Water Shortage and Drought Response Plan
(Updated April 2012)

(Previous title, Drought Management Plan, prepared May 2006)

The San Diego County Water Authority and its member agencies developed and approved the Drought Management Plan in May 2006. This document was later renamed the Water Shortage and Drought Response Plan (WSDRP), and was updated in April 2012 with the replacement of Section 5 – Supply Allocation Methodology. It should be noted that in other sections, the document is still referred to as the Drought Management Plan.
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# Acknowledgements

## Drought Management Plan

**Technical Advisory Committee Members**

<table>
<thead>
<tr>
<th>Agency</th>
<th>Name</th>
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<tbody>
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<td>Tom Brammell</td>
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</tbody>
</table>
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# WATER SHORTAGE AND DROUGHT RESPONSE PLAN

## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>SECTION 1 – INTRODUCTION</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Reliability</td>
<td>1-1</td>
</tr>
<tr>
<td>1.2 Defining a Drought</td>
<td>1-2</td>
</tr>
<tr>
<td>1.3 Report Format</td>
<td>1-3</td>
</tr>
<tr>
<td>1.4 Member Agency Coordination</td>
<td>1-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 2 – DMP PREPARATION</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Member Agency Technical Advisory Committee</td>
<td>2-1</td>
</tr>
<tr>
<td>2.2 Drought Management Plan Questionnaire</td>
<td>2-1</td>
</tr>
<tr>
<td>2.3 Principles</td>
<td>2-1</td>
</tr>
<tr>
<td>2.4 Report Preparation and Approval</td>
<td>2-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 3 – REVIEW OF HISTORIC PLANS AND IMPLEMENTATION</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Metropolitan’s 1981 Interruptible Water Service Program</td>
<td>3-1</td>
</tr>
<tr>
<td>3.2 Metropolitan’s 1990 Incremental Interruption and Conservation Plan</td>
<td>3-2</td>
</tr>
<tr>
<td>3.3 Water Authority’s 1991 Drought Response Plan</td>
<td>3-2</td>
</tr>
<tr>
<td>3.4 Department of Water Resources Drought Water Bank</td>
<td>3-3</td>
</tr>
<tr>
<td>3.5 Metropolitan’s 1995 Drought Management Plan</td>
<td>3-3</td>
</tr>
<tr>
<td>3.6 1994 Ordinance of the San Diego County Water Authority Establishing Contingency Plan, Rules, Regulations, and Restrictions so that Available Water Supplies are Allocated among Member Agencies for the Greatest Public Interest and Benefit</td>
<td>3-4</td>
</tr>
<tr>
<td>3.7 Metropolitan’s Water Surplus and Drought Management Plan</td>
<td>3-4</td>
</tr>
<tr>
<td>3.8 Interim Agricultural Water Program Reduction Guidelines</td>
<td>3-5</td>
</tr>
<tr>
<td>3.9 Lessons Learned</td>
<td>3-6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 4 – DROUGHT RESPONSE MATRIX</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Introduction</td>
<td>4-1</td>
</tr>
<tr>
<td>4.2 Drought Response Matrix Stages</td>
<td>4-2</td>
</tr>
<tr>
<td>4.3 Potential Water Authority Drought Actions</td>
<td>4-2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 5 – SUPPLY ALLOCATION METHODOLOGY (updated April 2012)</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Introduction</td>
<td>5-1</td>
</tr>
<tr>
<td>5.2 Description of Allocation Methodology</td>
<td>5-3</td>
</tr>
<tr>
<td>5.2.1 Historic Base Period Demands on the Water Authority (Unadjusted)</td>
<td>5-3</td>
</tr>
<tr>
<td>5.2.2 Adjustments</td>
<td>5-4</td>
</tr>
<tr>
<td>5.2.3 Adjusted Base Period Demands and Supply Allocation Percentages</td>
<td>5-7</td>
</tr>
<tr>
<td>5.2.4 Water Authority Supply Availability and Net Cutback Percentages</td>
<td>5-7</td>
</tr>
<tr>
<td>5.2.5 Member Agency Initial Allocation of Water Authority Supplies</td>
<td>5-8</td>
</tr>
<tr>
<td>5.2.6 Additional Adjustments</td>
<td>5-9</td>
</tr>
<tr>
<td>5.2.7 Carryover Storage Program</td>
<td>5-11</td>
</tr>
<tr>
<td>5.2.8 Member Agency Final Total Wholesale Allocation</td>
<td>5-12</td>
</tr>
<tr>
<td>5.2.9 Regional Reliability Adjustment (if required)</td>
<td>5-13</td>
</tr>
<tr>
<td>5.2.10 Data Reconciliation</td>
<td>5-15</td>
</tr>
<tr>
<td>5.3 Member Agency Transfers Secured Following Allocation Methodology</td>
<td>5-17</td>
</tr>
</tbody>
</table>

...
SECTION 6 – WATER AUTHORITY/MEMBER AGENCY COORDINATION

6.1 Introduction 6-1
6.2 Member Agency Advisory Team 6-1
6.3 Communication Strategy 6-2
6.4 Five Phases of Drought Response 6-4
   6.4.1 Normal Periods 6-5
   6.4.2 Phase One 6-7
   6.4.3 Phase Two 6-8
   6.4.4 Phase Three 6-9
   6.4.5 Phase Four 6-11
6.5 Conclusion 6-14

SECTION 7 – SUMMARY 7-1

APPENDIX A – Allocation Methodology Terms
APPENDIX B – Questionnaire Results
APPENDIX C – Water Authority Historical Drought Plans
APPENDIX D – Summary of Metropolitan Water District Historical Drought Plans
APPENDIX E – Metropolitan’s Draft IAWP Reduction Guidelines
APPENDIX F – Member Agency DMP TAC Memorandum to Board of Directors
Section 1 - Introduction

The primary purpose of the Drought Management Plan (DMP) is to provide the Water Authority and its member agencies with a series of potential actions to take when faced with a shortage of imported water supplies from Metropolitan due to drought conditions. The actions will help the region minimize the impacts of shortages and ensure an equitable allocation of supplies. Different from a treated water shortage allocation plan, the DMP focuses on issues associated with shortages due to supply cutbacks, not shortages due to facility constraints.

1.1 Reliability

The Water Authority and its member agencies have made substantial investments in new diversified supplies and facilities to improve water reliability in the San Diego region. As mentioned in the Water Authority's 2005 Urban Water Management Plan, if the Water Authority and member agency supplies are developed as planned and Metropolitan's Integrated Resource Plan is fully implemented, no shortages are anticipated within the Water Authority's service area through 2030. Table 1-1, below, shows the mix of resources identified to meet future demands in a single dry-year period.

<table>
<thead>
<tr>
<th>Table 1-1</th>
<th>SAN DIEGO COUNTY WATER AUTHORITY</th>
<th>SINGLE DRY WATER YEAR SUPPLY AND DEMAND ASSESSMENT (AF/YR)</th>
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<td>Water Authority Supplies</td>
<td>2010</td>
<td>2015</td>
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<tr>
<td>Regional Seawater Desalination at Encina</td>
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<td>IID Water Transfer</td>
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<td>ACC and CC Lining Projects</td>
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<td>Sub-Total</td>
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<td>Member Agency Supplies</td>
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<td>Surface Water</td>
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<td>Sub-Total</td>
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<td>Metropolitan Water District Supplies</td>
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<td>TOTAL PROJECTED SUPPLIES</td>
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<tr>
<td>TOTAL ESTIMATED DEMANDS w/ Conservation</td>
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Water conservation plays a critical role in long-term supply reliability for the region. The Water Authority and its member agencies are considered leaders in California in the implementation of an aggressive conservation program to use water more efficiently. The total reduction in water demand attributable to projected conservation savings over the next 25 years is identified in Table 1-2.
With the objective to obtain a reliable supply as outlined in the agencies' planning documents - with no anticipated shortages - Metropolitan, Water Authority and its member agencies will need to make investments in development of projects and programs along with gaining support from the local community for implementation.

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 DMP in the event that the region faces supply shortages due to drought conditions.

1.2 Defining a Drought

The question is often asked as to what defines a drought. As stated on the California Department of Water Resources (DWR) drought preparedness website:

"Defining when a drought begins is a function of drought impacts to water users. Hydrologic conditions constituting a drought for water users in one location may not constitute a drought for water users elsewhere, or for water users having a different water supply. Individual water suppliers may use criteria such as rainfall/runoff, amount of water in storage, or expected supply from a water wholesaler to define their water supply conditions."

Defining when supply conditions signify a drought in the San Diego region is a combination of the condition of Metropolitan's supplies and storage levels and local supply production in San Diego, both groundwater and surface water. One of the actions that may trigger initial drought conditions is when Metropolitan must take water from storage to meet demands. With the storage and supplies developed by the Water Authority, its member agencies, and Metropolitan since the last drought in 1987-1992, the region has significantly improved its ability to respond to drought conditions. As further stated on DWR's website:

"Droughts occur slowly, over a multiyear period. There is no universal definition of when a drought begins or ends. Impacts of drought are typically felt first by those most reliant on annual rainfall – ranchers engaged in dryland grazing, rural residents relying on wells in low-yield rock formations, or small water systems lacking a reliable source. Criteria used to identify statewide drought conditions do not address these localized impacts. Drought impacts increase with the length of a drought, as carry-over supplies in reservoirs are depleted and water levels in groundwater basins decline."

1-2
1.3  Plan Summary

This first section of the report highlights the region's plans for providing a reliable supply for the next 25 years, with no anticipated shortages. It also describes the need for a DMP due to uncertainties in development and management of both imported and local supplies. This section also looks at defining a drought and the DMP report format.

The next section, Section 2 – DMP Preparation, discusses preparation of the DMP. This section includes a discussion of the formation of the member agency Technical Advisory Committee (TAC), along with the results from a questionnaire completed by the TAC members. This section also includes the principles that provided guidance in preparation of the DMP.

Section 3, Review of Historic Plans and Implementation, contains a summary of the past drought response plans and ordinances prepared by the Metropolitan Water District and the Water Authority. The section concludes with a discussion on the lessons learned from preparation and implementation of these previous plans.

The following section, Section 4 – Drought Response Matrix, includes a description of the stages and actions contained in the drought response matrix. The matrix provides guidance to the Water Authority in selecting potential regional actions that can be taken to lessen the severity of shortage conditions. This includes such items as purchasing spot transfers and utilizing carryover storage.

Section 5, 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 shortage situation. To help describe and demonstrate the calculation procedure, an example is included for illustrative purposes.

Section 6, Water Authority/Member Agency Coordination, outlines the coordination to occur between the Water Authority and its member agencies in implementation of the DMP. A communication strategy is included that describes actions for the Water Authority to take to ensure clear communication with its member agencies, the public, and elected officials prior to and during shortage conditions.

The final section, Section 7 – Summary, summarizes the accomplishments of the DMP. There are also a series of appendices containing detailed supporting documentation.

1.4  Member Agency Coordination

The challenge in preparing the DMP was to meet the needs of the Water Authority's member agencies in a fair and equitable manner. Each of the agencies has a unique supply portfolio and customer-base. 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. Through the yearlong process of developing the DMP, these challenges were addressed and the Water Authority appreciated the involvement of the member agencies.
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Section 2 – DMP Preparation

In February 1991, as a result of the 1987-1992 drought, the Water Authority prepared and adopted a Drought Response Plan that outlined the actions for the Water Authority and its member agencies to take during the supply shortage situation. In accordance with California Water Code, the Water Authority prepared an Urban Water Shortage Contingency Plan in January 1992 that included the ordinances and other procedures adopted during the 1987-1992 drought. The current DMP was prepared to identify the actions that the Water Authority and its member agencies will now take if faced with drought conditions, and specifically, how supplies will be allocated.

2.1 Member Agency Technical Advisory Committee

Preparation and implementation of a drought plan for the San Diego region must have input and support from the Water Authority’s member agencies. Recognizing the importance of member agency involvement, the Water Authority formed a TAC – Technical Advisory Committee – to provide input on development of the DMP. The TAC included a representative from each of the member agencies. Key to the successful preparation of the plan was full involvement from all member agencies to ensure effective communication and understanding of member agencies’ issues and concerns. To assist in this 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 are to be commended for their efforts to work together to develop the elements of this regional DMP.

2.2 Drought Management Plan Questionnaire

To gain an initial understanding of the TAC members’ position on the DMP elements, a five-page questionnaire was distributed to the member agencies. The questionnaire consisted of eighteen questions, as well as a section for general comments. The questions were divided into the following five areas: 1) what is important in the overall design of a drought management plan; 2) what are the issues related to water transfers; 3) what role should the Emergency Storage Project play during a drought; 4) how should water be allocated in a drought; and 5) what role should a public communication strategy play during a drought. Appendix B contains the questionnaire results. Each of the TAC members completed the questionnaire, which was helpful to ensure that all member agency perspectives were heard. The results also provided valuable information used to develop a set of DMP Principles.

2.3 Principles

To provide guidance to the Water Authority and its member agencies in developing and implementing the DMP, twenty-three principles were developed. The principles were initially drafted based on results from the questionnaire that was completed by the TAC members (Appendix B). They were then revised and finalized based upon input received during a series of TAC meetings.
The principles are grouped below under the following categories: a) Overall Plan; b) Communication Strategy; c) Drought Supply Enhancement; d) Drought Response Stages; and e) 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 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. 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.

2.4 Report Preparation and 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. On February 14, 2006, the TAC supported forwarding the report to the Water Authority’s Board of Director’s Water Planning Committee for their consideration. The DMP elements were presented to Water Authority’s Board of Directors through a series of meetings and workshops, with final approval of the DMP on May 25, 2006.
Section 3 – Review of Historic Plans and Implementation

"Experience is not always the kindest of teachers, but it is surely the best."¹ Thus, it was important to review the historical context of drought plans in Southern California and examine how those drought plans were implemented, and what impact they had on the Water Authority. Historically, due to the dependence on deliveries from Metropolitan, the Water Authority’s guidelines for drought management actions have paralleled Metropolitan’s adopted plans for supply management in drought situations. Lessons learned from the creation and implementation of these plans were used when preparing the DMP. This section summarizes those historical drought plans and lessons learned. Detailed information regarding the historical drought plans can be found in Appendix C (Water Authority) and Appendix D (Metropolitan).

Metropolitan began delivering water in 1941 and had been able to meet demands through system expansion through much of its history. However, during the drought of 1976-1977, Metropolitan first experienced demands that were greater than supplies. During the 1976-77 drought, Metropolitan asked for and received voluntary reductions in deliveries of 10 percent. It was then, that Metropolitan began considering how to deal with future supply shortages. The sections below describe the four drought plans that Metropolitan has had since that time, along with the Water Authority’s actions to implement those plans.

3.1 Metropolitan’s 1981 Interruptible Water Service Program

The first drought plan that Metropolitan’s Board of Directors adopted was the Interruptible Water Service Program in 1981. This program combined a rate structure and drought plan. The Interruptible Water Service Program was intended to deliver water at a discounted rate in return for the ability to interrupt the deliveries as required. Water that did not receive a discount was deemed to be “noninterruptible.”

Deliveries for groundwater or reservoir storage, agricultural purposes, and seawater barrier injection were considered to be interruptible water. An agency had an obligation to take a reduction or interruption in deliveries for three years after taking interruptible water deliveries.

When the 1987-1992 drought occurred, many member agencies that had purchased the interruptible water were not able to manage an interruption in deliveries. Some agencies did not have the facilities in place to produce stored water, others did not have the water in storage, while others preferred to have customers conserve rather than produce from storage.² Additionally, there was concern expressed by some farmers that trees and vines

¹ Spanish Proverb, The Columbia World of Quotations, 1996.
and livestock would be permanently destroyed by interrupting their water service.\(^3\) In response and as the drought deepened, Metropolitan’s Board of Directors adopted the Incremental Interruption and Conservation Plan.

### 3.2 Metropolitan’s 1990 Incremental Interruption and Conservation Plan

The Incremental Interruption and Conservation Plan (IICP) was devised to reduce both noninterruptible and interruptible deliveries. Metropolitan’s Board of Directors attempted to rectify the inequity of agencies receiving past discounts for interruptible water service by reducing water taken as interruptible water at a greater percentage than water taken as noninterruptible water. Stages of reductions in deliveries for “firm” and “nonfirm” water deliveries were created based on the amount of supply available to Metropolitan and projected demands. This reduction in deliveries occurred for 14 months starting in February 1991.

The IICP used fiscal year 1989-90 sales as the basis of its allocation. These sales were broken down into monthly targets. The targets were adjusted for loss of local supply, growth, conservation, and reclamation. The percentage reduction in deliveries was then applied. For part of the allocation period, agencies that took less water than their IICP target received an incentive of $99 per acre-foot. These incentives were eliminated as the combined revenue impacts of reduced sales and large incentive payments affected Metropolitan. Agencies that took more than their target paid a disincentive of two times the untreated noninterruptible rate in addition to paying the noninterruptible rate for delivery of the water. Monthly overages and underages were allowed to offset one another over the course of the year through an annual reconciliation. At the beginning of the allocation, billing for disincentives occurred monthly. This was later changed to a quarterly basis. Additionally, a time limit was placed on applying for adjustments.

### 3.3 Water Authority’s 1991 Drought Response Plan

In response to the continuing drought and Metropolitan’s adoption of the IICP, the Water Authority adopted its own Drought Response Plan in 1991. The Board Letter and Drought Response Plan are included in Appendix C. The Drought Response Plan had four components as summarized below.

1. **Drought Response Program**

   The Water Authority tied its response stages to the IICP. However, reductions were not broken down between “firm” and “nonfirm” deliveries in the base year. Rather, it reduced deliveries to its agencies uniformly based on fiscal year 1989-90 sales. Incentive and disincentive payments were assessed using the same formula as Metropolitan. Additionally, a Response Stage Activities matrix was developed for the member agencies. This matrix arranged water management techniques, such as

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\(^3\) Metropolitan Water District of Southern California, *Draft Paper on Events Leading Up to and Chronology of the 1990-92 Drought Years and Supply Reliability Improvements Achieved as a Result of the Drought.*

3-2
no outside irrigation except with water reclaimed from indoor use, to the reduction levels corresponding to the stage of the IICP. Through its member agency response to the public information program and prohibitions of water use, the Water Authority, overall, was able to stay within its allocation of water from Metropolitan.

2. Conservation Program

The Water Authority had long-term conservation programs in place prior to the allocation of water. Once the allocation of water began, additional short-term conservation programs, such as assistance to public institutions for conserving water, were added.

3. Member Agency Assistance Activities

Beyond the Response Stage Activities matrix, the Water Authority provided other assistance to member agencies, such as a member agency workshop on penalty pricing methods.

4. Public Information Activities

There were two objectives to the activities. The first was to highlight the drought situation and the need for immediate cutbacks in water usage. The second was to develop continuing methods to assist member agencies and educate the public on water supplies.

3.4 Department of Water Resources Drought Water Bank

Supplies from a Drought Water Bank were made available by DWR for one year, in 1991, to State Water Contractors. Metropolitan was able to obtain 215,000 acre-feet of the bank water. It sold some water directly to member agencies and melded the remainder with the rest of its supplies. Water sold directly to agencies was sold at DWR’s melded rate of $175 per acre-foot plus Metropolitan’s noninterruptible rate. The Water Authority contracted for 21,600 acre-feet of bank water, and took delivery of 20,100 acre-feet of bank water. The Water Authority melded the bank water into its other supplies.

3.5 Metropolitan’s 1995 Drought Management Plan

The 1995 Drought Management Plan (1995 Plan) was the first time that Metropolitan formalized a plan which addressed the actions to take during a drought prior to reducing or interrupting deliveries of water. These actions included calling on water from various storage programs and participating in water bank and transfer options.

The 1995 Plan included a modified IICP. The modifications to the IICP included using an average of three fiscal years rather than one fiscal year for the base period and the
establishment of an Interagency Advisory Committee to assist Metropolitan’s General Manager during an allocation.

The 1995 Plan was adopted for only one year. As part of Metropolitan’s integrated water resources planning process, it was intended that a more permanent drought management plan, which also incorporated surplus conditions, be prepared to create a general policy direction on the basic sequence of water resource management steps to take under surplus or shortage conditions. This plan, adopted in 1999, became known as the Water Surplus and Drought Management Plan (Section 3.7).

3.6 1994 Ordinance of the San Diego County Water Authority Establishing Contingency Plans, Rules, Regulations, and Restrictions so that Available Water Supplies are Allocated among Member Agencies for the Greatest Public Interest and Benefit

The Water Authority, in response to Metropolitan adopting its 1995 Plan (in October 1994), adopted its own water shortage contingency ordinance (Appendix C) a month later, in November 1994. The water resource portion of the ordinance included two basic components. First, if Metropolitan had to implement the IICP, the Water Authority would act to minimize shortages to its service area by making available stored water that it owned and securing other water supplies. And second, if the Water Authority continued to have a supply shortage it would allocate water supplies using Metropolitan’s 1995 Plan-modified IICP as a template. This allocation included having separate cutback percentages for IAWP deliveries and firm deliveries, using the same three-year base period as the basis for the firm allocation, and passing through any penalties on a pro-rata basis to those agencies that received deliveries in excess of their allocation. If a member agency was not able to reduce its deliveries to within 5 percent of its monthly allocation, then its daily deliveries could be reduced by the Water Authority in a manner to ensure compliance. In addition to the basic concepts listed above, an appeals board was established to review actions taken by the Water Authority’s General Manager if a member agency did not agree with the actions. The appeals board consisted of five Water Authority Board members.

3.7 Metropolitan’s Water Surplus and Drought Management Plan

The Water Surplus and Drought Management Plan (WSDM) is the drought management plan that Metropolitan currently operates under. Based on water supplies and projected demands, varying actions may be taken by Metropolitan. These actions are shown in Figure 3-1. The matrix acts as a “framework.” Actual responses would be based on conditions at the time of need.

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A water allocation methodology in the event “rationing” becomes necessary is not included in the WSDM Plan. A draft methodology was devised and specific concepts of an allocation are laid out in the WSDM Plan. These concepts include the goal that overall retail demands would be used to minimize uneven impacts to agencies within Metropolitan’s service area. The final allocation plan was not adopted, in part, due to this concept. Agencies that had invested heavily to develop local supplies or for conservation felt that they were being treated unfairly and that there was no incentive to continue with these local investments since overall retail demands were used as the starting point for the drought allocation.

### 3.8 Interim Agricultural Water Program Reduction Guidelines

Metropolitan converted the “Interruptible Program” for agricultural users into the Interim Agricultural Water Program (IAWP) in May 1994. The IAWP provides for the delivery of surplus water for agricultural purposes at a discounted rate in exchange for up to a 30 percent reduction in demand by participating agricultural water users prior to implementation of municipal and industrial water use rationing. This reduction enables Metropolitan to better conserve limited supplies during shortages.

For the past several years and until the fall of 2004, Metropolitan’s service area experienced dry conditions combined with high demands. Metropolitan and its member agencies began preparing a plan to reduce IAWP deliveries in the 2004-2005 water year (October through April) in the event that a reduction was necessary. This plan, although not finalized, is included in Appendix E.
3.9 Lessons Learned

As review of the historical plans occurred, it became apparent that certain lessons could be learned from them about both what to do and not to do before and during an allocation. These lessons include:

Effective Communications

It is important that Directors, agency staff, governmental officials, the news media, and the public understand the water supply situation, how the Water Authority is prepared to meet demands, and ultimately if required, how an allocation plan would be implemented. Permanent outreach activities that educate the public about the region’s water supplies are vital. Additionally, a communication team that has a plan that it can work during a drought in a proactive, rather than reactive mode, will help in the implementation of the drought plan. A proactive approach will also help manage rapidly changing conditions during a shortage. In response to these observations, a communication strategy has included in the DMP that establishes a drought communication team. Please refer to Section 6 for a more complete discussion of the communication plan.

Advance Supply and Facility Planning

Agencies should have supply and facility plans in place ahead of time to avoid supply shortage situations. The planning should include storing surplus supplies when and where possible, having the facilities in place to withdraw these supplies, and being prepared with a staged plan on how to deal with shortages. The Water Authority and its member agencies have accomplished this through development of urban water management plans, facility master plans, and the DMP.

Avoid Rationing as much as Possible

This avoidance includes entering into option contracts, voluntary conservation, and encouraging the development of local supplies. Although all of these methods have some cost associated with them, they are likely not as high as the economic impacts of water supply shortages to the region. This DMP, through its Drought Response Matrix and possible supply enhancement actions, provides a plan to potentially avoid rationing when feasible. The Drought Response Matrix is discussed further in Section 4.

Develop an Allocation Methodology that Encourages Local Supply Development

By developing local supplies, the reliability of both the individual member agency that developed the supply, as well as the region, is improved. Thus, any drought plan should encourage the development of local supplies, not hinder them. The allocation
methodology in this DMP encourages local supply development in two ways. First, it uses historic Water Authority demands, not retail demands, as the basis for allocating water. Second, an adjustment for the development of local projects (recycled water, groundwater recovery, and seawater desalination) is provided in the allocation methodology. This adjustment provides a 30 percent credit on the yield of locally developed reliable supplies in the base period (discussed in Section 5).

Review and Remind Agencies of DMP Annually

This review educates staff members who are new to the Water Authority or its member agencies on how the DMP works. One of the problems with the 1981 Interruptible Water Service Program was that the reason for Metropolitan providing the discount was lost with the departure of staff members who had worked on the program. Thus, implementation of the plan could not occur and a new plan, the IICP, had to be formulated at the last minute. An annual review and reminder of the DMP will help reduce any last minute confusion.

Make Adjustments in Allocation Methodology Simple to Administer

By having a fairly simple preset formula that uses historic information for adjustments and a three-year average base period, administering adjustments in the DMP allocation methodology will be easier and less time consuming.
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Section 4 – Drought Response Matrix

4.1 Introduction

The Water Authority exists to provide, as far as practicable, each of its member agencies with adequate supplies of water to meet their expanding and increasing needs. In times of extreme drought, where the San Diego region could experience shortages of supply from Metropolitan, the Water Authority needs to take actions to try to both reduce and eliminate shortages. A Drought Response Matrix was developed to provide guidance to the Water Authority and its member agencies to select potential regional actions to lessen the severity of shortage conditions. The matrix is shown below in Table 4-1.

<table>
<thead>
<tr>
<th>POTENTIAL SDCWA DROUGHT ACTIONS</th>
<th>STAGES</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Voluntary</td>
<td>SDCWA Supply</td>
<td>Mandatory</td>
<td>Cutbacks</td>
</tr>
<tr>
<td>Ongoing BMP implementation</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Communication strategy</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Monitoring supply conditions and storage levels</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Call for voluntary conservation</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Draw from SDCWA Carryover Storage</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Secure transfer option contracts</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Buy phase 1 spot transfers (cost at or below Tier 2 rate)</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Call transfer options</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Buy phase 2 spot transfers (cost at or above Tier 2 rate)</td>
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<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implement allocation methodology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilize ESP Supplies</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

The matrix includes a list of potential actions available to the Water Authority at each of the three main stages. To determine the specific actions that should be taken at each stage, 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 drought. These variables include, but are not limited to, State Water Project 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 shortages.
4.2 Drought Response Matrix Stages

The potential actions are grouped into the following three stages:

Voluntary

The first stage of the drought response matrix is considered voluntary. The voluntary stage would likely occur when Metropolitan has been experiencing shortages in its imported water supply (from either the Colorado River or the State Water Project, or both) and is withdrawing water from storage due to the drought conditions to meet normal demands.

Water Authority Supply Enhancement

This stage could occur in year three or four of a dry period and represents that point in time when Metropolitan reduces water deliveries to its member agencies. The Water Authority’s Board of Directors will then consider the potential actions in this stage, or others that may surface, to eliminate any cutbacks to the member agencies from the reduction in Metropolitan supplies.

Mandatory Cutbacks

The final stage follows once both Metropolitan and the Water Authority Board have exhausted all supply enhancement options due to lack of supplies and/or increasing costs, and mandatory cutbacks are required. The actions taken at this stage include implementation of the allocation methodology and potential utilization of ESP supplies. It should be noted that members of the DMP TAC expressed strong opinions that the ESP supplies only be used during a hydrologic drought as a last resort, if at all. Should the dry weather continue and the region enter a sixth year of drought, some communities may begin facing health and safety issues.

4.3 Potential Water Authority Drought Actions

The following is a brief description of each of the potential Water Authority actions that may be taken in a drought situation.

Ongoing Best Management Practices Implementation

The Water Authority and its member agencies continue to implement the California Urban Water Conservation Council’s comprehensive water conservation Best Management Practices.

Communication Strategy

A Communication Strategy will be in place prior to the drought and continue through all stages. The strategy is a coordinated effort between the Water Authority and its member agencies. It includes phases of response and corresponding activities to take during each phase. Refer to Section 6 for additional information.
Monitoring Supply Conditions and Storage Levels

Water Authority staff monitors State Water Project and Colorado River supplies, along with supply levels in Metropolitan’s storage facilities and programs. Reports will be made to the member agencies and the Water Authority’s Board of Directors on the status of the supply conditions. This action is also an important element of the Communication Strategy.

Call for Voluntary Conservation

The Water Authority and its member agencies will ask the public to implement voluntary water conservation practices. The voluntary water conservation measures are in addition to the region’s ongoing implementation of the BMPs. Voluntary water conservation measures may focus on outdoor water conservation, elimination of run-off, and leak detection. The shift from indoor water conservation to outdoor water conservation is due to demand hardening that is the result of 15 years worth of indoor water conservation efforts that targeted homes and businesses. The specifics of the voluntary water conservation measures will be determined by member agencies, with the Water Authority providing regional messages and assistance. The action will be closely coordinated through the Communication Strategy.

Draw from Water Authority Carryover Storage

The Water Authority will draw from its non-ESP storage in order to meet member agency demands. This could include supplies available through the Water Authority’s proposed carryover storage project that is scheduled for completion in 2011.

Secure Transfer Option Contracts

The Water Authority secures transfer option contracts for supplies from outside of the region. Transfer options are multi-year contacts that allow the Water Authority to obtain a specified quantity of water at some future date. The amount secured will depend on supply need 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.

Buy Phase 1 Spot Transfers

The Water Authority buys Phase 1 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. The cost for this block of water would be at or below the Tier 2 water rate. Purchase of spot transfers are categorized into two phases to provide the Board the ability to determine action based on cost. The cost includes purchase and conveyance. Examples of a spot transfer are supplies purchased through DWR’s Drought Water Bank during the 1987-1992 drought (See Section 3.4). The transfer water will be melded in with the remaining supplies available to the Water Authority.

Call Transfer Options

The Water Authority buys the previously secured transfer options. In addition to the cost to purchase the transfer water, the Water Authority needs to pay for conveyance between the location
of the sale and the San Diego region. Additional costs could include storage, treatment, and seepage losses depending upon the origin of the transfer water. The transfer water will be melded in with the remaining supplies available to the Water Authority.

Buy Phase 2 Spot Transfers

The Water Authority buys Phase 2 spot transfers from outside of the region. The transfer water will be melded in with the remaining supplies available to the Water Authority.

Implement Allocation Methodology

The Water Authority’s Board of Directors determines that all potential actions have been taken to avoid shortages and the remaining action is to implement the allocation methodology outlined in Section 5.

Utilize Emergency Storage Project Supplies

The Water Authority draws from its ESP supplies when any member agency’s non-interruptible firm demands drop below a 75% service level. The quantities of supplies drawn from storage are based on the minimum amount necessary to meet essential health, safety, and firefighting needs. It is also based on the maximum amount needed to ensure adequate supplies remain for a catastrophic event.

The drought response matrix provides guidance to the Board on potential actions that the Water Authority could take at certain stages of drought. There are variables, unknown at this time, which may influence the options available to the Water Authority’s Board of Directors. This will need to be taken account when it is time to implement the matrix.
Section 5 - Supply Allocation Methodology (Updated April 2012)

5.1 Introduction

As outlined in the Drought Response Matrix discussed in Section 4, after the Water Authority’s Board of Directors 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 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 2.3. Through the TAC meetings, Water Authority staff and designated member agency representatives have collectively agreed to the allocation methodology described in this section.

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 also noted that certain conditions have changed since adoption of the methodology in 2006, specifically in the area of conservation. Adoption of State water use efficiency legislation has caused a paradigm shift in conservation tracking, and prompted an evaluation of the manner in which the allocation methodology addresses demand hardening and conservation savings. A final area of review involved the relationship between the Water Authority’s methodology and recent modifications to Metropolitan’s Water Supply Allocation Plan (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 Water Authority 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 5-1, the methodology begins with a determination of each agency’s base period 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 Metropolitan. Individual member agency’s percent share of the total regional adjusted base period demand is then calculated. The percentages are multiplied by Water Authority supplies available to derive an initial allocation for each member agency. To calculate agencies’ final supply allocations, additional adjustments are subsequently made for allocation-year local supply loss and for Metropolitan WSAP alignment. If the Water
Authority 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 5-1 contains a reference number to the corresponding subsection that describes the step in detail.

**Figure 5-1**
Supply Allocation Methodology

Base Period SDCWA Demands
(Historic 3-year average)
(Section 5.2.1)

Adjusted Base Period Demands
(Section 5.2.3)

Agency Percent of Total Adjusted Base Period Demands
(Section 5.2.3)

Agency Initial Allocation
(percent x net available supply)
(Section 5.2.5)

Agency Final Allocation
(Section 5.2.6)

Agency Final Wholesale Allocation
(Section 5.2.8)

Base Period Adjustments:
- Growth (first year of allocation)
- GPCD Compliance
- Local Projects Development
(Section 5.2.2)

Net Available Metropolitan and Water Authority Supplies
(excluding CSP deliveries)
(Section 5.2.4)

Additional Adjustments:
- Loss of Local Supply
- MWD WSAP Alignment
(Section 5.2.6)

CSP M&I Allocation
(Section 5.2.7)

Regional Reliability Adjustment
(if required – triggered at SDCWA loss of 20% or greater)
(Section 5.2.9)
5.2 Description of Allocation Methodology

To help describe the 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 urban and agricultural 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.

The first step in determining the severity of necessary cutbacks during any water supply shortage event is an assessment of available supply compared to estimated demands. Because the majority of the region’s water supply originates from outside the San Diego area, the severity of regional drought cutbacks is driven by the availability of imported supplies. However, imported supplies developed by the Water Authority are less vulnerable to reductions due to their higher priority water right. The high reliability of the IID transfer water and conserved water resulting from the lining of the All-American Canal and Coachella Canals assures that these supplies will be available to the Water Authority during extreme hydrologic events. As a result, imported Metropolitan supplies and local surface water would be most susceptible to a reduction during a drought. Therefore, an estimated 15 percent cutback in Metropolitan supplies to the Water Authority was assumed to illustrate the allocation methodology.

5.2.1 Historic Base Period Demands on the Water Authority (Unadjusted)

A historic base period demand is required to establish each agency’s demands on the Water Authority prior to activation of the WSDRP. Base period 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 WSDRP due to supply shortage conditions. Each of the three consecutive fiscal years will be years in which the WSDRP has not been activated. Each agency’s base period demand is established by calculating its three-year average of demand.

For illustrative purposes, Table 5-1 contains historic base period 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 WSDRP) are to remain fixed for the duration of the allocation.

<table>
<thead>
<tr>
<th>Historic Base Period Demands on Water Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
</tr>
<tr>
<td>SDCWA Demand (three-year average)</td>
</tr>
<tr>
<td>Agency A</td>
</tr>
<tr>
<td>2,200</td>
</tr>
</tbody>
</table>

5-3
5.2.2 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 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 (GPCD factor). The GPCD factor is an aggregate of member agencies’ SBX7-7 GPCD targets from the Water Authority’s Urban Water Management Plan (UWMP), and encompasses residential and Commercial, Industrial, and Institutional (CII) demands. As an example, the 2010 UWMP contains 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 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 GPCD to the minimal population increase. Agencies requesting this method for capturing growth are required to provide adequate documentation on CII meter installations and residential GPCD factors based on their individual SBX7-7 targets.

Finally, to ensure alignment with Metropolitan’s WSAP in subsequent years of a multi-year allocation period the growth adjustment amount received from Metropolitan 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 Metropolitan 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 Metropolitan. The same criteria and documentation would be required as discussed above.

Table 5-2 illustrates the growth adjustment calculations for each sample agency.

<table>
<thead>
<tr>
<th>Member Agency Population</th>
<th>Agency A</th>
<th>Agency B</th>
<th>Agency C</th>
<th>Agency D</th>
<th>Agency E</th>
</tr>
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<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>
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<tr>
<td>Allocation Year</td>
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<td>32,400</td>
<td>808,100</td>
<td>233,300</td>
<td>117,500</td>
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<tr>
<td>Change in Population</td>
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<td>616</td>
<td>18,473</td>
<td>12,330</td>
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<tr>
<th>Governing GPCD Target</th>
<th>Base Period GPCD</th>
<th>Aggregated Agency SBX 7-7 Target</th>
<th>Governing GPCD Target</th>
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<tbody>
<tr>
<td>A</td>
<td>176</td>
<td>174</td>
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<td>B</td>
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<td>E</td>
<td>187</td>
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<th>Growth Adjustment</th>
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<tr>
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<td>616</td>
<td>18,473</td>
<td>12,330</td>
<td>718</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 SBX 7-7, retail agencies are now 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 SBX 7-7 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 SBX 7-7 2020 targets, or estimated pre-2020 targets,
over the Water Authority established allocation base period. Agencies not meeting their targets will have their SBX 7-7 compliance shortfall deducted from their base period demand. Consistent with SBX 7-7 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 SBX 7-7 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 exceedence is over 5% of its SBX 7-7 target. GPCD compliance adjustments for the sample agencies are shown below in Table 5-3.

<p>| Table 5-3 |</p>
<table>
<thead>
<tr>
<th>GPCD Compliance Adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agency A</td>
</tr>
<tr>
<td>Base Period GPCD (weather normalized)</td>
</tr>
<tr>
<td>SBX7-7 GPCD Target</td>
</tr>
<tr>
<td>Variance</td>
</tr>
<tr>
<td>SBX 7-7 Target 5% Exceedence Allowance</td>
</tr>
<tr>
<td>Adjustment (GPCD)</td>
</tr>
<tr>
<td>Adjustment (AF)</td>
</tr>
</tbody>
</table>

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 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 5-4 on the following page shows the Local Projects Adjustment.
Table 5-4
Local Projects Development Adjustment (AF)

<table>
<thead>
<tr>
<th>Year</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>1</td>
<td>65</td>
<td>0</td>
<td>4,900</td>
<td>1,310</td>
<td>1,850</td>
</tr>
<tr>
<td>2</td>
<td>64</td>
<td>0</td>
<td>4,950</td>
<td>1,350</td>
<td>2,100</td>
</tr>
<tr>
<td>3</td>
<td>66</td>
<td>0</td>
<td>5,150</td>
<td>1,340</td>
<td>2,050</td>
</tr>
<tr>
<td>Average</td>
<td>65</td>
<td>0</td>
<td>5,000</td>
<td>1,333</td>
<td>2,000</td>
</tr>
<tr>
<td>30% Credit</td>
<td>20</td>
<td>0</td>
<td>1,500</td>
<td>400</td>
<td>600</td>
</tr>
</tbody>
</table>

5.2.3 Adjusted Base Period Demands and Supply Allocation Percentages

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

Table 5-5
Adjusted Base Period Demand and Initial Supply Allocation Percentages (AF)

<table>
<thead>
<tr>
<th>Agency</th>
<th>Base Period Demand on SDCWA</th>
<th>Growth Adjustment</th>
<th>GPCD Compliance Adjustment</th>
<th>Local Projects Development Adjustment</th>
<th>Adjusted Base Period Demand</th>
<th>Pro-rata Share of Adjusted Base Period 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></td>
<td></td>
<td></td>
<td></td>
<td>266,363</td>
<td></td>
</tr>
</tbody>
</table>

5.2.4 Water Authority Supply Availability and Net Cutback Percentages

The next step in the allocation methodology is to identify the total supplies available to meet member agency demands during shortage events. Supplies are equal to the sum of water from Metropolitan, the Water Authority’s existing Imperial Irrigation District transfer water, conserved water from planned canal lining programs, and projected supplies from future seawater desalination project(s). These additional supplies developed by the Water Authority help to reduce demands on Metropolitan, and therefore decrease the impact from reductions in Metropolitan’s supplies. This is demonstrated in the calculations shown in Table 5-6.
For this example, it is assumed that Metropolitan’s allocation results in a drought supply allotment equal to 85 percent of the Water Authority’s demand on Metropolitan. In the example, Water Authority supplies are set at 20,000 acre-feet per year. Total supply availability is computed by combining Water Authority supplies and Metropolitan drought supplies (Table 5-6). As discussed in Section 5.2.6., 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 5-8.

**Table 5-6**  
Supply Availability - illustrative purposes (AF)

<table>
<thead>
<tr>
<th>Supply Availability</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Allocation-Year Demand</td>
<td>273,360</td>
</tr>
<tr>
<td>SDCWA Supply</td>
<td>20,000</td>
</tr>
<tr>
<td>Demand on Metropolitan</td>
<td>253,360</td>
</tr>
<tr>
<td>Metropolitan Cutback to Supplies</td>
<td>15%</td>
</tr>
<tr>
<td>Net Metropolitan Supply Availability</td>
<td>215,356</td>
</tr>
<tr>
<td>Initial SDCWA 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 Supply Availability</td>
<td>230,656</td>
</tr>
</tbody>
</table>

5.2.5 **Member Agency Initial Allocation of Water Authority Supplies**

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

\[
\text{Allocation} = (\text{Net Available Regional Imported Supply}) \times (\text{Agency's Pro-rata Share of Base Period Demand})
\]

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

**Table 5-7**  
Initial Imported Supply Allocation Volumes

<table>
<thead>
<tr>
<th>Agency</th>
<th>Pro-rata Share of Adjusted Base Period SDCWA Demands</th>
<th>SDCWA Initial Allocation Volume</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>

5-8
5.2.6 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 5.8.

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 5.2.2 on this same supply.
Table 5-8
Loss of Local Supply Adjustment

<table>
<thead>
<tr>
<th>Year</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>1</td>
<td>0</td>
<td>0</td>
<td>19,700</td>
<td>0</td>
<td>2,000</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
<td>21,800</td>
<td>0</td>
<td>3,900</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
<td>18,500</td>
<td>0</td>
<td>2,500</td>
</tr>
<tr>
<td>Average</td>
<td>0</td>
<td>0</td>
<td>20,000</td>
<td>0</td>
<td>2,800</td>
</tr>
</tbody>
</table>

Allocation

<table>
<thead>
<tr>
<th>Year</th>
<th>Local Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Difference (less 15% MWD Cutback) | 0 | 0 | 4,250 | 0 | 744 |

Metropolitan WSAP Alignment

The WSDRP allocation methodology also contains adjustments necessary to align it with Metropolitan’s WSAP to ensure equitable supply allocations to Water Authority member agencies. In December of 2008, the Water Authority 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 Metropolitan 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 Metropolitan 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 Metropolitan 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 Metropolitan 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 Metropolitan 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.

5-10
The Metropolitan 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.

5.2.7 Carryover Storage Program

Special Agricultural Water Rate (SAWR)

Under the SAWR program, SAWR customers are exempt from paying the Water Authority’s storage charge and in return will not receive supplies from the Carryover Storage Program (CSP) during shortages and limited supplies from the Emergency Storage Program.

Carryover Storage Adjustment

Under the SAWR, no CSP supplies are available to SAWR customers during the Supply Augmentation Stage (Stage 2) or Mandatory Cutback Stage (Stage 3) of the WSDRP. A description of the methodology used to ensure CSP supplies are delivered solely to M&I customers, under both stages, is outlined below.

Utilizing CSP Deliveries during Supply Augmentation Stage (Stage 2)
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 SAWR customers, each member agency with SAWR customers would be given a SAWR supply allocation based on the Water Authority cutback level. The following basic steps will be taken to establish the SAWR allocation of non-CSP supplies:

1. Establish SAWR base period, consisting of SAWR demands on the Water Authority from the three consecutive most recently completed fiscal years prior to activation of the WSDRP;
2. Determine Water Authority cutback level based on Metropolitan allocation, Water Authority supplies (excluding CSP) and estimated water demand; and
3. Apply cutback level to each agency’s SAWR base period to determine its SAWR allocation.

Allocating CSP Supplies during Mandatory Cutback Stage (Stage 3)
At this stage, Metropolitan 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 Metropolitan 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 Metropolitan supplies.

For this sample calculation, it is assumed that the Water Authority is in mandatory cutbacks and 10,000 acre-feet of CSP storage is made available for distribution to M&I customers. The methodology used to allocate the 10,000 acre-feet of CSP supplies is shown in Table 5-9. In this scenario, agency M&I demands are calculated by subtracting SAWR water use from their adjusted base period demand. Each agency’s percent share of M&I demand is then computed and used to determine its proportional share of the available CSP supplies.

<table>
<thead>
<tr>
<th>Agency</th>
<th>Adjusted Base Period Demand</th>
<th>SAWR Base Period Demand</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</td>
<td>2,240</td>
<td>0.8%</td>
<td>80</td>
</tr>
<tr>
<td>B</td>
<td>6,503</td>
<td>100</td>
<td>6,403</td>
<td>2.4%</td>
<td>240</td>
</tr>
<tr>
<td>C</td>
<td>186,100</td>
<td>200</td>
<td>185,900</td>
<td>70.1%</td>
<td>7,010</td>
</tr>
<tr>
<td>D</td>
<td>45,780</td>
<td>800</td>
<td>44,980</td>
<td>17.0%</td>
<td>1,700</td>
</tr>
<tr>
<td>E</td>
<td>25,740</td>
<td>0</td>
<td>25,740</td>
<td>9.7%</td>
<td>970</td>
</tr>
<tr>
<td>Total</td>
<td>266,363</td>
<td>1,100</td>
<td>265,263</td>
<td>100.0%</td>
<td>10,000</td>
</tr>
</tbody>
</table>

5.2.8 Member Agency Final Total Wholesale Allocation

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

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

For the example, Table 5-10 shows final 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 5.2.9 below.
Table 5-10
Final Supply Allocation (AF)

<table>
<thead>
<tr>
<th>Agency</th>
<th>SDCWA Initial Allocation Volume</th>
<th>Loss of Local Supply Adjustment</th>
<th>MWD WSAP Alignment</th>
<th>CSP Allocation</th>
<th>Total 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>4,250</td>
<td>0</td>
<td>7,010</td>
<td>172,488</td>
</tr>
<tr>
<td>D</td>
<td>39,673</td>
<td>0</td>
<td>0</td>
<td>1,700</td>
<td>41,373</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>4,994</td>
<td>0</td>
<td>10,000</td>
<td>245,650</td>
</tr>
</tbody>
</table>

5.2.9 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 Metropolitan, 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 5-11 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 demand. Estimated allocation year local supplies used to offset imported demands are provided by member agencies.
Table 5-11
Allocation-Year Demand and Supply (AF)

<table>
<thead>
<tr>
<th>Agency</th>
<th>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>20,100</td>
<td>212,700</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><strong>Total</strong></td>
<td><strong>273,660</strong></td>
<td><strong>25,695</strong></td>
<td><strong>299,355</strong></td>
</tr>
</tbody>
</table>

Summing an agency’s allocation volume (Table 5-10) and projected allocation-year total local supplies (Table 5-11) results in their total supply during a cutback. This value is then divided by the projected total demand (Table 5-11) to generate the agency’s estimated level of service. A summary of agency level allocations and resulting levels of service is shown in Table 5-12. The level of service of the agencies' and region are utilized in severe cutback levels to calculate the regional reliability adjustment.

Table 5-12
Allocation and Resulting Level of Service (AF)
15% Cutback to Metropolitan Supply

<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>87.1%</td>
</tr>
<tr>
<td>B</td>
<td>5,776</td>
<td>0</td>
<td>5,776</td>
<td>6,920</td>
<td>83.5%</td>
</tr>
<tr>
<td>C</td>
<td>172,488</td>
<td>20,100</td>
<td>192,588</td>
<td>212,700</td>
<td>90.5%</td>
</tr>
<tr>
<td>D</td>
<td>41,373</td>
<td>1,400</td>
<td>42,773</td>
<td>46,780</td>
<td>91.4%</td>
</tr>
<tr>
<td>E</td>
<td>24,088</td>
<td>4,125</td>
<td>28,213</td>
<td>30,665</td>
<td>92.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>245,650</strong></td>
<td><strong>25,695</strong></td>
<td><strong>271,345</strong></td>
<td><strong>299,355</strong></td>
<td></td>
</tr>
</tbody>
</table>

Total Regional Level of Service - (271,351 / 299,355) = 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 Metropolitan'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 5-13.

5.2.10 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 SAWR demands, base period GPCD, local potable use and recycled water use.

Area intentionally left blank.
<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>
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<td>20,100</td>
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<tr>
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<td>1,700</td>
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<tr>
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<td>4,125</td>
<td>744</td>
<td>970</td>
<td>24,497</td>
<td>30,665</td>
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<tr>
<td>Total</td>
<td>192,358</td>
<td>25,695</td>
<td>4,994</td>
<td>10,000</td>
<td>233,047</td>
<td>299,355</td>
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Table 5-13
Regional Reliability Floor (AF)
30% Cutback to Metropolitan Supply

Available Supply: 192,358

Regional Reliability
Regional Level of Service (233,341/299,355) = 78%
Regional Reliability Floor (-5%) = 73%

Regional Reliability Floor Reallocation

<table>
<thead>
<tr>
<th>Agency</th>
<th>Total Floor Check</th>
<th>Total 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>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>0.0%</td>
<td>0</td>
<td>0.00%</td>
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<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>1,539</td>
<td>1,691</td>
<td>73.7%</td>
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<tr>
<td>B</td>
<td>-2.8%</td>
<td>195</td>
<td>100.00%</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>4,812</td>
<td>5,052</td>
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</tr>
<tr>
<td>C</td>
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<td>0</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>134,458</td>
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<td>78.0%</td>
</tr>
<tr>
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<td>0.00%</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>33,086</td>
<td>36,236</td>
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</tr>
<tr>
<td>E</td>
<td>0.0%</td>
<td>0</td>
<td>0.00%</td>
<td>1.90%</td>
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<td>195</td>
<td>18,464</td>
<td>24,387</td>
<td>79.3%</td>
</tr>
</tbody>
</table>
5.3 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 State Water Project, the Colorado River Aqueduct, Metropolitan’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 WSDRP. 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 Metropolitan WSAP, these transfer supplies would be considered an “extraordinary” increase in production as discussed in Section 5.2.6. With extraordinary increases, only the portion of the production equal to Metropolitan’s regional shortage is added to the base period local supply. The remainder of the supply is outside of the Metropolitan 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 Metropolitan 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 Metropolitan 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 Metropolitan. 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. CEQA, NEPA). 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.
Section 6 - Water Authority/Member Agency Coordination

6.1 Introduction

Communication and coordination between agencies, the public, and public officials are vital for the successful implementation of the DMP elements. To facilitate this effort, two member agency groups will be formed to handle coordination of activities and communication. The first group is the Member Agency Advisory Team (advisory team) that will assist the Water Authority’s General Manager with issues that arise during the implementation of the DMP. This will include actions related to implementation of the Drought Response Matrix (Section 4) and the Allocation Methodology (Section 5). The second group is a Drought Communication Team (communication team) that will aid in the coordination of communications with the press and public. The existing Joint Public Information Council (JPIC) can sit as the communication team.

Please note that while the communication team will only need to convene once a drought has begun, as with the advisory team, communications about water supplies and conservation are an on-going activity by the Water Authority and its member agencies. These activities currently occur through the JPIC, making that body the logical group to assume the responsibilities of the communication team. During a supply shortage, communication activities will increase and closer coordination will be necessary. This section describes the advisory team and the communications strategy.

6.2 Member Agency Advisory Team

The advisory team will be made up of the general managers of the Water Authority’s member agencies or their representatives. The advisory team will focus on decisions related to actions included in the Drought Response Matrix, including the Allocation Methodology. The intensity of the drought will determine how often the advisory team 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 Drought Response 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 Water Authority’s Board of Directors. The advisory team 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 rationing;
2. How much to spend to avoid rationing;
3. Adding a new rule to adjust the base period for an exception; and
4. Modifying a portion of the DMP that is not working as expected.

The advisory team will also be the body to which a member agency may appeal should the Water Authority’s General Manager deny an adjustment during rationing. Should the
member agency want to appeal the advisory team’s recommendation, it may then ask the Water Authority’s Board of Directors 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.

6.3 Communication Strategy

During drought periods, it is necessary for any responsible water agency to activate an established drought communication strategy. The purposes of such a strategy are manifold, but all activities need to result in the reduced consumption of water during the drought period.

Given that priority, the remaining purposes include:

1. To ensure that all constituents believe they are being treated fairly in relationship to all other constituents;
2. To satisfy the political community that the agencies have done a good job managing the drought;
3. To cause constituents to understand that all reasonable steps have been taken to avoid the need to restrict water consumption during a drought;
4. To avoid the confusion of different jurisdictions asking their constituents to react substantially differently from other, proximate jurisdictions; and
5. To emerge from the drought period having demonstrated an agency’s ability to provide leadership, good planning, equality and to have minimized the impacts of water shortages on its constituents.

For our purposes, communications is defined as the following:

“A two-way flow of information contrasted to the one-way dictates of a person or entity in power.”

Communication involves making plans, discussing those plans with those who are impacted, taking suggestions from those impacted and modifying the plan to respond to those needs. Issuing a press release that states, “everyone must reduce their water consumption by 10 percent,” is not sufficient communication. Thus, any communications strategy must include a process for feedback and plan modification. By the very nature of drought, the impacts can range from slight (during the early years of a drought period) to dramatic or onerous (during the latter years of a drought period). A communications strategy must account for the level of alarm to avoid later non-compliance due to the “cry-wolf” syndrome and to maintain credibility in the media.
A communication team has been established as part of the DMP to address this two-way flow of information on a Water Authority and member agency level. Additionally, the communication team will be able to coordinate information flow to/from the media, public officials, and the general public when needed. As part of the communication strategy, the Water Authority should also make an effort to coordinate communications with water agencies in Riverside County that share the same source of water from Metropolitan.

6.4 Five Phases of Drought Response

The Communications Strategy has five phases with respect to drought conditions, including a normal period. While the correlation between events (available water supply) and the duration of the drought is imperfect, experience indicates that Southern California, in general, can manage through three years of drought without great inconvenience to consumers. Historically, year four and beyond of a drought have resulted in calls for serious reductions in water use. A drought continuing beyond year four could result in mandatory reductions of deliveries to member agencies of Metropolitan and corresponding reductions in deliveries to sub-agencies of Metropolitan's member agencies, including reductions to, and by, the Water Authority.

Since the Water Authority is dependent on Metropolitan for water imported from other hydrologic basins, a drought period localized to San Diego County may not result in water shortages if adequate imported water is available. At the same time, heavy rainfall in San Diego County occurring during a lengthy dry period on the watersheds of the Colorado River and the California State Water Project could result in water-use restrictions during a local deluge. These anomalies are likely not well understood by most consumers in San Diego County (or any other county, for that matter) and will need to be part of a consumer education process.

Each of the five phases of drought response is described below, along with suggested activities to take.

6.4.1 Normal Periods

A normal period is the condition where available water supplies more or less match demand with little water left over for storage for use in some future year. This occurs prior to the stages included in the Drought Response Matrix, which are shown in Section 4. This condition is permanent in Southern California. Without regard to calendar year 2005, and in all probability, 2006, Metropolitan and its member agencies tend to be in water balance give or take a few hundred thousand acre-feet of water. While demand remains somewhat constant, supply hits peaks and valleys over any running period of time. On average, water supply and demand tend to be close to one another. Averages only work, however, when there is adequate storage to hold water made available by the peak wet years in order to deliver that water during the dry years. Absent such storage, the ability to meet consumer demands year in and year out would be seriously hampered.
Southern California water agencies would be oscillating from drought to abundance on a regular basis.

Actions taken by the Water Authority and its member agencies during normal periods to diversify supplies include implementation of Best Management Practices, development of brackish groundwater and seawater desalination projects, increasing the use of recycled water, and increasing the amount of local storage. The Water Authority and its member agencies will continue the effort to educate consumers about the need for, and the cost of, these types of projects.

Urging people to conserve water as part of a daily routine is a continuous process. Such lifestyle conservation often causes a “hardening of demands.” Demand hardening makes it more difficult to conserve additional supplies during a drought. This is taken into account in the Communication Strategy and accommodated during drought planning. Activities during this phase are considered part of “normal” business activities, the communication team does not need to convene for normal periods other than to continue its work as the JPIC.

Normal Period Activities

Normal period communication represents essentially what the Water Authority and its member agencies currently do – offer a high quality, multifaceted public outreach and education program in the form of news releases, publications, brochures, participation in special events, tours, and the remainder of its comprehensive program. As part of this DMP, the following steps will be added to the “everyday” communication tasks:

1. A current list of all people who have attended tours of Water Authority facilities will be maintained. Communications with these people will be held from time to time by way of letters or broadsides addressed to this special group of community leaders who have some inside information and may be viewed by their peers as a “water expert”.

2. An e-mail list of drought coordinators at all member agencies, cities, and the county will be created and maintained. The coordinators for member agencies would include the agency’s general manager or representative and communication team member. The list will be updated on a continuous basis. This list will be used to communicate how the Water Authority and its member agencies need to react to whatever drought stage is current. Suggestions from these people will be encouraged. The people on this list will be contacted before a program or drought event goes public. Such a list may already exist as the JPIC. Special efforts should be made to keep this list current.

3. A separate list of contacts at the offices of all municipal, county, state and federal elected officials will be created and maintained. During a drought emergency, a quick message to them about what the Water Authority’s message will be to the general public will be distributed.
4. E-mail lists will be kept current by sending a message to each list once every three months with the following message: “The Water Authority is attempting to keep this list current in the event of a drought emergency. If there is change in your organization, please respond to this message with the name of the new person.” If e-mails are returned as undeliverable, staff will need to research the reason.

6.4.2 Phase One

Phase One of the Communication Strategy occurs when Metropolitan experiences shortages in its imported water supply (from either the Colorado River or the State Water Project, or both) and must remove water from storage to meet normal demand. In all likelihood, during Phase One, the Water Authority will be in the “Voluntary” column of its Drought Response Matrix. This could be the first year of a multi-year dry period, but that cannot be known in advance. What is known is that Metropolitan will likely begin the following year with less water in storage than it had at the beginning of the year. If year two is a wet year and Metropolitan is able to restore its storage while meeting all normal demands, the period has passed with little notice or concern by most consumers. Nonetheless, as part of the communications process, consumers will need to be made aware that the water agencies are dipping into their savings account to meet demand. Consumers will also need to be reminded that conserving water now leaves more water for the future. The communication team will convene to discuss the supply situation, review any new communication messages that the Water Authority is formulating as a result of the supply situation and provide feedback. The Water Authority’s obligation is to take into account comments received from the member agencies through the communication team and make modifications as appropriate. Because the communication team is, by its nature, a large group, team members have an obligation to ensure that comments are on point and additive to the communication process.

Phase One Activities

Phase One communications will include monthly updates to the drought coordinators list that might coincide with a meeting of the board of directors where a similar update might be provided. An advisory will also be prepared for the media—print and electronic—that explains what the current drought means to the state and region and how the Water Authority has prepared to cope with it. This advisory is, in effect, a status report to the media that is not intended for publication, but rather for the media’s edification. If it does get published, that’s acceptable, but it is important for the Water Authority to continue maintaining personal relationships with members of the media by making them insiders to what is going on. Thus, if the drought should worsen, the media is not surprised as events unfold and also does not need a crash education course on water supplies. Media outlets in Riverside County that may be outside the Water Authority’s usual media program should be included in drought news. Contact with media that primarily serve consumers outside of the Water Authority’s service area should, as a courtesy, be coordinated with the local Metropolitan Water District member agency or agencies. The
communication team will be able to review and provide feedback to the Water Authority on advisories, as well as other messages to be distributed to the public.

The media’s help will be sought to urge people to be conscious of how they are using water and advising them that reducing use now will help everyone in the future if the drought continues. This will be used as an opportunity to help ensure people understand how well the Water Authority and Metropolitan have positioned themselves to deal with the early stages of drought. The elected officials’ e-mail list will also be employed. Hearing news from the Water Authority first, before being read in or heard on the media will establish the Water Authority as the primary message carrier on drought. Brief messages on a monthly basis to this list should be adequate unless conditions approach very serious levels of water shortages.

6.4.3 Phase Two

Phase Two could occur in year three or four of a dry period and represents that point in time when Metropolitan may restrict water deliveries to its member agencies through one means or another, but the Water Authority has adequate water either in storage or purchased from outside the region to avoid rationing to its member agencies. In all likelihood, the Water Authority would be in the “SDCWA Supply Enhancement” column of its Drought Response Matrix under Phase Two.

Phase Two communications require that people substantially reduce their use of water to retain water in storage for the following year. Phase Two should communicate the importance of water-use reductions without implying a sense of dire urgency. Consumers should be told that the more they conserve during Phase Two, the less would be the impact in the event of a Phase Three. The communication team will continue to convene to discuss the supply situation, review any new communication messages that the Water Authority is formulating as a result of the supply situation and provide feedback.

Phase Two Activities

Phase Two communications are essentially the same as in Phase One, except the communication is more frequent and the communication team is drawn into the message-building activities. This is an even more important opportunity to explain the Authority’s preparedness in relation to other parts of the drought-stricken area that may not be as well prepared and that the Water Authority and its member agencies have anticipated this problem and are dealing with it. The communication team e-mail list will be used in making sure that messages are reasonably consistent throughout the service area. Coordination with Metropolitan’s drought team will also be a priority, because they will have materials and easy access to data and to media contacts that may be of use to the Water Authority. Because of the joint reliance on the Skinner Treatment Plant by multiple agencies, coordination with other Metropolitan member agencies is important. During Phase Two it would be appropriate to begin preparing print and broadcast advertising that can be placed very quickly, if needed, in Phase Three.
6.4.4 Phase Three

Phase Three could occur in year four or five of an ongoing drought. It represents the period when Metropolitan is unable to meet all member agency demands and locally supplied or purchased and wheeled water is inadequate to make up the difference. In all likelihood, the Water Authority will be in the “Mandatory Cutbacks” column of its Drought Response Matrix under Phase Three.

Phase Three Activities

In this phase, the communications strategy needs to have solid results in terms of reducing demand, and a sense of urgency must be communicated to consumers. At the same time, consumers must understand the nature of the matter – that this is the fourth or fifth year of an on-going drought; that the Water Authority and its member agencies have been managing their resources well; that the duration of the drought cannot be known and that every gallon saved this year is a gallon that will be available next year should the drought continue. Communication during this period will likely result in the most contentiousness as member agencies and consumers are asked to make significant sacrifices. Because of differing levels of local supplies and local political philosophies, member agencies may perceive different levels of concern and want to protect their customers from more urgent messages. The communication team should be sensitive to this potential. Differences in localized responses to a drought emergency should be discussed openly within the communication team in order to avoid conflicting messages in media that transcends political borders and tends to confuse consumers.

One of the possible consequences of calls for urgent conservation is that after such sacrifices it could start raining during the winter months negating the effects of the drought and allowing some people to be critical of the agencies because they seemingly sacrificed for nothing. Because water sales are reduced, sales revenue to that agency is reduced. That, in turn, raises the water rate to cover fixed costs. Nearly every staff member and board member has heard consumers complain that “I reduced my water use and they raised my rates. Maybe I should have used more.” These are potential outcomes that must be addressed in any communications strategy.

Most agencies established a separate fund made available to stabilize rates during such periods. The DMP TAC endorsed the use of rate stabilization funds during this period. In this phase, communication with the communication team and the elected officials list is critical. The Water Authority must determine how all of its member agencies will be impacted; are there opportunities outside of what has been identified to supplement supplies?; can elected officials help spread the message? The communication team will involve the media in weekly briefings either in person or via e-mail. High demand water users, such as the California Landscape Contractors Association, Biotech Trade Assoc., agriculture, and hotel/motels, will be contacted by the Water Authority or the member agencies as appropriate to determine to what degree, if any, they can reduce water use. Paid advertising on radio, television, and newspapers will be considered if it is determined necessary to supplement media outreach through news contacts, interviews,
reporter briefings, and news releases. The tour guest list should be considered as a source of information within local neighborhoods where community leaders are regarded by some as water experts. To the extent that their peers approach them for information about the drought or how well the Water Authority and its member agencies are responding, the better informed they are, the better will be the information they pass along to their peer group.

Before the DMP allocation methodology is implemented, the elected officials e-mail list should be used to explain to them what is about to happen. The Water Authority should post a graphic on its website showing reservoir capacities and levels and the media should be advised that they are welcome to pull that graphic off the website for use as often as they can use it. Trained people will be assigned to take media calls at all hours. These people must be available and they must know how to respond.

6.4.5 Phase Four

Phase Four is a situation where water must be reserved for health and safety purposes. The Water Authority would be in the “Mandatory Cutbacks” column of its Drought Response Matrix under Phase Four. This is the unlikeliest of events, but plans must be made to address it. In this phase, Metropolitan is drastically restricting deliveries through one means or another and the Water Authority, although enhancing Metropolitan’s supplies with its own, is passing a large portion of the shortage through to its member agencies. The drought event will be major news within the region and the communication team will likely be in reactive mode rather than a proactive mode. If the steps noted below in the first four phases are taken, the Water Authority and member agencies will be well positioned to be viewed as having acted proactively during the first four phases and are responding honestly and competently to the drought.

Phase Four Activities

In Phase Four, the media will be covering this story on a daily basis and severe water restrictions will be in place. The communication team will be prepared to receive numerous complaints of inequities and the wasting of water. Additionally, water sensitive businesses (nurseries, car washes, etc.) will be seeking relief and it is possible that the state will have declared a drought emergency. Communications during this phase will be largely reactive. Nonetheless, the e-mail lists noted above, as well as the steps the Water Authority and its member agencies took prior to this phase will provide the perception in the media that the agencies are drought experts. If Sacramento has ordered certain severe conservation measures, as Metropolitan will have done already, the Water Authority will be chasing the story rather than managing it. A program of paid advertising specific to water conservation activities should be developed as part of the Phase Two activities and discussed with the communication team so they can be distributed in short order. While the Water Authority would likely be the primary “spokesagency” in the San Diego Union-Tribune for the region, member agencies will be encouraged to play the same role with local newspapers as well as with local politicians to explain their own situation since local supplies may vary. Because of Metropolitan’s
size and significance in supplying water, it is possible that the media will turn to that organization for drought information. The Water Authority will ask Metropolitan, should the local media contact them, to refer the media to the Water Authority for information specific to the region.

Table 6-1, on the following page, provides a summary of the phases of the General Communication Strategy discussed above. The Drought Response Matrix stage anticipated under each phase is also identified in the table. Please refer to Section 4 for details on Drought Response Matrix stages.

6.5 Conclusion

The Communication Strategy presented in this section serves as a guidebook for the Water Authority if the San Diego region is ever faced with a prolonged drought situation. The phases and corresponding activities may vary because each drought situation is unique, but with a strategy available, the Water Authority and its member agencies will be able to be proactive if a long-term drought scenario occurs. The advisory team is also a critical element in implementation of the Drought Response Matrix and Allocation Methodology of the DMP. Successful implementation of these two elements will only occur through coordination with the member agencies.

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<table>
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<tr>
<th>Normal Period</th>
<th>Phase One (Response Matrix Stage: Voluntary)</th>
<th>Phase Two (Response Matrix Stage: Supply Enhancement)</th>
<th>Phase Three (Response Matrix Stage: Mandatory Cutbacks)</th>
<th>Phase Four (Response Matrix Stage: Mandatory Cutbacks)</th>
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</thead>
<tbody>
<tr>
<td>Supplies and Demands Balance</td>
<td>Metropolitan Withdraws Water From Storage to Meet Demands</td>
<td>Metropolitan Supplies Short, Water Authority Total Supplies Meet Demands</td>
<td>Metropolitan Supplies Restricted, Water Authority Supplies Restricted</td>
<td>Supplies at Health and Safety Level</td>
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<tr>
<td>Current Outreach</td>
<td>Convene communication team as needed</td>
<td>Communication team meets monthly</td>
<td>Communication team meets at a minimum weekly</td>
<td>Communication team meets daily</td>
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<tr>
<td>Create and maintain list of tour attendees, drought coordinators, elected officials</td>
<td>Monthly updates to drought coordinators</td>
<td>Same activities as Phase One</td>
<td>Weekly media briefings</td>
<td>Continue media briefings</td>
</tr>
<tr>
<td>Check e-mail lists every three months</td>
<td>Prepare, review, and distribute media advisory</td>
<td>Coordinate with Metropolitan's Drought Team</td>
<td>Weekly elected officials briefing</td>
<td>Continue elected official briefings</td>
</tr>
<tr>
<td>Utilize Public Access Television</td>
<td>E-mail elected officials on monthly basis</td>
<td>Drought speakers bureau implemented</td>
<td>Paid Advertising</td>
<td>Advertising if possible</td>
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<td></td>
<td></td>
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<td></td>
<td>Continue other steps taken previously</td>
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<td>Graphics on website</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Utilize trained phone personnel to respond to drought-related inquiries</td>
</tr>
</tbody>
</table>

1 Refer to Section 4 for details on the Drought Response Matrix stages shown.
Section 7– Summary

The Water Authority anticipates that through implementation of member agency and Water Authority planned projects and successful implementation of Metropolitan’s Integrated Water Resources Plan, a higher degree of reliability will be attained in the region to avoid rationing levels experienced during the 1987-1992 drought. While the region has plans to provide a high level of reliability, there will always be some level of uncertainty associated with maintaining and developing local and imported supplies. The DMP encompasses not only a way to allocate water when supplies fall short of demands, but it addresses ways to avoid rationing through supply enhancement. The DMP also contains a strategy to communicate with the Water Authority’s stakeholders regarding water supplies. The DMP, combined with the Water Authority’s Urban Water Management Plan and Regional Facilities Master Plan, serve as excellent planning tools to provide guidance to the Water Authority and its member agencies on maintaining and planning for water supply reliability within the San Diego region.

Working collaboratively with the member agencies, the Water Authority was able to prepare a comprehensive DMP that contains the following elements:

1. Initial principles that helped frame the issues and guide discussions at the TAC meetings in development of the DMP elements, including the supply allocation methodology included in Section 2.

2. A Drought Response Matrix that identifies potential actions that the Water Authority can take to avoid an allocation of water supplies to the member agencies. The Drought Response Matrix is described in Section 4.

3. A methodology for the allocation of Water Authority supplies (Section 5) that achieves the following:
   a. Encourages local supply development and increased regional reliability through the use of the local supply development adjustment, conservation credits, and tying an allocation of water to Water Authority demands rather than total retail demands;
   b. Achieves equity among member agencies by adjusting for local supply development, growth, loss of local supplies, and demand hardening; and
   c. Avoids large uneven retail impacts to the region during the deepest stage of a drought by implementing the regional reliability adjustment which brings agencies up to a minimum allocation floor.

4. A communication strategy that identifies a phased approach to coordinating with member agencies, public, and media in response to drought conditions. (Section 6)
The DMP serves as guidance to the Water Authority and its member agencies. With the many unknown conditions associated with any potential long-term drought, the Water Authority understands that elements of this plan may need to be modified to meet the needs at that time. With the DMP in place, the Water Authority and its member agencies will be better prepared to work with the public to minimize the effects of a prolonged drought.
APPENDIX A

List of Terms and Descriptions
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Appendix A
List of Terms and Descriptions

Historic Base Period –
♦ Period used to establish each agency’s normal demands on the Water Authority.
♦ M&I demand calculated as average of most recently completed three fiscal years prior to the year in which the decision to allocate is made.
♦ IA WP demand based on most recently completed fiscal year.
♦ Three fiscal-year rolling average stops when allocation begins, and restarts once allocation is over.

Adjusted Base Period –
♦ Pre-drought level demand modified for adjustments.
♦ Includes growth, water conservation, loss of local supply, and local projects development adjustments.

Growth Adjustment –
♦ Modification used to account for the assumed demand increase between the base period and the end of the allocation year.
♦ Calculated using the average number of new meters purchased by each agency over the base period.
♦ Demand increase is based on meter size.

Water Conservation Adjustment –
♦ Modification used to account for demand hardening and to incentivize participation.
♦ Calculated using a three-year average of active conservation program savings as tracked by the Water Authority over the base period.
♦ Credit level set at 100% of average conservation savings.

Loss of Local Supply Adjustment -
♦ Modification used to account for reduction in local supplies due to drought.
♦ Calculated as the difference between the average local supply use over the base period and the estimated allocation-year local supply use.
♦ Credit level set at 50% of certified loss.
♦ Agency should re-certify loss of local supply as production changes during the year.
♦ Reconciliation at end of fiscal year to verify actual production.

Local Projects Development Adjustment –
♦ Modification used to account for development of highly reliable local supplies and to incentivize action.
♦ Calculated as the average beneficial use of recycled water and brackish groundwater over the base period.
♦ Credit level set at 30% of beneficial use.
Regional Reliability Adjustment -
- Adjustment made to agency allocations to keep each agency’s level of service within a pre-determined range of the regional average.
- M&I level of service floor is 5 percent below the region’s total M&I level of service.
- Adjustment is triggered when the net cutback to total Water Authority M&I supplies reaches or exceeds 30 percent.
- Agencies over the region’s total M&I level of service have a portion of their exceedance water reallocated to other agencies.
- Agencies under the regional M&I level of service floor receive water from the agencies that exceed the region’s total M&I level of service.
- An agency’s contribution to the regional reliability adjustment cannot exceed quantities that would lower their total M&I level of service below the regional reliability total.

IAWP Cuts -
- Per MWD Program guidelines, IAWP takes initial 30 percent cut during supply shortages.
- IAWP cutbacks beyond 30 percent are applied at the same level of M&I reduction
APPENDIX B

Questionnaire Results
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Questionnaire Result #1

The most important issue regarding a Drought Management Plan?

- Equitable allocation of cutbacks
- Encouragement of conservation
- Communication strategy
- Procedure for using water from ESP
- Cost of procuring other supplies
- Procedure for acquiring transfer water
- Wholesale pricing signals

Other issues include:
- Development of recycled water & desalination
- Financial encourage for drought proofing
- Credit for those that have developed alternative sources

Questionnaire Result #2

Is it appropriate to use wholesale pricing signals to encourage conservation?

- Yes, 14
- No, 8

Other comments:
- As a last resort
- Similar to IAWP protocol released by MWD
Questionnaire Result #3

Should the Water Authority utilize water transfer options to avoid rationing?

Yes, 22

No, 0

Other comment:
- Depends on price

Questionnaire Result #4

Who should pay for the transfer?

Member agency, 17

Water Authority, 5

Other comments:
- With financial encouragement, agencies should drought proof themselves
- Agency pay if wheeling into area for exclusive use
- Transfers used to avoid severe M&I and Ag shortages
Questionnaire Result #5

Should interruptible customers increase their service level through Water Authority transfers or independently?

Water Authority, 15

Independent, 6

Other comments:
- If pay full cost of water transfer
- Agency pay if wheeling into area for exclusive use
- Interruptible absorb 30% cut then use transfers to maintain 75% service level

Questionnaire Result #6

Should some amount of ESP water be withdrawn once a member agency drops below a 75% level of service?

Yes, 19

No, 3

Other comments:
- Conditional based upon conservation, etc.
- Would using this water meet ESP purpose? If yes, pay premium
- ESP used for original intention primarily
- Use only if region facing 50% shortages and only up to half.
Questionnaire Result #7
The Base Year should be based on:

- Historic demands, 14
- Projected demands, 3

Other suggestions include:
- Most recent historical demand
- Rolling average
- Historic total use
- Sum of total water resources

Questionnaire Result #8
Allocation Adjustments that would increase the Base Year should be made for:

- Loss of Local Supply, 16
- Demand Hardening, 16
- Investment in local supply, 15
- Growth, 15

Other suggestions:
- BMPs
- No adjustments
- Historical per capita use
Questionnaire Result #9
If an agency is receiving funding for local projects, should its allocation reflect this financial contribution?

Yes, 9

No, 9

Questionnaire Result #10
How important is avoiding large, uneven retail impacts, to protect economic health of entire region?

Very important, 12

Important, 8

Not very important, 1

Not important, 0
Questionnaire Result # 11
Should a member agency pay a premium for water rather than conserve during an allocation?

- Yes, 6
- No, 15

Other comment:
- Each agency should absorb 20% cut for M&I and 30% for ag then be able to access transfers from MWD or SDCWA

Questionnaire Result #12
Should agencies be able to market their unused allocation within the Water Authority for profit to other agencies?

- Yes, 6
- No, 14

Other comment:
- A member agency does not own an "allocation" of water. If a member agency of the SDCWA does not need all of its allocation, then that supply should be reallocated to other member agencies
Questionnaire Result #13
Should an agency receive adjustments which it is then able to market?

Yes, 4
No, 3

Questionnaire Result #14
Please rank the most important issue regarding a shortage allocation methodology.

Equity of water allocations
Financial penalties and pricing signals
Communications strategy
Ease in administering the program
Adjustments for demand hardening
Adjustments for growth

Other comments:
- Allocations should be based on need
- Recognition of local resource value
- No adjustment for growth
Questionnaire Result #15
Should IAWP cutbacks beyond the initial 30% be equally applied to both IAWP and M & I?

Yes, 11
No, 9

Other comments:
- IAWP has a plan for reductions that was considered in the pricing
- IAWP cutbacks should be administered as per the IAWP Program.

Questionnaire Result #16
For allocations, should a distinction be made among the different classes of customers paying the M & I rate?

Yes, 9
No, 11

Other comments:
- Priority Use:
  1. Commercial & Industrial,
  2. Residential,
  3. Non-IAWP Ag.
- There is no legal, administrative or economic justification for such a distinction at this time, so it should not be considered until it is established by some formal mechanism, such as the SDCWA Rate Structure.
Questionnaire Result #17
Should a communications strategy specify actions and timing of communications?

Yes, 21

No, 0

Questionnaire Result #18
Should a "Drought Coordination Team" be established to support communication efforts?

Yes, 19

No, 2

Other comment:
- Should have Board involved too.
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APPENDIX C

Water Authority
Historical Drought Plans
February 8, 1991

TO: Board of Directors
VIA: Water Policy Committee
FROM: Lester A. Snow, General Manager
RE: Drought Response Plan (Action)

SUMMARY

As a result of the continuation of the statewide drought into its fifth year, Southern California and the Authority's service area face water shortages of unprecedented magnitude. Attached is a Drought Response Plan for the Authority which outlines efforts to be taken by the Authority and recommendations for our member agencies during the drought. This plan coordinates all Authority activities with the implementation of the Incremental Interruption and Conservation Program as adopted by your Board in December of 1990. The intent of the Plan is to produce a flexible document which sets Authority policies and guidance for member agencies and the public which can be applicable as drought severity changes. A revised copy of the Plan is attached to this memo which supercedes the draft Plan dated January 1991 reviewed at the joint Water Policy and Public Information meeting on January 24.

FISCAL IMPACT

The activities proposed in the Drought Response Plan can be funded within the existing budget utilizing contingency funds with the exception of the proposal for additional public information activities. This proposal is presented as item #4 on the Public Information Committee agenda.

RECOMMENDATION

That the Board approve the Drought Response Plan.

DETAILED REPORT

The attached drought response plan lays out the Authority's plan of action in the continuing drought. The Plan made up of four main components: 1) a drought response program, including implementation of the IIICP, and a matrix of recommended water
management techniques for water users and member agencies; 2) Conservation programs; 3) Member Agency assistance activities; and 4) Public Information activities designed to explain the drought situation and encourage appropriate responses by the public.

The intent of the Plan is to reconcile and coordinate current CWA drought management programs with the implementation of the IICP, previously adopted by the Board. To that end, the Plan matches drought response water conservation actions (the matrix of Response Stage Actions) with IICP stages, thus avoiding confusion between the current model water management ordinance and the IICP. Member agencies can select items from each stage in the matrix and tailor an ordinance to their local situation.

The conservation activities proposed in the Drought Response Plan can be funded within the existing budget utilizing contingency funds with the exception of the proposal for additional public information activities. This proposal is presented as item 4 on the Public Information Committee agenda. Those specific program activities described in Chapter 3 of the Plan which are not already approved will be brought before the Board for approval prior to implementation.

Prepared by: Byron M. Buck, Director of Water Resources Planning

Reviewed by: Charles N. Rhodes, Assistant General Manager

Approved by: Lester A. Snow, General Manager

attachment
San Diego County Water Authority

Drought Response Plan

February 1991
San Diego County Water Authority
Drought Response Plan

CONTENTS

Section
1. Drought Management Overview
2. Drought Response Program
   a. Member Agency 1990 Water Delivery Targets by Response Stage
   b. Recommended Response Stage Actions
3. Summary of CWA Conservation Programs
   a. Long-term Demand Management Programs Which Will Also Reduce Short-Term Consumption
   b. Drought Related Activities
4. CWA Public Information Programs
5. CWA Member Agency Coordination and Assistance
6. Appendices
1. Drought Management Overview

California appears to be entering the fifth consecutive year of below-normal precipitation and runoff as shown below.

California Annual Precipitation and Runoff 1987-1991

* as of January 8, 1991

While Southern California has been insulated from the first four years of drought due to prudent supply management, a fifth year of drought will have a much greater impact upon our water supply. Actions must be taken to both respond to the current shortage and guard against potentially devastating effects of a sixth year of drought. Other areas of the state including the Bay area and Central Coast have been more severely affected by the drought and have had to respond with specific programs limiting the availability of the water, intensively informing the public and increasing marginal water prices (see appendix 1). General observations from these programs are that:

1) The situation must be portrayed clearly and the public must realize they must respond as individuals;

2) Water management programs need to be concise and clearly understood;

3) Water management programs need to be perceived as necessary and equitable; and,

4) Programs need to respond to local circumstances.
2. Drought Response Program

The San Diego County Water Authority supplied 95% of the water used in the region during 1990. All of this water was purchased from the Metropolitan Water District of Southern California. Metropolitan has established water delivery reduction goals and a financial incentive and penalty system known as the Incremental Interruption and Conservation Program (IICP) to help achieve those goals for its member agencies such as the Water Authority. As such, it is important that the Authority respond to the current drought in a clear, concise and definitive fashion consistent with meeting the IICP water delivery reduction goals set by Metropolitan. However, recognizing that the Authority is a regional water wholesaler, it is important to provide flexibility such that member agencies are able to respond to the unique water use patterns and circumstances of their customers. In order to achieve this balance, a two part response program has been prepared setting the staged delivery reduction targets to Authority member agencies and outlining conservation methods for member agencies and their customers to consider employing, consistent with those reduction stages.

a. Water Authority and Member Agency Water Delivery Reduction Targets

The most clear and concise expression to a Water Authority member agency of what is expected in a drought is to assign water delivery reduction targets. In order to emphasize the importance of achieving the targets a price incentive and penalty system was established by the Authority Board of Directors on December 13, 1990 (resolution 90-59). This resolution, which appears in the appendices, authorizes and directs the Authority's General Manager to implement guidelines for achieving IICP water delivery reduction goals of the Authority.

The IICP reduction goals for the Authority are divided in stages consistent with MWD's stages. In accordance with the Board's resolution reductions in water deliveries from MWD have been calculated region wide and are imposed uniformly upon CWA member agencies in the following stages.

<table>
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<tr>
<th>Stage</th>
<th>Percentage</th>
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<td>Stage I (voluntary)</td>
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<td>Stage II</td>
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<tr>
<td>Stage III</td>
<td>14.7%</td>
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<td>Stage IV</td>
<td>21.6%</td>
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Based upon 1989-1990 water deliveries as adjusted by previous local conservation efforts and expected growth in deliveries, each Water Authority member agency has been assigned a water delivery reduction target for each stage as indicated below. Member agency water deliveries below reduction targets will receive incentive payments of $99/AF (one half the regular raw water rate). Deliveries exceeding targets will receive a penalty surcharge of $394/AF (twice the raw water rate) in addition to the regular water rate. Should raw water rates be increased by Metropolitan, incentive and penalties will increase as the one half price and double price multipliers will be assessed respectively. Incentives and penalties will be assessed monthly. If agencies accumulate both incentives and penalties over the course of program implementation, a reconciliation will be made at the end of the program or annually every September 30th while the program is in effect.
## ESTIMATED CWA MEMBER AGENCY BASE YEAR II CP ALLOCATION SUMMARY

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<th>AGENCY</th>
<th>89-90 BASE ALLOCATION TOTAL</th>
<th>MAY/JUNE CONSERVATION ADJUSTMENT</th>
<th>ADJUSTED BASE YEAR TOTAL</th>
<th>STAGE 1 TOTAL (5.0%)</th>
<th>STAGE 2 TOTAL (7.9%)</th>
<th>STAGE 3 TOTAL (14.8%)</th>
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**TOTAL:** 654,583.1  11,522.4  666,105.5  632,800.2  613,266.9  567,194.6  521,122.3  475,050.0

**NOTE:** Phase totals for the II CP are based on overall percentage reductions from the base year totals. Actual allocations will be made monthly, and will be adjusted for growth and loss of local supplies, as approved under guidelines adopted by the Authority's Board of Directors.
b. **Recommended Response Stage Actions**

In order to achieve the savings necessary to manage a water supply during a drought, specific actions by water users must occur. Based upon experience of the Authority in development of a model water management ordinance, experience of member agencies in implementing water management ordinances and experiences of other regions in the state which have had to implement drought-related water reductions, the Authority has compiled water management techniques in a matrix. These techniques are arrayed in accordance with the staged reduction levels as set by the IICP. Under each stage the corresponding techniques are recommended to be implemented by member agencies, specific water users and the general public as means which will help achieve the identified level of water savings. Actual savings by agency will vary due to local circumstances, publicity and enforcement of water management measures. As each stage of the Drought Response Program are instituted, the corresponding Response Stage Activities are recommended.

While the response stage activities in the matrix are designed to complement the target savings of the IICP, the activities would be appropriate for use during any situation where increased levels of water savings were needed.
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<td>Don't</td>
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**Response STAGE ACTIONS**
# Authority Drought Response Program

## RESPONSE STAGE ACTIONS

<table>
<thead>
<tr>
<th>User Type</th>
<th>Stage I</th>
<th>Stage II</th>
<th>Stage III</th>
<th>Stage IV</th>
<th>Stage V</th>
<th>Stage VI</th>
<th>Water Emergency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>Use drip irrigation and micro sprinklers for perennial crops and all nurseries. Check system for malfunctions. Utilize CINIS irrigation demand climate information: Call 1-800-339-9994 for daily information or 1-800-336-3023 for weekly data. Request an audit of your irrigation system. North County: (619) 728-1332.</td>
<td>Same as I. Increase surveillance of irrigation system.</td>
<td>Same as II, but effect a 15% cutback on normal demands through sustenance watering of less productive perennial plants, pruning and stumping.</td>
<td>Same as III, but effect a 20% cutback.</td>
<td>Same as III, but effect a 30% cutback.</td>
<td>Same as III, but effect a 40% cutback.</td>
<td>Temporarily discontinue all irrigation depending upon circumstances of emergency.</td>
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</tbody>
</table>
### Authority Drought Response Program

#### RESPONSE STAGE ACTIONS

<table>
<thead>
<tr>
<th>User Type</th>
<th>Stage I</th>
<th>Stage II</th>
<th>Stage III</th>
<th>Stage IV</th>
<th>Stage V</th>
<th>Stage VI</th>
<th>Water Emergency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restaurants and food service</td>
<td>Serve water only upon request.</td>
<td>Wash vegetables and prepare foods in tubs of water where possible - no running water. Effect a 10% cutback.</td>
<td>Stage II plus reduce landscape irrigation. Effect a 15% cutback.</td>
<td>Same as Stage III. Limit landscape, irrigation to twice a week. Effect a 20% cutback. Turn off or disconnect reverse osmosis water treatment units and water softeners which discharge water.</td>
<td>Same as Stage III. Effect a 30% cutback.</td>
<td>Same as Stage III. Effect a 40% cutback.</td>
<td>Eliminate outdoor irrigation. Use disposable table service.</td>
</tr>
<tr>
<td>Car washes</td>
<td>Use water recirculation pumps. Check for leaks in system.</td>
<td>Same as Stage I. Effect a 10% cutback.</td>
<td>Same as Stage I. Effect a 15% cutback.</td>
<td>Same as Stage I. Effect a 20% cutback.</td>
<td>Same as Stage I. Effect a 40% cutback.</td>
<td>Same as Stage III. Effect a 40% cutback.</td>
<td>Terminate operations if so directed.</td>
</tr>
<tr>
<td>Hotels and other lodging facilities</td>
<td>Check for plumbing leaks. Start replacement of non-conserving toilets and showerheads. Reduce outside irrigation.</td>
<td>Same as Stage I plus reduce air conditioning system water use. Effect a 10% cutback.</td>
<td>Same as Stage I but reduce consumption by 15% through flow restriction or operational hours limitation.</td>
<td>Same as Stage III plus reduce consumption by 20%.</td>
<td>Same as Stage III plus reduce overall consumption by 30%.</td>
<td>Same as Stage III. Effect a 40% cutback.</td>
<td>Eliminate outdoor irrigation. Post emergency notices in rooms asking limited water use.</td>
</tr>
</tbody>
</table>
### Authority Drought Response Program

**RESPONSE STAGE ACTIONS**

<table>
<thead>
<tr>
<th>User Type</th>
<th>Stage I</th>
<th>Stage II</th>
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<th>Stage IV</th>
<th>Stage V</th>
<th>Stage VI</th>
<th>Water Emergency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landscape (except residential)</td>
<td>Irrigate only during evening, night, and mornings.</td>
<td>Stage I actions plus reduce watering of low use areas.</td>
<td>Stage III plus eliminate watering of non-functional turf areas (i.e., areas not used for activities). Effect a 15% cutback.</td>
<td>Stage III plus irrigate no more than twice per week. Effect a 20% cutback.</td>
<td>Eliminate watering of ornamental turf areas. Water only actively used turf area no more than twice per week. Effect a 30% cutback.</td>
<td>Stage V plus irrigate playing fields only. Effect a 40% cutback.</td>
<td>No outdoor watering</td>
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<td></td>
<td>Check irrigation systems for leaks, broken parts and sprinkler aim.</td>
<td>Effect a 10% cutback.</td>
<td>Stage IV</td>
<td>Stage V</td>
<td>Stage VI</td>
<td>Water Emergency</td>
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<td>Repair as necessary.</td>
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<td>Set irrigation schedules appropriate to season.</td>
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<td>Call for a landscape audit (728-1333 North County and 442-0855 South County).</td>
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<td>Conversion of non-functional turf areas to drought tolerant plants (i.e., those areas not used for activities).</td>
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<td>Convert shrubs and planter areas to drip irrigation.</td>
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<td>Retail Water Delivery Agencies</td>
<td>Stage I</td>
<td>Stage II</td>
<td>Stage III</td>
<td>Stage IV</td>
<td>Stage V</td>
<td>Stage VI</td>
<td>Water Emergency</td>
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<td>Divide customers into minimum categories of Residential - single family - multi-family Commercial Industrial Agricultural Institutional Institute inclining block pricing for M &amp; I uses. Adopt mandatory water management or anti-waste ordinances. Establishment of construction use Best Management Practices for construction water.</td>
<td>Same as I plus employ public information campaign to cut waste using adopted ordinance or suggested user response stage actions.</td>
<td>Same as Stage II plus penalty pricing. With surcharges for exceeding targets of 15% cutback. Actively enforce use ordinances with personnel and flow restrictors for repeat violators.</td>
<td>Same as III but require 30% cutback with surcharge for use beyond allotment.</td>
<td>Same as IV but 10% cutback.</td>
<td>Same as Stage IV but 40% cutback.</td>
<td>San outdoor watering for emergency duration. Recommend minimal indoor uses.</td>
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<tr>
<td>Reduces the number of new connections allowed by 10%.</td>
<td>Same as Stage I with 10% cutback.</td>
<td>Same as Stage II plus cap on construction meters and permits for unmetered service, institute penalty pricing structure for construction water use and require 15% cutback.</td>
<td>Reduce the number of new connections allowed by 15%.</td>
<td>Reduce the number of new connections allowed by 20%.</td>
<td>Reduce the number of new connections allowed by 30%.</td>
<td>Reduce the number of new connections allowed by 40%.</td>
<td>No new connections allowed.</td>
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</table>
3. Summary of CWA Conservation Activities

The Authority has underway programs which will effect reduced water use during the coming year. Most of these programs are efforts designed to improve the efficiency of water use in the long run. These efforts focus on physical system changes such as retrofitting older plumbing fixtures with water efficient fixtures and services which educate certain water users about efficient water management e.g., large turf irrigators and growers. These programs are oriented toward achieving long term reliable water savings. Additionally, the Authority will be implementing additional water saving programs which are intended strictly for short-term drought response. These two types of programs are summarized below.

a. Long Term Demand Management Programs Which Will Have an Effect Upon the Drought

(1) Agricultural and Turf Audit - In cooperation with MWD, the Authority and its member agencies are involved in funding four ongoing teams of irrigation experts who provide audits for large users of irrigation water. Two of these teams provide assistance solely to urban irrigators: primarily parks, cemeteries, golf courses and large multi-family residential users. Another team serves agricultural irrigators in the north county area. A final team evenly divides its efforts between both types of users. Authority cost: $98,000.

(2) Toll free CIMIS information - Information valuable to irrigators in determining optimal irrigation schedules is provided through the California Irrigation Management System (CIMIS). The Authority is funding a toll free number to provide that information, which is updated every twenty-four hours, to local irrigators. The ongoing toll free number complements the irrigation audit programs mentioned above. Authority cost: $5,000.

(3) Multi-family Plumbing Replacement - A project co-funded by the Authority, MWD and the City of Escondido will target multi-family residential users in the City of Escondido for plumbing replacement. The project will result in the replacement of 500 non-conserving toilets and showerheads with new water saving fixtures. It is anticipated that the projects will be implemented in February 1991. Authority cost: $25,000.

(4) SDG&E Showerhead Project - Phase II of the SDG&E/Authority showerhead replacement project is scheduled for implementation in the spring of 1991. The project will involve funding from the Authority, participating member agencies, SDG&E and MWD. Pending final approval from SDG&E, the project would result in 40,000 non-conserving residential showerheads being replaced with conserving heads. Authority cost: $58,000.
(5) Toilet Rebates - With funding assistance from the member agencies and MWD, the Authority will implement an ultra low flush toilet rebate program in May 1991. Through the program users will be eligible for up to a $100 rebate toward the cost of a new toilet using no more than 1.6 gallons per flush. The over 13,000 rebates will be offered during two fiscal years to customers of the fifteen participating member agencies. Authority cost: $125,000. The fifteen participating member agencies are listed below.

- Carlsbad MWD
- City of Escondido
- Helix WD
- City of Oceanside
- Olivenhain MWD
- Otay WD
- Padre Dam MWD
- Rainbow MWD
- Ramona MWD
- Rincon Del Diablo MWD
- City of San Diego
- San Dieguito WD
- Santa Fe ID
- Sweetwater Authority
- Valley Center MWD
- Vista ID

(6) Single Family Surveys - A project to offer single family home surveys will be developed by May 91. The home survey includes showerhead replacement, examination of toilets for leaks, distribution of faucet aerators and analysis of outdoor water use. It is anticipated that the cost of the program will be divided among the Authority, participating member agencies and MWD. Authority cost: $70,000.

(7) Industrial Audits - The industrial audits program will target approximately 100 industrial users for water efficiency surveys. The Authority will contract with a consultant to review process water uses, then assist them in developing methods to increase water use efficiency. It is anticipated that the Authority will fund the project and implement it in cooperation with its member agencies. Authority cost: $140,000.

b. Drought Related Programs

(1) Showerheads for Member Agencies - Last year the Authority supplied showerheads kits to its member agencies for distribution within their service areas. Approximately 10,000 additional kits will be purchased for a similar distribution program this year. Authority cost: $30,000.

(2) Enforcement Training - As member agencies prepare to implement more stringent water use restrictions, the need for adequate enforcement is obvious. The Authority can assist member agencies by assisting in providing training for personnel charged with those enforcement responsibilities. That training could start in April 1991 and address: communication skills, the agencies' legal authority and other relevant topics. Authority cost: $15,000.

(3) Assistance to Public Institutions - Many public institutions, school and community college districts, park
departments, and government buildings are visible consumers of large amounts of water, while at the same time often faced with limited water management resources, a special project to assist them could be implemented. The project would include assistance in repairing and increasing the efficiency of irrigation systems, installing devices to shut off irrigation systems during rains, manpower to repair minor plumbing leaks and low flow showerheads for use in the schools. A plumbing and irrigation contractor would be hired on an contract basis at a basic hourly rate. Letters would be sent to candidate institutions publicizing the program and offering assistance. Respondents would fill out a form stating their problems in not being able to effect the conservation repairs and detailing the services needed. Upon evaluation by Authority staff, the plumbing contractor would be dispatched to perform authorized services. Respondents would be required to verify that the services were performed. Spot check audits by the Authority staff would be performed periodically. It is estimated that this project could be implemented by July 1991. Authority cost: $100,000.
4. **CWA Public Information Programs**

The Public Information Program for the Authority is intended to educate people on the source of supply, local, regional, and statewide water supply problems and to change behavioral patterns of water use by conveying messages that motivate people into positive actions. The program must be flexible in design to allow for change in focus as new information is received. The program is two-fold in nature. The first emphasis is on the current drought situation and the need for immediate cutbacks in water usage. The drought is a catalyst to draw attention to the need for both short-term and long-term conservation habits. The second emphasis of the program is to develop continuing methods of assisting the member agencies and educating the public on all aspects of the water supply.

**Program Components**

The Public Information Program is divided into five basic components:

1. News coordination  
2. Community relations  
3. Public education  
4. School program  
5. Advertising

**News Coordination**

This section deals with educating and interacting with newspaper, television, and radio reporters and their editorial boards. Developing a two-way exchange of information and a willingness to cooperate is the major emphasis.

**Community Relations and Promotions**

The community relations component is focused on member agency assistance and training. The programs center around:

- Survey of programs and needs assessment of member agencies to develop a list of areas where the Authority can be of assistance.
- Co-op advertising programs with their local newspapers.
- Issue papers that explain single issues and the Authority's position.
Direct mailing of all news releases and additional items of interest to each member agency.

Development of "canned" audio/visual presentations with slides and prepared script for specific areas of interest and need.

Speakers for presentations to specific Boards, City Councils, or interest groups.

The promotions are specific actions that create interest and enthusiasm and provide information.

- San Diego Home/Garden and Water Authority Water(Less!) Garden Contest held each year
- Drought seminars
- CIMIS 1-800 Number
- Nursery promotions on Xeriscape materials, landscaping ideas, and brochures

Additional projects are being discussed, such as:

- Del Mar Fair specific Xeriscape Category
- Natural History Museum Exhibit
- Historical Society section addressing California's water supply
- Dancing Waters Exhibit at Balboa Park
- Del Mar Schools Xeriscape Garden

Public Education

Public education is a broad category of specific programs designed for specific audiences supported by the broader and more general information arenas.

An example of the programs are:

- CWA Drought Hotline
- Speakers at specific functions
- Hotel/Motel Guest Information
- Restaurant Table Tents
- "Waterhog Haven" film
- Literature distribution
- Public service announcements
- Grocery bag messages
- Bus public service cards
- Condo/Apartment Owners Association

School Program

The current school program consists of:
- Classroom presentations
- Repertory Theater General Assemblies
- In-Service Teacher Training
- Special school projects
- "Waterhog Haven" film distribution
- Administrative Liaison

Advertising

When MWD announced a Stage III, effective February 1, 1991, staff requested ADC Stoorza to design a program of advertising that would, in their estimation, reach the largest number of people in the county. The central theme for the campaign is the current drought situation and what response is needed from all residents.

The current budget for advertising has approximately $75,000 that is unallocated and $100,000 contingency fund for the fifth year drought. Thirteen (13) weeks of Metro Traffic Radio announcements have been reserved beginning in February at a cost of $45,500. This is included in the ADC Stoorza proposed advertising program.
Drought-Related Objectives

The Water Authority's Public Information Program during the drought emergency is designed to:

1. Use a wide variety of free and paid programs to reach the greatest number of people with specific messages.

2. Raise awareness among identified publics of the need for and methods of water conservation. A partial list of important publics includes homeowners, renters, property managers, business and political leaders, mass media representatives, educators, students, restaurant operators, hotel/motel operators, business people, mass media representatives, water suppliers, agriculturalists, and green industry people.

3. Convey specific conservation methods that can be used to achieve identified levels of conservation.

4. Motivate people to take immediate action to conserve.

5. Supplement the continuing long range conservation education effort that is designed to create and maintain a conservation ethic among all people in San Diego County.

6. Provide CWA member agencies with assistance in meeting their conservation and public information programs.

Drought-Related Messages

The following is a partial list of the type of messages that would be used during the drought activities:

1. San Diego County is more dependent on imported water than ever before. In 1990, 95% of our water was imported and our dependence on imported water will increase through the years.

2. Our imported sources of supply are less reliable than ever before. Environmental, legal, storage,
and other issues are limiting our ability to increase the quantity of imported water delivered to San Diego County.

3. This is the fifth consecutive year of drought and one of the driest in recorded history.

4. In 1991, water use should be reduced by (a stated percentage) among all categories of water users: residential, commercial, industrial, and agricultural.

5. Individuals can and do make a difference and everyone must participate. People must take individual responsibility for their water use, regardless of their circumstances, and regardless of whether they are at home, work, or play.

As a result of the Joint Water Policy and Public Information Committee Meeting held on January 14, 1991, Directors Krauel and Thompson were asked to meet with Stoorza, Zeigaus, & Metzger to review the current drought situation, the overall Public Information program, and the proposal developed by ADC Stoorza. This meeting was held on January 22, 1991.

The advertising proposal, as designed by ADC Stoorza, is included in the appendix to this report.
5. Member Agency Coordination and Assistance

The Drought Response Plan programs are designed to provide member agencies and the public with clearly stated conservation objectives (i.e. reduction targets) and water management techniques designed to help achieve the targets (Response Stage Activities). The Authority is providing additional assistance to member agencies in managing drought responses in addition to those programs in Sections 3 and 4 of the Plan which include member agency participation. These activities are as follows.

a. White paper summarizing research on retail penalty pricing methods.

b. Member agency workshop on penalty pricing methods featuring representatives of California retail agencies with penalty pricing experience.

c. A Personal Computer based water-waster database tracking system which allows member agencies to keep track of water waste complaints/violations.

d. General Manager's and Operating Heads meetings.

e. Joint Public Information Council meetings.
Appendices
RESOLUTION NO. 90- 59

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SAN DIEGO COUNTY WATER AUTHORITY PROVIDING FOR THE IMPLEMENTATION OF THE INCREMENTAL INTERRUPTION AND CONSERVATION PLAN

WHEREAS, four consecutive years of drought conditions throughout the State of California and the Colorado River Basin have created an unprecedented threat to the sufficiency of the imported water supply of the Authority; and

WHEREAS, the Metropolitan Water District of Southern California has evaluated the groundwater and surface storage reserves of its member agencies and has found them to have been substantially depleted by the drought; and

WHEREAS, the San Diego County Water Authority has determined that the local storage reserves of its member agencies have also been substantially depleted by the drought; and

WHEREAS, the Metropolitan Water District of Southern California has implemented a plan of interruption and conservation of its limited water supply in a manner that will protect to the extent possible an adequate supply not only for 1991 but also thereafter if the drought conditions should continue; and

WHEREAS, the Authority, as a member agency of the Metropolitan Water District of Southern California, shall be subject to the terms and conditions of the District's plan of interruption and conservation.

NOW, THEREFORE, The Board of Directors of the San Diego County Water Authority does hereby authorize and direct the General Manager to implement the guidelines for the Incremental Interruption and Conservation Plan.
as defined in the General Manager's letter dated November 29, 1990, in order to effectively provide assurance of an adequate water supply for 1991 and subsequent years.

PASSED, APPROVED and ADOPTED this 13th day of December 1990.

Chairman, Board of Directors
San Diego County Water Authority

Attest:

Secretary, Board of Directors
San Diego County Water Authority

I, Janet Maltman, Executive Secretary of the Board of Directors of San Diego County Water Authority do hereby certify that the above and foregoing is a full, and correct copy of said Resolution of said Board and that the same has not been amended or repealed.

Executive Secretary, Board of Directors
San Diego County Water Authority
November 29, 1990

TO: Board of Directors
VIA: Water Policy Committee
FROM: Lester A. Snow, General Manager
SUBJECT: MWD's Incremental Interruption and Conservation Plan (Action)

SUMMARY

On November 20, 1990, the Metropolitan Board of Directors adopted the Incremental Interruption and Conservation Plan, as well as declaring the first phase in effect on December 1, 1990. Please refer to attached MWD Board Letter dated November 20, 1990. The Water Authority needs to establish guidelines for the operation and administration of this program.

FISCAL IMPACT

The fiscal impact of this program will depend upon the mix of incentives and disincentives passed through to member agencies. Any gains from this program will be credited to the Authority's account for storage and conservation.

RECOMMENDATION

It is recommended that the Board adopt the attached resolution.

DETAILED REPORT

The Incremental Interruption and Conservation Plan is designed to begin using water in the interruptible program in concert with conservation, to meet needs during the remainder of the drought. The plan establishes five phases or levels of reduction depending on drought and water supply conditions.

The first phase is voluntary and provides for incentives to be credited to agencies that conserve more than 95% of their 1989-90 water use after adjusting for growth. Phase I will be administered by MWD on the subagency level and will pay incentives to our member

MEMBER AGENCIES

CITIES

COUNTY

IRRIGATION DISTRICTS

WATER DISTRICTS

A - 3

COUNTY WATER DISTRICT

PUBLIC UTILITY DISTRICT

FEDERAL AGENCY

MUNICIPAL WATER DISTRICTS

LAW ENFORCEMENT

FINANCE

ENVIRONMENT

Agricultural Water Districts

Transport

Planning

CITY A "C" AGENCY

STATE BOARD OF WATERS

PARKS

FEMA

PRINTED ON RECYCLED PAPER
agencies who can demonstrate actual water conservation in any month that Phase I is in effect.

Phases II through V of the Plan will be administered by MWD on the member agency level and monthly targets for imported water use will be established for each phase, depending on the level of reduction required. The Water Authority will pass through a uniform reduction to all member agencies. Agencies that use less than their target will receive an incentive payment while agencies that use more than their target will receive a disincentive charge. The incentive payment will be one-half of MWD's untreated, noninterruptible rate rounded to the nearest dollar (currently $99 per acre foot). The disincentive charge will be twice MWD's untreated, noninterruptible rate (currently $194 per acre-foot).

In setting the targets, this plan will use 1989-90 as the base year for the Authority and its member agencies. MWD will approve adjustments to the base year for reductions in local water, previous conservation efforts and growth. The target set for the Water Authority will be used to compute a uniform reduction for all of the Authority's member agencies. The following table shows the MWD reductions by class of service and the estimated uniform reduction that would be applied to CWA's member agencies.

<table>
<thead>
<tr>
<th></th>
<th>MWD Reductions In Non-Firm Deliveries</th>
<th>In Firm Deliveries</th>
<th>Estimated CWA Reductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I (Voluntary)</td>
<td>5%</td>
<td>5%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Phase II</td>
<td>20%</td>
<td>5%</td>
<td>7.8%</td>
</tr>
<tr>
<td>Phase III</td>
<td>30%</td>
<td>10%</td>
<td>14.7%</td>
</tr>
<tr>
<td>Phase IV</td>
<td>40%</td>
<td>15%</td>
<td>21.6%</td>
</tr>
<tr>
<td>Phase V</td>
<td>50%</td>
<td>20%</td>
<td>28.5%</td>
</tr>
</tbody>
</table>

The Water Authority will use the following guidelines in administering the Plan.

**Water Authority Guidelines**

**Incremental Interruption and Conservation Plan**

1. During Phase I, all incentive payments will be passed through to CWA member agencies.

2. For the base year, actual imported water deliveries for 1989-90 for CWA member agencies will be used.

3. Adjustments to base year water use will be made according to MWD guidelines.
4. The impact of an MWD phased reduction will be calculated regionwide and imposed uniformly on all CWA member agencies.

5. MWD's incentives and disincentives will be applied to CWA member agencies relative to their success or failure to achieve their monthly targets.

6. An end of period reconciliation will be made whenever MWD makes its reconciliation.

7. Any revenues gained from this plan will be dedicated to the Authority's account for storage and conservation as established by Board Resolution 90-23 on May 17, 1990 and defined in Administrative Code Section 15.7.

Prepared by: Charles N. Rhodes, Asst. General Manager, Resources

Approved: Lester A. Snow, General Manager

Attachments
LAS:CNR:aa
Alameda County

East Bay Municipal Utility District
Population: 1.2 Million
Irrigated
Acres: 0
Demand: 210,000 AF
Supply: Local Reservoir and Mokelumne Project – 210,000 AF
✔ The District does not presently anticipate any shortage, however, it is encouraging conservation with a goal of 15 percent demand reduction.
✔ If conditions change, rationing may be used.
✔ District has an ongoing public information and education program.
August 1990 Update
✔ Voluntary conservation is exceeding the 15 percent goal.
✔ If 1991 is dry, the District will continue with its present procedure.

Monterey County

California Water Service Company - Salinas
Population: 70,000
Irrigated
Acres: 0
Demand: 12,000 AF/Year
Supply: Ground Water – 12,000 AF
✔ The Company will implement a combination of Stages 1 and 2, as suggested in the Department of Water Resources' Model Drought Management Plan, if water conditions continue to degrade.
✔ The Company participated in school and community awareness programs.
✔ Sea water intrusion is increasing. Also, iron and manganese were found in two new wells.
August 1990 Update
Not Available

Monterey County Flood Control & Water Conservation District
Population: 175,000
Irrigated
Acres: 210,000
Demand: 550,000 AF
Supply: Ground Water – 550,000 AF
✔ The District does not supply water; overlying land owners pump from ground water.
✔ Water quality problems include increasing salinity intrusion, nitrates, and high TDS.
✔ The District operates Nacimiento and San Antonio Reservoir to regulate runoff to recharge Salinas Valley ground water. The current drought has severely limited recharge amounts.
✔ The District is initiating a Mobile Irrigation Laboratory.
✔ The District coordinated a water awareness committee and conducted AIMS workshops.
August 1990 Update
✔ The District estimates "normal overdraft" of Salinas Basin at 50,000 AF/year. Overdraft for 1990 is estimated at 300,000 AF.
✔ If 1991 is dry, the District will work to implement a rationing plan, currently under development.
Monterey Peninsula Water Management District

Population: 105,000
Irrigated
Acres: 300
Demand: 16,500 AF
Supply: Ground Water 13,600 AF
         Carmel River 2,900
         15,500 AF

✓ Iron and manganese affect water quality on the lower Carmel River.
✓ The mandatory conservation target is 20 percent below 1987-88 use.
✓ The District is sponsoring drought survival conferences.
✓ The District uses press and radio advertisements promoting conservation with specific hints.
✓ The District is working toward golf course irrigation with reclaimed water.

August 1990 Update
✓ The District is exceeding conservation goals reducing demand 30 percent.
✓ If 1991 is dry, the District will continue with mandatory 20 percent conservation.

Santa Barbara, City of

Population: 83,000
Irrigated
Acres: 0
Demand: 8,927 AF
Supply: Ground Water -- 2800 AF
         Lake Cachuma -- 7,609 AF
         Lake Gibraltar -- 500 AF

✓ The City is reducing demand 45 percent with mandatory conservation including no outdoor water use except from a pail or bucket.
✓ 2,200 AF from Lake Gibraltar was received in 1989 City water year.

August 1990 Update
✓ The City continues to make a 45 percent reduction in demand.
✓ City has increased ground water use to about 2,800 AF to 3,000 AF. Lake Gibraltar's contribution was reduced to about 500 AF.
✓ Ionics, Inc. has been selected to develop a desalter for the City. A contract is expected in September.
✓ If 1991 is dry, the City will continue conservation, and depend on SWP emergency supply to augment its local sources to meet its reduced demand.
Santa Clara Valley Water District

Population: 1.4 Million
Irrigated Acres: 32,000
Demand: 330,000 AF
Supply: Local Supply Including Surface and Ground Water 78,000 AF
CVP-San Felipe 78,000 AF
Hetch Hetchy Reservoir 50,000 AF
SWP Entitlement 92,000 AF
Yuba County Water Agency 29,000 AF

✓ CVP-San Felipe supply reflects a 50 percent deficiency.
✓ Hetch Hetchy supply reflects a 25 percent deficiency.
✓ Local reservoirs are at 15 percent of capacity compared to a normal of 50 to 80 percent.
✓ Current restrictions on use are 20 percent in North County and 25 percent in South County between April 1, 1990 and October 1, 1990.
✓ Financial incentives through rate structure vary from city to city.
✓ A ground water extraction charge imposed by the District has been increased.

August 1990 Update
✓ In June 1990, conservation achieved 30 percent demand reduction and in July 1990 achieved 25 percent.
✓ The systemwide conservation goal from April 1 to July 1 was 20 percent, and 21 percent was achieved.
✓ District has hired a media consultant and the Smothers Brothers to do a commercial, buying large amounts of radio and television time. The District attributes use reduction to people knowing there is a real problem.

San Francisco County

San Francisco Water Department
Population: 2.3 Million
Irrigated Acres: 0
Demand: 325,000 AF
Supply: Current Storage (May 1990): Local -- 120,000 AF
Hetch Hetchy -- 375,000 AF

✓ SFWD supplies water to San Francisco and 33 other cities in San Mateo, Alameda and Santa Clara Counties.
✓ SFWD has adopted a 25 percent systemwide reduction goal based on 1988 use and an excess use charges would be imposed to motivate compliance.
✓ SFWD is contracting to develop a comprehensive conservation program for all schools in the service area.
✓ If current efforts prove inadequate, SFWD may try to purchase water.

August 1990 Update
Not Available
San Diego County Water Authority  
Budget Recap 
February - June 1991 

I. Media 

<table>
<thead>
<tr>
<th>Service</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Market Radio</td>
<td>$63,500</td>
</tr>
<tr>
<td>Hispanic Radio</td>
<td>$11,575</td>
</tr>
<tr>
<td>Metro Traffic*</td>
<td>$45,500</td>
</tr>
<tr>
<td>General Market Newspaper</td>
<td>$23,100 (Net)</td>
</tr>
<tr>
<td>Hispanic Newspaper</td>
<td>$3,600 (Net)</td>
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</table>

Total Media $147,275

II. Creative Development/Production 

<table>
<thead>
<tr>
<th>Service</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Newspaper Ad</td>
<td>$7,960</td>
</tr>
<tr>
<td>Hispanic Newspaper Ad</td>
<td>$2,500</td>
</tr>
<tr>
<td>Radio Commercial</td>
<td>$6,560</td>
</tr>
<tr>
<td>Hispanic Radio Commercial</td>
<td>$1,800</td>
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<tr>
<td>Revise Waterhog Radio Spots</td>
<td></td>
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<tr>
<td>Announcer Copy</td>
<td>$2,000</td>
</tr>
<tr>
<td>Creative Campaign/Strategy Development</td>
<td>$6,900</td>
</tr>
</tbody>
</table>

Total Creative/Production $27,720

Total Cost $174,995

*Already purchased
San Diego County Water Authority
Creative Strategy

Message Strategies

- Describe the immediate specific issues and challenges that currently face all San Diego County residents.
- Address the problem itself in order to further develop an appreciation by the public, but emphasize the solution to the problem.
- Communicate that relatively minor changes in water conservation now can prevent major lifestyle inconveniences in the future.
- Convince the public that they can (and have in the past) made a significant difference.
- Encourage individuals to participate in water conservation. Make it easy and inviting.
- Position the San Diego County Water Authority as a well managed, responsible agency.
- Maintain the ability to adapt and revise the message quickly to accommodate future issues and specific situations.

Tone and Manner

- Clear
- Direct
- Authoritative
- Believable
- Convincing
- Compelling
San Diego County Water Authority

Media Strategy

- Utilize broad reach mediums that create immediate high levels of awareness among the general population
- Channel a percentage (approximately 15%) of the total media budget towards reaching the County's Hispanic population who are not adequately impacted by general market media
- Utilize mediums that allow for a lengthy creative message
- Concentrate in media that allows for flexibility to effectively and efficiently revise creative as conditions change
Media Recommendations

A. MEDIUMS

1) Radio -- 60 commercials
   o General Market
   o Hispanic
   o Metro Traffic Sponsorships

2) Newspaper -- 75" ads
   o Union-Tribune
   o La Prensa

B. MEDIA PLAN

<table>
<thead>
<tr>
<th>Medium</th>
<th>Vehicle</th>
<th># weeks</th>
<th>Approx. # of spots/insertions</th>
<th>Total Impressions</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Market Radio</td>
<td>5-7 major San Diego stations</td>
<td>7</td>
<td>450</td>
<td>13,950,000</td>
</tr>
<tr>
<td></td>
<td>(e.g., KFMB, KSFM, KYXY, KJQY)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic Radio</td>
<td>2-3 Spanish Language Stations</td>
<td>6</td>
<td>90</td>
<td>1,124,500</td>
</tr>
<tr>
<td>Metro Traffic Sponsorship</td>
<td>Major sponsorship on 20 stations</td>
<td>13**</td>
<td>1,250</td>
<td>19,375,000</td>
</tr>
<tr>
<td>General market Newspaper</td>
<td>Union-Tribune</td>
<td>4</td>
<td>5-Union 5-Tribune</td>
<td>1,600,000</td>
</tr>
<tr>
<td>Hispanic Newspaper</td>
<td>La Prensa</td>
<td>4</td>
<td>n/a</td>
<td>40,000</td>
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<tr>
<td>Totals</td>
<td>n/a</td>
<td>n/a</td>
<td>1,825-radio 14-newspaper</td>
<td>36,089,500</td>
</tr>
</tbody>
</table>

*30% of Metro Traffic stations are Spanish language
**Already purchased
ORDINANCE NO. 94-3

ORDINANCE OF THE SAN DIEGO COUNTY WATER AUTHORITY
(“AUTHORITY”) ESTABLISHING CONTINGENCY PLANS, RULES,
REGULATIONS, AND RESTRICTIONS SO THAT AVAILABLE WATER
SUPPLIES ARE ALLOCATED AMONG MEMBER AGENCIES FOR THE
GREATEST PUBLIC INTEREST AND BENEFIT

WHEREAS, the water year ending September 30, 1994 produced
the fourth driest year on record for runoff into the Sacramento-
San Joaquin Delta and produced less runoff than any single year
of the most recent California drought ending in 1992; and

WHEREAS the Metropolitan Water District of Southern
California (MWD) depends upon water supplies from the State Water
Project, which receives its supplies from the Delta, to meet
water demands of its member agencies; and

WHEREAS, the San Diego County Water Authority (Authority) is
a member agency of MWD, from which the Authority receives all of
its water supplies; and

WHEREAS, MWD expects to have sufficient supplies to meet
forecasted demands in 1995, but has adopted a 1995 Drought
Management Plan (DMP) to manage any supply shortages which may be
more extreme than currently forecast; and

WHEREAS, the final phase of the DMP would be the allocation
of available supplies to its member agencies, including the
Authority, through implementation of a 1995 Incremental
 Interruption and Conservation Plan (IICP); and

WHEREAS, in the event that MWD implements its 1995 IICP, it
is considered necessary that future available supplies to the
Authority be allocated among the Authority's member agencies for the greatest public interest and benefit as provided by Section 45-5(11) of the County Water Authority Act (Chapter 45, Water Code Appendix); and

WHEREAS, the Authority has determined that it is necessary to establish methods and procedures for managing and securing available water supplies and for the allocation of these supplies to its member agencies;

NOW, THEREFORE, the Board of Directors of the San Diego County Water Authority hereby Determines, Declares, Resolves, and Orders, as follows:

SECTION I. MANAGING AND SECURING AVAILABLE WATER SUPPLIES

If MWD implements its IICP, the Authority shall act to minimize shortages to the San Diego region by managing available Authority owned storage and securing additional available water supplies. As a first priority, the Authority, in coordination with the City of San Diego, shall make available up to 25 percent of Authority owned storage for allocation to its member agencies. Second, the Authority may seek to increase deliveries from MWD through the target marketing provisions of the IICP. Third, the Authority shall consider negotiating with member agencies with local storage to use that storage to reduce demand on the Authority.

SECTION II. DELIVERIES TO MEMBER AGENCIES.

The General Manager shall provide for all reasonable deliveries to member agencies, unless the Board of Directors
determines that it is necessary to encourage further conservation and/or establish monthly allocations to member agencies under Section III A. Any allocation of supplies to member agencies shall be administered by the General Manager according to the provisions set forth in Sections III to V.

SECTION III. MONTHLY ALLOCATIONS TO MEMBER AGENCIES.

A. Amounts.

The IICP was adopted by MWD on November 8, 1994 as part of the DMP. Implementation of the IICP is the final phase of the DMP, and is a means of allocating water to MWD member agencies during drought conditions. The IICP establishes monthly targets for firm and agricultural deliveries for each of MWD’s member agencies. The monthly target for firm deliveries is to be based on an average of total water delivered by MWD, less long term seasonal storage and agricultural deliveries, in the same month of fiscal years 1989-90, 1990-91, and 1991-92. Adjustments may be made to reflect growth, changes in local supplies, reclamation, and significant conservation programs. The monthly target for Authority agricultural deliveries from MWD (deliveries certified under MWD’s Interim Agricultural Water Program or IAWP) shall be in accordance with the IICP option which allows agricultural deliveries to be based upon IAWP deliveries certified during the previous 12 months prior to a implementation of delivery reductions.

If the Board of Directors determines that it is necessary to establish monthly allocations to member agencies, then the
General Manager shall allocate available MWD supplies, except those supplies received through target marketing efforts, to member agencies by applying the same IICP methodology and reduction percentages. Separate allocations for firm supplies and agricultural water supplies, based upon the definitions used by MWD for firm and interim agricultural water supplies, shall be made for each member agency. The total allocation to each member agency shall be the sum of all firm and agricultural supply allocations.

The General Manager shall notify each member agency of its monthly allocation and the basis for its calculation, notify each member agency when changes in MWD's IICP stage are proposed and acted upon, and provide monthly status reports and a formal accounting to each member agency as part of the regular billing process.

B. Adjustments and Modifications to Monthly Allocations.

Member agencies may apply to the Authority for adjustments to allocations, using the criteria provided in the IICP. The General Manager shall review each application for adjustment, and forward them to Metropolitan for consideration and make such adjustments and modifications in member agency allocations as may be necessary and appropriate to pass through any adjustments received by the Authority from Metropolitan on behalf of a member agency.

C. Additional Available Water Supplies.

Authority owned storage, supplies received from the MWD
target marketing program, and other supply sources described in Section I shall be made available to member agencies. Member agencies must submit a request in writing to the General Manager for such supplies. Allocation of such supplies shall be made by the Board upon review of all member agency requests and recommendation from the General Manager. All cost associated with securing such supplies shall be passed through to the member agencies requesting such supplies.

D. Conservation Programs.

In order to achieve the reductions necessary for continued conservation under pre-IICP conditions, or to comply with monthly allocations imposed under Section III A and III B, the Authority may recommend that each member agency implement programs substantially equivalent to those set forth in the Response Stage Actions of the Drought Response Plan, which is attached as Exhibit A hereto.

SECTION IV. SURCHARGES FOR EXCESS MONTHLY WATER ALLOCATIONS.

A. Sharing MWD Disincentive Surcharges.

If MWD levies any disincentive surcharges against the Authority, the amount of such surcharges shall be shared prorata among member agencies that received more deliveries than their allocations under Section III A and III B hereof. The respective shares shall be a fraction of the total surcharge. The numerator shall be the amount each such member agency received more than its delivery allocation. The denominator shall be the sum of the numerators as determined for all such member agencies. No
surcharges shall be assessed unless the Authority receives a surcharge from Metropolitan and member agencies exceed their allocation. In no case shall the surcharge assessed by the Authority exceed the maximum unit surcharge rate assessed by Metropolitan.

B. **Cumulating - Reconciliation.**

Any sums due to Authority from member agencies hereunder shall be invoiced on the monthly billing statement by Authority to the affected member agencies, after Authority is billed by MWD. A reconciliation for each class of delivery shall occur concurrent with any reconciliation date established by Metropolitan as part of its implementation of the IICP, unless a different reconciliation date becomes effective by subsequent Board action.

SECTION V. **DELIVERY RESTRICTIONS.**

A. **Notices.**

The General Manager shall, at his discretion in a timely and appropriate manner, notify each member agency about the differences between monthly allocations and actual deliveries. If the differences indicate that a member agency is unlikely to be able to meet its monthly allocations, a warning notice may be given.

B. **Reductions.**

Following implementation of the IICP, the establishment of monthly allocations by the General Manager, notice, and an opportunity to be heard, member agencies which have not reduced
deliveries to within 5% of monthly allocations may have their daily deliveries reduced by the General Manager in a manner estimated to result in attainment of monthly allocations.

C. Adjustments.

The General Manager may make adjustments in deliveries to a member agency because of special circumstances or to protect domestic use, sanitation, and fire protection. Also, consideration will be given to pertinent matters designed to avoid discrimination between consumers using water for the same purpose and to promote uniformity in the beneficial uses made of water within the boundaries of the San Diego County Water Authority.

SECTION VI. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA).

The San Diego County Water Authority finds that this ordinance and actions taken hereafter pursuant to this ordinance are exempt for the California Environmental Quality Act as specific actions necessary to prevent or mitigate an emergency pursuant to Public Resources Code Section 21080(b)(4) and the California Environmental Quality Act Guidelines Section 15269(c). The General Manager is hereby authorized and directed to file a Notice of Exemption as soon as possible following adoption of this ordinance.

SECTION VII. APPEALS.

A. Appeals Board.

There is hereby created an Appeals Board consisting of five directors, to be appointed by the Chairman. The Chairman shall
also appoint five directors to serve as alternate members. There is delegated to the Appeals Board the full authority of the Board of Directors to consider and resolve all appeals lodged by member agencies with the Executive Secretary.

B. Appeals by Member Agencies.

Each member agency may file with the Executive Secretary a request to have the Appeals Board review any action taken by the General Manager hereunder. Representatives of the member agency may appear before the Appeals Board and present such testimony and documentation considered appropriate for a proper understanding and evaluation for the claims and basis for the appeal.

The General Manager shall arrange for such counter presentation considered appropriate for the Appeals Board to fully comprehend all aspects relative to the decision which is the subject of the appeal.

C. Procedure - Decisions.

The Appeals Board shall meet as soon as practical but not later than ten business days after a request is made by a member agency. The Chairman of the Board shall designate a person to be the presiding member of the Appeals Board. No member of the Appeals Board shall participate in or act upon any appeal by the member agency he or she represents. The Appeals Board, with the advice of General Counsel, shall establish fair and reasonable procedures for hearing the appeal and reviewing determinations by the General Manager.
The Chairman shall appoint alternates to serve in the case of any appeal which a member is disqualified or unable to attend. Consistent with circumstances relative to the nature of the appeal, the Appeals Board shall conduct the appeal and render its decisions as expeditiously as practical. The decision shall be in writing briefly describing the pertinent circumstances for the appeal, and the basis for the decision. General Counsel may prepare a draft, pursuant to oral instructions from the Appeals Board, but each member of the Appeals Board must either approve or dissent in writing. The decision of a majority of the Appeals Board shall be the final decision on the subject of the appeal.

SECTION VIII. RESERVED DISCRETION.

The Board of Directors hereby reserves its legislative discretion to modify any of the provisions hereof as changed circumstances may warrant. Modifications to increase or decrease restrictions or water allocations will be made as deemed necessary and appropriate. The General Manager shall keep the Board advised about matters pertinent to drought conditions, MWD deliveries, Authority deliveries to member agencies, appeals, and the nature and extent of other emergency conditions.

SECTION IX. SUPERSEDE.

If any provisions of this Ordinance are inconsistent with previous actions of the Board pertaining to plans to respond to drought conditions, the provisions hereof shall supersede such inconsistent provisions.
SECTION X. EFFECTIVE DATE.

This ordinance shall become effective on January 1, 1995.

SECTION XI. SUNSET PROVISION.

This ordinance shall remain in effect until December 31, 1995.

SECTION XII. LEGAL BASIS FOR ACTIONS.

The foregoing rules, regulations are taken pursuant to Article X, Section 2 of the California Constitution and the legislative powers delegated to the Authority by Section 45-5(11) of the County Water Authority Act (West's Water Code, Appendix, Section 45).
PASSED, APPROVED, and ADOPTED this 8th day of December, 1994.

AYES: Unless noted below, all Directors voted aye.

NOES:

ABSTAIN:

ABSENT: Broomell, Buckner, Griffen and Turner

John M. Leach, Chair
Board of Directors

Joseph Parker, Secretary
Board of Directors

I, Janet R. Maltman, Executive Secretary of the Board of Directors of San Diego County Water Authority, do hereby certify that the above and foregoing is a full, true and correct copy of said Ordinance 94-3 of said Board and that the same has not been amended or repealed.

Janet R. Maltman
Executive Secretary
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APPENDIX D

Summary of Metropolitan Water District’s Historic Drought Plans
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Appendix D

Summary of Metropolitan Water District Historical Drought Plans

1981 Interruptible Water Service Program

The first drought plan that Metropolitan’s Board of Directors adopted was the Interruptible Water Service Program in 1981. This Program combined a rate structure and drought plan. The Interruptible Program was intended to deliver water at a discounted rate in return for the ability to interrupt the deliveries as required. Water that did not receive a discount was deemed to be “noninterruptible.”

Table 1 below shows a history of Metropolitan’s noninterruptible and interruptible rates under the Program.

<table>
<thead>
<tr>
<th>Period</th>
<th>NONINTERRUPTIBLE</th>
<th>INTERRUPTIBLE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Untreated</td>
<td>Treated</td>
</tr>
<tr>
<td>Domestic, Replenishment and Reservoir</td>
<td>Domestic, Replenishment and Reservoir</td>
<td></td>
</tr>
<tr>
<td>07/01/81 06/30/82</td>
<td>$ 96.00</td>
<td>$ 121.00</td>
</tr>
<tr>
<td>07/01/82 06/30/83</td>
<td>$ 114.00</td>
<td>$ 140.00</td>
</tr>
<tr>
<td>07/01/83 12/31/83</td>
<td>$ 144.00</td>
<td>$ 172.00</td>
</tr>
<tr>
<td>01/01/84 06/30/84</td>
<td>$ 197.00</td>
<td>$ 229.00</td>
</tr>
<tr>
<td>07/01/84 06/30/85</td>
<td>$ 197.00</td>
<td>$ 229.00</td>
</tr>
<tr>
<td>07/01/85 06/30/86</td>
<td>$ 192.00</td>
<td>$ 224.00</td>
</tr>
<tr>
<td>07/01/86 06/30/87</td>
<td>$ 197.00</td>
<td>$ 230.00</td>
</tr>
<tr>
<td>07/01/87 06/30/88</td>
<td>$ 197.00</td>
<td>$ 230.00</td>
</tr>
<tr>
<td>07/01/88 06/30/89</td>
<td>$ 197.00</td>
<td>$ 230.00</td>
</tr>
<tr>
<td>07/01/89 06/30/90</td>
<td>$ 197.00</td>
<td>$ 230.00</td>
</tr>
<tr>
<td>07/01/90 06/30/91</td>
<td>$ 197.00</td>
<td>$ 230.00</td>
</tr>
<tr>
<td>07/01/91 06/30/92</td>
<td>$ 222.00</td>
<td>$ 261.00</td>
</tr>
</tbody>
</table>

The discount in water rates in exchange for the right to interrupt ranged from 19% to 36% from 1981 to 1992. Interruptible water deliveries included the following categories:

1. Groundwater replenishment by spreading or injecting,
2. In lieu groundwater replenishment,
3. Reservoir storage,
4. Agricultural purposes limited to the growing of field and nursery crops and row crops,

5. Agricultural purposes limited to the growing of trees and vines,

6. Agricultural purposes limited to the feeding of fowl or livestock, and

7. Seawater barrier groundwater replenishment.

With the exception of deliveries to agriculture, a reduction or interruption in deliveries was to occur in the order listed above. Reductions or interruptions in deliveries to agriculture were to occur after the lapse of one year from the date of notice of discontinuance of surplus deliveries as provided in Metropolitan's Act, Section 132.

An agency had an obligation to take a reduction or interruption in deliveries for three years after taking interruptible water deliveries. An agency that took interruptible water for groundwater replenishment by spreading or injecting or for seawater barrier groundwater replenishment was required to take either:

1. A total interruption in delivery of that type of water for any one year, or

2. An aggregate reduction for three consecutive years of that type of water based on a five year average of deliveries of that type of water preceding the first year of reduction.

An agency that took interruptible water and used it for in-lieu groundwater replenishment or for reservoir storage was required to take either:

1. An interruption in delivery in any one year for the three years following delivery, not to exceed the amount of water delivered in the year prior to the interruption, or

2. An aggregate reduction over the three year period following any year of delivery not to exceed the amount of water delivered for such use prior to the year of interruption.¹

Metropolitan's member agencies that had participated in the Interruptible Program were to produce water from local storage to be able to manage an interruption.

When the 1987-1992 drought occurred, many member agencies who had purchased the interruptible water were not able to manage an interruption in deliveries. Some agencies did not have the facilities in place to produce the water, others did not have the water in storage, while others preferred to have customers conserve rather than produce from storage.² Additionally, there was concern expressed by some farmers that trees and vines and livestock would be permanently destroyed by interrupting their water service.³

¹ Metropolitan's Administrative Code, Chapter 6 (repealed December 8, 1992)
³ Metropolitan Water District of Southern California, Draft Paper on Events Leading Up to and Chronology of the 1990-92 Drought Years and Supply Reliability Improvements Achieved as a Result of the Drought.
As the drought deepened, Metropolitan’s Board adopted the Incremental Interruption and Conservation Plan (IICP).

1990 Incremental Interruption and Conservation Plan

In response to the deepening drought and Metropolitan’s member agencies’ inability to cease taking deliveries of interruptible water, the IICP was devised to reduce deliveries of both noninterruptible and interruptible deliveries. "The IICP was designed to encourage member agencies to utilize water held in local groundwater and surface water storage reserves and promote consumer water conservation to reduce demands on imported sources during droughts, as well as minimize the impact of reductions to agricultural users." Metropolitan’s Board attempted to rectify the inequity of agencies receiving past discounts for interruptible water service by reducing water taken as interruptible water at a greater percentage than water taken as noninterruptible water.

Table 2 shows the various stages of the IICP and reductions in deliveries for “firm” and “nonfirm” water deliveries. The overall reduction category uses total deliveries and expected reductions to those deliveries. Firm deliveries were noninterruptible and shift seasonal storage service. Nonfirm deliveries included agriculture, interruptible groundwater replenishment and reservoir storage deliveries, seasonal groundwater replenishment, reservoir storage deliveries, and seawater barrier deliveries.

<table>
<thead>
<tr>
<th>Stages</th>
<th>Reduction in Nonfirm Deliveries</th>
<th>Conservation of Firm Deliveries</th>
<th>Percentage Overall Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Voluntary</td>
<td>Goal 10%</td>
<td>10%</td>
</tr>
<tr>
<td>II</td>
<td>20%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>III</td>
<td>30%</td>
<td>10%</td>
<td>17%</td>
</tr>
<tr>
<td>IV</td>
<td>40%</td>
<td>15%</td>
<td>24%</td>
</tr>
<tr>
<td>V</td>
<td>50%</td>
<td>20%</td>
<td>31%</td>
</tr>
<tr>
<td>VI *</td>
<td>90%</td>
<td>30%</td>
<td>50%</td>
</tr>
</tbody>
</table>

* Added in March 1991

The IICP used a base year of fiscal year 1989-90 sales by Metropolitan. These sales were broken down into monthly targets. The targets were adjusted for loss of local supply, growth, conservation, and reclamation. The percentage reduction in deliveries was then applied. Agencies that took less water than their IICP target received an incentive of $99 per acre-foot. Agencies that took more than their target paid a disincentive of two times the untreated noninterruptible rate in addition to paying the noninterruptible rate for delivery of the water. Monthly overages and underages were allowed to offset one another over the course of the year through an annual reconciliation although incentives and disincentives were billed monthly.

Effective October 1, 1991, incentive payments were eliminated. Additionally, the base year nonfirm category was further divided into nonfirm and a discretionary pool. The firm category remained unchanged. The nonfirm service category became only agriculture and seawater barrier sales from fiscal year 1989-90; the remainder of the interruptible and seasonal base year sales were placed into a discretionary pool which was delivered at the discretion of Metropolitan’s General Manager. Water from the discretionary pool was delivered to replenish storage for use by the agencies during periods when discretionary pool water was not available. A delivery goal was set by the nonfirm stage of IICP in effect at that time.

Invoicing of disincentives was changed from a monthly basis to a quarterly basis in December 1991 to help save on the administrative burden placed on Metropolitan and its member agencies. In February, 1992, a time limit was placed on applying for adjustments under the IICP again to help save on the administrative burden placed on Metropolitan and its member agencies.

In summary, Metropolitan was in rationing for 14 months of the drought. Table 3 below shows the implementation of the IICP stages including adoption of the different stages by Metropolitan’s Board.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Adoption Date</th>
<th>Implementation Date</th>
<th>Percentage Firm/Nonfirm Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>11/20/90</td>
<td>12/01/90</td>
<td>Voluntary</td>
</tr>
<tr>
<td>II</td>
<td>12/11/90</td>
<td>02/01/91</td>
<td>5/20</td>
</tr>
<tr>
<td>III</td>
<td>01/08/91</td>
<td>02/01/91</td>
<td>10/30</td>
</tr>
<tr>
<td>V</td>
<td>02/19/91</td>
<td>03/01/91</td>
<td>20/50</td>
</tr>
<tr>
<td>VI</td>
<td>03/04/91</td>
<td>04/01/91</td>
<td>30/90</td>
</tr>
<tr>
<td>V</td>
<td>04/09/91</td>
<td>04/01/91</td>
<td>20/50</td>
</tr>
<tr>
<td>III</td>
<td>03/09/92</td>
<td>03/01/92</td>
<td>10/30</td>
</tr>
<tr>
<td>I</td>
<td>04/13/92</td>
<td>04/01/92</td>
<td>Voluntary</td>
</tr>
</tbody>
</table>

During the beginning of the IICP stages, Metropolitan changed stages several times, reacting to changes in supply, demands, and hydrology. “The State granted 85% of Metropolitan’s request for water in January, 1991. It then dropped deliveries to 50% of requests in the beginning of February and then only 10% at the end of February. Once the March miracle occurred, the State increased the allocation to 20% of requests in April, 1991. In September, 1991, the State increased Metropolitan’s allocation by 171,000 AF with the stipulation that the water be delivered for storage within Metropolitan’s service area. This water was delivered through contracts to several member agencies.”

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5 Metropolitan Water District of Southern California, Draft Paper on Events Leading Up to and Chronology of the 1990-92 Drought Years and Supply Reliability Improvements Achieved as a Result of the Drought
According to a Draft Paper on Events Leading Up to and Chronology of the 1990-92 Drought Years and Supply Reliability Improvements Achieved as a Result of the Drought, there were several issues that arose while implementing the IICP.

1. The rapid changing of stages made it difficult to communicate with member and submember agencies where water deliveries targets were.

2. Metropolitan had seasonal storage water available when rationing first began. Seasonal storage was then discontinued for 15 days. Because of the March miracles and changing supplies and demands, seasonal storage was made available again.

3. Interpreting the percentage reductions was difficult for the public. They did not know how to reduce from 10% to 20% usage.

4. Some agencies had local supplies and their retail customers did not need to conserve. However, because of the publicity, everyone was conserving.

5. The incentive payments and disincentive calculations were confusing since Metropolitan was delivering water at a discount for storage that did not get charged a disincentive while at the same time it was paying an incentive for agencies to produce from storage or conserve. Additionally, once an agency had produced from storage and its water levels were too low to produce further, it received an adjustment for loss of local supply to avoid disincentive payments.

6. The discretionary pool added an unnecessary administrative burden and providing allocations to the discretionary pool did not provide the needed flexibility to store water when available.

7. Adjustments were also an administrative burden. Once the incentive payments were eliminated, fewer adjustments were processed.

8. The adjustment for reclamation was complex and needed to be simplified.

1995 Drought Management Plan
The 1995 Drought Management Plan (1995 DMP) was the first time that Metropolitan formalized a Plan which addressed actions to take during a drought prior to reducing or interrupting deliveries of water. These actions included calling on water from various storage programs and participating in water bank and transfer options. Table 4 reflects the 1995 DMP action plan assuming a low initial State Water Project allocation.\textsuperscript{6}

\textsuperscript{6} Recreated from 1995 Drought Management Plan, Figure 1.
Table 4: Metropolitan’s 1995 Drought Management Plan Implementation

<table>
<thead>
<tr>
<th>DMP STEPS</th>
<th>GENERAL MANAGER ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>August</td>
<td>Initiate Drought Bank Discussions</td>
</tr>
<tr>
<td>September</td>
<td>Evaluate SSS/COOP Deliveries</td>
</tr>
<tr>
<td>October</td>
<td>G.M. Notice to Start SSS 10/1</td>
</tr>
<tr>
<td>November</td>
<td>Board Authorization to Purchase Water Bank Options</td>
</tr>
<tr>
<td>December</td>
<td>Board Adoption of DMP</td>
</tr>
<tr>
<td></td>
<td>Assess SWP &lt;30%</td>
</tr>
<tr>
<td></td>
<td>Re-evaluate SSS/COOP Deliveries</td>
</tr>
<tr>
<td></td>
<td>Public Education</td>
</tr>
<tr>
<td></td>
<td>GM Notice to Partially Suspend SSS</td>
</tr>
<tr>
<td></td>
<td>Media Advisory on Supply/Demand</td>
</tr>
<tr>
<td>January</td>
<td>Suspend Spreading &amp; COOP Deliveries</td>
</tr>
<tr>
<td>February</td>
<td></td>
</tr>
<tr>
<td>March</td>
<td>Reassess SWP &lt;30%</td>
</tr>
<tr>
<td></td>
<td>Notice to cut In-Lieu SSS</td>
</tr>
<tr>
<td></td>
<td>Initiate the Call of Storage Program waters</td>
</tr>
<tr>
<td></td>
<td>Participate in Water Transfer Options</td>
</tr>
<tr>
<td></td>
<td>GM Notice to Suspend In-Lieu SSS</td>
</tr>
<tr>
<td></td>
<td>Board Report on Water Transfers and Semitropic</td>
</tr>
<tr>
<td>April</td>
<td>Reassess SWP &lt;30%</td>
</tr>
<tr>
<td></td>
<td>Additional Call on Storage Programs</td>
</tr>
<tr>
<td></td>
<td>Participate in Water Bank</td>
</tr>
<tr>
<td></td>
<td>Call Semitropic Storage</td>
</tr>
<tr>
<td></td>
<td>Notice to Cut Ag</td>
</tr>
<tr>
<td></td>
<td>Board Report on Supply and Recommended Actions</td>
</tr>
<tr>
<td></td>
<td>Board Approval of Water Bank Purchase</td>
</tr>
<tr>
<td>May</td>
<td>Increase Public Education</td>
</tr>
<tr>
<td></td>
<td>Media Advisory on Supply/Demand</td>
</tr>
<tr>
<td></td>
<td>Board Letter on Required Actions</td>
</tr>
<tr>
<td>June-August</td>
<td>Evaluate the Need for IIICP</td>
</tr>
<tr>
<td>September</td>
<td>G.M. Notice on SSS Status</td>
</tr>
<tr>
<td>October</td>
<td></td>
</tr>
<tr>
<td>November</td>
<td>Assess Financial Impacts</td>
</tr>
<tr>
<td></td>
<td>Board Adoption of Resource Management Plan</td>
</tr>
</tbody>
</table>

The 1995 DMP addressed management of supplies in the event of a water shortage in calendar year 1995. Another plan was to be developed as part of the Integrated Resources Plan to address shortages as well as surplus conditions for the long-term.

The 1995 DMP included a modified IIICP. The modifications to the IIICP included the following:

1. The base year was the average of fiscal years 1989-90, 1990-91, and 1991-92. The firm deliveries in the base year were noninterruptible water, seawater barrier service, all interruptible in-lieu groundwater replenishment, reservoir storage deliveries, and shift seasonal storage service.
2. The nonfirm category was only agricultural deliveries. The agricultural allocation was based on either the agricultural certifications submitted during the twelve months prior to an agricultural water reduction or the average of agricultural certifications in fiscal years 1989-90, 1990-91, and 1991-92.

3. There was no discretionary pool. Any water available in addition to the targeted amounts would be delivered at the General Manager’s discretion.

4. There were separate reconciliation periods for firm targets and agricultural targets based on when reductions in each category began.

5. An Interagency Advisory Committee would be established to recommend stages and develop methods to accomplish adjustments to the base year.

6. Rather than changes in stages going to the full Board, the changes would be authorized by the Executive Committee so that quicker response to changing conditions could be accomplished.

7. The Executive Committee would be authorized to cut agricultural deliveries up to 30% prior to entering stages of the IICP.

8. Interagency target transfers were allowed.

9. The stages were changed to only include mandatory cutbacks and a tiered disincentive rate as shown in the Table 5 below.

<table>
<thead>
<tr>
<th>IICP Stage</th>
<th>Reduction in Firm Deliveries (%)</th>
<th>Reduction in Agricultural Deliveries (%)</th>
<th>Disincentive Rate</th>
<th>Disincentive Rate FY 1994-95 ($/AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>5</td>
<td>30</td>
<td>40% of Nonint. Rate</td>
<td>134.00</td>
</tr>
<tr>
<td>II</td>
<td>10</td>
<td>30</td>
<td>50% of Nonint. Rate</td>
<td>168.00</td>
</tr>
<tr>
<td>III</td>
<td>15</td>
<td>40</td>
<td>90% of Nonint. Rate</td>
<td>302.00</td>
</tr>
<tr>
<td>IV</td>
<td>20</td>
<td>50</td>
<td>125% of Nonint. Rate</td>
<td>419.00</td>
</tr>
<tr>
<td>V</td>
<td>25</td>
<td>75</td>
<td>165% of Nonint. Rate</td>
<td>553.00</td>
</tr>
<tr>
<td>VI</td>
<td>30</td>
<td>90</td>
<td>200% of Nonint. Rate</td>
<td>670.00</td>
</tr>
</tbody>
</table>

Several principles were adopted as part of the 1995 DMP as listed below.

- Avoid mandatory stages of the IICP to the extent practicable.
- Use Metropolitan's water management programs in a coordinated and efficient manner.
• Operate Metropolitan's system in a manner that captures and stores excess Metropolitan water in groundwater and surface reservoirs.

• Encourage regional storage during periods of excess water supply and use of storage during periods of drought.

• Use equitable means to conserve and use alternative supplies.

• Adopt measures that will have a balance of minimum cost and minimum inconvenience to consumers.

• Avoid to the extent practicable financial hardship on Metropolitan and its member agencies.

• Utilize cost efficient water transfer programs.

• Use public information to encourage efficient water use and to educate the public on water supply and reliability issues.

• Recognize the need for minimizing the impacts of water shortages on the region's economy.

• Reward conservation efforts through the water allocation methodology and penalize inefficient water practices.

• Base allocations (base year) should be an equitable allocation of available supplies reflecting payments for reliable deliveries.

• The base allocations should be adjusted to distribute regional benefits in proportion to the regional dollars spent in the development of local resources such as reclamation. The base allocations should also reward the agencies that have implemented conservation through Best Management Practices (BMPs) and/or penalize those that have not through reduced drought allocations or financial penalties. Adjustments for growth would be considered if it can be demonstrated that circumstances since the establishment of base allocations have significantly altered an agency's water demands. Adjustments for growth should reflect BMPs. Adjustments will not be utilized in target marketing.

• The agricultural allocation will be based on a rolling average of historic certified agricultural usage, up to a maximum of 155,034 acre-feet. The allocation would be adjusted upwards to reflect any rationing that occurs during that base period.\(^7\)

It was also recommended that the following principles be incorporated into a longer-term plan.

\(^7\) 1995 Drought Management Plan, pages 6-8.
• Base Allocation - Base allocations should reflect the appropriate share of available supplies based on good water management practices, including implementation of Best Management Practices. In addition, the relationship between payments for reliability and allocations of water during shortages should be established and maintained.

• Adjustments - The base allocations should be adjusted to distribute regional benefits in proportion to the regional dollars spent in the development of local resources such as reclamation. The base allocations should also reward the agencies that have implemented conservation through Best Management Practices (BMPs) and/or penalize those that have not. Adjustments for growth would be considered if it can be demonstrated that circumstances since the establishment of base allocation have significantly altered an agency’s water demands. Adjustments would not be available for target marketing.  

The 1995 DMP was adopted for one year only. In 1994, Metropolitan had begun an integrated water resources planning process. As part of that process, a more permanent drought management plan which also incorporated surplus conditions was envisioned that created a general policy direction on the basic sequence of water resource management steps that would be taken under surplus or shortage conditions. This plan, adopted in 1999, became known as the Water Surplus and Drought Management Plan.

**Water Surplus and Drought Management Plan**

The Water Surplus and Drought Management Plan (WSDM) is the drought management plan that Metropolitan currently operates under. The WSDM Plan addresses both drought actions and water surplus actions. However, a water allocation methodology in the event “rationing” becomes necessary is not included in the WSDM Plan.

The following are the guiding principle, supporting principles and implementation goals of the WSDM Plan:

**Guiding Principle**

• Metropolitan will encourage storage of water during periods of surplus and work jointly with its Member Agencies to minimize the impacts of water shortages on the region’s retail consumers and economy during periods of shortage.

**Supporting Principles**

• Maintain an ongoing coordinated effort among Metropolitan and its Member Agencies to encourage efficient water use and cost-effective local resource programs and to inform the public on water supply and reliability issues.

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• Encourage local and regional storage during periods of surplus and use of storage during periods of shortage.

• Manage and operate Metropolitan’s regional storage and delivery system in coordination with local facilities to capture and store surplus water in local groundwater and surface reservoirs.

• Arrange for secure sources of additional water from outside the region for use during periods of shortage.

• Call upon sources of additional water from outside the region and water stored locally to meet the needs of consumers and protect the economy during periods of shortage.

**WSDM Plan Implementation Goals**

• Avoid mandatory import water allocations to the extent practicable.

• Equitably allocate imported water on the basis of agencies’ needs. Considerations to create an equitable allocation of imported water may include:
  - Impact on retail consumers and economy
  - Reclamation/Recycling
  - Conservation
  - Population and economic growth
  - Investment in local resources
  - Change and/or loss of local supply
  - Participation in Metropolitan’s Non-firm (interruptible) Programs
  - Investment in Metropolitan’s facilities.

• Encourage storage of surplus supplies to mitigate shortages and improve water quality.\(^9\)

Although an allocation method was not adopted, a draft plan was devised and specific concepts of an allocation are laid out in the WSDM Plan. These concepts include an overall policy objective of the allocation method as follows: “…to minimize the impacts to any one agency and the region as a whole. To meet that objective, the method of allocating firm imported supply will account for:

• Each agency’s demands on Metropolitan,

• Each agency’s local resources,

• Each agency’s total retail demands.”\(^10\)

\(^{10}\) Water Surplus and Drought Management Plan, page 3.
Water sales to an agency up to the amount allocated will be at the prevailing full service rate. Deliveries for water use from 100 to 102% of the allocation would be charged the prevailing full service rate plus $175 per acre-foot (this cost is similar to the cost of Governors Water Bank water offered for sale in the 1987-92 drought). Water deliveries in excess of 102% of the target amount would be charged three times the full service rate.

The WSDM Plan has four resource stages in which actions fall. These resource stages are:

**Surplus:** Supplies are sufficient to allow Metropolitan to meet Full Service demands, make deliveries to all interruptible programs (replenishment, long term seasonal storage, and agricultural deliveries), and deliver water to regional and local facilities for storage.

**Shortage:** Supplies are sufficient to allow Metropolitan to meet Full Service demands and make partial or full deliveries to interruptible programs, sometimes using stored water and voluntary water transfers.

**Severe Shortage:** Supplies are insufficient and Metropolitan is required to make withdrawals from storage, call on its water transfers, and possibly call for extraordinary drought conservation and reduce deliveries under the IAWP.

**Extreme Shortage:** Supplies are insufficient and Metropolitan is required to allocate available imported supplies.\(^\text{11}\)

Based on the resource stage that Metropolitan is in, varying actions may occur. These actions are shown in Figure 1 below as developed by Metropolitan. The matrix acts as a “framework”. Actual response would be based on conditions at the time of need.

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\(^{11}\) Water Surplus and Drought Management Plan, page 7.
Figure 1: Sequence of WSDM Plan Water Resource Management Steps

<table>
<thead>
<tr>
<th>Surplus Stages</th>
<th>Actions</th>
<th>Shortage Stages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Surplus</strong></td>
<td></td>
<td><strong>Severe</strong></td>
</tr>
<tr>
<td>5 4 3 2 1</td>
<td>Make Cyclic Deliveries</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td></td>
<td>Fill Semitropic, Arvin-Edison</td>
<td><strong>Shortage</strong></td>
</tr>
<tr>
<td></td>
<td>Store supplies in SWP Carryover</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td></td>
<td>Fill Contractual GW</td>
<td><strong>Severe Shortage</strong></td>
</tr>
<tr>
<td></td>
<td>Fill Monterey Res.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td></td>
<td>Fill Diamond Valley Lake</td>
<td><strong>Extreme Shortage</strong></td>
</tr>
</tbody>
</table>

Conduct Public Affairs Program

- Take from Diamond Valley Lake
- Take from Semitropic, Arvin-Edison
- Cut LTS and Repln. Deliveries
- Take from Contractual GW
- Take from Monterey Res.
- Call for Extraordinary Conservation
- Reduce IAWP Deliveries
- Call Options Contracts
- Buy Spot Water
- Implement Allocation Plan

Potential Simultaneous Actions

The matrix is read from the center of the “Actions” column to the right or left. If Metropolitan is in a surplus stage, it would be read from the center up and to the left. If Metropolitan is in shortage stages, it would be read from the center down and to the right. Metropolitan’s General Manager has authority to act on all surplus actions and shortage actions 1 through 4. Metropolitan’s Board must approve actions 5 through 7.

The timeline below from the WSDM Plan shows a hypothetical shortage year.¹²

From January through April, supplies are uncertain. The State Water Project (SWP) allocation is changing based on hydrology as well as the Los Angeles Aqueduct (LAA). From May through the end of September, supplies are known and actions have been taken in response to those known

supplies. From October through December, a transitional period develops where there is uncertainty on the availability of supplies for the following period, and a decision is made on whether to offer long-term storage deliveries to member agencies as well as assess local storage, SWP storage and conservation efforts that have occurred.

A Drought Program Officer will administer the public outreach programs. The DPO will be responsible for coordinating the various activities during a drought.
APPENDIX E

Metropolitan Water District’s
Draft Interim Agricultural Water Program
Reduction Guidelines
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Appendix E
Metropolitan's DRAFT Interim Agricultural Water Program Reduction Guidelines
May 2005

Summary

Over the past several years, the Southwest experienced continued dry conditions and demands for imported water were near all-time records. In addition, Metropolitan's Colorado River supply is at about half of recent historical supply as agricultural to urban Colorado River water transfers are being ramped-up. Metropolitan has exercised a number of additional actions within its broad portfolio of resources, such as withdrawals from Central Valley storage programs and reductions in replenishment deliveries, to maintain reliable deliveries of "firm" supply. As the 2004/05 water year also began as a dry year, Metropolitan and its member agencies began preparing a plan to reduce Interim Agricultural Water Program (IAWP) deliveries in the coming year, in the event that a reduction became necessary. Even with the recent record rainfall in Southern California and apparently ample supply on the State Water Project, it is prudent to complete the plan and procedures for such a curtailment.

This paper provides an outline of how a reduction in IAWP deliveries could be developed, initiated, implemented, and validated. It is based on experiences from the last reduction in agricultural water deliveries in 1991, informal discussions with member agency and retail agency staff, and discussion with agricultural water users and their representatives. The goal is to use this information as the framework for detailed guidelines and implementation procedures.

Background on the Interim Agricultural Water Program

The potential water management benefits of interrupting agricultural water deliveries prior to urban deliveries was recognized in the "Interruptible Program" established by Metropolitan in 1981. On the heels of the 1992 drought, Metropolitan converted the "Interruptible Program" into a more rigorous IAWP in May 1994. The IAWP provides for the delivery of surplus water for agricultural purposes at a discounted rate. Under the IAWP, water is delivered at a discounted rate in exchange for up to a 30% reduction in demand by participating agricultural water users at Metropolitan's call during dry periods. This reduction enables Metropolitan to better conserve limited supplies during such shortages.

The IAWP was initially set up as a demonstration program with a sunset/renewal period of three years. In exchange for the IAWP water discount, Metropolitan can reduce IAWP water deliveries up to 30% prior to implementing any mandatory allocations under its drought management plan. The three-year demonstration period ended June 1997, after which time Metropolitan continued the IAWP for an additional five years. A bundled rate for treated and untreated agricultural water was incorporated into Metropolitan's rate structure in January 2003. IAWP parameters set forth in Section 4106 and Chapter 9 of Metropolitan's Administrative Code, and administrative procedures developed under the program's demonstration period and refined under the five-year extension, now continue.

E-1
Program Features

Metropolitan’s Administrative Code generally defines agricultural purposes, under the IAWP, as water used for growing or raising agricultural, horticultural or floricultural products for the purposes of commerce, trade, or industry, or for use by educational or correctional institutions, on parcels where greater than one acre is used exclusively for the aforementioned purposes. It applies to both the growing of crops and raising of livestock and fowl for human consumption or market. It also applies to the feeding of fowl or livestock for the purpose of obtaining their products for human consumption or market.

The IAWP limits the maximum amount of discounted agricultural water available to a member agency on an annual basis each fiscal year. These limits, based on the agency’s average annual agricultural water use for the four-year period preceding the program’s 1994 implementation, are still in place, and are as follows:

<table>
<thead>
<tr>
<th>Agency</th>
<th>Maximum Annual IAWP (AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaheim</td>
<td>115</td>
</tr>
<tr>
<td>Calleguas MWD</td>
<td>7,164</td>
</tr>
<tr>
<td>Inland Empire Utilities</td>
<td>122</td>
</tr>
<tr>
<td>Fullerton</td>
<td>60</td>
</tr>
<tr>
<td>Las Virgenes MWD</td>
<td>207</td>
</tr>
<tr>
<td>MWDOC</td>
<td>7,657</td>
</tr>
<tr>
<td>SDCWA</td>
<td>100,459</td>
</tr>
<tr>
<td>Three Valleys MWD</td>
<td>106</td>
</tr>
<tr>
<td>Torrance</td>
<td>22</td>
</tr>
<tr>
<td>West Basin MWD</td>
<td>170</td>
</tr>
<tr>
<td>Western MWD</td>
<td>32,347</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>155,190</strong></td>
</tr>
</tbody>
</table>

In order to receive the IAWP discount, member agencies must certify to Metropolitan the amount of agricultural water used within their service area on a monthly basis. Such use is actually determined through certifications provided by the retail agency supplying agricultural water to the end user. Metropolitan, in turn, issues a discount for that amount of water to the member agency. Member agencies are required to pass the discount on to the retail agency, which then transfers the discount to the end user.

Metropolitan reviews IAWP performance on an annual basis. This review includes verifying water usage on a retail agency basis to ensure that IAWP certifications submitted during the year preceding the review are accurate, verifying that the IAWP discount is being transferred to end-users, and spot-checking agricultural parcels to ensure participation according to
Metropolitan's agricultural purposes definition. Based on this review, Metropolitan may adjust IAWP credits issued to an agency during the previous year.

The Metropolitan Water District Act allows Metropolitan to deliver or sell water for any beneficial use that is not needed for domestic or municipal uses. Metropolitan has the right to discontinue surplus water service, in whole or in part, upon one year's written notice to the purchasers or users of the water. Following such notification, Metropolitan's CEO has the discretion to reduce IAWP deliveries up to 30% prior to imposing any mandatory urban water allocation under the Water Surplus and Drought Management (WSDM) Plan during the year for which notification is given. Metropolitan's Administrative Code requires the CEO to give written notice of Metropolitan's intent to reduce or interrupt IAWP delivery as soon as practicable after such determination is made.

As part of the demonstration program, member agencies were required to submit a plan indicating how a 30% reduction would be met. This was a one-time requirement and Metropolitan was to have received such plans by November 1994. Since that time, Metropolitan has not required that plans be revised or updated. Moreover, methodologies and procedures for initiating, implementing and validating reduction have not been developed.

**Draft Guidelines for Program Implementation**

**Notification and Timing of the Reduction**

One of the most important aspects of the reduction in IAWP deliveries is the timing of the reduction. Colorado River and State Water Project (SWP) supplies are determined on a calendar year basis. The SWP allocation is typically not final until early May, and is often very uncertain until that point. Because of the supply uncertainty early in the year, an implementation timeline that considers the changing SWP supply outlook is appropriate. Additionally, a lead-time between the time that Metropolitan issues a notice of a reduction in agricultural deliveries under the IAWP and when the reductions begin is necessary for the member agencies to communicate and implement plans with their sub-agencies and/or IAWP participants. As a result, Metropolitan's notification protocol includes a 60-day period between the time when Metropolitan notifies agencies of the reduction and when the reduction actually occurs.

These factors are shown in the 2004/05 timeline on the following page.
In addition to the timeline shown above, staff provides monthly water supply reports to Metropolitan’s Board of Directors between January and May. These reports inform the Board on changes in the outlook for imported supplies and provide timely updates on the water supply outlook to Metropolitan’s member agencies.

A fiscal year schedule for measurement of IAWP reductions takes into account a more certain supply outlook, reducing the potential that IAWP supplies will be unnecessarily reduced. The monthly water supply outlook updates, with the assessment of the SWP allocation, serve as a useful means of communicating the possibility of a reduction in IAWP deliveries in the following fiscal year. This is helpful for preparing IAWP participants that may have to make decisions to stress or stump trees, reduce plantings or dismantle irrigation to comply with the reduction.

**Establishing a Baseline**

A baseline for determining monthly IAWP usage targets for the upcoming fiscal year would be based on IAWP water usage in the last complete fiscal year prior to when Metropolitan issues the notification of reduction. For example, the baseline for a fiscal year 2005/06 reduction would be based on monthly use in fiscal year 2003/04. Since a reduction in IAWP deliveries would typically be called during an extended dry period, such prior year IAWP deliveries would provide the best prediction of agricultural usage patterns in the coming fiscal year. Once established, this baseline would remain in place for the remainder of the period in which the IAWP reduction is in effect, and for droughts continuing into successive fiscal years. For planning purposes, the use of 2004/05 data would not be adequate for determining a baseline because the fiscal year would not be complete by the time the reduction is called.
and the certification process for 2004/05 agricultural use is not complete with end-of-year review results until December 2005.

Monthly IAWP usage targets will be set at 70% of the monthly baseline IAWP deliveries projected for the reduction period; however, performance will be measured semi-annually beginning July 1. Within each six-month period, agencies carry forward “credits” and “debits” from month to month. Any credit balance remaining at the end of the six-month period could be carried forward to the next six-month period. However, credits cannot be carried for more than one six-month period. Any credits remaining at the end of a six-month period that were carried forward from a previous six-month period will be lost. If the carryover balance is negative (meaning the agency used more than it was allocated), at the end of either the first six-month period, or the end of the fiscal year, the member agency would then pay Metropolitan’s “Penalty Rate” (see Penalties for Non-compliance) for the cumulative “debts” accrued during the six-month period.

The following graphs illustrate the baseline and the 70% monthly limit, as well as 70% of the usage pattern for a representative year (fiscal year 2001/02) compared to the baseline year, as an example of monthly hydrologic variation demonstrating where carryover credits may be accrued and used in subsequent months that are over 70% of the monthly baseline. San Diego County Water Authority and Western Municipal Water District are shown as examples, since they are the largest IAWP participants.

IAWP FY 2003/04 Monthly Baseline

Figure 2: SDCWA Monthly Ag Usage Baseline, With 70% of FY 2001/02 Use Pattern Shown for Example
Implementing the Program

The reduction guidelines would be exercised when it is evident that the SWP allocation and other supply programs could be insufficient to meet the range of forecast demands. Since SWP supply has the highest variability early in the year, the following rough guidelines will be used to communicate the likelihood of implementing a reduction in IAWP deliveries in FY 2005/06:

<table>
<thead>
<tr>
<th>SWP Allocation</th>
<th>IAWP Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>40% or less</td>
<td>IAWP reduction is highly likely</td>
</tr>
<tr>
<td>Between 40% and 60%</td>
<td>IAWP reduction is possible</td>
</tr>
<tr>
<td>Over 60%</td>
<td>IAWP reduction is unlikely</td>
</tr>
</tbody>
</table>

Please note that these ranges are preliminary and are subject to change as supply, demand and storage conditions, as well as their outlooks, change.

The expected yield of the IAWP reduction, using fiscal year 2003/04 as a baseline, is about 45 thousand acre-feet (TAF), which is 30% of the 150 TAF that was certified for that fiscal year.
Verification of Usage

The IAWP provides a discount to participants to maintain the ability for Metropolitan to reduce usage as a water management action, if necessary. The goal of water use savings will be compromised if “firm” water is used to offset the reduction in discounted IAWP water. The need for verifying reductions in usage must be balanced by a verification strategy that is not administratively complex and provides for development of methodologies by each member agency and its participants. With this in mind, proposed methods to verify the reduction of usage by IAWP water users are listed as follows:

1. Monitor a reduction in usage through limits placed on the amount of water that can be certified at a discount under the IAWP.
2. Review proposals by participating member agencies that outline how reductions in use by IAWP participants will be implemented, monitored and verified. A committee of Metropolitan staff and member agency representatives will review proposals.
3. Conduct spot checks to verify that proposed actions are actually being implemented.

Based on past discussions regarding the IAWP, participants have an interest in proving that actual reductions in usage have occurred, because a financial benefit has been derived over the years due to this program. By demonstrating their ability to reduce usage, participants in the program can demonstrate the value of the IAWP as a water management program that provides regional benefit.

Penalties for Non-Compliance

In order to help ensure performance and participation by IAWP participants, Metropolitan would impose financial penalties and restrict usage for member agencies that do not reduce their use of water under the IAWP. If a member agency did not reduce its use of IAWP water when requested, all water delivered to IAWP participants above 70% of the established baseline for the six-month period would be priced at a rate equal to the System Access Rate, plus the Water Stewardship Rate, plus the System Power Rate, plus twice the Tier 2 Supply Rate (see Penalty Rate in the following table of water rates for rates in CY 2005). Furthermore, the member agency’s annual IAWP limit would be reduced by the extent to which the target usage levels were not met. Such a reduction would remain in place for at least one year.

Financial Impact

The following water rates are applicable for the calendar year beginning January 1, 2005.

<table>
<thead>
<tr>
<th>Water Rate</th>
<th>Untreated</th>
<th>Treated</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAWP</td>
<td>$241/AF</td>
<td>$329/AF</td>
</tr>
<tr>
<td>Tier 2 Full Service</td>
<td>$412/AF</td>
<td>$524/AF</td>
</tr>
<tr>
<td>Penalty Rate (bundled rate)</td>
<td>$566/AF</td>
<td>$678/AF</td>
</tr>
</tbody>
</table>
As shown above, an agency that used more water than 70% of the established baseline for the six-month period would pay an additional $325/AF for every additional acre-foot of untreated water, and an additional $349/AF for every additional acre-foot of treated water.

**Conclusion and Recommendation**

While curtailments on IAWP deliveries appear unlikely this year, it is appropriate to have procedures in place should such a reduction become necessary in the future. The current framework includes notification of an IAWP reduction in May if necessary, based on the allocation of State Water Project supplies and the latest forecast of water supply/demand balance. The next step in the process is to expand the proposed framework and develop the detailed procedures for such reductions. These procedures will be developed with member agencies, retail agencies and growers to ensure that the objectives of the program can be achieved.
APPENDIX F

Member Agency DMP TAC Memorandum to Board of Directors
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TO: Water Authority Board of Directors
VIA: Water Planning Committee
FROM: Member Agency Drought Management Plan Technical Advisory Committee
SUBJECT: Draft Drought Management Plan
DATE: March 23, 2006

We are pleased to report that the Member Agency Drought Management Plan Technical Advisory Committee (TAC) has concluded its deliberations as a Committee and respectfully submits to the Water Authority Board through the Water Planning Committee a draft Drought Management Plan (DMP) for review and consideration. The DMP outlines specific recommended actions to be taken by the Water Authority when faced with a shortage of imported water supplies from Metropolitan due to drought conditions.

The TAC members wish to emphasize that the Water Authority and its member agencies have made substantial investments in new diversified supplies and facilities to improve water reliability in the San Diego region. As mentioned in the Water Authority’s 2005 Urban Water Management Plan, if the Water Authority and member agency supplies are developed as planned and Metropolitan’s Integrated Resource Plan is fully implemented, no shortages are anticipated within the Water Authority’s service area through 2030. While the region intends 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 DMP was prepared in the event that the region ever faces supply shortages due to drought.

All the Water Authority member agencies were invited to participate on the TAC; 22 of 23 agencies did so. The TAC members met approximately every month since the first meeting was held on March 7, 2005. The role of the TAC was to provide input to Water Authority staff on preparation of a DMP. To help ensure that each TAC member’s perspective was heard at the meetings, the Water Authority staff hired a consultant to facilitate each meeting and assist the member agencies in working through the many complex issues and to strive for consensus.

The DMP contains four major elements: 1) Principles developed with input from the TAC that provided guidance into preparation of the DMP; 2) Drought response matrix that provides guidance to the Water Authority in selecting potential regional actions that can be taken to lessen the severity of shortage conditions; 3) Supply allocation methodology that provides a means to allocate Water Authority supplies to its member agencies in a shortage situation; and 4) Communication strategy that provides actions for the Water Authority to take to ensure clear communication prior to and during shortage conditions.

Communication and coordination between agencies, the public, and public officials are vital for the successful implementation of the DMP elements. To facilitate this effort, two member agency groups will be formed to handle coordination of activities and communication. The first
group is the Member Agency Advisory Team that will assist the Water Authority’s General Manager with issues that arise during the implementation of the DMP. This will include actions related to implementation of the Drought Response Matrix and the Allocation Methodology. The second group is a Drought Communication Team that will aid in the coordination of communications with the press and public. The existing Joint Public Information Council (JPIC) can sit as the communication team.

Of the four DMP elements, development of the supply allocation methodology required the most discussion and deliberation by TAC members. All of the members of the TAC recognize the difficulty inherent in rationing a supply that is less than the demand for that supply. The TAC members believe that it is important to develop a method in advance of a drought and not address such a challenging issue while in the midst of a crisis. The allocation methodology that is contained in the DMP reflects many hours of thoughtful deliberations and discussions among the member agencies and represents our best collective efforts to balance the diverse needs of the members in a fair and equitable manner. Specifically, to provide an incentive for the continued development of local water supplies by the Water Authority’s member agencies while, in the most severe conditions, limiting the effect of drought at the retail level.

Even though the region has plans to be reliable for the next 25 years, with no anticipated shortages, it is prudent planning that we be prepared in the event that the region does ever face supply shortages due to drought conditions. The draft DMP being submitted for your review and consideration accomplishes this task.

Respectfully Submitted,