thead>
<tr>
<th>Regional Water Shortage Response – M&amp;I Demand Reduction Level</th>
<th>Scenarios (As Documented in Reliability Analysis)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Voluntary</strong></td>
<td></td>
</tr>
<tr>
<td>Level 1 – Up to 10%</td>
<td>➢ Likelihood of potential core supply shortage in the near-term, or ➢ Shortage in core supplies, but mitigated through carryover storage reserves</td>
</tr>
<tr>
<td>Level 2 – Up to 20%</td>
<td></td>
</tr>
<tr>
<td>Level 3 – Up to 30%</td>
<td></td>
</tr>
<tr>
<td>Level 4 – Up to 40%</td>
<td>➢ Water Authority core supplies are not adequate to meet member agency demands ➢ Supply augmentation (i.e., utilize storage reserves and/or dry-year transfers)</td>
</tr>
<tr>
<td>Level 5 – Up to 50%</td>
<td></td>
</tr>
<tr>
<td>Level 6 – Above 50%</td>
<td></td>
</tr>
<tr>
<td><strong>Mandatory</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Catastrophic Emergency</strong></td>
<td>➢ Occurs when a disaster, such as an earthquake, results in insufficient available water to meet the region’s needs or eliminates access to imported water supplies</td>
</tr>
<tr>
<td><strong>Catastrophic Emergency</strong></td>
<td></td>
</tr>
</tbody>
</table>
Section 6
Extraordinary Demand Reduction Measures

The main purpose of implementing extraordinary demand reduction measures during a supply shortage is to achieve a measurable reduction in water use to assist in managing a short-term supply shortfall. The shortage response matrix in Section 5 includes extraordinary demand reduction measures as a potential shortage response action. This section provides a brief discussion on demand reduction measures and the Water Authority’s 2008 Model Drought Ordinance. It should be noted that the Water Authority, as a wholesale water supplier, does not implement demand reduction measures at the retail customer level, but can assist member agencies in communicating and educating the public regarding any potential measures.

6.1 Examples of Extraordinary Demand Reduction Measures

Demand reduction measures primarily consist of water conservation actions, but may include actions related to water use efficiency. The distinction between the two types of actions is that water conservation results in a reduction in water loss, waste, or use, whereas water use efficiency is the performance of ongoing water-related tasks with lesser amounts of water. Appendix C includes a list of potential customer water use prohibitions that could be considered extraordinary demand reduction measures and used by the member agencies in their role as a retail water supplier.

6.2 Model Drought Ordinance

In 2008, the Board approved the Model Drought Ordinance. The Model Drought Ordinance focuses on core water use restrictions and is intended to assist the member agencies when updating local drought response ordinances and to provide regional consistency in drought response levels and messaging to the public and media. At the time of its drafting in 2008, the member agencies’ ordinances included water-use restrictions that varied in severity based on the level of the cutback. There were some inconsistencies between the ordinances in regard to the number of levels and restrictions that applied at each level. The use of the Model Drought Ordinance as a tool for member agencies helped provide consistency throughout the region which helped to reduce confusion among the public and media on the current response level and appropriate use restrictions.

Triggers that identify the actions required to initiate a certain drought response level are included in the Model Drought Ordinance, which takes into account the relationship between the Water Authority and its member agencies. A certain drought response level may apply when the Water Authority notifies its member agencies that a specific consumer demand reduction level is required. Factors that impact the demand reduction level include potential

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or actual cutbacks from MWD, the amount of member agency local supplies available, and the ability of the Water Authority or its member agencies to secure supplemental supplies. Based on an action by the Board and notification from the Water Authority, the member agency would declare the appropriate response level and implement water-use restrictions consistent with the declared response level.

In identifying examples of potential water-use restrictions that could be included in the Model Drought Ordinance, staff identified core restrictions that were common to the existing member agency ordinances and successfully employed by other agencies outside the region. DWR's 2008 Urban Drought Guidebook was also used as a reference. As a regional document, utilizing these core restrictions allows the Model Drought Ordinance to be applicable to more areas of the region. The Model Drought Ordinance will be updated upon completion of the SWRCB's rulemaking process for new permanent water waste prohibitions. The SWRCB's action is required as part of implementation of the Governor's Executive Order B-37-16. The rulemaking process should be completed in 2019. Appendix C provides a list of water use prohibitions that could be considered for inclusion in the updated Model Drought Ordinance.
7.1 Introduction

As outlined in the Shortage Supply Matrix discussed in Section 5.1, after the Board has exhausted available supply enhancement options and can no longer avoid cutbacks, implementation of an allocation methodology will occur. The challenge in developing the methodology was to meet the diverse needs of the member agencies in a fair and equitable manner. Each of the Water Authority's member agencies has a different demand profile and unique supply portfolio. Some agencies have abundant local supplies, while others are 100 percent reliant on water supplies purchased from the Water Authority. There are member agencies that serve primarily agricultural customers, while others serve only municipal and industrial customers.

This section includes a description of the M&I supply allocation methodology developed through a collaborative effort between the Water Authority and its member agencies. The goal of the methodology is to provide an equitable means of apportioning the Water Authority's supplies during periods of supply shortages consistent with the TAC approved principles discussed in Section 2.1.3. Through the TAC meetings, Water Authority staff and designated member agency representatives have collectively agreed to the allocation methodology described in this section. It should be noted that agricultural customers in the voluntary TSAWR program have a separate allocation methodology. In exchange for a cost-benefit rate differential, TSAWR customers are subject to higher cutbacks set at the MWD percent reduction level.

In evaluating implementation of the Water Authority's allocation methodology during the FY 2010 and FY 2011 cutback period, Water Authority and member agency staff identified specific elements of the methodology for review and refinement. As part of this effort, it was noted that certain conditions had changed since adoption of the methodology in 2006. Specifically, the adoption of SB X7-7 in 2009, caused a paradigm shift in conservation tracking and prompted an evaluation of the manner in which the allocation methodology addressed demand hardening and conservation savings. A final area of review involved the relationship between the Water Authority's methodology and modifications to MWD's WSAP. Alignment between the two allocation plans was necessary when methodological inconsistencies result in unintended and inequitable impacts to the region or a single member agency. On April 26, 2012, the Board approved modifications to the allocation methodology that were developed through the member agency review and refinement process.

To provide an overview of the allocation methodology that includes the April 2012 modifications, a schematic has been prepared that shows principal steps in the process. As shown in Figure 7-1, the methodology begins with a determination of each agency’s base period M&I demands. From this base, adjustments are added to account for agency’s growth in demand, local projects development, and compliance with water use efficiency requirements. The calculation results in an adjusted base period demand for each member agency. Next, the amount of supplies available from the Water Authority is determined. This
includes the Water Authority’s own supplies (excluding Carryover Storage) along with supplies available from MWD. Individual member agency’s percent share of the total regional adjusted base period M&I demand is then calculated. The percentages are multiplied by Water Authority supplies available to derive an initial M&I allocation for each member agency. To calculate agencies’ final M&I supply allocations, additional adjustments are subsequently made for allocation-year local supply loss and for MWD WSAP alignment, if needed. If the Board elects to utilize carryover storage, a separate allocation for this supply is performed and results in a final total wholesale allocation. In the rare circumstance of severe imported supply shortages, a regional reliability adjustment will be applied to avoid large uneven retail impacts. Each box shown in Figure 7-1 contains a reference number to the corresponding subsection that describes the step in detail.

**Figure 7-1**  
**Supply Allocation Methodology**
7.2 Description of M&I Allocation Methodology

To help describe the M&I allocation methodology and demonstrate the calculation procedures, the following example was developed. The example was prepared for illustration purposes only. For this sample analysis, demand and local supply data for five representative agencies was established to approximate a cross-section of characteristics unique to the region. Other agency attributes such as estimated growth, per capita use, and local supply availability were also based on local agency characteristics. Implementation of the allocation methodology would be considered when a mandatory reduction in water use is needed under Levels 2 through 6 of the Shortage Supply Matrix (see Section 5.1). For illustration purposes, an estimated 15 percent cutback in MWD supplies to the Water Authority was assumed.

7.2.1 Historic M&I Base Period M&I Demands on the Water Authority (Unadjusted)

A historic base period M&I demand is required to establish each agency’s demands on the Water Authority prior to activation of the WSCP. Base period M&I demands are calculated using data from the three most recently completed consecutive fiscal years immediately preceding the year in which Board action is taken to activate the WSCP due to supply shortage conditions. Each of the three consecutive fiscal years will be years in which the WSCP has not been activated. Each agency’s base period M&I demand is established by calculating its three-year average of demand on the Water Authority.

For illustrative purposes, Table 7-1 contains historic base period M&I demands for the sample agencies. In the event that consecutive multi-year allocations are required, base period demands (based on the three years prior to the activation of the WSCP) are to remain fixed for the duration of the allocation.

<table>
<thead>
<tr>
<th></th>
<th>Agency A</th>
<th>Agency B</th>
<th>Agency C</th>
<th>Agency D</th>
<th>Agency E</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDCWA M&amp;I Demand</td>
<td>2,200</td>
<td>6,500</td>
<td>181,000</td>
<td>43,100</td>
<td>25,000</td>
</tr>
<tr>
<td>(three-year average)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7.2.2 Adjustments

Adjustments applied to the base period were developed to equitably account for relevant factors in calculating each agency’s allocation. Such factors include growth, compliance with water use efficiency requirements, local supply availability, and efforts taken by local agencies to develop reliable local projects such as recycled water, groundwater recovery, and seawater desalination. The adjustments are intended to acknowledge unique agency characteristics and provide an incentive for agencies to decrease their reliance on imported supplies over the long-term. The following is a summary of each adjustment:
Growth

Because the base period is fixed, a growth adjustment is applied to estimate the increase in demand due to growth from the base period to the allocation year. This adjustment is calculated using agency-level population estimates as a metric to approximate growth in demand. These population figures are based on San Diego Association of Governments (SANDAG) generated annual demographic totals. Each agency’s demand increase is computed by multiplying its change in population by a per-capita water use efficiency factor (GPD factor). The GPD factor is an aggregate of member agencies’ SB X7-7 GPCD targets from the Water Authority’s UWMP, and encompasses residential and CII demands. As an example, the 2010 UWMP contained an aggregated GPCD target of 174 GPCD for year 2015. The growth adjustment calculation is expressed as:

\[
= (\text{Change in Population}) \times (\text{Aggregated Member Agency GPCD Target})
\]

However, if an agency’s actual base period GPCD is less than the aggregated GPCD target, the lower value will be utilized as the water use factor in the growth calculation. This is done to ensure that the growth adjustment reflects efficient water use levels in the member agency’s service area.

In the event that an agency experiences minimal or no population increase, an alternate growth adjustment calculation is available. To qualify, the agency must have sustained a growth rate of less than 50 percent of the regional population growth rate. As previously stated, SANDAG data will be utilized to determine each agency’s growth rate and the regional growth rate. Under the proposed adjustment, CII growth would be captured through CII meter installations that occurred after the base period. Additionally, residential growth in demands would be captured by applying a water-efficient residential GPD factor to the minimal population increase. Agencies requesting this method for capturing growth are required to provide adequate documentation on CII meter installations and residential GPD factors based on their individual SB X7-7 targets.

Finally, to ensure alignment with MWD’s WSAP, when necessary, in subsequent years of a multi-year allocation period the growth adjustment amount received from MWD will be passed through to Water Authority member agencies based on each agency’s proportional share of Water Authority-wide population growth. The reason the Water Authority growth adjustment from MWD is not passed through to agencies in the first year, is because the two agencies’ base periods would likely be different, making the time frame between the base periods and allocation years inconsistent. To again address the concern of agencies with minimal population growth and large CII increase, an agency can request CII meter installations be used, in part, as a basis for proportioning the growth adjustment received from MWD. The same criteria and documentation would be required as discussed above. Table 7-2 illustrates the growth adjustment calculations for each sample agency. It is important to note that should the State adopt water use efficiency requirements that supersede SB X7-7, the growth adjustment will be updated to align with these new requirements.
Table 7-2
Growth Adjustment

**Member Agency Population**

<table>
<thead>
<tr>
<th>Population</th>
<th>Agency A</th>
<th>Agency B</th>
<th>Agency C</th>
<th>Agency D</th>
<th>Agency E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Year of Base Period</td>
<td>12,197</td>
<td>31,784</td>
<td>789,627</td>
<td>220,970</td>
<td>116,782</td>
</tr>
<tr>
<td>Allocation Year</td>
<td>12,300</td>
<td>32,400</td>
<td>808,100</td>
<td>233,300</td>
<td>117,500</td>
</tr>
<tr>
<td>Change in Population</td>
<td>103</td>
<td>616</td>
<td>18,473</td>
<td>12,330</td>
<td>718</td>
</tr>
</tbody>
</table>

**Governing GPCD Target**

<table>
<thead>
<tr>
<th>Agency</th>
<th>Base Period GPCD</th>
<th>Aggregated Agency SB X7-7 Target</th>
<th>Governing GPCD Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>176</td>
<td>174</td>
<td>174</td>
</tr>
<tr>
<td>B</td>
<td>186</td>
<td>174</td>
<td>174</td>
</tr>
<tr>
<td>C</td>
<td>200</td>
<td>174</td>
<td>174</td>
</tr>
<tr>
<td>D</td>
<td>165</td>
<td>174</td>
<td>165</td>
</tr>
<tr>
<td>E</td>
<td>187</td>
<td>174</td>
<td>174</td>
</tr>
</tbody>
</table>

**Growth Adjustment**

<table>
<thead>
<tr>
<th>Governing GPCD Target</th>
<th>Agency A</th>
<th>Agency B</th>
<th>Agency C</th>
<th>Agency D</th>
<th>Agency E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>174</td>
<td>174</td>
<td>174</td>
<td>165</td>
<td>174</td>
</tr>
<tr>
<td>Gallons (MG)</td>
<td>6.5</td>
<td>39.1</td>
<td>1,173.2</td>
<td>742.6</td>
<td>45.6</td>
</tr>
<tr>
<td>Adjustment (AF)</td>
<td>20</td>
<td>120</td>
<td>3,600</td>
<td>2,280</td>
<td>140</td>
</tr>
</tbody>
</table>

**GPCD Compliance**

With the state's adoption of the SB X7-7, retail agencies are currently required to implement water use efficiency measures that result in a 20 percent reduction in their per capita water use by the year 2020. In order to acknowledge the importance of meeting SB X7-7 targets, a water use efficiency adjustment is incorporated into the allocation methodology. The GPCD compliance adjustment applies only to agencies that fail to meet their SB X7-7 2020 targets, or estimated pre-2020 targets, over the Water Authority established allocation base period. Agencies not meeting their targets will have their SB X7-7 compliance shortfall deducted from their base period demand. Consistent with SB X7-7 guidelines, each agency's base period
demand will be normalized for weather before comparison to its GPCD target.

However, to recognize agencies’ efforts towards meeting their targets, an SB X7-7 target performance allowance is included as part of the adjustment. Under this allowance, an agency’s base period demand would be reduced only if its GPCD exceedance is over 5% of its SB X7-7 target. GPCD compliance adjustments for the sample agencies are shown below in Table 7-3.

Table 7-3

<table>
<thead>
<tr>
<th>GPCD Compliance Adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agency A</td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td>Base Period GPCD (weather normalized)</td>
</tr>
<tr>
<td>SB X7-7 GPCD Target</td>
</tr>
<tr>
<td>Variance</td>
</tr>
<tr>
<td>SB X7-7 Target 5% Exceedance Allowance</td>
</tr>
<tr>
<td>Adjustment (GPCD)</td>
</tr>
<tr>
<td>Adjustment (AF)</td>
</tr>
</tbody>
</table>

It is important to note that should the State adopt water use efficiency requirements that supersede SB X7-7, the growth adjustment will be updated to align with these new requirements.

Local Projects Development

The development of highly reliable in-region supplies, such as brackish groundwater recovery, recycled water, and seawater desalination result in a dual benefit. They add to the region’s supply diversity and are a dependable source during shortages of imported water. An adjustment is made for the regional benefit of these annually reliable supplies. The adjustment recognizes both the investment made by the local agency and the regional financial contribution made by the Water Authority. Similar to the M&I base period calculation time frame, a three-year average of beneficial use from these reliable supplies is employed to calculate the adjustment. The Local Projects Development adjustment is 30 percent of the three-year average. In addition to the incentive from the adjustment, the member agency will be able to utilize 100 percent of their local project’s supply that is available during a drought. Table 7-4 on the following page shows the Local Projects Adjustment.

Table 7-4

<table>
<thead>
<tr>
<th>Local Projects Development Adjustment (AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>Average</td>
</tr>
<tr>
<td>30% Credit</td>
</tr>
</tbody>
</table>
7.2.3 Adjusted M&I Base Period M&I Demands and Supply Allocation Percentages

An agency’s adjusted M&I base period M&I demand is calculated by adding the applicable adjustments to their initial M&I base period demand. The adjusted M&I base period demand amount is then used to generate an agency’s pro-rata percent share of the M&I adjusted base period demand. It is this percentage that is used to calculate an agency’s initial imported supply allocation volume. Table 7-5 illustrates the calculation for the sample agencies.

<table>
<thead>
<tr>
<th>Agency</th>
<th>Base Period M&amp;I Demand on SDCWA</th>
<th>Growth Adjustment</th>
<th>GPCD Compliance Adjustment</th>
<th>Local Projects Development Adjustment</th>
<th>Adjusted M&amp;I Base Period M&amp;I Demand</th>
<th>Pro-rata Share of Adjusted Base Period M&amp;I Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2,200</td>
<td>20</td>
<td>0</td>
<td>20</td>
<td>2,240</td>
<td>0.80%</td>
</tr>
<tr>
<td>B</td>
<td>6,500</td>
<td>120</td>
<td>-117</td>
<td>0</td>
<td>6,503</td>
<td>2.40%</td>
</tr>
<tr>
<td>C</td>
<td>181,000</td>
<td>3,600</td>
<td>0</td>
<td>1,500</td>
<td>186,100</td>
<td>69.90%</td>
</tr>
<tr>
<td>D</td>
<td>43,100</td>
<td>2,280</td>
<td>0</td>
<td>400</td>
<td>45,780</td>
<td>17.20%</td>
</tr>
<tr>
<td>E</td>
<td>25,000</td>
<td>140</td>
<td>0</td>
<td>600</td>
<td>25,740</td>
<td>9.70%</td>
</tr>
<tr>
<td>Total</td>
<td>266,363</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7.2.4 Water Authority Supply Availability and Net Cutback Percentages

The next step in the allocation methodology is to identify the M&I supplies available to meet member agency M&I demands during shortage events. Supplies are equal to the sum of water from MWD, the Water Authority’s IID transfer water, conserved water from planned canal lining programs, and supplies from the Lewis Carlsbad Desalination Plant. These additional supplies developed by the Water Authority help to reduce demands on MWD, and therefore decrease the impact from reductions in MWD’s supplies. This is demonstrated in the calculations shown in Table 7-6.

For this example, it is assumed that MWD’s allocation results in a drought supply allotment equal to 85 percent of the Water Authority’s M&I demand on MWD. In the example, Water Authority supplies are conservatively set at 20,000 AF/YR. Actual Water Authority supplies are significantly higher than 20,000 AF/YR and include supplies from the Lewis Carlsbad Desalination Plant and the QSA. Total M&I supply availability is computed by combining Water Authority supplies and MWD drought supplies (Table 7-6). As discussed in Section 7.2.6, the loss of local supply adjustment requires a portion of the available supply to be set aside to implement the adjustment, the loss of local supply volume is shown in Table 7-8.
Table 7-6
M&I Supply Availability - illustrative purposes (AF)

<table>
<thead>
<tr>
<th>M&amp;I Supply Availability</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Allocation-Year M&amp;I Demand</td>
<td>273,360</td>
</tr>
<tr>
<td>SDCWA Supply</td>
<td>20,000</td>
</tr>
<tr>
<td>M&amp;I Demand on MWD</td>
<td>253,360</td>
</tr>
<tr>
<td>MWD Cutback to M&amp;I Supplies</td>
<td>15%</td>
</tr>
<tr>
<td>Net MWD M&amp;I Supply Availability</td>
<td>215,356</td>
</tr>
<tr>
<td>Initial SDCWA M&amp;I Supply Availability</td>
<td>235,356</td>
</tr>
<tr>
<td>Loss of Local Supply Adjustment Set Aside</td>
<td>4,700</td>
</tr>
<tr>
<td>Net SDCWA M&amp;I Supply Availability</td>
<td>230,656</td>
</tr>
</tbody>
</table>

7.2.5 Member Agency Initial Allocation of Water Authority Supplies

The next step in the allocation methodology is to determine the initial member agency M&I level allocation of available M&I supplies. This is calculated by multiplying total M&I available supplies (excluding carryover storage) by each agency’s percent share of the adjusted base period demand, as shown in the following equation:

\[\text{Initial M&I Allocation Volume (AF)} = (\text{Net Available Regional Imported Supply}) \times (\text{Agency’s Pro Rata Share of Base Period M&I Demand})\]

For the example, data from Tables 7-5 and 7-6 are used to calculate allocations for the sample agencies. The results are shown in Table 7-7.

Table 7-7
Initial Imported M&I Supply Allocation Volumes

<table>
<thead>
<tr>
<th>Agency</th>
<th>Pro-rata Share of Adjusted M&amp;I Base Period SDCWA M&amp;I Demands</th>
<th>SDCWA Initial M&amp;I Allocation Volume (AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.8%</td>
<td>1,845.2</td>
</tr>
<tr>
<td>B</td>
<td>2.4%</td>
<td>5,536</td>
</tr>
<tr>
<td>C</td>
<td>69.9%</td>
<td>161,228</td>
</tr>
<tr>
<td>D</td>
<td>17.2%</td>
<td>39,673</td>
</tr>
<tr>
<td>E</td>
<td>9.7%</td>
<td>22,374</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>230,656</td>
</tr>
</tbody>
</table>

7.2.6 Additional Adjustments

Loss of Local Supply

Some agencies have invested heavily in local supply development, thereby reducing their reliance on imported water and providing other regional benefits such as surface water treatment capacity. The loss of local supply adjustment was developed to recognize the
benefit of these historic supplies and not penalize agencies for diminished local supplies during an allocation year. The adjustment is calculated as the difference between an agency’s average local supply used over the base period and its projected allocation-year local supply use. This difference is then reduced by the Water Authority cutback percentage from MWD. Loss of local supply during an allocation year, as used in this section, shall be deemed by the Water Authority to occur, or have occurred, where a member agency’s locally produced source of water supply is lost or otherwise reduced as a result of drought/locally dry conditions, legislative and regulatory actions, court orders, water rights decrees and related settlements, the inability of the member agency claiming the adjustment to obtain contracted deliveries from a local water supplier, damage or loss of member agency infrastructure needed to produce, store, treat and convey local water supplies, or other circumstances where the member agency has lost the ability to utilize a local water supply through no fault of its own. The Loss of Local Supply Adjustment for the sample agencies is shown in Table 7-8.

Member agency developed local water supplies subject to adjustment under this provision include, but are not limited to, locally produced surface water, groundwater, desalinated ocean or brackish water, recycled water, captured stormwater or any other locally produced source of water that satisfies the potable or non-potable demands of a Water Authority member agency during the allocation year where a loss of local supply adjustment is sought. It is critical that the agency claiming a potential local supply loss adequately document the actual loss for the year end reconciliation when financial penalties for exceeding allocation targets are assessed.

While recycled, brackish groundwater, and seawater desalination supplies are eligible for the Loss of Local Supply Adjustment, doing so will preclude an agency from applying for the Local Projects Development Adjustment described in the Section 7.2.2 on this same supply.

<table>
<thead>
<tr>
<th>Table 7-8</th>
<th>Loss of Local Supply Adjustment</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Base Period Local Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>Average</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Allocation Year Local Supply Difference (less 15% MWD Cutback)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Metropolitan WSAP Alignment</th>
</tr>
</thead>
</table>

The WSCP allocation methodology also contains adjustments necessary to align it with MWD’s WSAP to ensure equitable supply allocations to Water Authority member agencies. In December of 2008, the Board approved alignment modifications that dealt with agencies adding planned local supplies and extraordinary increases in production during consecutive allocation years. The modifications were made because, due to increases in certain member agency local supplies, the Water Authority would have been allocated less water by MWD and
the net effect on the Water Authority’s allocation needs to be passed through to the member agency developing the local supply.

For agencies adding planned local supplies during consecutive allocation years, a pass through of the net effect on the Water Authority’s allocation from MWD will be conveyed directly to the Water Authority member agencies adding these local supplies. The specific change in the amount of water allocated to the Water Authority by MWD because of the member agency’s local supply will be identified and the member agency’s allocation will be adjusted accordingly by that amount of volume. If more than one agency is involved in a single local supply project, each participating agency’s Water Authority allocation will be adjusted on a pro rata basis relative to the participating agency’s share of the water delivered by the local supply project.

Under the MWD WSAP, “extraordinary” increases in production are treated differently than planned local supplies. This allows the member agency to improve its reliability through unplanned actions that are solely in response to the drought. Extraordinary increases, such as short-term water transfers and overproduction (mining) of groundwater basins, are not included in an agency’s allocation year local supplies. However, the full amount of the extraordinary local supply will be included in the calculation of an agency’s Retail Impact Adjustment. Similar to planned local supplies, the change in the amount of water allocated to the Water Authority by MWD will be identified and the allocation of the member agency who implemented the extraordinary local supply will be adjusted accordingly by that volume of water.

The MWD Board subsequently approved additional modifications to its WSAP in September 2011. To maintain continued equitable allocation of supplies to member agencies, an additional adjustment pertaining to recycled water development is now made to the Water Authority’s allocation methodology based on the WSAP modifications. The net effect on the Water Authority’s allocation from the increased recycled water developed after the based period would be passed on to those member agencies that developed the recycled water supplies. This would be reflected as a reduction in their allocation from the Water Authority. While the agency’s allocation from the Water Authority would be reduced, the agency would still be better off in regard to reliability then if they had not developed the recycled water supply.

7.2.7 Carryover Storage Program

Transitional Special Agricultural Water Rate

Under the TSAWR program, TSAWR customers are exempt from paying the Water Authority’s storage charge and in return will not receive supplies from the CSP during shortages and limited supplies from the ESP.

Carryover Storage Adjustment

Under the TSAWR, no CSP supplies are available to TSAWR customers during the supply augmentation which begins in Level 1 of the WSCP. A description of the methodology used to ensure CSP supplies are delivered solely to M&I customers is outlined below.
Utilizing CSP Deliveries during Supply Augmentation (Level 1)

In this scenario, the assumptions are that MWD is allocating supplies to its member agencies, but the cutback is minimal, and the Water Authority and its member agencies are able to avoid mandatory cutbacks to M&I customers through shortage management actions. These actions could include voluntary conservation measures and utilization of CSP deliveries. To ensure no CSP supplies are delivered to TSAWR customers, each member agency with TSAWR customers would be given a TSAWR supply allocation based on the MWD cutback level. The following basic steps will be taken to establish the TSAWR allocation of non-CSP supplies:

1. Establish TSAWR base year, most recently completed fiscal years prior to activation of the WSCP; and
2. Apply M&I cutback level to each agency's TSAWR base year to determine its TSAWR allocation.

Allocating CSP Supplies during Mandatory Cutback Levels (Levels 2-6)

At this stage, MWD and the Water Authority are both allocating supplies to their member agencies. The Water Authority is utilizing CSP supplies to lessen the cutback level from MWD to M&I customers. In establishing member agency allocations, it is critical that the allocations reflect only CSP deliveries to M&I customers. As a result, a separate calculation to determine the M&I allocation of CSP deliveries is required. The methodology employed is consistent with the approach used to allocate non-CSP supplies (i.e., MWD allocation and Water Authority QSA supplies), except that WSAP Alignment Adjustments are not necessary because they pertain to allocation of MWD supplies.

For this sample calculation, it is assumed that the Water Authority is in mandatory cutbacks and 10,000 AF of CSP storage is made available for distribution to M&I customers. The methodology used to allocate the 10,000 AF of CSP supplies is shown in Table 7-9. In this scenario, each agency's percent share of M&I demand is used to determine its proportional share of the available CSP supplies.

<table>
<thead>
<tr>
<th>Agency</th>
<th>M&amp;I Base Period Demand</th>
<th>Pro-rata Share of M&amp;I Demand</th>
<th>CSP Allocation (10,000 AF available storage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2,240</td>
<td>0.8%</td>
<td>80</td>
</tr>
<tr>
<td>B</td>
<td>6,503</td>
<td>2.4%</td>
<td>240</td>
</tr>
<tr>
<td>C</td>
<td>186,100</td>
<td>69.9%</td>
<td>6,990</td>
</tr>
<tr>
<td>D</td>
<td>45,780</td>
<td>17.2%</td>
<td>1,720</td>
</tr>
<tr>
<td>E</td>
<td>25,740</td>
<td>9.7%</td>
<td>970</td>
</tr>
</tbody>
</table>

Total 266,363 100.0% 10,000

7.2.8 Member Agency Final Total M&I Allocation

The last step in the allocation process is to calculate each agency's total available M&I Water Authority M&I supplies. This is done by summing each agency's allocation of M&I supplies and
adding in its share of M&I CSP allocation, as shown in the following equation:

\[ \text{Total M&I Allocation Volume} = \text{Supply Allocation} + \text{CSP Allocation (M&I)} \]

For the example, Table 7-10 shows final M&I allocations for the sample agencies. Unless Water Authority supply cutbacks are severe, at or exceeding 20%, the calculation is now complete. If the cutback is severe, the methodology includes a regional reliability adjustment, which is discussed in Section 7.2.9 below.

<table>
<thead>
<tr>
<th>Agency</th>
<th>SDCWA Initial M&amp;I Allocation Volume</th>
<th>Loss of Local Resource Adjustment</th>
<th>MWD WSAP Alignment</th>
<th>CSP Allocation</th>
<th>Total M&amp;I Allocation Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1,845</td>
<td>0</td>
<td>0</td>
<td>80</td>
<td>1,925</td>
</tr>
<tr>
<td>B</td>
<td>5,536</td>
<td>0</td>
<td>0</td>
<td>240</td>
<td>5,776</td>
</tr>
<tr>
<td>C</td>
<td>161,228</td>
<td>3,956</td>
<td>0</td>
<td>6,990</td>
<td>172,174</td>
</tr>
<tr>
<td>D</td>
<td>39,673</td>
<td>0</td>
<td>0</td>
<td>1,720</td>
<td>41,393</td>
</tr>
<tr>
<td>E</td>
<td>22,374</td>
<td>744</td>
<td>0</td>
<td>970</td>
<td>24,088</td>
</tr>
<tr>
<td>Total</td>
<td>230,656</td>
<td>4,700</td>
<td>0</td>
<td>10,000</td>
<td>245,356</td>
</tr>
</tbody>
</table>

### 7.2.9 Regional Reliability Adjustment (if required)

In accordance with Principle 15, which states, “In order to protect the economic health of the entire region, it is very important for the allocation methodology to avoid large, uneven retail impacts across the region. The methodology should include a minimum level of retail agency reliability to ensure equitable allocation among the member agencies,” a regional reliability floor was established. The floor, if needed, is set at 5 percent below the region’s total level of service and is triggered when the net cutback to total Water Authority supplies reaches or exceeds 20 percent. Taking into account the supply development by the Water Authority, its member agencies, and MWD, this level of cutback is very unlikely. The first step in determining the adjustment is calculation of the level of service for each member agency and region, which is shown below.

#### Level of Service

The level of service value is computed as the ratio of total supplies available to an agency, including allocated imported supplies and local resources, to projected demand during that same period. Thus, in order to calculate Level of Service estimates, projected member agency allocation-year demand and supply projections are necessary.

Table 7-11 contains estimated allocation-year demands and supplies used for this example. The second column titled, Demand on SDCWA, has been computed for this example by adding the demand increase associated with the growth adjustment and the estimated loss of local potable supply volume to the base period M&I demand. Estimated allocation year local supplies used to offset imported demands are provided by member agencies.
Table 7-11

Allocation-Year M&I Demand and Supply (AF)

<table>
<thead>
<tr>
<th>Agency</th>
<th>M&amp;I Demand on SDCWA</th>
<th>Total Local Supply</th>
<th>Total Demands</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2,220</td>
<td>70</td>
<td>2,290</td>
</tr>
<tr>
<td>B</td>
<td>6,920</td>
<td>0</td>
<td>6,920</td>
</tr>
<tr>
<td>C</td>
<td>192,600</td>
<td>20,446</td>
<td>213,046</td>
</tr>
<tr>
<td>D</td>
<td>45,380</td>
<td>1,400</td>
<td>46,780</td>
</tr>
<tr>
<td>E</td>
<td>26,540</td>
<td>4,125</td>
<td>30,665</td>
</tr>
<tr>
<td>Total</td>
<td>273,660</td>
<td>26,041</td>
<td>299,701</td>
</tr>
</tbody>
</table>

Summing an agency’s M&I allocation volume (Table 7-10) and projected allocation-year total local supplies (Table 7-11) results in their total supply during a cutback. This value is then divided by the projected total demand (Table 7-11) to generate the agency’s estimated level of service. A summary of agency level allocations and resulting levels of service is shown in Table 7-12. The M&I level of service of the agencies’ and region are utilized in severe cutback levels to calculate the regional reliability adjustment.

Table 7-12

M&I Allocation and Resulting Level of Service (AF)

<table>
<thead>
<tr>
<th>Agency</th>
<th>Total Allocation Volume</th>
<th>Total Local Supply</th>
<th>Total Supply</th>
<th>Projected Total Demand</th>
<th>Level of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1,925</td>
<td>70</td>
<td>1,995</td>
<td>2,290</td>
<td>87%</td>
</tr>
<tr>
<td>B</td>
<td>5,776</td>
<td>0</td>
<td>5,776</td>
<td>6,920</td>
<td>83%</td>
</tr>
<tr>
<td>C</td>
<td>172,174</td>
<td>20,446</td>
<td>192,620</td>
<td>213,046</td>
<td>90%</td>
</tr>
<tr>
<td>D</td>
<td>41,393</td>
<td>1,400</td>
<td>42,793</td>
<td>46,780</td>
<td>91%</td>
</tr>
<tr>
<td>E</td>
<td>24,088</td>
<td>4,125</td>
<td>28,213</td>
<td>30,665</td>
<td>92%</td>
</tr>
<tr>
<td>Total</td>
<td>245,356</td>
<td>26,041</td>
<td>271,397</td>
<td>299,701</td>
<td></td>
</tr>
</tbody>
</table>

Total Regional Level of Service - (271,397/299,701) = 91%

Regional Reliability Adjustment Calculation

The regional reliability floor effectively reallocates a portion of the Water Authority’s supplies necessary to bring all agencies up to the minimum level of service. This floor is set at 5 percent below the region’s total level of service and is triggered when the net cutback to total Water Authority supplies reaches or exceeds 20 percent. The volume of imported supplies required to meet this shortfall is provided by those agencies with a total level of service exceeding the region’s total level of service. An agency’s contribution is calculated by multiplying its pro-rata percent share of the aggregated exceedance volumes by the total level of service shortfall. However, an agency’s contribution cannot exceed quantities that would lower its total level of service below the regional level of service.

Data from the previous example is used to illustrate the regional reliability floor adjustment.
procedure. In this scenario, the reduction in MWD's supply is elevated to 30 percent. As a result, the net cutback in Water Authority total supplies increases to 28 percent, which triggers the reliability adjustment. A detailed summary of the regional reliability floor calculation is shown in Table 7-13.

### 7.2.10 Data Reconciliation

Since allocations are based on estimated values, an assessment of each agency’s actual demand and supply utilization during a cutback is necessary. Through this process, a final accounting of appropriate allocation volumes will be calculated. The reconciliation of certified and actual data will occur at the end of the allocation period or at the end of twelve months, whichever comes first. Agencies are required to certify the following information: total and TSAWR demands, base period GPCD, local potable use and recycled water use.

### 7.2.11 Future Updates to Allocation Methodology

It is anticipated that minor adjustments to the allocation methodology will be needed in response to long-term water conservation framework legislation that supersedes SB X7-7. These modifications will include, but may not be limited to, minor adjustments to the calculation methodology for the growth and GPCD compliance adjustments.
Table 7-13  
Regional Reliability Floor (AF)  
30% Cutback to MWD Supply

Available Supply: 192,652

Regional Reliability
Regional Level of Service (233,393/299,701) = 78%
Regional Reliability Floor (-5%) = 73%

<table>
<thead>
<tr>
<th>Agency</th>
<th>SDCWA Initial Allocation Volume</th>
<th>Estimated Local Supplies</th>
<th>Loss of Local Supply Adjustment</th>
<th>CSP Allocation</th>
<th>Total Supply</th>
<th>Projected Total Demand</th>
<th>Level of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1,541</td>
<td>0</td>
<td>0</td>
<td>80</td>
<td>1,691</td>
<td>2,290</td>
<td>73.9%</td>
</tr>
<tr>
<td>B</td>
<td>4,624</td>
<td>0</td>
<td>0</td>
<td>240</td>
<td>4,864</td>
<td>6,920</td>
<td>70.3%</td>
</tr>
<tr>
<td>C</td>
<td>134,664</td>
<td>15,346</td>
<td>3,956</td>
<td>6,990</td>
<td>166,056</td>
<td>213,046</td>
<td>77.9%</td>
</tr>
<tr>
<td>D</td>
<td>33,136</td>
<td>0</td>
<td>0</td>
<td>1,720</td>
<td>36,256</td>
<td>46,780</td>
<td>77.5%</td>
</tr>
<tr>
<td>E</td>
<td>18,687</td>
<td>1,925</td>
<td>744</td>
<td>970</td>
<td>24,526</td>
<td>30,665</td>
<td>80.0%</td>
</tr>
<tr>
<td>Total</td>
<td>192,652</td>
<td>17,271</td>
<td>4,700</td>
<td>10,000</td>
<td>233,393</td>
<td>299,701</td>
<td></td>
</tr>
</tbody>
</table>

Regional Reliability Floor Reallocation

<table>
<thead>
<tr>
<th>Agency</th>
<th>Total M&amp;I Floor Check</th>
<th>Total M&amp;I Shortfall</th>
<th>Pro-rata Share of Total Shortfall</th>
<th>Exceedance of Regional Reliability Average</th>
<th>Exceedance Volume</th>
<th>Pro-rata Share of Exceedance</th>
<th>Exceedance Agency Contribution</th>
<th>Revised SDCWA Initial Allocation</th>
<th>Revised Total Supply</th>
<th>Revised Level of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.0%</td>
<td>0</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>1,541</td>
<td>1,691</td>
<td>73.9%</td>
</tr>
<tr>
<td>B</td>
<td>-2.7%</td>
<td>188</td>
<td>100.00%</td>
<td>0.00%</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>4,812</td>
<td>5,052</td>
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Shortfall Calculation | Exceedance Calculation | Reallocation
7.3 Member Agency Transfers Secured Following Allocation Methodology

The Water Authority's member agencies have the option of purchasing water from an entity and using, among other facilities, the SWP, the Colorado River Aqueduct (CRA), MWD's distribution system, and the Water Authority's distribution system to wheel the water. In addition to the cost of the transfer water, the member agency would pay the applicable wheeling rates to utilize these facilities. This transfer water would not be considered a Water Authority supply or local supply when allocating Water Authority supplies under the methodology included in the WSCP. Rather, the transfer water would be “on top” of the allocation, and thus, not factored into the allocation methodology base period or be eligible for the local project development adjustment.

However, under the MWD WSAP, these transfer supplies would be considered an “extraordinary” increase in production as discussed in Section 7.2.6. With extraordinary increases, only the portion of the production equal to MWD’s regional shortage is added to the base period local supply. The remainder of the supply is outside of the MWD WSAP and adds directly to the agency’s supply. For example, during a 10 percent shortage, 10 percent of the extraordinary increase is added to the base period local supplies while 90 percent is not. It is through this addition to the base period local supplies that the Metropolitan allocation to the Water Authority is reduced.

Consistent with the Water Authority’s alignment methodology, the net effect on the Water Authority’s allocation from MWD will be directly passed through to member agencies with the extraordinary increases in production. The change in the amount of water allocated to the Water Authority by MWD will be identified and the member agency’s allocation will be adjusted accordingly by that amount of water. If more than one agency is involved, each participating agency’s Water Authority allocation will be adjusted on a pro-rata basis relative to the participating agency’s share of the extraordinary local supply increase.

Water Authority staff will assist member agencies in entering into agreements with the wheeling entities. Additionally, the Water Authority may need to be a signatory to some of the wheeling agreements, such as an agreement with MWD. However, it will be the member agency’s responsibility to find the transfer water, enter into an agreement with the selling entity, and comply with any other requirements (e.g. California Environmental Quality Act, National Environmental Policy Act). Any transfer water identified by the Water Authority during its search that it chooses not to purchase will also be available for purchase by its member agencies. The Water Authority will notify the member agency managers should transfers be available for purchase.
Section 8
Catastrophic Water Shortage

A catastrophic water shortage occurs when a disaster, such as an earthquake, results in insufficient available water to meet the region's needs or eliminates access to imported water supplies. Section 8 describes the Water Authority's ICP, ESP, and Emergency Water Delivery Plans (EWDPs), all of which were developed to protect public health and safety and to prevent or limit economic damage that could occur from a severe shortage of water supplies. Additional information can be found on the Water Authority's website at www.sdcwa.org.

8.1 Integrated Contingency Plan

The ICP provides staff with the information necessary to respond to an emergency that causes severe damage to the Water Authority’s water distribution system or impedes the Water Authority’s ability to provide reliable water service to its member agencies. The ICP describes the situations and incidents that trigger the activation of the ICP and Emergency Operations Center (EOC). It also provides direction and strategies for responding to a crisis. The ICP includes:

- Authorities, policies, and procedures associated with emergency response activities.
- EOC activities, including activation and deactivation guidelines.
- Multi-agency and multi-jurisdictional coordination, particularly between the Water Authority, its member agencies, and MWD in accordance with Standardized Emergency Management System and National Incident Management System guidelines.
- Incident Command System management and organization and emergency staffing required to assist in mitigating any significant emergency or disaster.
- Mutual Aid Agreements and covenants that outline the terms and conditions under which mutual aid assistance will be provided.
- Hazard specific action plans and Incident Command System position checklists.

In addition, the ICP uses a step-by-step approach to emergency response planning by providing tools such as resource and information lists, personnel rosters, pertinent policies and procedures, and reference materials. The Water Authority provides input to the Unified San Diego County Emergency Services Organization’s “Operational Area Emergency Plan,” which, in turn, supports the ICP.

8.2 Emergency Storage Project

The ESP is a system of reservoirs, pipelines, pump stations, and other conveyance facilities intended to improve San Diego’s regional water storage capacity and allow stored emergency
water to be delivered to the Water Authority’s member agencies within San Diego County during a prolonged regional interruption. The ESP facilities can be used to help deliver emergency water supply to member agencies during two- and six-month emergency events in which the region is either completely unable or partially able to receive imported water deliveries due to a disaster that renders their transmission system inoperable.

A regional emergency event is a catastrophic interruption of imported water supplies, or any other emergency situation in which the Water Authority has insufficient water available to supply at least 75 percent of the total demand of its service area, or any portion thereof. The Water Authority Board may also authorize that water stored for emergency use under the ESP be used in a prolonged drought or other water shortage situation.

The regional emergency water supply reservoirs (with their ESP capacity) are Olivenhain (18,000 AF), Lake Hodges (20,000 AF), and San Vicente (52,100 AF). The actual amount of ESP water to be delivered to a particular member agency during an emergency event will depend on many factors, including member agency demands, local supplies, parts of the ESP infrastructure and other Water Authority infrastructure in place, availability of supplies from MWD, and the actual duration of the emergency. Overall, the ESP was designed to create a regional storage capacity of 90,100 AF of water to meet emergency needs. Recent trends in regional water demand indicate that this volume of emergency storage will serve the region beyond 2040.

Completion of the Water Authority’s Twin Oaks Valley Water Treatment Plant (WTP) in 2008 increased the ability to treat emergency water supplies delivered from Olivenhain and Lake Hodges Reservoirs. Prior to construction of the Twin Oaks Valley WTP, many member agencies that normally receive treated water from the Water Authority would have to be delivered untreated water in a two-month emergency event. The untreated water would have to be conveyed in treated water pipelines, resulting in the need for decontamination of the treated water pipelines prior to switching back to treated water deliveries. Additionally, the completion of the Lewis Carlsbad Desalination Plant allows the Water Authority to deliver treated water supply to member agencies during emergency events. This results in a commensurate decrease in emergency storage that needs to be maintained in ESP reservoirs.

### 8.3 Emergency Water Delivery Plans

EWDPs provide forecasts of Water Authority emergency water supply deliveries to its member agencies during two- and six-month emergency events, the same planning level events that formed the basis for the design of ESP facilities. These forecasts are referred to as EWDPs. Water supplies included in EWDP development are imported water supplies (for 6-month event only) and local supplies. Imported water supplies include Water Authority QSA transfers, spot transfers, out-of-region storage supplies, and MWD supplies. Local supplies include member agency local supplies and Water Authority in-region supplies. Member agency local supplies consist of recycled water, seawater desalination, groundwater, and water stored in surface reservoirs. The transfer of local supplies between member agencies is also considered. Water Authority in-region supplies consist of water produced at the Lewis Carlsbad Desalination Plant and water stored in ESP surface reservoirs.

The following general procedure from the EWDPs shows the methodology to calculate the allocation of ESP supplies to member agencies in a prolonged outage situation without imported supplies:
- Define the water storage and conveyance facility infrastructure that would be in place at the time of the emergency event in order to estimate duration of emergency (that is, time needed to repair damaged pipelines and/or infrastructure);

- Determine the total demand of each member agency during the emergency, considering both M&I and agricultural demands;

- Determine the net demand of each member agency, considering the availability of recycled water supplies;

- Determine the local supplies available to each member agency, including: potable reuse, groundwater, surface water storage, and seawater desalination;

- Determine the amount of local water that could be transferred within City of San Diego service areas;

- Determine the amount of transfers between member agencies based on existing agreements;

- Determine the amount of Lewis Carlsbad Desalination Plant supplies that could be delivered to member agencies;

- Determine the amount of imported water supplies available to deliver to member agencies;

- Allocate ESP supplies in Olivenhain, Lake Hodges, and San Vicente Reservoirs to each member agency to achieve an initial level of service of 75 percent, considering other supplies available to each member agency as described above and taking into account limitations of delivery facilities;

- Determine reductions in deliveries to member agencies participating in the Water Authority’s TSAWR program. The cutback rate for TSAWR customers is twice the rate imposed on Water Authority M&I customers, up to a 90 percent cutback. Reductions in deliveries that arise from such a cutback will be reallocated to commercial and industrial customers;

- Determine increases in member agency deliveries due to redistribution of the emergency water not delivered to member agencies as a result of the TSAWR program; and

- Determine net Water Authority deliveries to member agencies from all water supply sources available to the Water Authority, consisting of Lewis Carlsbad Desalination Plant supplies, imported water supplies, and ESP reservoir supplies.
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9.1 Introduction

The Water Authority and its 24 member agencies conduct communications and outreach about water supplies and water-use efficiency as an ongoing activity during normal supply conditions. However, clear and effective communications between water agencies, the public, public officials and other key stakeholders becomes even more important if supply conditions become abnormal and the Water Authority needs to activate its WSCP. Experience from previous droughts or other demand management periods, along with data from regional public opinion polls, indicate that when there is a need for urgent water conservation, people basically want to know the following:

1. What they need to do – specifically – to save water
2. How much water they need to save and for how long
3. Why they need to save water
4. What water agencies are doing to correct the supply problem or address the situation

While communicating these points may seem simple and straightforward on the surface, in practice the process can be challenging and complex for the Water Authority. The very diverse needs and characteristics of the Water Authority’s member agencies alone puts limits on the scope of messages and tactics that can be applied to the entire region. To further complicate matters, state-imposed regulations on local water districts during droughts or supply shortages have the potential to dictate a wide range of water-saving targets – and thus a variety of needed behaviors – across the region. Experience also has shown it is possible for the state to mandate emergency water savings targets or measures when there is no actual shortage emergency in the region. Finally, if residents and businesses are asked to save water for an extended period of time, their resolve to comply and help water agencies achieve their respective water-use targets can be eroded by a number of factors ranging from impacts to water rates, negative effects to their lifestyle, equity issues or simple “drought fatigue.”

These possibilities make it even more difficult for the Water Authority and its member agencies to communicate effectively, avoid confusion and maintain credibility. However, in previous droughts the Water Authority and its member agencies have been able to work together to overcome these obstacles and conduct effective, award-winning outreach campaigns. This section of the WSCP describes the basic communications plan needed to help the Water Authority successfully convey crucial information during all stages of the WSCP.

9.2 Coordination

For the reasons described in Section 9.1, it is vital for the Water Authority's communications to be closely coordinated with its member agencies. The Water Authority regularly interacts with its member agencies at several levels to ensure regional messaging and outreach efforts remain appropriate, effective and responsive to member agency needs. These levels include
the Joint Public Information Council/Conservation Coordinators (staff level), the Member Agency Managers group (management level) and the Water Authority Board’s Legislation and Public Outreach Committee (Board level). During droughts or other times of limited supply that activate the WSCP, the Water Authority will establish more frequent schedules of updates, reports or discussions at all levels to ensure Water Authority outreach messages and tactics stay in sync with the changing needs of member agencies and their customers. The schedule and timing of these updates may adjust periodically to reflect evolving water shortage conditions or other factors.

During droughts or other situations that create supply shortages, it’s also common for entities outside the San Diego region, such as MWD, the Association of California Water Agencies and DWR, to engage in communication activities that extend into this area. Water Authority outreach staff will also engage in regular contact with these entities to help minimize the potential for their activities to cause local confusion, as well as seek opportunities to leverage these external resources to complement outreach already under way by the Water Authority and its member agencies.

To maximize internal coordination, the Water Authority will convene a “cabinet” of senior management and department executives from across the organization to discuss supply planning, operational, financial and communication issues related to the WSCP as needed.

9.3  Flexibility and Adaptability

The Water Authority’s WSCP includes six distinct levels of potential shortage, along with “normal” conditions when no out-of-the-ordinary water-saving actions are called for. It also includes a “catastrophic” condition when extreme events prompt emergency-oriented water-saving measures to preserve supplies for health and safety. It’s possible for the desired scope of water-saving actions or outcomes to vary widely at each level of the plan. For example, at Level 2 the communication messages, tactics and resources needed to reach a target of 12 percent would likely be very different than those needed to hit a target of 20 percent.

In addition, there are many potential communication strategies and tactics that can be deployed to help the Water Authority successfully implement each level of the WSCP. The precise mix of appropriate strategies and tactics is best determined based on a number of factors, including what WSCP level is activated, the specific supply or regulatory circumstances driving that activation, budget availability, seasonal conditions, and other factors.

Because of these potential variations, this communication plan doesn’t dictate every strategy and tactic or the scale of resources that needs to be applied regionally at each level of the WSCP. Rather, this plan includes recommended strategies and tactics that generally match the needs associated with the escalating levels. This is intended to give the Water Authority’s Board and management the flexibility to apply tailored communications approaches that best fit the specific goals of the Water Authority and its member agencies at any given point, and the agility to react quickly to any changes in conditions. An outline summarizing recommended actions at each level is at the end of this section of the communication plan in Table 9-1. Specific, customized campaign plans with budgets and timelines will be crafted by the Public Outreach and Conservation Department when needed to reflect the unique circumstances of any demand management or water shortage situation.
9.4 Key Audiences

The Water Authority will need to communicate with many different stakeholders as part of the WSCP. The intensity of outreach will likely vary with the WSCP level that is currently active, but the key audiences for the communication plan are fairly consistent. In general, they include:

- Member agencies
- General public (water consumers)
- Public officials
- Homeowners
- Multi-family property owners/managers
- Commercial-industrial property managers
- Landscape contractors/suppliers
- Business/civic leaders
- High-visibility or high-water-use industries (restaurants, hotels, construction, etc.)
- Land-use agencies
- Environmental groups
- Community-based service organizations
- Non-English-speaking populations
- Temporary residents (tourists, college students, etc.)

While it’s important to communicate with all of these groups, at times some of these audiences may require higher priority or specialized outreach. Public Outreach and Conservation staff will coordinate closely with member agencies and solicit feedback from stakeholders to help ensure outreach efforts are reaching key audiences as needed.

9.5 Communication Objectives

In general, the communication objectives during the various levels of the WSCP include the following:

- Motivate water users to increase conservation immediately in ways that are consistent with any voluntary or mandatory actions called for at the current level of the WSCP.
- Raise awareness and understanding of the drought, regulatory or other conditions affecting water supplies and the need for increased conservation.
- Minimize confusion and maintain credibility of water agencies and conservation messages with an appropriate tone that avoids “cry wolf” perception and non-compliance backlash.
- Make water users feel appreciated for existing accomplishments in improving their water-use efficiency, and for supporting regional and local investments in water supply reliability.
- Educate regional civic and business leaders, elected officials and the public that the region’s water agencies have greatly improved the region’s water supply reliability.
by promoting water-use efficiency programs, diversifying water supply sources and investing more than $3.5 billion in alternative supplies and major water infrastructure.

- Prepare the region for any potential escalation (or de-escalation) of the WSCP based on trending supply conditions.
- Ensure all stakeholders believe they are being treated fairly in relationship to other stakeholders.
- Maintain communication effectiveness by soliciting or monitoring feedback from member agencies, key stakeholders and the general public to update or adapt messages or tactics.
- Exit WSCP implementation having demonstrated the effectiveness and value of conservation actions and water supply reliability investments in minimizing impacts to the region’s economy and quality of life.

9.6 Normal Period Communications

During normal water supply conditions, the Water Authority will engage in standard communications and outreach activities. That means the Water Authority will promote water-use efficiency as a way of life in the San Diego region as part of its regular messaging delivered through the following channels:

- Media relations (pitches, interviews and news releases)
- Social media (Twitter, Facebook, YouTube, etc.)
- Websites (sdcwa.org and WaterSmartSD.org)
- E-newsletters
- Speaker’s Bureau presentations
- Community events
- Citizens Water Academy

During normal conditions, water efficiency will be promoted by sharing water-saving tips that are consistent with any permanent water-use restrictions in effect throughout the San Diego region (by statewide mandate or consensus of all member agencies). It will also be promoted by ongoing marketing of the Water Authority’s array of regional water-use efficiency programs that are designed to help the member agencies achieve their long-term water management targets or goals, as well as promotion of other available water-savings tools and resources (for example, any available MWD-administered programs or SDG&E-funded programs).

9.7 Level 1 Strategies and Tactics

This section lists a number of strategies the Water Authority has used to guide successful drought response campaigns in the past and should be considered during Level 1 of the WSCP (up to 10 percent voluntary conservation).
Recommended Strategies

- Engage member agencies in the development of a regional campaign theme that fits the call for increased conservation and can adapt to changing levels of the WSCP as necessary.
- Send clear, consistent and understandable messages encouraging increased voluntary conservation.
- Develop and maintain a steady stream of media relations activities and social media communications that explain the need to conserve and how to conserve, promote water-use efficiency programs and incentives, and/or give general support for water conservation. Schedule these efforts to provide timely support for water-use efficiency events, strategies and other programs.
- Enhance the level of conservation-oriented community outreach through greater frequency of outreach at community events and speaker’s bureau presentations.
- Develop specific outreach efforts that target key industries or groups (hospitality, HOAs, building managers, etc.) to raise awareness of, and participation in, drought response actions and water-use efficiency programs.
- Recruit community and media partners who can expand the reach of drought response communications.
- Establish an online hub for:
  - Information on current status of regional WSCP and recommended water conservation practices
  - Link to www.WaterSmartSD.org for more water conservation tips, rebates, tools and other resources
  - Updated information on statewide weather, water supply and/or regulatory conditions
  - Information on how the Water Authority and its 24 member agencies are successfully enhancing the region’s water supply reliability through investments in water supply diversification and major infrastructure
  - Links to member agency websites for retail level information
- Regularly communicate with local, state and other elected officials in the region about the importance of achieving voluntary water conservation and encourage them to publicly promote such efforts to their constituents.

Recommended Tactics

- Member agency communications
  - Involve member agencies in development and implementation of communication plan through more frequent JPIC meetings and supplemental communications.
  - Provide regular campaign updates to member agency general managers and their designated staff, and Board members.
  - Provide campaign outreach materials (newsletter articles, graphics, bill stuffers, etc.) to member agencies for reproduction and distribution.
– Encourage member agencies to promote consistent regional messaging and conservation programs to their customers and the public in their service areas.

• News conference or other event to announce/explain change in WSCP level
• Water Authority communications (ongoing)
  – Media relations
    ▪ News releases, advisories, op-eds, etc.
    ▪ Media opportunities (pitches, events, in-studio appearances, etc.)
    ▪ Partnerships
  – Website messaging (sdcwa.org and/or WaterSmartSD.org)
    ▪ Provide links to local agency webpages containing water-use restrictions or other drought instructions/resources for customers
    ▪ Provide searchable directory of conservation rebates or programs by postal code or street address
    ▪ Provide lists of easy, understandable water-saving tips
    ▪ Provide links to water-savings programs
  – E-newsletters
  – Social media (Twitter, Facebook, YouTube, etc.)
• Community relations
  – Events (water-efficient plant fairs, classes, fairs, garden tours, etc.)
  – Speakers Bureau presentations
  – Community partnerships
    ▪ Restaurants
    ▪ Hotels/motels
    ▪ Local breweries
    ▪ San Diego Gas & Electric
    ▪ Large employers (public and private)
    ▪ Public agencies (Caltrans, San Diego County, etc.)
    ▪ Shopping malls (Westfield, Simon Property Group)
    ▪ High-traffic destinations (airport, theme parks, San Diego County Fair, etc.)
    ▪ Regional gardens (Water Conservation Garden, San Diego Botanic Garden)
  – Ethnic outreach (presentations, community events, partnerships)
• Industry relations
  – Targeted outreach to high-water-use industries
• School education
  – Modify school assembly program content to include messages about need for increased voluntary conservation.
  – Provide other regional water and environmental education programs with key messages about need for increased conservation.
• Government relations outreach
  – Encourage elected officials to post links to regional campaign on their websites and promote water conservation tips and program availability at www.WaterSmartSD.org to constituents through newsletters and social media.
  – Provide conservation information and other support as necessary to government officials for their own media events, hearings, community meetings, etc.

• Advertising
  – Execute targeted advertising plans to enhance awareness of need for increased voluntary conservation or spur participation in specific programs or behaviors.
  – Coordinate campaign timing/placement with those of other water agencies to leverage available resources (City of San Diego, MWD, Department of Water Resources/Association of California Water Agencies).
  – Coordinate message tone and content to maximize consistency and minimize confusion; ensure external campaign messages are appropriate for San Diego region.
  – Complement ads with public service announcements on local government access channels

• Educational items that encourage conservation (dye tablets, self-closing hose nozzles, etc.)

• Testing and evaluation
  – Use public opinion polls and other opportunities to test messages and tactics and revise as needed to increase effectiveness.

### 9.8 Level 2 Strategies and Tactics

In the event of a more severe supply shortage or demand management period that requires entering Level 2 of the WSCP (up to 20 percent mandatory conservation), the Water Authority will continue to deploy or enhance Level 1 strategies and tactics as needed, and will consider supplemental strategies and tactics listed below.

**Recommended Strategies**

• Engage member agencies in the development of a more serious campaign message that reflects the need for compliance with mandatory water-use restrictions. Provide visuals and other supporting materials for the campaign to member agencies.
• Send clear, consistent and understandable messages regarding mandatory water-use restrictions in effect.
• Enhance media relations activities and social media communications related to water-use restrictions, conservation programs and drought conditions. Schedule these efforts to provide timely support for new campaign initiatives, conservation events and other programs.
• Leverage stakeholder groups’ communication channels to help distribute updated information about restrictions and conservation as soon as possible; groups to include business organizations, civic organizations, service clubs, religious leaders, elected officials, along with key associations governing HOAs, building managers, landscape companies, etc.

• Expand efforts to recruit community and media partners who can expand the reach of drought response communications.

• Enhance the campaign’s current level of grass-roots community outreach with strategies and tactics that encourage more community members to publicly show their support for the campaign (i.e., turn more homeowners, property managers, students, etc. into individual “community partners” promoting increased conservation in neighborhoods around the county).

• Expand drought outreach advertising; continue to coordinate communications and advertising messages and plans with the region’s 24 member agencies, MWD, the state Department of Water Resources, and other agencies.

• Consider adjustments to water conservation resources and programs in ways that make finding and participating in key programs easier, or to facilitate short-term water savings. Support these efforts with events to provide information and resources to consumers or other stakeholders.

**Recommended Tactics**

• Member agency communications
  
  – Involve member agencies in planning and implementing more serious or urgent campaign messaging and activities.
  
  – Supplement regular JPIC meetings with more frequent communications (email updates, etc.) as needed.

• News conference or other event to announce/explain any change in WSCP level
  
  – Consider joint announcement with business/civic partners to enhance communitywide buy-in for water-savings actions.

• Water Authority communications (ongoing)
  
  – Websites
    
    ▪ Add “pop-ups” with outreach campaign messages to sdcwa.org and WaterSmartSD.org.
  
  – E-newsletter
    
    ▪ Ensure drought updates or conservation information are distributed at least twice monthly through WaterSource e-newsletter.

  – Social media
    
    ▪ Expand community engagement on drought campaign through more involved social media activity (consider neighborhood-based outreach via Nextdoor or other means).
  
  – Regional water-waste reporting app
    
    ▪ Enhance efforts to encourage customers to download and use it to report incidents of water waste directly to member agencies.
• Stakeholder outreach
  - Provide updated campaign messaging to business groups, service clubs, religious leaders, elected officials to distribute to their own audiences (via newsletter, email, etc.).
  - Accelerate outreach efforts to key associations governing HOAs, building managers, landscape companies, etc. to immediately raise awareness of and compliance with mandatory water use restrictions, as well as to update information on available conservation resources.

• Community Partnerships
  - Consider adding budget resources to attract more high-value community partnerships

• Government Relations
  - Supplement existing activities with in-person briefings to state and local officials on state of water supplies and water conservation campaign.

• Advertising
  - Execute mass-market regional advertising with involving radio, TV to enhance awareness of needed mandatory water-saving actions.
  - Continue to coordinate campaign timing/placement with those of other water agencies to leverage available resources (City of San Diego, MWD, Department of Water Resources/Association of California Water Agencies).

• Testing and evaluation
  - Use public opinion polls or other opportunities to test messages and tactics and revise them as needed to increase effectiveness.

9.9 Level 3-4 Strategies and Tactics

In the event of a more severe supply shortage or demand management period that requires entering Level 3 or 4 of the WSCP (up to 30 percent or 40 percent mandatory conservation, respectively), the Water Authority will continue to deploy or enhance Level 2 strategies and tactics as needed, and will consider supplemental strategies and tactics listed below.

Recommended Strategies

• Engage member agencies in the development of a more serious campaign message that reflects the need for higher level of extraordinary conservation. Provide visuals and other supporting materials for the campaign to member agencies.
• Send clear, consistent and understandable messages regarding mandatory water use restrictions in effect and escalating challenges affecting water supplies.
• Conduct specialized outreach to landscape industry and water users with large ornamental landscapes to achieve significant reductions in discretionary outdoor water use while minimizing long-term property damage.
• Initiate targeted outreach to major CII water users to help them identify, prepare for and, as much as possible, avoid negative impacts from extreme water conservation requirements.
• Evaluate the appropriateness of continuing to promote long-term water-use efficiency programs and tools amid worsening supply conditions/increasing restrictions.

Recommended Tactics

• Member agency communications
  - Involve member agencies in the planning and implementation of updated messages and campaign activities to raise awareness for more extreme water-saving actions and behaviors; provide updated communications materials to member agencies.

• News conference or other event to announce/explain any change in WSCP level
  - Invite local elected officials to participate to convey need for savings across the region.

• Water Authority communications (ongoing)
  - Promote compliance with specific, regionally applicable water-use restrictions.
  - Encourage users to check with local water agencies for additional rules or restrictions in effect for their area.
  - Provide instructions for triaging landscape resources during extreme shortage conditions (saving trees, etc.).

• Stakeholder outreach
  - Reinforce business groups, service clubs, religious leaders, elected officials to spread awareness of need for significant, collective water-saving actions to preserve our economy and quality of life.
  - Provide specialized technical assistance sessions or resources to help homeowners achieve immediate reductions in water use while minimizing landscape damage.
  - Consider providing specialized technical assistance to large landscape customers (HOAs, cities, schools, etc.) to help achieve large-scale reductions in discretionary outdoor water use.
  - Conduct specialized outreach to industries (hospitality, car washes, restaurants, etc.) or other large-scale water users (schools, park and rec districts) that will likely experience impacts from emergency conservation to determine solutions for minimizing economic or quality of life impacts.
  - Add water conservation information/assistance resources to 211 emergency services directory.

• Advertising
  - Supplement mass-media campaign to enhance awareness of extreme water-saving actions as needed.

• Testing and evaluation
  - Use public opinion polls or other opportunities to test messages and tactics, and revise as needed to increase effectiveness.
9.10  Level 5-6 Strategies and Tactics

In the event of a situation that requires entering Level 5 or 6 of the WSCP (up to or greater than 50 percent mandatory conservation, respectively), the Water Authority will continue to deploy or enhance Level 3-4 strategies and tactics as needed, and will consider supplemental strategies and tactics listed below to reflect increased shortage conditions.

**Recommended Strategies**

- Engage member agencies in the development of campaign messages and tactics that raise awareness of the extreme shortage conditions facing the region and the likely need to focus water use on essential public health and safety needs.
- Send clear, consistent and understandable messages regarding what uses of water or levels of water use remain acceptable for residential, commercial and public water users.
- Emphasize the need for all residents and businesses to work together to help the region successfully weather the situation.
- Raise awareness of any urgent actions being taken by water agencies to improve water supply conditions; provide regular updates on those efforts.
- Suspend promotion of ongoing water-use efficiency programs to focus resources on promoting extreme/emergency conservation measures.
- Coordinate with regional emergency response agencies/services on messaging/additional outreach tactics if needed.

**Recommended Tactics**

- Member agency communications
  - Involve member agencies in the planning and implementation of updated messages and campaign activities to raise awareness for water-saving actions and behaviors; provide updated communications materials to member agencies.
- News conference or other event to announce/explain any change in WSCP level; consider joint event with emergency response/public health authorities
- Water Authority communications
  - Encourage users to check with local water agencies for additional rules or restrictions in effect for their area.
  - Promote all available resources to aid vulnerable populations.
  - Provide updates to media and other stakeholders on water supply conditions as often as possible (daily or as needed).
  - Evaluate need for “phone bank” or additional staff resources to handle public inquiries.
- Stakeholder outreach
  - Provide updated communications materials to business groups, service clubs, religious leaders, elected officials to raise immediate awareness for increased water-savings actions and available assistance resources.
9.11 Catastrophic Shortage Communications

In the event of a natural disaster, infrastructure failure or other situation that requires regional water use to be quickly prioritized for or limited to essential public health and safety needs, the Water Authority will immediately deploy or enhance appropriate communication strategies and tactics from WSCP Levels 1-6 as needed, and will consider strategies and tactics listed below to reflect the need for urgent, emergency-driven water conservation.

**Recommended Strategies**

- Engage member agencies in the development of campaign messages and tactics that raise awareness of the emergency conditions facing the region and the need to focus water use on essential public health and safety needs.
- Send clear, consistent and understandable messages regarding what uses of water or levels of water use remain acceptable for residential, commercial and public water users, and the expected duration of this restricted level of water use.
- Emphasize the need for all residents and businesses to work together to help the region successfully weather the situation.
- Raise awareness of any urgent actions being taken by water agencies to improve water supply conditions; provide regular updates on those efforts.
- Suspend promotion of ongoing, long-term water-use efficiency programs and tools to focus resources on communicating need for immediate water conservation actions.
- Coordinate with local emergency response agencies/services on messaging and outreach tactics where possible.

**Recommended Tactics**

- **Member agency communications**
  - Involve member agencies in the planning and implementation of updated messages and campaign activities to raise awareness for emergency-level water-saving actions and behaviors; provide updated communications materials to member agencies.
- **News conference or other event to announce/explain change in WSCP level**
  - Consider joint announcement with emergency response or public health agencies to reflect need for emergency-level water conservation.
- **Water Authority communications**
  - Provide specific instructions for acceptable water use during emergency conditions and how long conditions will likely be in effect.
  - Encourage users to check with local water agencies for additional rules or restrictions in effect for their area.
  - Promote all available resources to aid vulnerable populations.
  - Provide updates to media and other stakeholders on water supply conditions as often as possible (daily or as needed).
  - Consider deploying alternate home page on sdcwa.org to emphasize emergency-oriented water conservation actions.
• Stakeholder outreach
  - Provide updated communications materials to business groups, service clubs, religious leaders, elected officials to raise immediate awareness for emergency-level water-savings actions and available assistance resources.
  - Conduct specialized outreach to landscape and related industries with significant outdoor water use to urge immediate end to landscape water use (if required).
  - Coordinate dissemination of information regarding water-use restrictions to local law enforcement or other public agencies to help maximize widespread compliance with emergency mandates.
<table>
<thead>
<tr>
<th>Normal Conditions</th>
<th>Level 1 Up to 10% Voluntary Conservation</th>
<th>Level 2 Up to 20% Mandatory Conservation</th>
<th>Levels 3-4 Up to 30% or 40% Mandatory Conservation</th>
<th>Levels 5-6 Up to 50% or &gt;50% Mandatory Conservation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard outreach efforts in effect (media relations, social media, websites, speakers’ bureau, etc.)</td>
<td>Update message platform to reflect conditions, Water Authority response, and needed actions from public</td>
<td>Update campaign and messages to generate immediate actions/behaviors by public</td>
<td>Update campaign and messages to raise awareness for more severe water-saving actions/behaviors by public</td>
<td>Update campaign and messages to reflect extreme or emergency condition and likely need to focus water use on health/safety needs</td>
</tr>
<tr>
<td>Promote ongoing WUE programs/tools/partnerships designed to achieve long-term water management goals (SB X7-7 or other)</td>
<td>Announce status change to key stakeholders, general public (News release, social media, etc.)</td>
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<td>Announce status change to key stakeholders, general public (News release, social media, etc.)</td>
</tr>
<tr>
<td>Standard coordination with member agencies (JPIC meets 6x a year)</td>
<td>Include increased conservation messages on sdcwa.org and in standard outreach efforts; provide regular condition updates to stakeholders/media</td>
<td>Supplement Level 1 activities with additional tactics (mass media ads, partnerships, events, Nextdoor messages, etc.) as needed; provide regular condition updates to stakeholders/media</td>
<td>Supplement Level 2 outreach with additional tactics (supplemental ads, etc.) as needed; provide regular updates to stakeholders/media on conditions</td>
<td>Supplement Level 3-4 outreach with additional tactics (phone bank/hotline, etc.) as needed; provide regular condition updates to stakeholders/media on conditions</td>
</tr>
<tr>
<td>Quarterly Board reports on public communication and water-use efficiency outreach activities</td>
<td>Enhance promotion of ongoing WUE programs/tools; deploy targeted advertising</td>
<td>Conduct issue briefings with elected officials, other key civic and business leaders</td>
<td>Conduct specialized outreach to reduce discretionary outdoor use while minimizing landscape damage</td>
<td>Suspend promotion of long-term WUE programs/tools to focus on imminent needs</td>
</tr>
<tr>
<td>Increase coordination with member agencies (JPIC meets monthly)</td>
<td>Continue promotion of ongoing WUE programs/tools</td>
<td>Promote available water assistance resources for vulnerable populations; specialized outreach to impacted industries</td>
<td>Continue enhanced coordination with member agencies as needed (daily or weekly briefings or email updates, etc.)</td>
<td>Continue enhanced coordination with member agencies as needed (daily or weekly briefings or email updates, etc.)</td>
</tr>
<tr>
<td>Initiate regular Board reports on campaign efforts</td>
<td>Enhance coordination with member agencies as needed (weekly email updates, etc.)</td>
<td>Continue enhanced coordination with member agencies as needed</td>
<td>Analyze water use and other data to determine any appropriate supplemental actions</td>
<td>Analyze water use and other data to determine any appropriate supplemental actions</td>
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</tbody>
</table>
**Catastrophic Communications**

- Implementation of any appropriate strategies and tactics from Levels 1-6
- Shift to messages that reflect emergency condition and need to focus water use on health/safety needs
- Potential joint news release/news event with public health officials or incident commanders to announce condition and explain needed actions
- Ensure ongoing coordination with emergency response services with daily advisories or alerts, etc. as needed; provide regular condition updates to stakeholders/media

Evaluate posting alternate, emergency-themed website home page
The WSCP contains actions the Water Authority will take to analyze and respond to shortage conditions. Board-approved policies and procedures are critical to ensure successful implementation of the WSCP. The Board’s authority to implement the WSCP includes all facets of implementation, including the authority to activate the WSCP, approve regional shortage levels, and approve potential response actions and response level triggers. This section discusses the Board’s role to approve shortage response actions and implement the allocation methodology, the role of the Member Agency Advisory Team (MAAT), and potential revenue impacts from fluctuating water sales.

10.1 Implementation of the Allocation Methodology

In 2008, the Board adopted Resolution 2008-11 that established policies and procedures to administer the M&I water supply allocation methodology. The methodology is contained in Section 7. The resolution addressed the process for setting member agency allocations, including the policies and procedures to do the following:

- Establish a process to set member agency allocations over a 12-month period;
- Provide a timeline for coordinating data collection between the Water Authority and the member agencies for use in calculating allocations;
- Provide procedures whereby a member agency may request a change, or modification, to its Board approved allocation;
- Require the Water Authority General Manager and the MAAT to review all modification requests and provide recommendations;
- Provide for a pass through of any penalties levied by MWD on the Water Authority for exceeding its annual allocation; and
- Provide monthly reports to the MAAT and the Water Authority Board on water use compared to allocations for each member agency, once mandatory cutbacks are required.

The resolution is included in Appendix C, and summarized in Sections 10.1.1 through 10.1.7.

10.1.1 Municipal and Industrial Water Supply Allocations

As stated in Resolution 2008-11, the following provisions govern the establishment and adoption of a water supply allocation whenever the Board determines it is necessary to allocate water as provided in the WSCP. This section applies to allocation of water for all uses except TSAWR uses which is discussed in Section 10.1.5.

a. Water Supply Allocation Period

An allocation period shall be for 12 months, from July 1 of a given year through the following June 30, unless otherwise specifically determined by the Board. If the shortage of supply is related to cutbacks by MWD, it is the intention of the Board that the Water Authority’s allocation period be consistent, to the extent feasible, with MWD’s February 2008 WSAP, or later update of such plan, adopted by MWD.
b. **Establish Water Supply Allocation**

The General Manager shall establish the recommended supply allocation for each member agency based on the Supply Allocation Methodology included in the WSCP. The three-year base period described in the WSCP shall be determined prior to commencement of the water allocation period and shall include the three most recent consecutive non-allocation fiscal years. Prior to activation of the WSCP, the General Manager shall coordinate with member agencies to obtain and analyze historic data such as, but not limited to, total water use, local water use, and projected local supply, in order to finalize the allocation data to be utilized by the Water Authority in calculating the supply allocation. This coordination shall occur during January through April of a year in which the General Manager determines an allocation may be necessary beginning July 1. During this coordination period, member agencies will have an opportunity to provide updated projections for local supply based upon changes in local supply conditions caused by winter runoff. Member agencies shall provide water use and other information upon request of the General Manager. The ICP, ESP or Treated Water Shortage Plan shall govern allocations in response to an unanticipated or catastrophic event.

c. **Adopt Supply Allocation**

The General Manager’s recommended allocation shall be submitted to the Water Planning Committee for recommendation to the Board. The determination by the Board of the allocation for each member agency shall be final, subject only to modification by the Board because of significant changes in Water Authority supply conditions or pursuant to Section 10.1.3.

10.1.2 **Monthly Water Use Reporting**

The General Manager shall provide monthly reports of each member agency’s actual imported and local water use data compared to their allocation to the Water Planning Committee, MAAT, and the Board. In order to provide an accurate accounting of member agencies’ performance, member agencies shall provide monthly total water use data and other information in a timely manner upon request of the General Manager.

10.1.3 **Modifications to Supply Allocations Due to Changes in Local Conditions**

A member agency may request a modification to its approved allocation based upon new information justifying a recalculation of the allocation because of significant changes in local circumstances (e.g. surface water or local supply changes). Information shall not be considered new if it reasonably could have been made available before the initial establishment of the allocation. The General Manager may initiate a modification to a member agency’s allocation at any time if the General Manager determines that information provided by the member agency was inaccurate or incomplete. Requests for modification that, alone or in the aggregate, total more than 10 percent of the requesting agency’s allocation or greater than 500 AF within a single allocation period must be approved by the Board. All other modification requests are considered minor and may be approved by the General Manager.
after consultation with the MAAT. For further details on the process, please refer to the resolution in Appendix C.

### 10.1.4 Reconciliation

Within six months of the end of an allocation period, the General Manager shall conduct a final accounting of member agency deliveries during the allocation period compared with the member agency supply allocations, including any modifications provided in Section 10.1.3. As part of the reconciliation, member agencies shall provide actual local water use for the allocation period and other information upon request of the General Manager. Upon completion of the reconciliation, the General Manager shall notify each member agency of their performance in meeting their supply allocation.

### 10.1.5 Participants in the Transitional Special Agricultural Water Rate Program

As described in Section 4, TSAWR customer supply allocations are based on cutbacks from MWD. Supply allocations to TSAWR customers shall be established, monitored, and enforced based on MWD’s WSAP M&I water supply reduction guidelines and the Water Authority’s TSAWR guidelines. If the TSAWR Program is terminated, the Board may allocate water for agriculture according to the methodology provided in the WSCP.

### 10.2 Water Supply Conditions Report

Upon activation of the WSCP or at other times as requested by the Board, staff prepares monthly updates to the Board and MAAT on state and local water supply conditions. The updates include information on SWP deliveries, storage levels in major state reservoirs, and hydrologic conditions in the Sierra Nevada. The report also includes information on Colorado River hydrologic conditions and local conditions related to water storage levels, rainfall totals, average regional temperatures, and short-term weather outlooks.

### 10.3 Member Agency Advisory Team

The MAAT will be made up of the general managers of the Water Authority's member agencies or their representatives. The MAAT will focus on decisions related to actions included in the Shortage Response Matrix, including the Allocation Methodology. The intensity of the drought will determine how often the MAAT meets. It may meet infrequently if water is only being withdrawn from storage, or the meetings may be scheduled monthly and possibly more often if the allocation of water begins. Also, during the implementation of the Shortage Supply Matrix actions, policy issues may arise where the Water Authority’s General Manager may desire input from the member agencies before making a recommendation to the Board. The MAAT could be convened at this time to provide input. The policy decisions related to implementation of the matrix actions could include recommendations on:

1. What drought response action(s) to take to avoid allocations;
2. How much to spend to avoid allocations;
3. Modifications to supply allocations; and
4. Modifying a portion of the WSCP that is not working as expected.

The MAAT will also be the body to which a member agency may appeal should the Water Authority’s General Manager deny an adjustment during allocations. Should the member agency want to appeal the MAAT's recommendation, it may then ask the Water Authority’s Board for a review.

Additionally, the Water Authority’s General Manager may wish to convene the advisory team to provide an update on supply conditions or conservation performance during a drought. This meeting may simply be for communication purposes or for further input to develop new programs to help avert the impacts of a drought.

10.4 Revenue Impacts

Activation of the WSCP will result in a reduction in water use and a corresponding reduction in water sales. To address the impact from a reduction in water sales, in FY 1990, the Water Authority created a Rate Stabilization Fund (RSF) to provide funds that would mitigate the need for rate increases in the event of an unexpected decline in water sales. In 2006, the Board adopted new policies governing the RSF. Under the newly adopted policy, the RSF has a “target” balance that is the equivalent of the estimated financial impact 2.5 years of wet weather (reduced sales). The new policy also established a maximum RSF balance equal to the financial impact of 3.5 years of wet weather. The policy matches the level of RSF funding with the risk (water sales volatility) that the fund is designed to mitigate. The RSF provides an important tool to mitigate water sales volatility and the impact that has on water rates.

On January 1, 2003, the Water Authority implemented a rate structure that substantially increased the percentage of water revenues generated from fixed charges. This increase replaced the previous variable “postage stamp” rate, which historically generated as much as 80 percent or more of total annual revenues, with two fixed charges, and one variable rate. The new fixed charges, Customer Service and Storage combined with the Infrastructure Access Charge, provide the Water Authority with enhanced revenue stability. Additionally, in March 2015, the Board adopted the new fixed Supply Reliability Charge. The Supply Reliability Charge recovers a portion of the Lewis Carlsbad Desalination Plant water purchase and IID water transfer supply costs. The fixed charges combined help to mitigate revenue volatility due to changes in either water demand or supply availability and support smooth and predictable rates and charges.

Although the Water Authority maintains financial reserves, it is possible that additional costs associated with demand reduction and supply enhancement could negatively affect the Water Authority’s short-term financial situation. The Water Authority may compensate for increased costs or reduced water sales by adjusting water rates in succeeding years.
Carryover Storage Policy Guidelines

In December 2016, the Board approved CSP Guidelines to provide policy guidance on how the Water Authority’s carryover storage supplies should be managed during supply shortage events and normal (non-shortage) periods to help minimize or avoid potential cutbacks to member agencies during drought. Under the WSCP, carryover supplies can be used under any of the six regional water shortage response levels. The CSP Guidelines are listed below.

Withdrawal of Carryover Supplies during Dry-Year Shortage Events

1. **The trigger to evaluate utilization of carryover supplies during shortage events is when any of the Water Authority’s supplies are cutback and supply is insufficient to meet projected demand**

   Should any of the Water Authority's supplies experience a cutback or reduction in deliveries, staff will evaluate the need to withdrawal supplies from carryover storage. This includes potential supply allocations from MWD, reduction in Colorado River transfers or decrease in deliveries from the Carlsbad Desalination Project.

2. **Any evaluation will initially plan for carryover storage surface supplies to be utilized over five consecutive dry-years**

   Under the Urban Water Management Planning Act, agencies are currently required to evaluate supply reliability over three consecutive dry years. The basic planning assumption in the Water Authority’s 2015 UWMP is that carryover storage be withdrawn over a three-year period in equal increments. As stated in the DWR 2013 California Water Plan Update: “Climate change could extend California’s drought periods and make them worse. Warming temperatures and changes in rainfall and runoff patterns may exacerbate the frequency and intensity of droughts.” Using the Sacramento River runoff index to measure annual hydrology within the state, the last three dry cycles have lasted six years (1987-1992), four years (2007-2010) and five years running for the current drought (2012-2016). Without above average runoff in year 2011, the state would have experienced a dry cycle lasting nine years. In identifying ways to improve shortage contingency planning throughout the state, Governor Brown’s May 2016 Executive Order requires DWR to update plan requirements to include planning for at least a five-year drought. To ensure that the Water Authority and its member agencies are adequately planning for and responding to future droughts, withdrawal of carryover supplies will be evaluated under five consecutive dry-years of shortage.

3. **The amount of carryover surface supplies used annually over the five-year period will be handled on a case-by-case basis, with a general guideline of withdrawing surface storage supplies evenly over the five-year period.**
As stated in the Water Authority’s 2015 UWMP there are a number of factors to consider when determining the utilization of carryover supplies to reduce or eliminate shortages. The plan states that the storage take amount should be handled on a case-by-case basis, considering such items as, current demand trends, regional and local supply availability, hydrologic conditions, and storage supply available for withdrawal. There are other political issues that could also impact the operation of carryover storage supplies during a shortage event, such as state drought response regulations and activities. For these reasons, the carryover storage policy guidelines should be flexible to allow for the uncertainties and complexities associated with managing supplies during a drought.

As a starting point in the detailed analysis, the general rule will be that surface storage supplies be withdrawn evenly throughout the five-year period. This is a conservative and reliable drought management approach that helps avoid depletion of storage reserves in the early years and lessen severe cutbacks in subsequent years of the shortage event. It is important to note that this is just a general guideline to begin the analysis and actual withdrawals may differ from this rule, providing the Board with flexibility in responding to specific shortage situations.

At the end of five years, if carryover surface water supplies from San Vicente Reservoir are no longer available, deliveries could be made from the Central Valley Groundwater Bank and Emergency Storage Program storage reserves. Deliveries from the Groundwater Bank are made after carryover surface water supplies, because the costs associated with withdrawing supplies from groundwater bank are higher and there are no losses due to evaporation.

4. **Supplies taken from carryover storage will be considered a regional supply to be combined with the Water Authority’s supplies for delivery to the member agencies’ municipal and industrial customers.**

Carryover storage supplies are combined with long-term Colorado River transfers and seawater desalination supplies in the Water Authority’s system to provide additional regional reliability to each of the Water Authority’s member agencies. When determining member agencies’ M&I allocations during a shortage, the supplies available to allocate will total both the Water Authority’s core supplies and dry-year supplies, such as carryover storage and potential dry-year transfers.

5. **Carryover storage supplies will not be available to TSAWR customers**

In March 2015, the Water Authority Board approved extending the TSAWR program until December 31, 2020. As part of the program, TSAWR deliveries to the member agencies are exempt from the Storage Charge calculation. In return, agricultural customers receive half the municipal and industrial (M&I) level of service under the Emergency Storage Program and no delivery under the Carryover Storage Program.
(CSP). The cutback to TSAWR deliveries during a shortage is equivalent to the cutback level from Metropolitan. In April 2012, the Board approved modifications to the Water Authority’s Water Shortage and Drought Response Plan allocation methodology. This included a methodology to ensure that during shortages, CSP deliveries go just to M&I customers.

Evaluation of Carryover Storage Levels during Normal Periods

6. **The necessary carryover storage levels maintained during normal periods will be evaluated following a shortage event when carryover supplies have been withdrawn and at least annually by May of each year.**

It is important to often conduct an evaluation of carryover storage levels using updated information to ensure adequate reserves for potential dry-year shortages. If a prolonged shortage situation could be reasonably foreseen within the next two years, staff would work to ensure that carryover storage reserves are full going into a potential drought period. The analysis would be conducted consistent with these policy guidelines and be conducted at the following times:

- After a shortage event to determine how much water, if any, should be put into storage to replenish reserve levels.
- During normal periods, the evaluation will be conducted once a year by May when hydrologic conditions are more certain. As part of this annual evaluation, staff will also conduct a review of emergency storage reserves and provide the Board with an informational report that includes a discussion on both carryover and emergency storage reserves.
- More frequently, if conditions warrant the evaluation.

7. **Maintain a target volume of 70,000 AF and maximum volume of 100,000 AF in San Vicente carryover storage reserves during normal (non-shortage) periods to ensure the region is prepared for extended shortages due to drought.**

For financial and supply planning purposes, a target volume is being proposed to ensure the region has stored water, or the ability to purchase additional water for storage, to manage shortage events. The target volume will be re-evaluated on a periodic basis to determine if the amount is appropriate taking into account current water demand trends and supply availability. The initial 70,000 AF target is based on a number of factors, including current regional water demand trends, available local, regional and imported water supplies and the recent shortage evaluation conducted for the region under the State Water Resources Control Board May 2016 Emergency Regulation.
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Appendix B

Model Drought Ordinance
ORDINANCE NO. ______

AN ORDINANCE OF [AGENCY] ADOPTING A DROUGHT RESPONSE CONSERVATION PROGRAM

WHEREAS, article 10, section 2 of the California Constitution declares that waters of the State are to be put to beneficial use, that waste, unreasonable use, or unreasonable method of use of water be prevented, and that water be conserved for the public welfare; and

WHEREAS, conservation of current water supplies and minimization of the effects of water supply shortages that are the result of drought are essential to the public health, safety and welfare; and

WHEREAS, regulation of the time of certain water use, manner of certain water use, design of rates, method of application of water for certain uses, installation and use of water-saving devices, provide an effective and immediately available means of conserving water; and

WHEREAS, California Water Code sections 375 et seq. authorize water suppliers to adopt and enforce a comprehensive water conservation program; and

WHEREAS, adoption and enforcement of a comprehensive water conservation program will allow the [AGENCY] to delay or avoid implementing measures such as water rationing or more restrictive water use regulations pursuant to a declared water shortage emergency as authorized by California Water Code sections 350 et seq.; and

WHEREAS, San Diego County is a semi-arid region and local water resources are scarce. The region is dependent upon imported water supplies provided by the San Diego County Water Authority, which obtains a substantial portion of its supplies from the Metropolitan Water District of Southern California. Because the region is dependent upon imported water supplies, weather and other conditions in other portions of this State and of the Southwestern United States affect the availability of water for use in San Diego County; and

WHEREAS, the San Diego County Water Authority has adopted an Urban Water Management Plan that includes water conservation as a necessary and effective component of the Water Authority’s programs to provide a reliable supply of water to meet the needs of the Water Authority’s 24 member public agencies, including the [AGENCY]. The Water Authority’s Urban Water Management Plan also includes a contingency analysis of actions to be taken in response to water supply shortages. This ordinance is consistent with the Water Authority’s Urban Water Management Plan; and

WHEREAS, as anticipated by its Urban Water Management Plan, the San Diego County Water Authority, in cooperation and consultation with its member public agencies, has

Model Ordinance

March 27, 2008
adopted a Drought Management Plan, which establishes a progressive program for responding to water supply limitations resulting from drought conditions. This ordinance is intended to be consistent with and to implement the Water Authority’s Drought Management Plan; and

WHEREAS, the Water Authority’s Drought Management Plan contains three stages containing regional actions to be taken to lessen or avoid supply shortages. This ordinance contains drought response levels that correspond with the Drought Management Plan stages; and

WHEREAS, the [AGENCY], due to the geographic and climatic conditions within its territory and its dependence upon water imported and provided by the San Diego County Water Authority, may experience shortages due to drought conditions, regulatory restrictions enacted upon imported supplies and other factors. The [AGENCY] has adopted an Urban Water Management Plan that includes water conservation as a necessary and effective component of its programs to provide a reliable supply of water to meet the needs of the public within its service territory. The [AGENCY’s] Urban Water Management Plan also includes a contingency analysis of actions to be taken in response to water supply shortages. This ordinance is consistent with the Urban Water Management Plan adopted by the [AGENCY]; and

WHEREAS, the water conservation measures and progressive restrictions on water use and method of use identified by this ordinance provide certainty to water users and enable [AGENCY] to control water use, provide water supplies, and plan and implement water management measures in a fair and orderly manner for the benefit of the public.

NOW, THEREFORE, the [LEGISLATIVE BODY] of [AGENCY] does ordain as follows:

SECTION 1.0 DECLARATION OF NECESSITY AND INTENT

(a) This ordinance establishes water management requirements necessary to conserve water, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, prevent unreasonable use of water, prevent unreasonable method of use of water within the [AGENCY] in order to assure adequate supplies of water to meet the needs of the public, and further the public health, safety, and welfare, recognizing that water is a scarce natural resource that requires careful management not only in times of drought, but at all times.

(b) This ordinance establishes regulations to be implemented during times of declared water shortages, or declared water shortage emergencies. It establishes four levels of drought response actions to be implemented in times of shortage, with increasing restrictions on water use in response to worsening drought conditions and decreasing available supplies.

(c) Level 1 condition drought response measures are voluntary and will be reinforced through local and regional public education and awareness measures that may

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be funded in part by [AGENCY]. During drought response condition Levels 2 through 4, all conservation measures and water use restrictions are mandatory and become increasingly restrictive in order to attain escalating conservation goals.

(d) During a Drought Response Level 2 condition or higher, the water conservation measures and water use restrictions established by this ordinance are mandatory and violations are subject to criminal, civil, and administrative penalties and remedies specified in this ordinance and as provided in [AGENCY] Administrative or Municipal Code.

SECTION 2.0 DEFINITIONS

(a) The following words and phrases whenever used in this chapter shall have the meaning defined in this section:

1. “Grower” refers to those engaged in the growing or raising, in conformity with recognized practices of husbandry, for the purpose of commerce, trade, or industry, or for use by public educational or correctional institutions, of agricultural, horticultural or floricultural products, and produced: (1) for human consumption or for the market, or (2) for the feeding of fowl or livestock produced for human consumption or for the market, or (3) for the feeding of fowl or livestock for the purpose of obtaining their products for human consumption or for the market. “Grower” does not refer to customers who purchase water subject to the Metropolitan Interim Agricultural Water Program or the Water Authority Special Agricultural Rate programs.

2. “Water Authority” means the San Diego County Water Authority.

3. “DMP” means the Water Authority’s Drought Management Plan in existence on the effective date of this ordinance and as readopted or amended from time to time, or an equivalent plan of the Water Authority to manage or allocate supplies during shortages.

4. “Metropolitan” means the Metropolitan Water District of Southern California.

5. “Person” means any natural person, corporation, public or private entity, public or private association, public or private agency, government agency or institution, school district, college, university, or any other user of water provided by the [AGENCY].
SECTION 3.0 APPLICATION

(a) The provisions of this ordinance apply to any person in the use of any water provided by the [AGENCY].

(b) This ordinance is intended solely to further the conservation of water. It is not intended to implement any provision of federal, State, or local statutes, ordinances, or regulations relating to protection of water quality or control of drainage or runoff. Refer to the local jurisdiction or Regional Water Quality Control Board for information on any stormwater ordinances and stormwater management plans.

(c) Nothing in this ordinance is intended to affect or limit the ability of the [AGENCY] to declare and respond to an emergency, including an emergency that affects the ability of the [AGENCY] to supply water.

(d) The provisions of this ordinance do not apply to use of water from private wells or to recycled water.

(e) Nothing in this ordinance shall apply to use of water that is subject to a special supply program, such as the Metropolitan Interim Agricultural Water Program or the Water Authority Special Agricultural Rate programs. Violations of the conditions of special supply programs are subject to the penalties established under the applicable program. A person using water subject to a special supply program and other water provided by the [AGENCY] is subject to this ordinance in the use of the other water.

SECTION 4.0 DROUGHT RESPONSE LEVEL 1 – DROUGHT WATCH CONDITION

(a) A Drought Response Level 1 condition is also referred to as a “Drought Watch” condition. A Level 1 condition applies when the Water Authority notifies its member agencies that due to drought or other supply reductions, there is a reasonable probability there will be supply shortages and that a consumer demand reduction of up to 10 percent is required in order to ensure that sufficient supplies will be available to meet anticipated demands. The General Manager shall declare the existence of a Drought Response Level 1 and take action to implement the Level 1 conservation practices identified in this ordinance.

(b) During a Level 1 Drought Watch condition, [AGENCY] will increase its public education and outreach efforts to emphasize increased public awareness of the need to implement the following water conservation practices. [The same water conservation practices become mandatory if [AGENCY] declares a Level 2 Drought Alert condition]:

   1. Stop washing down paved surfaces, including but not limited to sidewalks, driveways, parking lots, tennis courts, or patios, except when it is necessary to alleviate safety or sanitation hazards.

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2. Stop water waste resulting from inefficient landscape irrigation, such as runoff, low head drainage, or overspray, etc. Similarly, stop water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.

3. Irrigate residential and commercial landscape before 10 a.m. and after 6 p.m. only.

4. Use a hand-held hose equipped with a positive shut-off nozzle or bucket to water landscaped areas, including trees and shrubs located on residential and commercial properties that are not irrigated by a landscape irrigation system.

5. Irrigate nursery and commercial grower’s products before 10 a.m. and after 6 p.m. only. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used. Irrigation of nursery propagation beds is permitted at any time. Watering of livestock is permitted at any time.

6. Use re-circulated water to operate ornamental fountains.

7. Wash vehicles using a bucket and a hand-held hose with positive shut-off nozzle, mobile high pressure/low volume wash system, or at a commercial site that re-circulates (reclaims) water on-site. Avoid washing during hot conditions when additional water is required due to evaporation.

8. Serve and refill water in restaurants and other food service establishments only upon request.

9. Offer guests in hotels, motels, and other commercial lodging establishments the option of not laundering towels and linens daily.

10. Repair all water leaks within five (5) days of notification by the [AGENCY] unless other arrangements are made with the General Manager.

11. Use recycled or non-potable water for construction purposes when available.

(c) During a Drought Response Level 2 condition or higher, all persons shall be required to implement the conservation practices established in a Drought Response Level 1 condition.
SECTION 5.0  DROUGHT RESPONSE LEVEL 2 – DROUGHT ALERT CONDITION

(a) A Drought Response Level 2 condition is also referred to as a “Drought Alert” condition. A Level 2 condition applies when the Water Authority notifies its member agencies that due to cutbacks caused by drought or other reduction in supplies, a consumer demand reduction of up to 20 percent is required in order to have sufficient supplies available to meet anticipated demands. The [AGENCY] Board of Directors shall declare the existence of a Drought Response Level 2 condition and implement the mandatory Level 2 conservation measures identified in this ordinance.

(b) All persons using [AGENCY] water shall comply with Level 1 Drought Watch water conservation practices during a Level 2 Drought Alert, and shall also comply with the following additional conservation measures:

1. Limit residential and commercial landscape irrigation to no more than three (3) assigned days per week on a schedule established by the General Manager and posted by the [AGENCY]. During the months of November through May, landscape irrigation is limited to no more than once per week on a schedule established by the General Manager and posted by the [AGENCY]. This section shall not apply to commercial growers or nurseries.

2. Limit lawn watering and landscape irrigation using sprinklers to no more than ten (10) minutes per watering station per assigned day. This provision does not apply to landscape irrigation systems using water efficient devices, including but not limited to: weather based controllers, drip/micro-irrigation systems and stream rotor sprinklers.

3. Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system governed by section 5 (b) (1), on the same schedule set forth in section 5 (b) (1) by using a bucket, hand-held hose with positive shut-off nozzle, or low-volume non-spray irrigation.

4. Repair all leaks within seventy-two (72) hours of notification by the [AGENCY] unless other arrangements are made with the General Manager.

5. Stop operating ornamental fountains or similar decorative water features unless recycled water is used.

SECTION 6.0  DROUGHT RESPONSE LEVEL 3 – DROUGHT CRITICAL CONDITION

(a) A Drought Response Level 3 condition is also referred to as a “Drought Critical” condition. A Level 3 condition applies when the Water Authority notifies its member agencies that due to increasing cutbacks caused by drought or other reduction of

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supplies, a consumer demand reduction of up to 40 percent is required in order to have sufficient supplies available to meet anticipated demands. The [AGENCY] Board of Directors shall declare the existence of a Drought Response Level 3 condition and implement the Level 3 conservation measures identified in this ordinance.

(b) All persons using [AGENCY] water shall comply with Level 1 Drought Watch and Level 2 Drought Alert water conservation practices during a Level 3 Drought Critical condition and shall also comply with the following additional mandatory conservation measures:

1. Limit residential and commercial landscape irrigation to no more than two (2) assigned days per week on a schedule established by the General Manager and posted by the [AGENCY]. During the months of November through May, landscape irrigation is limited to no more than once per week on a schedule established by the General Manager and posted by the [AGENCY]. This section shall not apply to commercial growers or nurseries.

2. Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system governed by section 6 (b) (1), on the same schedule set forth in section 6 (b) (1) by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation.

3. Stop filling or re-filling ornamental lakes or ponds, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a drought response level under this ordinance.

4. Stop washing vehicles except at commercial carwashes that re-circulate water, or by high pressure/low volume wash systems.

5. Repair all leaks within forty-eight (48) hours of notification by the [AGENCY] unless other arrangements are made with the General Manager.

(c) Upon the declaration of a Drought Response Level 3 condition, no new potable water service shall be provided, no new temporary meters or permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) shall be issued, except under the following circumstances:

1. A valid, unexpired building permit has been issued for the project; or

2. The project is necessary to protect the public’s health, safety, and welfare; or

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3. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of [AGENCY].

This provision shall not be construed to preclude the resetting or turn-on of meters to provide continuation of water service or to restore service that has been interrupted for a period of one year or less.

(d) Upon the declaration of a Drought Response Level 3 condition, [AGENCY] will suspend consideration of annexations to its service area.

(e) The [AGENCY] may establish a water allocation for property served by the [AGENCY] using a method that does not penalize persons for the implementation of conservation methods or the installation of water saving devices. If the [AGENCY] establishes a water allocation it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the [AGENCY] customarily mails the billing statement for fees or charges for ongoing water service. Following the effective date of the water allocation as established by the [AGENCY], any person that uses water in excess of the allocation shall be subject to a penalty in the amount of $____ for each billing unit of water in excess of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or penalty that may be imposed for violation of this ordinance.

SECTION 7.0 DROUGHT RESPONSE LEVEL 4 – DROUGHT EMERGENCY CONDITION

(a) A Drought Response Level 4 condition is also referred to as a “Drought Emergency” condition. A Level 4 condition applies when the Water Authority Board of Directors declares a water shortage emergency pursuant to California Water Code section 350 and notifies its member agencies that Level 4 requires a demand reduction of more than 40 percent in order for the [AGENCY] to have maximum supplies available to meet anticipated demands. The [AGENCY] shall declare a Drought Emergency in the manner and on the grounds provided in California Water Code section 350.

(b) All persons using [AGENCY] water shall comply with conservation measures required during Level 1 Drought Watch, Level 2 Drought Alert, and Level 3 Drought Critical conditions and shall also comply with the following additional mandatory conservation measures:

1. Stop all landscape irrigation, except crops and landscape products of commercial growers and nurseries. This restriction shall not apply to the following categories of use unless the [AGENCY] has determined that recycled water is available and may be lawfully applied to the use.
A. Maintenance of trees and shrubs that are watered on the same schedule set forth in section 6 (b) (1) by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation;

B. Maintenance of existing landscaping necessary for fire protection as specified by the Fire Marshal of the local fire protection agency having jurisdiction over the property to be irrigated;

C. Maintenance of existing landscaping for erosion control;

D. Maintenance of plant materials identified to be rare or essential to the well being of rare animals;

E. Maintenance of landscaping within active public parks and playing fields, day care centers, school grounds, cemeteries, and golf course greens, provided that such irrigation does not exceed two (2) days per week according to the schedule established under section 6 (b) (1);

F. Watering of livestock; and

G. Public works projects and actively irrigated environmental mitigation projects.

2. Repair all water leaks within twenty-four (24) hours of notification by the [AGENCY] unless other arrangements are made with the General Manager.

(c) The [AGENCY] may establish a water allocation for property served by the [AGENCY]. If the [AGENCY] establishes a water allocation it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the [AGENCY] customarily mails the billing statement for fees or charges for on-going water service. Following the effective date of the water allocation as established by the [AGENCY], any person that uses water in excess of the allocation shall be subject to a penalty in the amount of $____ for each billing unit of water in excess of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or penalty that may be imposed for violation of this ordinance.

SECTION 8.0 CORRELATION BETWEEN DROUGHT MANAGEMENT PLAN AND DROUGHT RESPONSE LEVELS

(a) The correlation between the Water Authority’s DMP stages and the [AGENCY’S] drought response levels identified in this ordinance is described herein. Under DMP Stage 1, the [AGENCY] would implement Drought Response Level 1 actions. Under DMP Stage 2, the [AGENCY] would implement Drought Response Level
1 or Level 2 actions. Under DMP Stage 3, the [AGENCY] would implement Drought Response Level 2, Level 3, or Level 4 actions.

(b) The drought response levels identified in this ordinance correspond with the Water Authority DMP as identified in the following table:

<table>
<thead>
<tr>
<th>Drought Response Levels</th>
<th>Use Restrictions</th>
<th>Conservation Target</th>
<th>DMP Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Drought Watch</td>
<td>Voluntary</td>
<td>Up to 10%</td>
<td>Stage 1 or 2</td>
</tr>
<tr>
<td>2 - Drought Alert</td>
<td>Mandatory</td>
<td>Up to 20%</td>
<td>Stage 2 or 3</td>
</tr>
<tr>
<td>3 - Drought Critical</td>
<td>Mandatory</td>
<td>Up to 40%</td>
<td>Stage 3</td>
</tr>
<tr>
<td>4 - Drought Emergency</td>
<td>Mandatory</td>
<td>Above 40%</td>
<td>Stage 3</td>
</tr>
</tbody>
</table>

SECTION 9.0 PROCEDURES FOR DETERMINATION AND NOTIFICATION OF DROUGHT RESPONSE LEVEL

(a) The existence of a Drought Response Level 1 condition may be declared by the General Manager upon a written determination of the existence of the facts and circumstances supporting the determination. A copy of the written determination shall be filed with the Clerk or Secretary of the [AGENCY] and provided to the [AGENCY] Board of Directors. The General Manager may publish a notice of the determination of existence of Drought Response Level 1 condition in one or more newspapers, including a newspaper of general circulation within the [AGENCY]. The [AGENCY] may also post notice of the condition on their website.

(b) The existence of Drought Response Level 2 or Level 3 conditions may be declared by resolution of the [AGENCY] Board of Directors adopted at a regular or special public meeting held in accordance with State law. The mandatory conservation measures applicable to Drought Response Level 2 or Level 3 conditions shall take effect on the tenth (10) day after the date the response level is declared. Within five (5) days following the declaration of the response level, the [AGENCY] shall publish a copy of the resolution in a newspaper used for publication of official notices.

(c) The existence of a Drought Response Level 4 condition may be declared in accordance with the procedures specified in California Water Code sections 351 and 352. The mandatory conservation measures applicable to Drought Response Level 4 conditions shall take effect on the tenth (10) day after the date the response level is declared. Within five (5) days following the declaration of the response level, the [AGENCY] shall publish a copy of the resolution in a newspaper used for publication of official notices. If the [AGENCY] establishes a water allocation, it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the [AGENCY] customarily mails the billing statement for fees or charges for on-going water service. Water allocation shall be effective on the fifth (5) day following the date of mailing or at such later date as specified in the notice.

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(d) The [AGENCY] Board of Directors may declare an end to a Drought Response Level by the adoption of a resolution at any regular or special meeting held in accordance with State law.

SECTION 10.0 HARDSHIP VARIANCE

(a) If, due to unique circumstances, a specific requirement of this ordinance would result in undue hardship to a person using agency water or to property upon which agency water is used, that is disproportionate to the impacts to [AGENCY] water users generally or to similar property or classes of water uses, then the person may apply for a variance to the requirements as provided in this section.

(b) The variance may be granted or conditionally granted, only upon a written finding of the existence of facts demonstrating an undue hardship to a person using agency water or to property upon with agency water is used, that is disproportionate to the impacts to [AGENCY] water users generally or to similar property or classes of water use due to specific and unique circumstances of the user or the user’s property.

1. Application. Application for a variance shall be a form prescribed by [AGENCY] and shall be accompanied by a non-refundable processing fee in an amount set by resolution of the [AGENCY] Board of Directors.

2. Supporting Documentation. The application shall be accompanied by photographs, maps, drawings, and other information, including a written statement of the applicant.

3. Required Findings for Variance. An application for a variance shall be denied unless the approving authority finds, based on the information provided in the application, supporting documents, or such additional information as may be requested, and on water use information for the property as shown by the records of the [AGENCY], all of the following:

A. That the variance does not constitute a grant of special privilege inconsistent with the limitations upon other [AGENCY] customers.

B. That because of special circumstances applicable to the property or its use, the strict application of this ordinance would have a disproportionate impact on the property or use that exceeds the impacts to customers generally.

C. That the authorizing of such variance will not be of substantial detriment to adjacent properties, and will not materially affect the ability of the [AGENCY] to effectuate the purpose of this chapter and will not be detrimental to the public interest.

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D. That the condition or situation of the subject property or the intended use of the property for which the variance is sought is not common, recurrent or general in nature.

4. Approval Authority. The General Manager shall exercise approval authority and act upon any completed application no later than 10 days after submittal and may approve, conditionally approve, or deny the variance. The applicant requesting the variance shall be promptly notified in writing of any action taken. Unless specified otherwise at the time a variance is approved, the variance applies to the subject property during the term of the mandatory drought response.

5. Appeals to [AGENCY] Board of Directors. An applicant may appeal a decision or condition of the General Manager on a variance application to the [AGENCY] Board of Directors within 10 days of the decision upon written request for a hearing. The request shall state the grounds for the appeal. At a public meeting, the [AGENCY] Board of Directors shall act as the approval authority and review the appeal de novo by following the regular variance procedure. The decision of the [AGENCY] Board of Directors is final.

SECTION 11.0   VIOLATIONS AND PENALTIES

(a) Any person, who uses, causes to be used, or permits the use of water in violation of this ordinance is guilty of an offense punishable as provided herein.

(b) Each day that a violation of this ordinance occurs is a separate offense.

(c) Administrative fines may be levied for each violation of a provision of this ordinance as follows:
   1. One hundred dollars for a first violation.
   2. Two hundred dollars for a second violation of any provision of this ordinance within one year.
   3. Five hundred dollars for each additional violation of this ordinance within one year.

(d) Violation of a provision of this ordinance is subject to enforcement through installation of a flow-restricting device in the meter.

(e) Each violation of this ordinance may be prosecuted as a misdemeanor punishable by imprisonment in the county jail for not more than thirty (30) days or by a fine not exceeding $1,000, or by both as provided in Water Code section 377.

(f) Willful violations of the mandatory conservation measures and water use restrictions as set forth in Section 7.0 and applicable during a Level 4 Drought

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Emergency condition may be enforced by discontinuing service to the property at which the violation occurs as provided by Water Code section 356.

(g) All remedies provided for herein shall be cumulative and not exclusive.

SECTION 12.0 EFFECTIVE DATE

This ordinance is effective immediately upon adoption or as otherwise established by State law for [AGENCY].

PASSED, APPROVED AND ADOPTED this [DATE] by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

[President/Chair of Legislative Body]
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Appendix C

Examples of Potential Customer Water Use Prohibitions
Examples of Potential Customer Water Use Prohibitions

The severity of water use prohibitions varies depending on the required reduction in water use. Below are examples of potential water use prohibitions that could be considered for inclusion in a retail water supplier's drought ordinance. The prohibitions are grouped into residential and non-residential categories.

Examples of Potential Residential Prohibitions

Landscape

- The application of potable water to landscapes in a manner that causes runoff onto adjacent property or impervious surfaces, including, but not limited to, walkways, roadways, parking lots, or structures, is prohibited.

- The irrigation of residential landscapes is prohibited between 10 a.m. and 6 p.m. Supervised testing or repairing of irrigation systems is exempt.

- The application of potable water to landscapes during and within 48 hours after measurable rainfall is prohibited.

- The use a hand-held hose that is not equipped with a positive shut-off nozzle to water landscaped areas is prohibited. The use of a bucket is exempt.

- The irrigation with potable water of landscapes outside of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development is prohibited.

- The weekly irrigation of landscapes in excess of the number of watering days assigned by the water supplier is prohibited.

- The use of sprinklers to irrigate landscape for more than ten minutes per watering station per day is prohibited. This prohibition does not apply to landscape irrigation systems using water efficient devices, including, but not limited to, weather-based controllers, drip/micro-irrigation systems, and stream rotor sprinklers.

- The irrigation of landscapes more than once per week during the months of November through May is prohibited.

- The use of irrigation to establish new landscapes is allowed at any time for up to two months if the landscape is water efficient and replaced turf or another high water use landscape, or if the new landscape is water efficient and is required for a landscape permit.
• Irrigation is allowed at any time as required by a landscape permit for erosion control, establishment, repair, renovation of public use fields for schools and parks, and for landscape following a disaster (up to two months with a hardship variance).

• Over-seeding of turf is prohibited.

• All landscape irrigation is prohibited, with the following exceptions for use:
  o Maintenance of trees and shrubs that are watered by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation.
  o Maintenance of existing landscaping necessary for fire protection as specified by the Fire Marshal of the local fire protection agency having jurisdiction over the property to be irrigated.
  o Maintenance of existing landscaping for erosion control.
  o Maintenance of plant materials identified to be rare or essential to the well-being of rare animals.
  o Watering of livestock.

**Power Washing**

• Power washing of exterior surfaces, such as siding, is prohibited.

• Power washing of impervious surfaces is prohibited, including, but not limited to, sidewalks, driveways, parking lots, tennis courts, or patios. Power washing to alleviate safety or sanitation hazards is exempt.

**Vehicle Washing**

• The use of a hose that dispenses potable water to wash vehicles, except where the hose is fitted with a positive shut-off nozzle, is prohibited.

• Washing vehicles is prohibited, except at commercial carwashes that recirculate (reuse) the water.

**Fountains/Decorative Water Features**

• The use of potable water in a fountain or other decorative water feature, except where the water is part of a recirculating system or to the extent needed for maintenance, is prohibited.

**Leak Detection and Repair**

• Repair all water leaks within 24 hours of notification by the water supplier unless other arrangements are made with the water supplier.
• Water service shall be shut-off if there are noticeable leaks on the customer’s side of the meter.

Swimming Ponds/Ponds

• Filling or refilling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a drought response level under this ordinance.

• Pools and spas must be covered during non-use.

• Pool filling is prohibited.

• Draining swimming pools more than once every three years, except as necessary to complete structural repairs or to comply with public health standards, is prohibited.

Example of Potential Non-Residential Prohibitions

Landscape

• The application of potable water to landscapes in a manner that causes runoff onto adjacent property or impervious surfaces, including, but not limited to, walkways, roadways, parking lots, or structures, is prohibited.

• Irrigation of commercial landscapes is prohibited between 10 a.m. and 6 p.m. Public and private golf course greens and tees and professional sports fields are exempt and may be irrigated in order to maintain play areas and accommodate event schedules. Supervised testing or repairing of irrigation systems is allowed anytime with proper signage.

• Application of potable water to landscapes during and within 48 hours after measurable rainfall is prohibited.

• Use of a hand-held hose that is not equipped with a positive shut-off nozzle to water landscaped areas is prohibited. The use of a bucket to water landscaped areas is exempt.

• Irrigation of nursery and commercial grower’s products is prohibited between 10 a.m. and 6 p.m. Watering with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used is exempt. Also exempt is irrigation of nursery propagation beds and watering of livestock.
• The irrigation with potable water of ornamental turf on public street medians is prohibited.

• The irrigation with potable water of landscapes outside of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development is prohibited.

• The weekly irrigation of landscapes in excess of the number of watering days assigned by the water supplier is prohibited. The irrigation of landscapes more than once per week during the months of November through May is prohibited. This prohibition shall not apply to commercial growers or nurseries.

• The use of sprinklers to irrigate landscape for more than ten minutes per watering station per day is prohibited. This prohibition does not apply to landscape irrigation systems using water efficient devices, including, but not limited to, weather-based controllers, drip/micro-irrigation systems, and stream rotor sprinklers.

• Landscaped areas, including trees and shrubs not irrigated by a landscape irrigation system, must be watered by using a bucket, hand-held hose with positive shut-off nozzle, or low-volume non-spray irrigation.

• All landscape irrigation is prohibited, with the following exceptions for use:
  o Water for crops and landscape products of commercial growers and nurseries.
  o Maintenance of trees and shrubs that are watered by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation.
  o Maintenance of existing landscaping necessary for fire protection as specified by the Fire Marshal of the local fire protection agency having jurisdiction over the property to be irrigated.
  o Maintenance of existing landscaping for erosion control.
  o Maintenance of landscaping within active public parks and playing fields, day-care centers, school grounds, cemeteries, and golf course greens.
  o Maintenance of plant materials identified to be rare or essential to the well-being of rare animals.
  o Public works projects and actively irrigated environmental mitigation projects.
  o Watering of livestock.

• The use of irrigation to establish new landscapes is allowed at any time for up to two months if the landscape is water efficient and replaced turf or another high water use landscape, or if the new landscape is water efficient and is required for a landscape permit.
• Irrigation is allowed at any time as required by a landscape permit for erosion control, establishment, repair, renovation of public use fields for schools and parks, and for landscape following a disaster (up to two months with a hardship variance).

• Over-seeding of turf is prohibited.

**Power Washing**

• Power washing of exterior surfaces, such as siding, is prohibited.

• Power washing of impervious surfaces is prohibited, including, but not limited to, sidewalks, driveways, parking lots, tennis courts, or patios. Power washing to alleviate safety or sanitation hazards is exempt.

**Swimming Pools/Ponds**

• Filling or refilling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a drought response level under this ordinance.

• Pools and spas must be covered during non-use.

• Pool filling is prohibited.

• Draining swimming pools more than once every three years, except as necessary to complete structural repairs or to comply with public health standards, is prohibited.

**Vehicle Washing**

• The use of a hose that dispenses potable water to wash vehicles, except where the hose is fitted with a positive shut-off nozzle, is prohibited.

• Washing vehicles is prohibited, except at commercial carwashes that recirculate (reuse) the water.

• Non-recirculating systems in all new conveyor car wash systems are prohibited.

**Fountains/Decorative Water Features**

• The use of potable water in a fountain or other decorative water feature, except where the water is part of a recirculating system or to the extent needed for maintenance, is prohibited.
Cooling Systems
• Single-pass through cooling systems as part of new construction are prohibited.

Hotels/Motels/Restaurants
• Eating or drinking establishments, including, but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served and/or purchased, are prohibited from serving drinking water unless requested.
• Hotels, motels, and other commercial lodging establishments shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guestroom using clear and easily understood language.

Leak Repair
• Repair all water leaks within 24 hours of notification by the member agency unless other arrangements are made with the water supplier.
• Water service shall be shut-off if there are noticeable leaks on the customer’s side of the meter.

Construction
• Recycled or non-potable water must be used for construction purposes when available.
• The use of unnecessary water for construction purposes is prohibited.

Water Service
• No new potable water service shall be provided, no new temporary meters or permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service (such as, will-serve letters, certificates or letters of availability) shall be issued, except under the following circumstances:
  o A valid, unexpired building permit has been issued for the project; or
  o The project is necessary to protect the public’s health, safety, and welfare; or
  o The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of the water supplier.
  o This provision shall not be construed to prohibit the resetting or turn-on of meters to provide continuation of water service or to restore service that has been interrupted for a period of one year or less.
• Annexations to a water supplier’s service area shall not be considered.

• The water supplier shall establish a water allocation for each parcel using a method that does not penalize persons for the implementation of conservation methods or the installation of water saving devices.

• Flushing sewers or hydrants with potable water is prohibited, except in cases of emergency or for essential operations.

Laundromats

• All laundromats shall have converted 100% of washers to high-efficiency washers by [date TBD].

• The installation of non-recirculating laundry systems is prohibited.
Appendix D

Water Authority Board Resolution 2008-11
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RESOLUTION NO. 2008-11

A RESOLUTION OF THE SAN DIEGO COUNTY WATER AUTHORITY
ESTABLISHING PROCEDURES AND POLICIES FOR ADMINISTRATION OF THE
DROUGHT MANAGEMENT PLAN WATER SUPPLY ALLOCATION METHODOLOGY

WHEREAS, pursuant to the County Water Authority Act, the San Diego County
Water Authority exists to provide, as far as practicable, each of its member agencies with
reliable and adequate supplies of water to meet their needs, and to establish reasonable rules,
regulations and restrictions for the allocation of available supplies for the greatest public
interest and benefit; and

WHEREAS, the water supply needs of Water Authority member agencies includes
supplies to serve current demands and reasonably anticipated future demands; and

WHEREAS, providing a reliable water supply includes the obligation to manage water
and use of water; and

WHEREAS, on May 25, 2006, the Water Authority Board of Directors adopted
Resolution No. 2006-16, approving and adopting a comprehensive Drought Management Plan
of specific actions to be taken by the Water Authority and its member agencies during
anticipated or actual water supply shortages; and

WHEREAS, the Drought Management Plan establishes the methodology by which
with the Water Authority will allocate supplies under various supply reduction scenarios; and

WHEREAS, the Water Authority Board of Directors desires to establish
administrative procedures and policies for implementation of the allocation methodology
established by the Drought Management Plan;
NOW, THEREFORE, the Board of Directors of the San Diego County Water Authority resolves as follows:

Section 1. Municipal and Industrial Water Supply Allocations

The provisions of this section shall govern the establishment and adoption of a water supply allocation whenever the Water Authority Board of Directors determines it is necessary to allocate water as provided in the Drought Management Plan. This section applies to allocation of water for all uses except Interim Agricultural Water Program uses which are subject to Section 7 of this resolution.

a. Water Supply Allocation Period

An allocation period shall be for 12 months, from July 1 of a given year through the following June 30, unless otherwise specifically determined by the Board. It is the intention of the Board of Directors that the Water Authority’s allocation period be consistent, to the extent feasible, with the Metropolitan Water District of Southern California February 2008 Water Supply Allocation Plan, or later update of such plan, adopted by the Metropolitan Water District of Southern California.

b. Establish Water Supply Allocation

The General Manager shall establish the supply allocation for each member agency based on the Supply Allocation Methodology included in the Water Authority’s Drought Management Plan. The three-year base period described in the Drought Management Plan shall be determined prior to commencement of the water allocation period and shall include the three most recent consecutive non-allocation years. The General Manager shall coordinate with member agencies to obtain and analyze historic data such as, but not limited to, total water use, local water use, new meters assessed a capacity charge, conservation savings and projected local supply, in order to finalize the allocation data to be utilized by the Water Authority in calculating the supply allocation. This coordination shall occur during January through April of a year in which the General Manager determines an allocation may be necessary beginning July 1. During this coordination period, member agencies will have
an opportunity to provide updated projections for local supply based upon changes in local supply conditions caused by winter runoff. Member agencies shall provide water use and other information upon request of the General Manager. The Integrated Contingency Plan, Emergency Storage Project or Treated Water Shortage Plan shall govern allocations in response to an unanticipated or catastrophic event.

c. Adoption Supply Allocation

The General Manager’s recommendation for allocation shall be submitted to the Water Planning Committee for recommendation to the Board of Directors. The determination by the Board of Directors of the allocation for each member agency shall be final, subject only to modification by the Board because of significant changes in Water Authority supply conditions or pursuant to Section 3.

Section 2. Monthly Reporting

The General Manager shall provide monthly reports of each member agency’s actual imported and local water use data compared to their allocation to the Water Planning Committee, Member Agency Advisory Team, member agencies, and the Board of Directors. In order to provide an accurate accounting of member agencies’ performance, member agencies shall provide monthly total water use data and other information in a timely manner upon request of the General Manager.

Section 3. Modifications to Supply Allocations Due to Changes in Local Conditions

A member agency may request a modification to its approved allocation based upon new information justifying a recalculation of the allocation because of significant changes in local circumstances, e.g. surface water or local supply changes. Information shall not be considered new if it reasonably could have been made available before the initial establishment of the allocation. The General Manager may initiate a modification to a member agency’s allocation at any time if the General Manager determines that information provided by the member agency was inaccurate or incomplete. Requests for modification
that, alone or in the aggregate, total more than 10 percent of the requesting agency’s allocation or greater than 500 acre feet within a single allocation period must be approved by the Board of Directors. All other modification requests are considered minor and may be approved by the General Manager after consultation with the Member Agency Advisory Team.

A member agency may initiate a request for modification by providing written notice and supporting documentation to the General Manager no later than December 30 within an allocation period running from July 1 to June 30. The General Manager shall review the request and provide a written response supporting or opposing the modification, and the reasons for support or opposition, within 30 days of the member agency request.

The Member Agency Advisory Team shall review the Member agency request and the General Manager’s written response prior to making a recommendation regarding the modification. The Member Agency Advisory Team shall consider all circumstances surrounding the request, including the period of time impacted by the changed local circumstances. If the Member Agency Advisory Team recommends approval or modified approval of the determination, the General Manager shall forward the modification to the Board of Directors for final action, with the exception of minor modifications which become effective upon approval by the General Manager.

If the Member Agency Advisory Team denies a request for modification, the member agency may request, within five days, an appeal of the Member Agency Advisory Team decision to the Board of Directors at the next regular Board Meeting that is not less then 20 days from the date of the Member Agency Advisory Team recommendation. The decision of the Board of Directors is final.

Section 4. Reconciliation

Within six months of the end of an allocation period, the General Manager shall conduct a final accounting of member agency deliveries during the allocation period.
compared with the member agency supply allocations, including any modifications provided in Section 3 of this resolution. As part of the reconciliation, member agencies shall provide actual local water use for the allocation period and other information upon request of the General Manager. Upon completion of the reconciliation, the General Manager shall notify each member agency of their performance in meeting their supply allocation.

Section 5. Monetary Penalties from MWD

The Water Authority is subject to monetary penalties imposed by Metropolitan Water District of Southern California in the event it exceeds its annual water allocation from Metropolitan Water District of Southern California. Upon the Water Authority's reconciliation of its own water supply allocation as described in Section 4, any Metropolitan Water District of Southern California penalties levied upon the Water Authority shall in turn be assessed on a pro rata basis to the Water Authority member agencies that exceeded their Water Authority allocation.

Section 6. Exemption for Participants in the Interim Agricultural Water Program

Supply allocations to Interim Agricultural Water Program customers shall be established, monitored, and enforced based on Metropolitan Water District of Southern California's Interim Agricultural Water Program reduction guidelines and the Water Authority’s Interim Agricultural Water Program Regional Reduction Plan and are not subject to the provisions of this resolution. If the Interim Agricultural Water Program is terminated, the Board of Directors may allocate water for agriculture according to the methodology provided in the Drought Management Plan.

Section 7. Reserved Discretion

The Water Authority Board of Directors reserves its discretion to amend any of the provisions of this resolution as changed circumstances warrant. Nothing in this resolution shall limit the discretion or powers of the Board of Directors under Water Code section 350.
PASSED, APPROVED AND ADOPTED this 24th day of July, 2008.

AYES: Unless otherwise noted all Directors present voted aye.

NOES:

ABSTAIN:

ABSENT: Arant, Bond, (p), Johnson, Knutson, Lewinger, Lewis (p) and Tu

Fern M. Steiner
Chair

Mark W. Watton
Secretary

I, Doria F. Lore, Clerk of the Board of the San Diego County Water Authority, certify that the vote shown above is correct and this Resolution No. 2008-11 was duly adopted at the meeting of the Board of Directors on the date stated above.

Doria F. Lore
Clerk of the Board