MONTE VISTA WATER DISTRICT

URBAN WATER MANAGEMENT PLAN

June 2011

Final Draft

Monte Vista Water District

MONTE VISTA WATER DISTRICT
2010 URBAN WATER MANAGEMENT PLAN

FINAL DRAFT

JUNE 2011

Prepared by Monte Vista Water District Staff:

General Manager	Mark N. Kinsey
Public Affairs Director/ Water Use Efficiency Practitioner	Justin Scott-Coe
Manager of Engineering, Operations, & Maintenance	Van M. Jew, P.E.
Water Systems Supervisor	Henry Aceves

10575 Central Avenue
Montclair, CA 91763
(909) 624-0035
www.MVWD.org

TABLE OF CONTENTS

EXECUTIVE SUMMARY ..... ES

ACRONYMS AND ABBREVIATIONS ..... ACR

SECTION 1 INTRODUCTION 1-1

1.1 Purpose and Overview 1-1
1.2 Preparation 1-2
1.2.1 Plan Adoption, Submittal, and Implementation 1-2
1.2.2 Local Agency Coordination and Public Participation 1-3

SECTION 2 WATER SYSTEM DESCRIPTION 2-1

2.1 District History and Purpose 2-1
2.2 Service Area Characteristics 2-4
2.2.1 Location 2-4
2.2.2 Climate 2-4
2.2.3 Population 2-5
2.2.4 Land Use 2-6
2.3 District Water Distribution System 2-6

SECTION 3 WATER SYSTEM DEMANDS 3-1

3.1 Recent Water Demand Trends 3-1
3.2 Water Master Plan Demand Analysis 3-1
3.3 Demand Reduction Requirements 3-6
3.3.1 Baseline Gallons Per Capita Per Day 3-6
3.3.2 Target Gallons Per Capita Per Day 3-11
3.4 Past, Current, and Projected Water Demands 3-12
3.5 Lower Income Housing Demands 3-15
3.5.1 Senate Bill 1087 Compliance 3-16

SECTION 4 WATER SYSTEM SUPPLIES 4-1

4.1 Water Sources 4-1
4.1.1 Chino Groundwater Basin 4-1
4.1.2 State Water Project 4-2
4.1.3 San Antonio Water Company 4-6
4.1.4 Recycled Water 4-6
4.2 Water Supply 4-7
4.2.1 Chino Basin Watermaster 4-8
4.2.2 Water Facilities Authority 4-21
4.2.3 San Antonio Water Company 4-22
4.2.4 Inland Empire Utilities Agency – Recycled Water 4-29
4.3 Planned Water Supply Enhancement Projects 4-36
4.3.1 District Projects 4-36
4.3.2 Regional Projects 4-36
4.4 Additional Water Supply Enhancement Opportunities 4-47
4.4.1 Transfer and Exchange Opportunities 4-47
4.4.2 Desalinated Water Opportunities 4-49
4.4.3 Recycled Water Opportunities 4-50

SECTION 5 WATER SUPPLY RELIABILITY 5-1

5.1 Reliability of District Water Supplies 5-1
5.1.1 Chino Groundwater Basin Supply Reliability 5-1
5.1.2 Water Facilities Authority Supply Reliability 5-2
5.1.3 Recycled Water Supply Reliability 5-3
5.1.4 San Antonio Water Company Supply Reliability 5-4
5.2 Water Quality Impacts on Reliability 5-4
5.2.1 Chino Groundwater Basin Water Quality 5-5
5.2.2 Water Facilities Authority Water Quality 5-10
5.2.3 San Antonio Water Company Water Quality 5-12
5.2.4 Recycled Water Quality 5-12
5.2.5 Impact on Water Management Strategies and Supply Reliability 5-13
5.3 Climatic Impacts on Reliability 5-14
5.3.1 Historical Dry Years 5-14
5.3.2 Supply Modifications during Dry Years 5-16
5.3.3 Demand Modifications during Dry Years 5-18
5.3.4 Climate Change Impacts on Water Supply Reliability 5-18
5.4 Reliability Analyses – Normal, Single, Multiple Dry Years 5-20

SECTION 6 WATER DEMAND MANAGEMENT 6-1

6.1 Legislative and Regulatory Requirements 6-1
6.1.1 California Urban Water Conservation Council 6-2
6.1.2 Assembly Bill 1420 6-4
6.1.3 The Water Conservation Act of 2009 6-5
6.1.4 Assembly Bill 1881 6-5
6.2 Demand Management Measure Implementation 6-5
6.3 Demand Management Planning 6-6
6.3.1 Regional Conservation Programs 6-6
6.3.2 District Conservation Programs 6-18
6.3.3 Potential Customer Sector and Economic Impacts 6-26

SECTION 7 WATER SHORTAGE CONTINGENCY PLAN 7-1

7.1 Water Shortage Contingency Ordinance 7-1
7.2 Stages of Action 7-1
7.3 Regional Water Shortage Contingency Planning 7-3
7.3.1 MWD's Water Surplus and Drought Management Plan 7-3
7.3.2 IEUA's Drought Plan 7-4
7.4 Minimum Short-Term Supply Availability 7-5
7.5 Catastrophic Supply Interruption Plan 7-5
7.5.1 Water Shortage Emergency Response 7-6
7.6 Prohibitions, Penalties, and Consumption Reduction Methods 7-12
7.6.1 Revenue and Expenditure Impacts 7-13
7.7 Mechanisms to Determine Actual Reductions in Water Use 7-14

APPENDICES

Appendix A: Urban Water Management Planning Act of 1983 as Amended to 2010
Appendix B: Water Conservation Act of 2009 (SBX7-7)
Appendix C: Department of Water Resources 2010 Urban Water Management Plan "Review for Completeness" Form
Appendix D: References
Appendix E: Notice of Public Hearing and Resolution for Plan Adoption
Appendix F: Resolution 604-07
Appendix G: Chino Basin Judgment and Optimum Basin Management Program
Appendix H: San Antonio Water Company Water Service Agreement
Appendix I: Monte Vista Water District 2011 Recycled Water Master Plan
Appendix J: 2009-2010 CUWCC Best Management Practices Annual Reports and Coverage Reports
Appendix K: Ordinance 33: Establishing Water Use Efficiency Best Practices and Staged Water Supply Shortage Measures

TABLES

Table 1-1: Local Agency and Organization Coordination 1-4
Table 2-1: Service Area ETo, Temperatures and Rainfall 2-4
Table 2-2: Population – Current and Projected 2-5
Table 2-3: Active Groundwater Wells 2-7
Table 3-1: Water Master Plan – Ultimate Water Usage 3-2
Table 3-2: Base Daily Per Capita Water Use – 10-Year Range 3-7
Table 3-3: District Residential Accounts – 1999-2008 3-9
Table 3-4: District Population Calculation – Account Multiplier 3-10
Table 3-5: District Population Calculation – 1999-2008 3-10
Table 3-6: District Urban Water Use Targets 3-12
Table 3-7: Base Daily Per Capita Water Use – 5-Year Range 3-12
Table 3-8: Past, Current and Projected Water Demand by Sector 3-13
Table 3-9: Number of Retail Water Service Connections by Sector 3-14
Table 3-10: Lower Income Housing Projected Demand – 2015 3-15
Table 4-1: Water Supplies – Current and Projected 4-7
Table 4-2: Chino Groundwater Basin Total Annual Production Right, Actual Production and Overproduction – FY 2009/10 4-10
Table 4-3: Groundwater – Volume Pumped 4-10
Table 4-4: Groundwater – Projected Volume Available to be Pumped 4-11
Table 4-5: DYY Shift Obligations for Participating Agencies 4-21
Table 4-6: Recycled Water Three Year Business Plan Annual Goals for Connected Demand and Sales 4-32
Table 4-7: Recycled Water – Estimated Wastewater Collection and Treatment .. 4-33
Table 4-8: RP-1/RP-4 Plant Supply vs. Recycled Water Usage 4-35
Table 4-9: 2005 UWMP Recycled Water Use Projection vs. Actual Use 4-35
Table 4-10: Actual and Projected Chino Groundwater Basin Recharge 4-38
Table 4-11: Potential Recycled Water Supply in IEUA Service Area 4-51
Table 4-12: Projected Regional Recycled Water Usage 4-51

Table 4-13: Current and Projected Recycled Water Uses 4-52
Table 4-14: Ten-Step Process for Recycled Water Customer Development 4-54
Table 5-1: Drought Severity in the Sacramento and San Joaquin Valleys 5-15
Table 5-2: Supply Reliability as Percentage of Normal Water Year Supply 5-16
Table 5-3: Bases of Water Year Data 5-17
Table 5-4: Supply and Demand Comparison – Normal Year 5-21
Table 5-5: Supply and Demand Comparison – Single Dry Year 5-21
Table 5-6: Supply and Demand Comparison – Multiple Dry Years 5-22
Table 6-1: IEUA Regional Program Water Savings – 2006-2010 6-9
Table 6-2: Budget-Based Tiered Rate Structure Assumptions 6-19
Table 6-3: Best Practice Notifications and Penalties 6-21
Table 7-1: Water Shortage Stages and Demand Reductions 7-2
Table 7-2: Water Shortage Phase Mandatory Prohibitions 7-2
Table 7-3: Minimum Short-Term Supply Availability 7-5
Table 7-4: 2011 Local Hazard Mitigation Plan Goals and Objectives 7-8
Table 7-5: Per Capita Health and Safety Water Quantity Calculations 7-12
Table 7-6: Penalties and Procedures for Ordinance 33 Violations 7-12

FIGURES

Figure 2-1: District Retail and Wholesale Service Area 2-3
Figure 3-1: Existing Land Uses and Types 3-3
Figure 3-2: Future Land Use Types for Vacant Parcels 3-4
Figure 3-3: Developed Land Use Types according to Specific Plans 3-5
Figure 3-4: U.S. Census Blocks within District Boundaries 3-8
Figure 4-1: Chino Groundwater Basins with Management Zones 4-3
Figure 4-2: Metropolitan Water District of Southern California Boundaries 4-4
Figure 4-3: Water Facilities Authority and Inland Empire Utilities Agency Boundaries 4-23
Figure 4-4: San Antonio Water Company Water Supply Sources 4-24
Figure 4-5: IEUA Regional Recycled Water Distribution System – Current and Projected 4-30
Figure 4-6: District Existing Retail Recycled Water Distribution System 4-31
Figure 6-2: Avoided Tier II Costs Due to Conservation (Dry Year) 6-26

ACRONYMS and ABBREVIATIONS

AB	Assembly Bill
AF	Acre-Foot/Feet
AFY	Acre-Feet per Year
ASR	Aquifer Storage and Recovery
BMP	Best Management Practice
CBWCD	Chino Basin Water Conservation District
CCF	Hundred Cubic Feet
CCWRF	Carbon Canyon Water Reclamation Facility
CDA	Chino Basin Desalter Authority
CII	Commercial, Industrial and Institutional
CIP	Capital Improvement Plan
CRA	Colorado River Aqueduct
CURO	Cumulative Unmet Replenishment Obligation
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
CVWD	Cucamonga Valley Water District
CWC	California Water Code
DBCP	Dibromochloropropane
DMM	Demand Management Measure
DPH	California Department of Public Health
DWCV	Desert Water Agency/Coachella Valley Water District
DWR	California Department of Water Resources
DYY	Dry Year Yield
e.g.	For Example
ETo	Evapotranspiration
EPA	U.S. Environmental Protection Agency
FY	Fiscal Year
GPCD	Gallons Per Capita Per Day
gpf	Gallons Per Flush
gpm	Gallons Per Minute
HET	High Efficiency Toilet
HECW	High Efficiency Clothes Washer
IEUA	Inland Empire Utilities Agency
IRP	Integrated Resources Plan
IWMP	Integrated Watershed Management Plan
JPA	Joint Powers Authority
LEAP	Landscape Evaluation/Audit Program
LHMP	Local Hazard Mitigation Plan
MCL	Maximum Contaminant Level
mgd	Million Gallons per Day
mg/L	Milligrams Per Liter
MI	Miner's Inch(es)
MOU	*Memorandum of Understanding Regarding Urban Water Use in California*
MWD	Metropolitan Water District of Southern California

MZ	Management Zone
NDMA	N-nitrosodimethylamine
NTC	National Theatre for Children
OBMP	Optimum Basin Management Program
OSY	Operating Safe Yield
OWOW	One Water One Watershed
PPCP	Pharmaceuticals and Personal Care Product
ppm	Parts Per Million
ppt	Parts Per Trillion
PSA	Public Service Announcement
RP	Regional Plant
RTS	Readiness To Serve
RWQCB	Santa Ana Regional Water Quality Control Board
SAWCo	San Antonio Water Company
SAWPA	Santa Ana Watershed Project Authority
SB	Senate Bill
SCADA	Supervisory Control Data Acquisition System
SF	Summary File
SWP	State Water Project
SWRCB	State Water Resources Control Board
TAF	Thousand Acre-Feet
TCE	Trichloroethylene
TDS	Total Dissolved Solids
TIN	Total Inorganic Nitrogen
ULFT	Ultra Low Flush Toilet
USC	Urban Stakeholder Committee
USBR	U.S. Bureau of Reclamation
UWMP	Urban Water Management Plan
WFA	Water Facilities Authority
WET	Water Education for Teachers
WEWAC	Water Education – Water Awareness Committee
WMP	Water Master Plan
WSDM	Water Surplus and Drought Management
20x2020	Water Conservation Act of 2009 Urban Water Use Reduction Requirements
Act	California Urban Water Management Planning Act of 1983
Basin	Chino Groundwater Basin
Basin Plan	Water Quality Control Plan for the Santa Ana River Watershed
Company	Monte Vista Irrigation Company
District	Monte Vista Water District
Guidebook	*Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan*
Max	Maximum
Methodologies	*Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*
Min	Minimum
Plan	Urban Water Management Plan
Regional Boards	Regional Water Quality Control Boards
Watermaster	Chino Basin Watermaster

EXECUTIVE SUMMARY

California urban water providers are required by the Urban Water Management Planning Act to develop an Urban Water Management Plan (UWMP or Plan) every five years to ensure they have sufficient water supplies available to meet the long-term needs of its various categories of customers during normal, dry, or multiple-dry years. The Water Conservation Act of 2009 (SB X7-7) added additional UWMP reporting requirements.

The Monte Vista Water District (District) 2010 UWMP has been prepared in compliance with these requirements. In summary, the water reliability analysis in Section 5 of this Plan indicates the District can expect its available supplies to significantly exceed anticipated demands over the 25-year planning period. As a result of these surplus supplies, the District should not experience any problems in meetings its demands during normal, single, or multiple dry- year periods over the next 25 years.

Service Area and System Descriptions

The District is a county water district officially formed in 1927 to provide domestic water service to a primarily agricultural area. In the early days, groundwater was the major water supply. Gradually, additional water supplies were identified and developed, including connections to the Colorado River Aqueduct, the creation of the Water Facilities Authority (WFA) to treat northern California imported surface water, the acquisitions of the Monte Vista Irrigation Company and shares in the San Antonio Water Company (SAWCO), and development of a recycled water distribution system. In addition to its retail customers, the District provides wholesale water supply to the City of Chino Hills. At the current time, the District relies on approximately 75 percent of its water supply from groundwater and other local supplies and 25 percent from imported water. The District’s 2008 Water Master Plan addresses its water system, supply, and storage infrastructure needs for the next 30 years.

The District's 9.56-square-mile retail service area includes the City of Montclair, portions of the City of Chino, and unincorporated areas of San Bernardino County. The local climate is generally Mediterranean and semi-arid, with little or no summer rainfall. The District’s population over the next 25 years is projected to grow by approximately 17 percent (from 52,488 to 61,150), including a significant development of high density multi-family residential properties within the North Montclair Downtown Specific Plan area of the City of Montclair. The District's retail service area is primarily residential and the majority of land is already built out.

The District currently has 13 active groundwater wells with a combined capacity of approximately 30 million gallons per day (mgd). The District's retail water distribution system is comprised of four pressure zones, 194 miles of pipelines, six reservoirs, seven booster stations, three hydrogenerators, and six emergency interconnections with neighboring water agencies. Water is transported to Chino Hills via transmission mains and delivered through two turnout facilities.

Water System Demands

For three consecutive years, overall water use by the District's retail customers has significantly declined—by nearly 25 percent since 2007. This can be attributed largely to the District's successful conservation and education programs, as well as to the recent economic downturn and periods of generally cooler summer temperatures.

The Water Conservation Act of 2009 requires all California urban water agencies to set and meet certain demand reduction targets, measured in gallons per capita per day (GPCD), in order to assist the State in reducing urban water use by 20 percent by 2020 (20x2020).

The District's Baseline GPCD, the 10-year GPCD average of the years 1999-2008, is 211 GPCD. Opting for a simple 20 percent reduction in total demand, the District's Target GPCD for 2020 is 169 GPCD and its Interim Target GPCD for 2015 is 190 GPCD.

District Urban Water Use Targets

Baseline GPCD	2020 Urban Water Use Target	2015 Interim Urban Water Use Target
211	**169**	**190**

Projected retail demands are consistent with these demand reduction requirements and urban water use targets. Although historical wholesale demand by Chino Hills has ranged between 9,500 and 13,500 AFY, the District will use its full contractual obligation of 20.22 mgd, or 22,667 AFY, in estimating potential future demands by Chino Hills on the District's water system.

Past, Current and Projected Water Demand

Sector	2005	2010	2015	2020	2025	2030	2035
Retail Potable Demand	11,504	10,135	12,100	11,140	11,440	11,690	12,020
Wholesale Potable Demand	13,517	10,171	22,667	22,667	22,667	22,667	22,667
Total Potable Demand	**25,021**	**20,307**	**34,767**	**33,807**	**34,107**	**34,357**	**34,687**
Recycled Water	57	542	1,306	1,350	1,350	1,350	1,350
Total Water Demand	**25,078**	**20,849**	**36,073**	**35,157**	**35,457**	**35,707**	**36,037**

Water System Supplies

The District is dependent on four sources for its long-term water supply:

- Groundwater produced from the Chino Groundwater Basin, an adjudicated basin managed by the Chino Basin Watermaster;
- Imported State Water Project surface water received from the Metropolitan Water District of Southern California (MWD) through the Inland Empire Utilities Agency (IEUA) and WFA;
- Entitlement water deliveries from SAWCO, including groundwater produced from local adjudicated groundwater basins and surface water produced from the San Antonio Creek Watershed; and,
- Recycled water from IEUA.

Current and Projected Water Supplies

Water Supply Sources	2010[1]	2015	2020	2025	2030	2035
Chino Groundwater Basin	15,774	30,260	30,260	30,260	30,260	30,260
Water Facilities Authority	4,465	21,776	21,776	21,776	21,776	21,776
San Antonio Water Company	476	800	800	800	800	800
City of Upland	68	0	0	0	0	0
IEUA – Recycled Water	542	1,306	1,350	1,350	1,350	1,350
Total Water Supply	**21,325**	**54,142**	**54,186**	**54,186**	**54,186**	**54,186**

Water Supply Reliability

Reliability is a measure of a water service system's expected success in managing water shortages. In addition to climate, other factors that can cause water supply shortages are natural disaster, such as earthquakes, chemical spills, energy outages, and water quality issues.

The District safeguards the quality of its water supply by exceeding state and federal monitoring requirements. The District blends its various sources of water to ensure that the quality of drinking water is in strict compliance with standards. Additionally, local and imported water supplies are being constantly monitored and remediated through regional programs.

The District water supply that would be most significantly impacted by dry years is its imported northern California surface water supply. Groundwater is not directly impacted, due to its being underground and hidden from changes to the climate. However, the District's groundwater supply is indirectly impacted by dry conditions due to its obligations under the Dry Year Yield (DYY) Program with MWD to use groundwater in lieu of imported surface water.

During normal and dry years, MWD will have available supply to meet 100 percent of the District's imported water demands. However, the District can expect to be called upon by MWD to reduce its imported water demand through its DYY Program shift obligation of 3,963 AFY. Simultaneously, the District can expect to have its Tier 1- and Tier 2-priced imported water supplies reduced by 10-40 percent, depending on the level of implementation of MWD's Water Supply Allocation Plan. IEUA projects that, for all member agencies that participate in the DYY Program, demands for MWD's imported water supply will decrease by approximately 38 percent during single dry-year period and an average of 39 percent over a three-year multiple dry-year period. For planning purposes, the District will use IEUA's supply adjustment factors in its reliability analyses for dry years.

The following tables compare the District's current and projected water supplies and demands in normal, single dry-year and multiple dry-year scenarios for the District. **These projections demonstrate that the District can expect its available supplies to significantly exceed anticipated demands over the 25-year planning period. As a result of these surplus supplies, the District should not experience any problems in meetings its demands during normal, single or multiple dry year scenarios during the next 25 years.**

Supply and Demand Comparisons

Normal Year

	2015	2020	2025	2030	2035
Total Supply	54,142	54,186	54,186	54,186	54,186
Total Demand	36,073	35,157	35,457	35,707	36,037
Difference	**18,069**	**19,029**	**18,729**	**18,479**	**18,149**

All amounts in AF.

Single Dry Year

	2015	2020	2025	2030	2035
Total Supply	45,591	45,635	45,635	45,635	45,635
Total Demand	36,073	35,157	35,457	35,707	36,037
Difference	**9,518**	**10,478**	**10,178**	**9,928**	**9,598**

All amounts in AF.

Multiple Dry Years

		2015	2020	2025	2030	2035
Year 1	Total Supply	45,228	45,271	45,271	45,272	45,272
	Total Demand	36,073	35,157	35,457	35,707	36,037
	Difference	**9,155**	**10,114**	**9,814**	**9,565**	**9,235**
Year 2	Total Supply	45,585	45,629	45,629	45,629	45,629
	Total Demand	36,073	35,157	35,457	35,707	36,037
	Difference	**9,512**	**10,472**	**10,172**	**9,922**	**9,592**
Year 3	Total Supply	45,775	45,819	45,819	45,819	45,819
	Total Demand	36,073	35,157	35,457	35,707	36,037
	Difference	**9,702**	**10,662**	**10,362**	**10,112**	**9,782**

All amounts in AF.

Water Demand Management

The District has been proactive in developing programs that protect existing water resources so that adequate water supplies will be available for sustainable future growth. The District is a charter signatory to the California Urban Water Conservation Council's *Memorandum of Understanding Regarding Urban Water Conservation* and has maintained its compliance with its Best Management Practices (BMPs—see Appendix J).

In addition to the BMPs, the District is required to comply with the Water Conservation Act of 2009's requirements to set and then to meet its urban water use reduction targets of 190 GPCD by 2015 and 169 GPCD by 2020. Though the District is currently meeting its targets, additional conservation efforts will be required as the economy improves with resulting growth and development in the near future. In addition to enhancing its local conservation program, the District will continue to participate in IEUA's Regional Conservation Workgroup, the Water Education – Water Awareness Committee, and Chino Basin Water Conservation District programs.

Water Shortage Contingency Plan

The District's Water Shortage Contingency Plan is incorporated into District Ordinance 33 (Appendix K), which establishes year-round water use efficiency best practices and staged water supply shortage measures. This Plan addresses emergency shortages, including catastrophic interruptions, and contains mandatory prohibitions, penalties, and consumption reduction methods. The District's stages of action present the measures by which customers are required to implement mandatory water conservation practices during a declared water shortage. The District may declare a shortage due to imported water supply cutbacks by MWD, as well as extended drought, equipment failure, act of terrorism, and/or natural disaster.

SECTION 1
INTRODUCTION

1.1 PURPOSE AND OVERVIEW

California urban water providers are required by state law to develop an Urban Water Management Plan (UWMP or Plan) to ensure they have sufficient water supplies available to meet the long-term needs of its various categories of customers during normal, dry, or multiple-dry years. State of California Water Code (CWC) Sections 10610 through 10656, known as the Urban Water Management Planning Act (Act), requires urban water suppliers (providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually) to develop an UWMP every five years in the years ending in zero and five. Senate Bill (SB) X7-7 (2009), known as the Water Conservation Act of 2009, added additional UWMP reporting requirements.

In the Act, the California Legislature declared that the waters of the state are a limited and renewable resource subject to ever increasing demands; that the conservation and efficient use of urban water supplies are of statewide concern; that successful implementation of plans is best accomplished at the local level; that conservation and efficient use of water shall be actively pursued to protect both the people of the state and their water resources; that conservation and efficient use of urban water supplies shall be a guiding criterion in public decisions; and that urban water suppliers shall be required to develop water management plans to achieve conservation and efficient use.

The Monte Vista Water District (District) 2010 UWMP has been prepared in compliance with the requirements of the Act as amended through 2010 (Appendix A) [1], as well as the additional reporting requirements of the Water Conservation Act of 2009 (Appendix B)[2]. The District's 2010 UWMP is an update of its 2005 UWMP, with significant information added from the District's 2008 Water Master Plan, 2011 Recycled Water Master Plan, and 2009-2013 Strategic Plan; draft Regional UWMPs developed by Inland Empire Utilities Agency and the Water Facilities Authority; and other local and regional planning documents. The District relies on the California Department of Water Resources's (DWR) *Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan* (March 2011) for the Plan's organization and DWR's *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* (February 2011) for its compliance with the Water Conservation Act of 2009. A completed DWR 2010 UWMP "Review for Completeness" Form, which provides an index showing where Water Code requirements are met in this Plan, is included as Appendix C. Appendix D lists the numerous references used during the development of this Plan.

[1] California Water Code, Division 6, Part 2.6; §10610, et. seq. Established by Assembly Bill 797 (1983). Legislation amending the Act since 2005 include SB 1087 (2005), Assembly Bill (AB) 1376 (2007), AB 1420 (2007), AB 1465 (2010), and SBX7-7 (2010).
[2] California Water Code, Division 6, Part 2.55; §10608, et. seq.

The UWMP is intended to serve as a general, flexible, and open-ended document that periodically can be updated to reflect changes in regional water supply trends, and conservation and water use efficiency policies. This Plan, along with the District's Water Master Plan and other planning documents, will be used by District staff to guide water use and management efforts through the year 2015, when the UWMP is required to be updated.

The Plan is organized into the following sections:

- Introduction
- Water System Description
- Water System Demands
- Water System Supplies
- Water Supply Reliability
- Water Demand Management
- Water Shortage Contingency Plan

In summary, the water reliability analysis in Section 5 of this Plan indicates the District can expect its available supplies to significantly exceed anticipated demands over the 25-year planning period. As a result of these surplus supplies, the District should not experience any problems in meetings its demands during normal, single, or multiple dry-year periods over the next 25 years.

1.2 PREPARATION

1.2.1 Plan Adoption, Submittal, and Implementation

Water Code section 10644(a) requires the District to prepare and adopt the UWMP on or before December 31, and file with the DWR within 30 days after adoption. The Water Conservation Act of 2009, due to its additional reporting requirements, provided retail urban water agencies with a six-month extension for adoption of their 2010 UWMPs. The District 2010 UWMP was adopted by resolution of the Board of Directors on June 8, 2011, following a public hearing which included discussion of the District's method of determining its urban water use targets under the Water Conservation Act of 2009, its plan to meet these targets, and the potential economic impacts of meeting these targets (see Sections 3 and 6). This Plan was submitted to local agencies within which the District provides water service, DWR, and the State Library within 30 days of Board adoption. Copies of the Notice of Public Hearing and the Resolution of Plan Adoption are included in Appendix E.

The Draft Plan was made available to the public prior to the Public Hearing and the final adopted Plan was made available to the public within thirty (30) days following District Board approval. This Plan will be used by District staff to guide the District's water use planning and efficiency efforts through 2015 and beyond.

1.2.2 Local Agency Coordination and Public Participation

An important component of developing an UWMP is coordination with local public and private stakeholders. These include the following entities:

- Cities and counties that receive water service through the District and direct local land use planning efforts;
- Regional and neighboring water agencies whose water systems are interconnected with the District's, or who work in partnership with the District on regional water resource management strategies; and,
- Local organizations that reflect diverse social, cultural, and economic elements of the District's service population.

Recognizing the importance of this coordination, and in compliance with Water Code Sections 10621(b), 10631(k), and 10642, the District sent letters to the cities of Montclair, Chino, and Chino Hills, to San Bernardino County, and to 13 local community stakeholder organizations in mid-December 2010, notifying them of the District's intent to update its UWMP for 2010 and providing them an opportunity to participate. The District has also communicated with eight additional neighboring cities and local water agencies concerning the District's progress in updating its Plan. A wide range of information and data was obtained, discussed, and used from many of these agencies to assist in the preparation of the Plan. Additionally, these agencies, organizations, and entities were notified at least 60 days in advance of the public hearing and the availability of a draft 2010 UWMP for comment prior to its adoption (see Appendix E). A listing of the agencies, organizations, and entities invited to participate in the development of the District's UWMP are listed in Table 1-1.

Table 1-1:
Local Agency and Organization Coordination

Local Agencies Receiving Water Service from District (Require 60 Day Notice)	**Assisted in developing the plan**	**Commented on the draft**	**Attended public meetings**	**Was contacted for assistance**	**Was sent a link to draft plan**	**Was sent a notice of intention to adopt**
City of Chino	X			X	X	X
City of Chino Hills	X			X	X	X
City of Montclair	X			X	X	X
County of San Bernardino	X			X	X	X
Local Agencies Providing Wholesale Service to District (Provide Water Demand Projections)						
City of Upland	X			X	X	X
Inland Empire Utilities Agency	X			X	X	X
Metropolitan Water District of Southern California	X			X	X	X
San Antonio Water Company	X			X	X	X
Water Facilities Authority	X			X	X	X
Local Agencies Associated with Regional Water Supply Planning						
Chino Basin Water Conservation District	X			X	X	X
Chino Basin Watermaster	X			X	X	X
Santa Ana Regional Water Quality Control Board					X	X
Santa Ana Watershed Project Authority					X	X
Local Community Organizations and Stakeholder Associations						
Building Industry of America, Baldy View					X	X
Chaffey Joint Union High School District					X	X
Chino Valley Chamber of Commerce					X	X
Chino Valley Unified School District					X	X
Green Valley Initiative					X	X
Inland Empire Chamber Legislative Alliance					X	X
Inland Empire Economic Partnership					X	X
Montclair Chamber of Commerce					X	X
Montclair Community Collaborative					X	X
Neighborhood Partnership Housing Services					X	X
Ontario Montclair School District					X	X
San Bernardino County Economic Development Agency					X	X
San Bernardino County Superintendent of Schools					X	X
Southern California Association of Governments	X			X		

SECTION 2
WATER SYSTEM DESCRIPTION

2.1 DISTRICT HISTORY AND PURPOSE

Monte Vista Water District (District) is a county water district that was officially formed in 1927 under CWC, County Water District Law, Division 12, Section 30000 et seq. The District's origins date back to the early 1900s, when a land developer first surveyed a tract of land bounded by the railroad tracks and Phillips Street to the north and south, and the wash and State Street to the east and west. This area of land was then known as the "Monte Vista Land Tract" and was used largely for agricultural purposes, primarily citrus orchard farming. Water that was needed for irrigation for the numerous orange and lemon groves in the area was provided by the Limited Mutual Water Company. Limited Mutual Water Company later made the decision to provide domestic water service, and a number of other companies began to express a similar interest. The desire to form a water district under state law led to the election and formation of the District.

After its formation, the District began the long process of purchasing and accumulating facilities for providing domestic water service, including reservoirs, pipelines, pumps, wells, and other water companies. Land was purchased for facility development, and several annexations were accomplished over the decades, the largest of which occurring in 1989 with the addition of a portion of San Bernardino County Water Works #8 service area. This annexation included a population of over 12,000, increasing the total population served by the District to over 46,000 and resulting in peak demand of 14 million gallons per day (mgd) in the 1990s.

In the early days, groundwater was the major water supply. Enough naturally occurring recharge meant the groundwater was sufficient to meet the needs of the area. Gradually, additional water supplies were identified and developed to meet periods of increased demand and also to blend with high-nitrate groundwater supplies in order to meet state and federal regulatory standards. After the construction of the Colorado River Aqueduct in 1935, connections to that supply source assisted in bringing water to the region as supplemental supply to a rapidly growing region. In the 1980s, the District, along with the cities of Chino, Chino Hills, Ontario, and Upland, entered into a joint powers authority agreement to create the Water Facilities Authority (WFA) treatment plant. The WFA can treat up to 81 mgd of surface water imported from northern California through the State Water Project.

More recently, due to the increased unreliability of imported water supplies, the District has made key acquisitions to further develop its local water supply portfolio. In February 1999, the District purchased the Monte Vista Irrigation Company, a private water company founded in 1908, previously involved with agricultural and domestic water supply to the cities of Montclair and Ontario. Through this acquisition, the District increased its production rights in the Chino Groundwater Basin by approximately 1,000 acre-feet per year (AFY). In 2010, the District purchased 300 shares in the San Antonio Water Company, a local mutual stock water company, providing access to approximately 800 AFY of additional water supply.

Finally, over the past five years the District has successfully implemented a recycled water distribution system. The system currently delivers 300 AFY of recycled water through a separate non-potable distribution system for landscape irrigation. The District eventually plans to deliver 440 AFY of recycled water to offset demand on its potable water system.

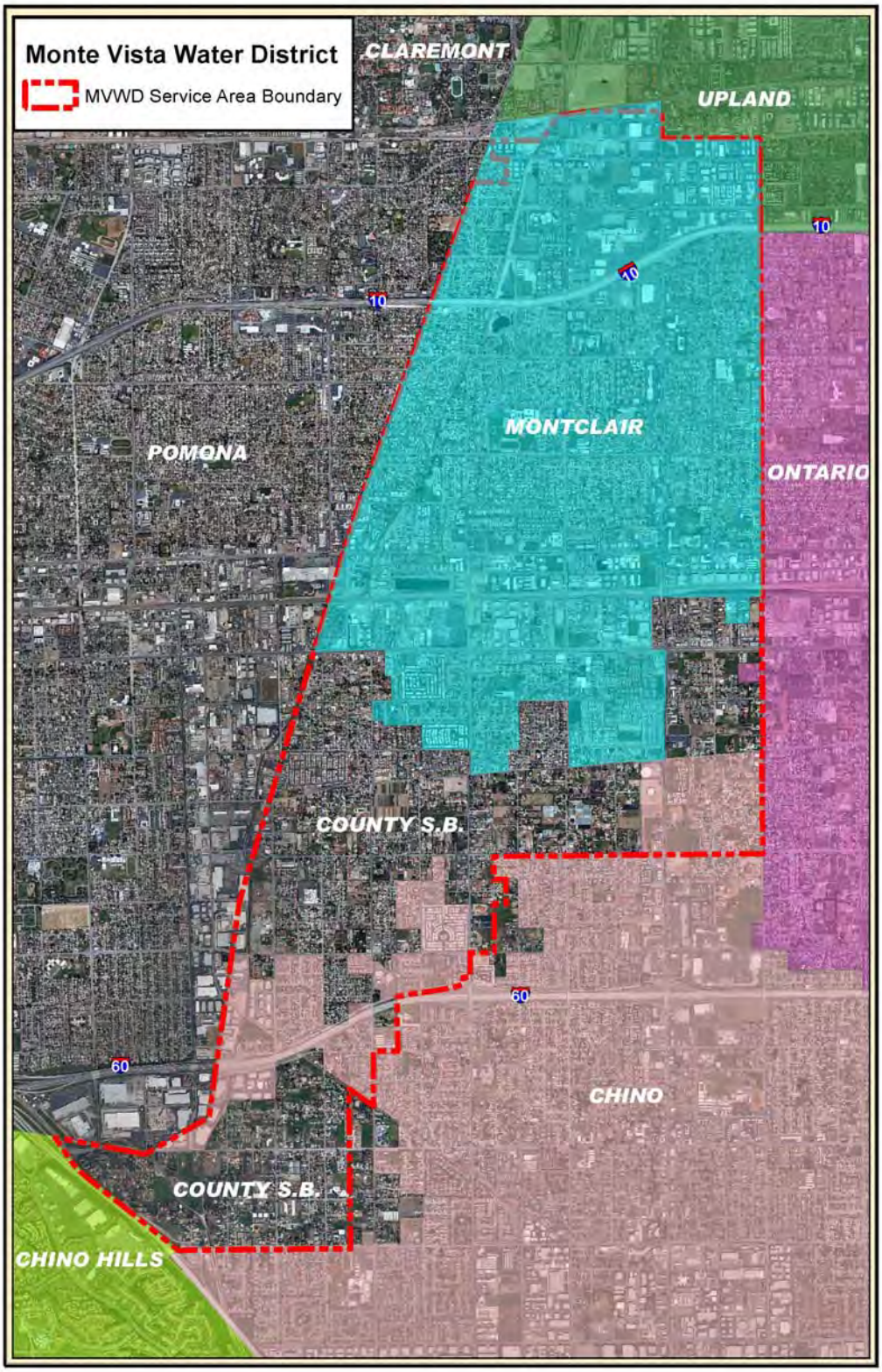
At the current time, the District relies on approximately 75 percent of its water supply from groundwater and other local supplies and 25 percent from imported water. These percentages vary according to changing supply conditions.

In addition to its retail customers, the District provides wholesale water supply to the City of Chino Hills. Under the provisions of a long-term agreement executed in July 1998, the District is contracted to deliver to Chino Hills up to 20.22 mgd. Since initiation of full deliveries in 1999, the District has delivered between 9,500 and 13,500 AFY of water to the City under the terms of the agreement, representing approximately 50 percent of the City's water supply.

In 2009, the District Board of Directors adopted the District's 2008 Water Master Plan as its Capital Improvement Plan (CIP) document, addressing water system, supply, and storage infrastructure needs for the next 30 years. The District's Financial Master Plan was also updated in 2009 to provide a mechanism for funding the identified capital projects at a cost of nearly $100 million. Since adoption of its CIP, the District has completed a major pipeline replacement project, the construction of two wells with a third nearing completion, the development of a recycled water distribution system, and the purchase of San Antonio Water Company stock.

The operation of the District is governed by a Board of Directors, comprised of five members, elected at large within the District. The Board appoints, by majority vote, a General Manager/Secretary, Manager of Finance and Administration, and Legal Counsel, who serve at the pleasure of the Board. The District currently has 36 full-time employees who work in the areas of engineering, operations, maintenance, field service, customer service, billing, finance, human resources, public affairs and administration.

Figure 2-1:
District Retail and Wholesale Service Area



2.2 SERVICE AREA CHARACTERISTICS

2.2.1 Location

The District's retail service area contains approximately 6,120 acres (9.56 square miles), and includes the City of Montclair, and portions of the City of Chino and unincorporated county areas. The District also provides wholesale water to the City of Chino Hills, which was incorporated in 1991 and currently encompasses 46 square miles.

The retail service area lies adjacent to the westerly boundary of San Bernardino County, bordered by the City of Upland and the City of Claremont to the north, the City of Ontario to the east, the City of Chino, City of Chino Hills, and unincorporated areas to the south, and the City of Pomona in Los Angeles County to the west. Interstate 10 runs east and west through the northern portion of the water service area and California State Route 60 runs east and west through the southern portion. The District service area lies between 700 and 1,250 feet above mean sea level, rising gently northward toward the San Bernardino Mountains, approximately six miles from the northernmost boundary of the District. See Figure 2-1 for a map of the District service area.

2.2.2 Climate

The District is located in a general drainage area known as the Chino Basin, the largest such basin in the upper Santa Ana River Watershed. The Basin's southern California climate is generally Mediterranean, with low historical precipitation rates with wide periodic variations. The local climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds.

Table 2-1:
Service Area ETo, Temperatures and Rainfall

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total/ Average
Average ETo[1] (inches)		1.72	2.03	3.37	4.54	5.00	5.80	6.51	6.39	4.69	3.48	2.27	1.71	47.51
Temperature[2] (Fahrenheit)	**Max**	67	68	70	75	80	87	94	94	90	84	74	68	79
	Min	44	45	46	48	54	57	62	64	61	56	48	44	52
Rainfall[2] (inches)		3.3	3.1	2.9	1.1	0.3	0.0	0.0	0.1	0.4	0.4	1.9	2.3	15.8

[1] California Irrigation Management Information System, Station #78 (Pomona), wwwcimis.water.ca.gov.
[2] http://countrystudies.us/united-states/weather/California/ontario.html

The District's average high temperature ranges from 67 degrees Fahrenheit in January to 94 degrees Fahrenheit in July and August. Average annual precipitation is approximately 16 inches, with most precipitation typically occurring between November and April. There is little or no summer rainfall and often the predominant periods of rain do not occur until January. Evapotranspiration (ET_o)[3] in the region averages 47.5 inches annually. Table 2-1 lists the average annual ETo, temperatures, and rainfall for the District's service area.

2.2.3 Population

The high cost of land in Los Angeles area increased the attraction of the Chino Basin and other suburban areas where land was still plentiful during the "urban sprawl" era. With the recent economic downturn, there are differing opinions on how rapidly the area will grow in population during the coming decades.

Current and projected population estimates for the District's service area are provided in Table 2-2. The current population estimate was developed following the procedure described in Appendix A of DWR's *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* (see Section 3.3). In order to project the District's service area population for the next 25 years, it is necessary to divide the service area by municipal boundaries and use population estimates and growth projections for each subarea, as described in the footnotes to Table 2-2.

As shown in the table, the District's population over the next 25 years is projected to grow by approximately 17 percent (from 52,488 to 61,150).

Table 2-2:
Population – Current and Projected

Area	2010	2015	2020	2025	2030	2035
City of Montclair[1]	37,535	39,600	41,500	43,000	44,250	46,000
City of Chino[2]	3,500	3,500	3,500	3,500	3,500	3,500
Unincorporated[3]	11,453	11,631	11,555	11,608	11,634	11,650
Total[4]	**52,488**	**54,731**	**56,555**	**58,108**	**59,384**	**61,150**

Future population projections rounded to the nearest 10.
[1] 2010 estimate: State of California, Department of Finance, E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1, 2009 and 2010. Sacramento, California, May 2010. 2015-2035 estimates: City of Montclair, November 9, 2010.
[2] City of Chino, January 2011. 2010 estimate based on residential properties and U.S. Census population density. 2015-2035 estimates based on assumption that small infill increase in population will be offset by persons per household decreasing over time (3.6 pph in 2015 to 3.3 pph in 2030).
[3] 2010 estimate: Difference between 2010 total population and cities of Montclair and Chino population estimates. 2015-2035 estimates: Southern California Association of Governments, Adopted 2008 RTP Growth Forecast by Census Tract.
[3] 2010 total based on same calculation used to derive baseline population estimates, Table 3-5. 2015-2035 totals are sum of above data.

[3] ET is the loss of water to the atmosphere by the combined processes of evaporation (from soil and plant surfaces) and transpiration (from plant tissues). It is an indicator of how much water crops, lawn, garden, and trees need for healthy growth and productivity. ET from a standardized grass is commonly denoted at ET_o. ETo

The largest demographic shift in the foreseeable future for the District service area will be an expected increase in multi-family housing units in proportion to single-family housing units. This shift will largely be due to the development of high density residential properties within the North Montclair Downtown Specific Plan area of the City of Montclair. Two developments approved by the Montclair City Council in late 2010 will add over 500 multi-family residential dwelling units in the service area. The projected number of dwelling units at North Montclair Downtown Specific Plan build-out is 2,800.[4]

The current population of the City of Chino Hills is about 79,000.[5] For population projections, see the City of Chino Hills's 2010 UWMP.

2.2.4 Land Use

The area within the District retail service boundary was once mainly used for agricultural purposes, namely citrus orchard farming. Over the course of time, this land has gone through a series of developments, ultimately resulting in the variety of land use types as seen today. The primary land use of this area is now residential, although there is still a large commercial sector as well as some light industrial/manufacturing and residual agricultural areas. The majority of land within the District's retail service area has already been built out.

2.3 DISTRICT WATER DISTRIBUTION SYSTEM

The District's water distribution system is comprised of groundwater wells, reservoirs, transmission and distribution pipelines, pump stations, pressure reducing stations, and hydrogenerators. The system is used to meet the water demands of the District's retail and wholesale customers.

The District's retail water distribution system serves four separate pressure zones and includes approximately 194 miles of water distribution mains ranging in size from four to 42 inches in diameter, six reservoirs with a combined capacity of 12 million gallons, and seven active pump booster stations used to boost water throughout the system. The District's Water Master Plan calls for significant pipeline replacements in the next 30 years, as a large portion of its pipelines were constructed around the 1950s and are approaching the end of their service life. The Master Plan also calls for the construction or rehabilitation of additional storage facilities to meet needed capacity at build-out (see Section 4.3.1).

The District currently has 13 active groundwater wells with a combined capacity of approximately 30 mgd. Table 2-3 shows the District's active wells and associated capacities.

[4] City of Montclair, January 19, 2011.
[5] State Department of Finance, E-1 City / County Population Estimates with Annual Percent Change – January 1, 2009 and 2010.

Table 2-3:
Active Groundwater Wells

Well Number	Capacity (mgd)
4	1.2
5	2.0
6	0.9
10	1.5
19	2.8
26	2.8
27	2.9
28	3.0
30	2.9
31	2.9
32	2.9
33	1.4
34	2.9
Total	**30.0**

The District's Water Master Plan includes recommendations for four new or renovated wells to provide for system reliability and continued groundwater pumping. As these wells are primarily to replace capacity of existing older wells which will soon go out of service, no additional capacity is expected within the master planning horizon.

The District currently has six emergency interconnections with neighboring water agencies: Golden State Water Company (formerly Southern California Water Company) and the cities of Chino (x3), Upland, and Chino Hills. Over the last two decades, only the interconnection with Golden State Water has ever been activated, at which time the District delivered water to Golden State Water. The District has also discussed installing interconnections with the City of Ontario.

Water is transported from the District to Chino Hills via transmission mains and ultimately delivered through two turnout facilities.

SECTION 3
WATER SYSTEM DEMANDS

3.1 RECENT WATER DEMAND TRENDS

For three consecutive years, overall water use by the District's retail customers has significantly declined—by nearly 25 percent since 2007. This can be attributed largely to the District's successful conservation and education programs, as well as to the recent economic downturn and periods of generally cooler summer temperatures.

The District began a comprehensive awareness campaign in the summer of 2007, informing customers about the need to conserve because of continuing drought conditions and significant reductions to imported water deliveries from Northern California due to environmental issues. Due to these conditions, the Board of Directors declared water supply shortages in both 2008 and 2009, with the latter declaration calling for mandatory water use restrictions for all customers. Recently, the board adopted a new ordinance establishing mandatory year-round "best practices" for efficient water use as well as revised criteria for declaring water supply shortages (see Sections 6.3.2 and 7.1 below for more information). District customers have responded to requests to reduce their water use, resulting in savings of 20 percent below the District's average annual water demand in 2010, compared to the previous ten-year average.

With the passage of the Water Conservation Act of 2009, the District is required to reduce water use on a gallons per person per day basis by 20 percent compared to a ten-year baseline average (see Section 3.3 below)—a goal that District customers have already accomplished! While the District expects overall water demands to slowly increase as the economy improves, the District will work with its customers to maintain their current water use levels in order to comply with the State's requirements.

3.2 WATER MASTER PLAN DEMAND ANALYSIS

The District's 2008 Water Master Plan projected future demands on the District's water system based on estimated changes in land uses in its retail service area. The District is using these future land use estimates and water demand projections to plan and size future District facilities.

Each city or county has a zoning assigned to each particular parcel of land. The zoning specifies what can or cannot be built in a certain area. The Water Master Plan analyzed the total areas of each land use type to calculate a corresponding water demand factor. The development of these areas within the service boundary is important for the evaluation of existing demand conditions as well as predicting the impact of any future developments or redevelopments.

The future land use areas were obtained by generating an ultimate build-out scenario. Any vacant land parcels were assigned their designated land use using the allowable land use designations from the appropriate city or county. Specific plans were also used to assign future land uses based on planned developments and/or redevelopments. Any areas under construction were assigned a future land use based on satellite or aerial imagery if available or their land use designation.

The specific plans that were used for assigning developed/redeveloped land use type were the Holt Boulevard Specific Plan, the North Montclair Downtown Specific Plan, and the Turner Montclair Center Specific Plan. The developments of these plans are mainly commercial, although the Specific Plan also consists of a large amount of high density residential units and mixed residential and commercial units. Overall existing land uses and types can be found in Figure 3-1, future land use types of all vacant parcels in Figure 3-2, and the developed land use types according to the specific plans in Figure 3-3.

Using the District's historical water usage, the Water Master Plan developed a future projected average demand for the District's retail service area of 11.97 mgd, or 13,407 AFY. The ultimate District demand is based on the assumption that all undeveloped areas are developed according to their corresponding land use designation or specific plan developments, if applicable. The ultimate water use per land use type is identified in Table 3-1.

Table 3-1:
Water Master Plan – Ultimate Water Usage

Land Use Type	Total Existing Area (acres)	Total Future Area (acres)	Land Use Factor (gpd/acre)	Total Future Consumption (mgd)
Agriculture / Nurseries / Irrigation	538.51	498.82	732	0.37
Commercial	627.24	765.98	3,620	2.77
Governmental Facilities	190.97	181.18	3,700	0.67
Manufacturing / Industrial	421.55	420.02	83	0.03
Multi-Family Residential	364.83	416.18	3,558	1.48
Single Family Residential	2,367.14	2,432.85	2,600	6.33
Mixed Use - Commercial and Residential	0.00	62.85	5,040	0.32
Vacant	240.27	0.13	-	-
Unmetered	328.00	300.51	-	-
Totals	**5,078.51**	**5,078.51**	-	**11.97**

Source: Monte Vista Water District 2008 Water Master Plan.

Figure 3-1:
Existing Land Uses and Types

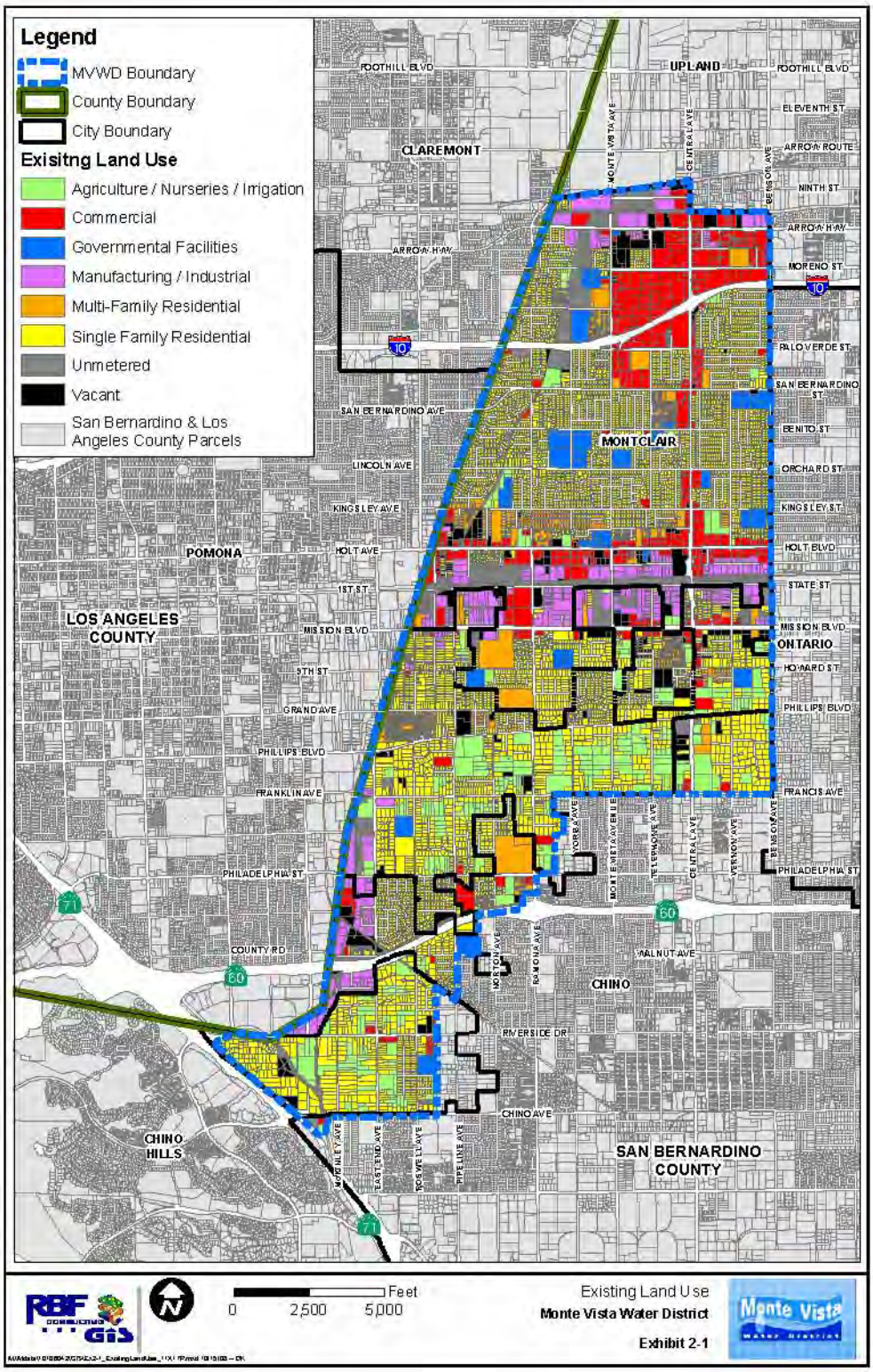


Figure 3-2:
Future Land Use Types for Vacant Parcels

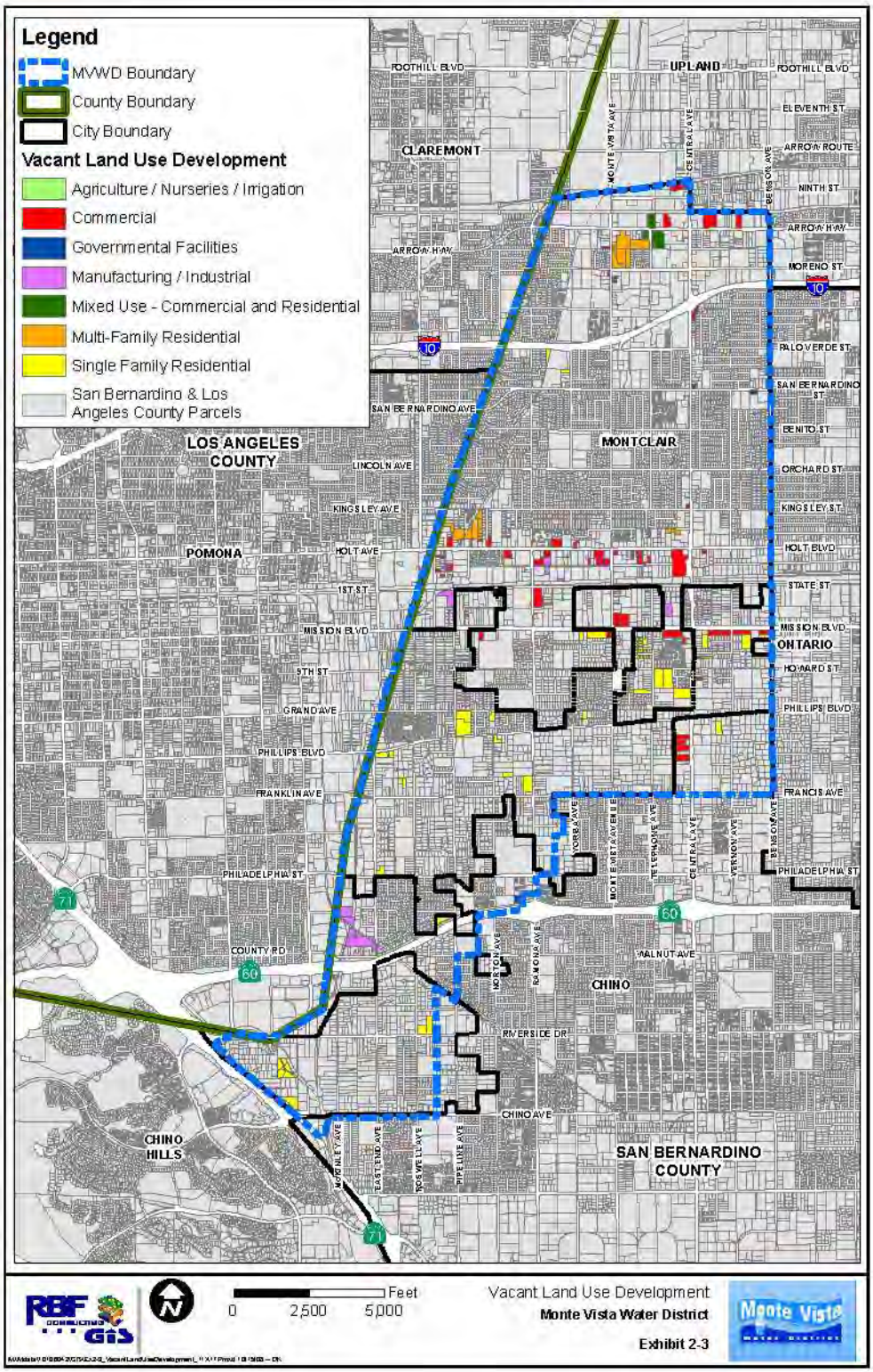
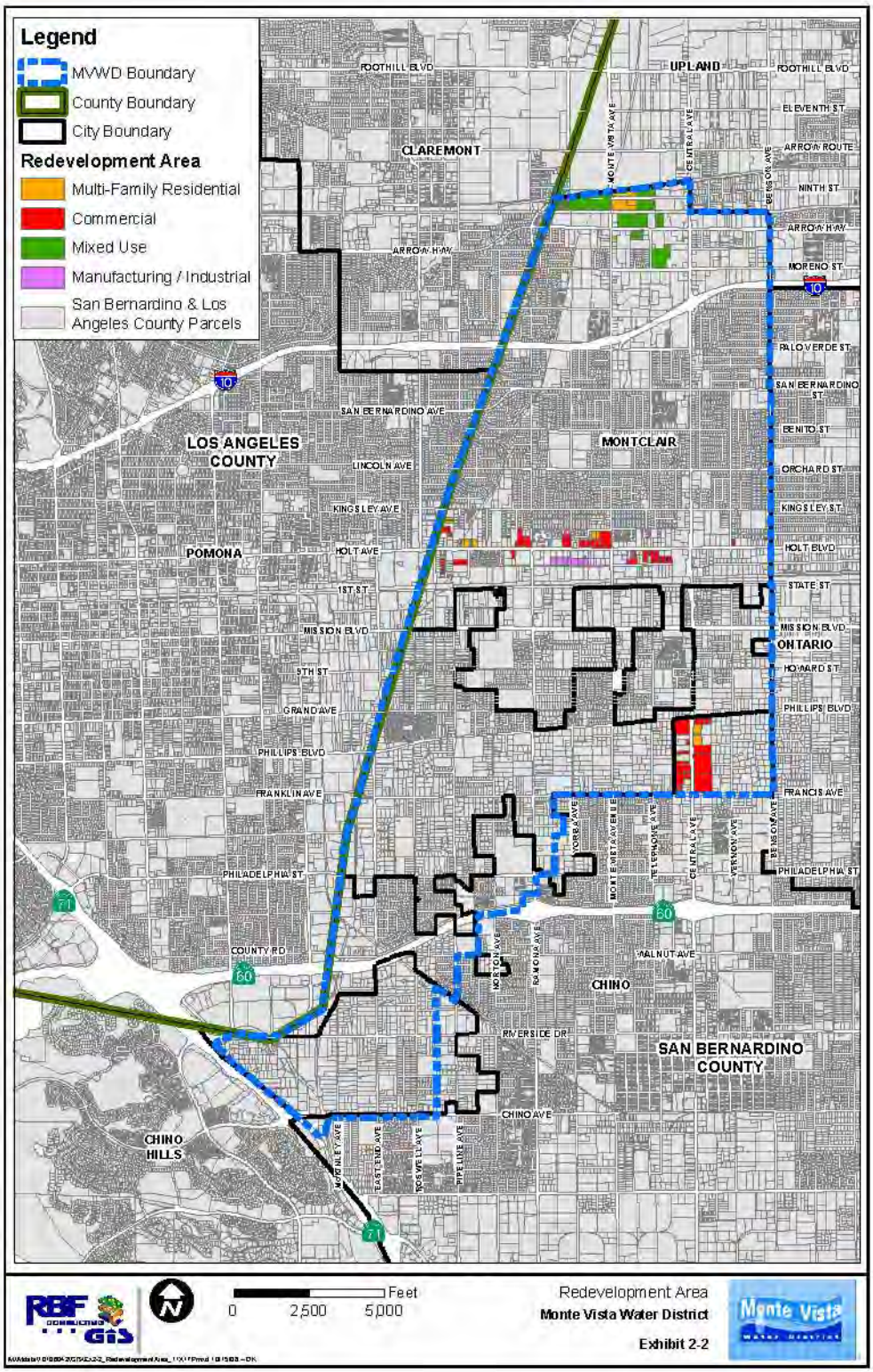


Figure 3-3:
Developed Land Use Types according to Specific Plans



It is important to note that the ultimate water demand calculated by the Water Master Plan "does not account for water conservation or a reduced irrigation demand due to increased usage of recycled water" (3.3). In order for projected demands to be consistent with the requirements of the Water Conservation Act of 2009, the District's 2010 UWMP will develop demand projections independent of its 2008 Water Master Plan.

3.3 DEMAND REDUCTION REQUIREMENTS

The Water Conservation Act of 2009 requires all California urban water agencies to set and meet certain demand reduction targets in order to assist the State in reducing urban water use by 20 percent by 2020. This collective goal is commonly known as "20 percent by 2020" or "20x2020." The prescribed way to determine the District's compliance is by measuring the per person (or "per capita") daily water usage by District customers.

The Bill requires DWR to develop, in consultation with an Urban Stakeholder Committee (USC) comprised of water agency representatives and water use experts, specific methodologies for determining per capita water use and other information required to meet the Bill's water use reduction requirements. DWR fulfilled this requirement when it published its *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* in October 2010. These required methodologies have fundamentally changed the process of estimating current and projected water system demands in a water agency's UWMP. This section of the Plan outlines the District's process in estimating its system demands and the results of this process.

3.3.1 Baseline Gallons Per Capita Per Day

The first step in achieving 20x2020 compliance is to determine the District's Base Daily Per Capita Water Use which will be used to form a baseline for the agency's 20 percent reduction in water use by 2020. The *Methodologies* require water agencies to identify a continuous 10-year period ending no earlier than 2004 and no later than 2010, and then calculate the gallons per capita per day (GPCD) demands of their customers for each of these years.[6] The average GPCD over this 10-year period forms the agency's Base Daily Per Capita Water Use, or Baseline GPCD.

Following the *Methodologies*, the District calculated its service area population for the years 1999-2008, and then divided its population by the total gross potable water supply entering its potable water distribution system. As shown in Table 3-2, the final calculation of the District's Baseline GPCD, using the 10-year GPCD average of the years 1999-2008, is 211 GPCD.

The following sections describe how the District determined its population and gross potable water supply for these historical periods.

[6] Water agencies which met at least 10 percent of their total 2008 demand through recycled water could expand their baseline window to 15 years; the District had just started deliveries of recycled water in 2008.

Table 3-2:
Base Daily Per Capita Water Use – 10-Year Range

Calendar Year	Distribution System Population	Daily System Water Supply (mgd)	Annual Daily Per Capita Water Use (GPCD)
1999	48,634	9.47	195
2000	48,934	10.65	218
2001	49,335	10.47	212
2002	49,416	10.74	217
2003	49,848	10.64	214
2004	50,331	11.10	221
2005	50,397	9.70	193
2006	51,283	10.25	200
2007	51,880	10.99	212
2008	52,072	11.92	229
Base Daily Per Capita Water Use (10-Year Average):			**211**

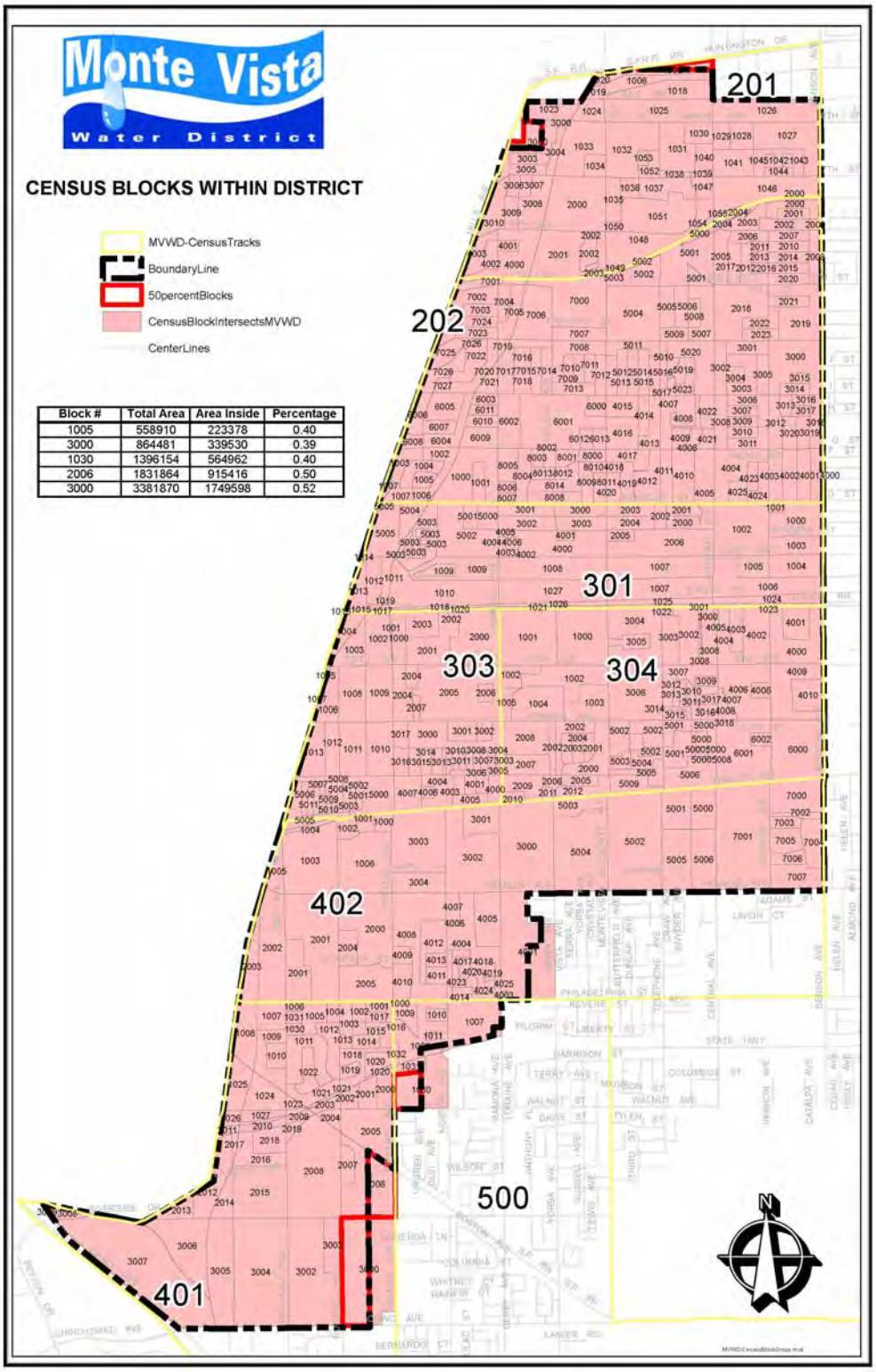
Population

DWR's *Methodologies* provide a specific method for urban water agencies to estimate their past and present service area populations, depending on available information. The District's service area is not contiguous with one municipal incorporated area, and so it is not able to rely solely on California Department of Finance population estimates for individual incorporated cities. Neither does a regional or wholesale agency provide the District with annual population estimates for its service area. The District, therefore, is required to follow the methods outlined in Appendix A of the *Methodologies*, using available data from the most recent U.S. Census and the District's active residential accounts for each year, to come up with annual population estimates.

The steps the District was required to take to develop population estimates for the years 1999-2008 are as follows:

1. **Identify the census blocks from the most recent U.S. Census with at least 50 percent of their area within the District's service area.** Due to notification requirements for UWMP adoption (see Section 1.2.2), the District was not able to make use of population figures from the 2010 Census (released in April 2011), and therefore relies on the 2000 Census figures. Figure 3-4 shows which Census blocks are within the District's service area.

Figure 3-4:
U.S. Census Blocks within District Boundaries



Block #	Total Area	Area Inside	Percentage
1005	558910	223378	0.40
3000	864481	339530	0.39
1030	1396154	564962	0.40
2006	1831864	915416	0.50
3000	3381870	1749598	0.52

Calculate the total District population for 2000 by adding up the population data for individual census blocks available from the 2000 Census. The District service area population for 2000 is included in Table 3-4.

2. **Identify the number of single-family and multi-family residential connections that are active within the District's service area during each year.** The District defines single-family residential connections as those serving one residential dwelling unit (e.g., detached house or duplex) and multi-family residential connections as those serving more than one residential dwelling unit (e.g., apartment complexes and most mobile home parks). The District has consistent single- and multi-family connection data for the past five years (2006-2010), whereas prior to 2006 the District only recorded the number of residential connections. Due to the consistency of the District's most recent information, which shows remarkable similarity from year to year in the ratio of single- to multi-family residential connections—94 percent and 6 percent, respectively—DWR has allowed the District to use the same ratio in estimating the number of single- and multi-family residential connections for the years prior to 2006. The number of active single- and multi-family connections per year for 1999-2008 is included in Table 3-3.

Table 3-3:
District Residential Accounts – 1999-2008

Year	Total Residential Accounts[1]	Single-Family Residential Accounts[2]	Multi-Family Residential Accounts[2]
1999	9,577	9,002	575
2000	9,636	9,058	578
2001	9,715	9,132	583
2002	9,731	9,147	584
2003	9,816	9,227	589
2004	9,911	9,316	595
2005	9,924	9,329	595
2006	10,023	9,404	619
2007	10,164	9,542	622
2008	10,215	9,593	622

[1] Data from District billing and reporting records.
[2] 2006-2010 data from District billing and reporting records. 1999-2005 data calculated using 94%/6% split between single-family and multi-family residential accounts established by 2006-2010 data.

3. Calculate the number of people per single-family and multi-family connection for 2000, using population per structure type data for individual census block groups available from the 2000 Census to develop a ratio of single-family versus multi-family population per census block group which can be applied to individual census blocks served by the District. Following this method of calculation, as shown in Table 3-4, the District determined that it served 3.77 people per single-family connection and 25.53 people per multi-family connection in 2000.

Table 3-4:
District Population Calculation – Account Multiplier

Year	Population Living in District Service Area[1]	Population Living in Single-Family Residential Structures[2]	Population Living in Multi-Family Residential Structures[2]	Population Per Single-Family Residential Account[3]	Population Per Multi-Family Residential Account[3]
2000	48,934	34,175	14,759	3.77	25.53

[1] U.S. Census 2000 Summary File 1 (SF-1) 100-Percent Data, aggregated population per District census block (Figure 3-4).
[2] U.S. Census SF-3 Sample Data, aggregated population per census block group by structure type.
[3] (Single/Multi-Family Residential Accounts [Table 3-3]) % (Population Living in Single/Multi-Family Residential Structures)

4. Calculate the total population for the District service area per year, multiplying the number of people per single- and multi-family connection in 2000 by the number of active single- and multi-family connections for the remaining years. The total population for the years 1999-2008, following the calculations described above, are included in Table 3-5.

Table 3-5:
District Population Calculation – 1999-2008

Year	Single-Family Residential Population	Multi-Family Residential Population	Total Population
1999	33,966	14,668	48,634
2000	34,175	14,759	48,934
2001	34,456	14,880	49,335
2002	34,512	14,904	49,416
2003	34,814	15,034	49,848
2004	35,151	15,180	50,331
2005	35,197	15,200	50,397
2006	35,481	15,801	51,283
2007	36,002	15,878	51,880
2008	36,195	15,878	52,072

Gross Potable Water Use

Gross potable water use is defined by DWR's *Methodologies* as the total amount of water entering the District's potable water system, minus water exports to other agencies, water placed into long-term storage (e.g., water injected into the groundwater basin), and indirect reuse of recycled water through groundwater recharge.

The District directly meters and accounts for water entering into its potable water distribution system. Water production and deliveries to the District's wholesale agency customer, the City of Chino Hills, is separately metered. Since 2002, the District has purchased the City of Montclair's portion of the regional recycled water recharge into the Chino Groundwater Basin (see Section 4.2.4); the annual amount of indirect recycled water reuse is calculated using the process outlined in DWR's *Methodologies* and subtracted from its retail potable water supply, resulting in a calculated gross potable water supply.

3.3.2 Target Gallons Per Capita Per Day

Having established its Baseline GPCD, the District is required by DWR's *Methodologies* to determine its Urban Water Use Target GPCD for 2020 and its Interim Urban Water Use Target for 2015. The Water Conservation Act of 2009 provides water agencies with four methods for setting its urban water use targets:

- **Method 1:** Reduce total demand on the water system by 20 percent, measured by comparing baseline gallons per capita per day (GPCD) historical usage to GPCD usage in 2020.

- **Method 2:** Meet system-wide water use performance standards for indoor residential water use, landscaped area water use, and other uses.

- **Method 3:** Meet 95 percent of the water agency's hydrologic regional target, as determined by the State's 20x2020 Water Conservation Plan.

- **Method 4:** An additional compliance option, developed by DWR in consultation with the USC, based on water use sector performance standards and past conservation activity.

The District evaluated each method and determined that Method 1 would be the most feasible for the District to use in setting its urban water use targets. Following Method 1, the District's Target GPCD for 2020 must be 80 percent of its Baseline GPCD, or 169 GPCD. The District's Interim Target GPCD for 2015 is calculated by adding the Baseline GPCD and the Target GPCD together, and dividing by two; the result is an Interim Target GPCD of 190 GPCD (see Table 3-6). The District will reevaluate the available methods for establishing its urban water use targets in its 2015 UWMP.

Table 3-6:
District Urban Water Use Targets

Baseline GPCD	2020 Urban Water Use Target[1]	2015 Interim Urban Water Use Target[2]
211	**169**	**190**

[1] 80% of Baseline GPCD.
[2] (Baseline GPCD + 2020 Urban Water Use Target) / 2

Confirm Urban Water Use Targets

The District's final step in setting its urban water use targets is to confirm that its target meets the minimum threshold set by the Water Conservation Act of 2009 of a five percent reduction from the average GPCD of a five-year contiguous base period between 2003-2010. As demonstrated in Table 3-7, a five percent reduction from the baseline average GPCD for the years 2004-2008 provides a minimum target of 200 GPCD. The District's urban water use target of 169 GPCD is well below this minimum target.

Table 3-7:
Base Daily Per Capita Water Use – 5-Year Range

Calendar Year	Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)
2004	50,331	11.10	221
2005	50,397	9.70	193
2006	51,283	10.25	200
2007	51,880	10.99	212
2008	52,072	11.92	229
Base Daily Per Capita Water Use (5-Year Average)			211
95% of Base Daily Per Capita Water Use			**200**

3.4 PAST, CURRENT, AND PROJECTED WATER DEMANDS

Table 3-8 provides the District's existing and projected demands on its water system by customer and water use sector. The projected retail demands are consistent with the demand reduction requirements and urban water use targets described in Section 3.3. Although historical wholesale demand by the City of Chino Hills has been between 9,500 and 13,500 AFY, the District will use its full contractual obligation of 20.22 mgd, or 22,667 AFY, in estimating future potential demands by Chino Hills on the District's water system.

Table 3-8:
Past, Current and Projected Water Demand by Sector

Sector	2005[1]	2010[1]	2015	2020	2025	2030	2035
Single-family Residential[3]	5,541	5,097	5,680	5,220	5,360	5,480	5,640
Multi-family Residential[3]	1,417	1,262	1,890	1,740	1,790	1,830	1,880
Commercial[4]	1,813	1,674	1,610	1,890	1,960	2,020	2,100
Industrial[4]	33	31	30	30	30	30	40
Institutional/governmental[4]	449	296	270	320	330	340	350
Landscape[5]	811	690	1,000	500	500	500	500
Agriculture[6]	60	43	40	40	40	40	40
Other[7]	325	29	300	200	200	200	200
Water Loss[8]	1,054	1,012	880	800	830	850	870
Groundwater Recharge (ASR)[9]	0	0	400	400	400	400	400
Total Retail Potable Water Demand[2]	**11,504**	**10,135**	**12,100**	**11,140**	**11,440**	**11,690**	**12,020**
Wholesale Demand[10]	13,517	10,171	22,667	22,667	22,667	22,667	22,667
Total Potable Water Demand	**25,021**	**20,307**	**34,767**	**33,807**	**34,107**	**34,357**	**34,687**
Recycled Water (Direct Sales)[11]	0	267	430	430	430	430	430
Recycled Water (Recharge)[11]	57	275	876	920	920	920	920
Total Water Demand	**25,078**	**20,849**	**36,073**	**35,157**	**35,457**	**35,707**	**36,037**

All demands in AFY and rounded to nearest 10 AF.

[1] 2005 and 2010 demands obtained from District billing, production, and distribution data for fiscal years (July-June) ending in above year. Due to data conversion process, customer sector data prior to 2006 may not be accurate; therefore, the District is using 2006 data to represent 2005.

[2] Projected retail potable water demand (including system water loss) derived from Table 3-2 data to align with demand reduction requirements in the Water Conservation Act of 2009.

[3] Total future residential water demand is estimated to remain the same percentage of total retail water demand (70%) through 2035, but the proportion of single-family to multi-family residential water demand is expected to change from the current 80%/20% split to an estimated 75%/25% split of total residential water demand by 2015 due to development of North Montclair Specific Plan (see Section 2.2.4), then remain constant through 2035.

[4] Commercial, industrial, and institutional/governmental water demand are estimated to increase at the same rate as total retail potable water demand.

[5] Reduction in water demand from dedicated irrigation customers is based on assumed increase in the number of recycled water connections replacing domestic irrigation connections.

[6] Agricultural water demand is expected to decrease over time due to development and conversion to recycled water.

[7] Other water demand includes hydrant meters used during construction and detector check (DC) fire accounts. Hydrant meter usage is tied to development activity. The years 2006 and 2010 are not good indicators of typical hydrant usage, as 2006 saw more than usual development and 2010 saw very little development. The District expects increased development activity in the next five years due to development of North Montclair Specific Plan (see Section 2.2.4) and then level off in the future.

[8] District water loss varies from 5-10%, depending on the year. Projected water losses are estimated at 7.5%.

[9] The District estimates that available and affordable imported water will be available in one out of five future years for treatment and injection into the Chino Groundwater Basin through the District's Aquifer Storage and Recovery (ASR) wells. During such years, the District estimates it will be able to inject 2,000 AF. As a result, 400 AF is projected as an average annual availability of injection water for conjunctive use (see Section 4.3.2).

[10] 2015-2035 wholesale demand equals full contractual obligation to the City of Chino Hills.

[11] Recycled water direct sales are deliveries to the District's recycled water customers through its retail recycled water distribution system. Recycled water groundwater recharge is the District's purchased City of Montclair share of regional recycled water recharge in the Chino Groundwater Basin to offset the District's replenishment obligation for overpumping (see Section 4.2.1)

The difference between the water production and the total billed water is defined as unaccounted-for water, or the water losses within a system. Unaccounted-for water may be attributed to leaking pipes, unmetered water use, or other events causing water to be withdrawn from the system, such as hydrant flushing, street cleaning, new construction line draining and/or filling and draining and flushing, and fire fighting. The District has developed a Water System Audit process to account for various water system losses (see Appendix J).

Table 3-9 quantifies the past and current number of water service customers by sector for the years 2005 and 2010, respectively, and customer projections through 2035.

Table 3-9:
Number of Retail Water Service Connections by Sector

Sector	2005[1]	2010[1]	2015	2020	2025	2030	2035
Single family[2]	9,404	9,901	9,880	10,210	10,490	10,720	11,040
Multi-family[2]	619	628	860	890	910	930	960
Commercial[3]	938	986	960	990	1,020	1,040	1,080
Industrial[3]	17	17	20	20	20	20	20
Institutional/governmental[3]	38	42	40	40	40	40	40
Landscape[4]	262	299	240	240	240	240	240
Agriculture[4]	11	12	10	10	10	10	10
Recycled Water[2]	0	21	60	60	60	60	60
Other	310	353	330	330	330	330	330
Total Connections	**11,599**	**11,928**	**12,400**	**12,790**	**13,120**	**13,390**	**13,780**

All projections rounded to nearest 10 connections.
[1] 2006 and 2010 customer connections obtained from District billing data. Due to data conversion process, customer sector data prior to 2006 may not be accurate; therefore, the District is using 2006 data to represent 2005.
[2] Future residential connections are estimated to increase at the same rate as population through 2035 (Table 2-2), but the proportion of single-family to multi-family residential accounts is expected to change from the current 94%/6% split to an estimated 92%/8% split of total residential accounts by 2015 due to development of North Montclair Specific Plan (see Section 2.2.4), then remain constant through 2035.
[3] Commercial, industrial, and institutional/governmental connections are estimated to increase at the same rate as population.
[4] Reduction in number of dedicated irrigation and agricultural connections is based on assumed increase in the number of recycled water connections replacing domestic irrigation connections.
[5] Number of "Other" accounts (hydrant meters used during construction and DC fire accounts) expected to remain the same.

3.5 LOWER INCOME HOUSING DEMANDS

A new requirement for retail agencies' 2010 UWMPs is to estimate the future water demands for lower income single-family and multi-family residential housing units in an agency's service area for the UWMP planning period. Lower income household is defined as 80 percent of median income, adjusted for family size.

The Southern California Association of Governments (SCAG) is responsible for developing the Regional Housing Needs Assessment (RHNA), as mandated by State Housing Law as part of the periodic process of updating local housing elements of a local agency's General Plan. The RHNA quantifies the need for housing within each jurisdiction during specified planning periods. The most recently completed RHNA planning period is January 1, 2006 to June 30, 2014.

Table 3-10 quantifies the water demands of the housing units listed in the RHNA within the District's service area. The District provides water service to all of the City of Montclair, roughly 5 percent of the City of Chino, and portions of unincorporated San Bernardino County roughly twice the size of the Chino service area portion. Water demand is estimated by calculating the projected water needs of single-family residential customers (units) in 2015.[7] Water demands for these units are included in future water demand projections for single family and multi-family homes listed in Table 3-8.

Table 3-10:
Lower Income Housing Projected Demand – 2015

Lower Income Housing Units[1]	**2015**
City of Montclair	719
City of Chino (5%)	63
San Bernardino County	126
Total (Units)	**844**
Residential Demand Per Unit	
Single-Family Residential Units (One Per Connection)[2]	9,883
Single-Family Residential Total Demand (AF)[3]	5,680
Demand Per Unit (AF/Unit)	**0.57**
Lower Income Housing Demand	
Total Projected Demand (AF)	**522**

[1] SCAG, Final Regional Housing Need Allocation Plan, January 1, 2006 - June 30, 2014 (approved July 12, 2007).
[2] Table 3-9.
[3] Table 3-8.

[7] It is generally assumed that most of the lower income housing units to be constructed will be multi-family residential units. It is also generally understood that multi-family residential homes use less water than their single-family residential counterparts, as multi-family residential homes have on average less landscape areas to maintain, As a result, the use of single-family residential usage figures in this calculation provides a conservatively high potential demand for new lower income housing units in the District's service area.

3.5.1 Senate Bill 1087 Compliance

Following the recent economic downturn, it is expected that California will continue to experience high rates of population growth and further tightening of its housing markets. Because the State legislature has declared the housing crisis a matter of statewide importance, it has enacted several laws over the past few years that have imposed obligations and restrictions on local officials in the arena of affordable housing.

SB 1087, which became effective in 2006, was introduced because certain suppliers of water and sewer service denied or conditioned approval of new subdivisions containing units for lower-income households and approved other projects that did not include a lower-income housing component.

SB 1087 specifically requires cities and counties to immediately provide a copy of the adopted housing element of general plans and any amendments to water and sewer providers. This action is to ensure that there is coordination and consultations between water and sewer agencies and land use approval agencies, particularly with regard to proposed developments and future resource allocations.

SB 1087 requires that, by July 1, 2006, a set of written policies and procedures for providing water service to affordable housing projects are to be adopted with updates completed every five years. The written policies and procedures must take into account the following:

- Regulations (under the Water Code) relating to water shortage emergencies.
- Water supply availability as described in the agency's Urban Water Management Plan.
- Existing agency policies and plans that are used to make service determinations.

SB 1087 states that a water or sewer provider is not permitted to deny the approval of an application or reduce the service of a proposed development that includes lower income housing, unless it can show the following:

- An insufficient water supply or insufficient water treatment or distribution capacity.
- The service provider is subject to a compliance order issued by the California Department of Health Services that prohibits new water connections.
- The applicant has failed to agree to reasonable terms and conditions.

In September 2006, the District Board adopted Resolution 604-07 (Appendix F) to address the requirements of SB 1087 through establishing policies for providing water service to developments that include housing units affordable to lower income households. The District is scheduled to update these policies in September 2011.

SECTION 4
WATER SYSTEM SUPPLIES

4.1 WATER SOURCES

The District is dependent on four sources[8] for its long-term water supply:

- Groundwater produced from the Chino Groundwater Basin, an adjudicated basin managed by the Chino Basin Watermaster;
- Imported State Water Project surface water received from the Metropolitan Water District of Southern California through the Inland Empire Utilities Agency and the Water Facilities Authority;
- Entitlement water deliveries from the San Antonio Water Company, including groundwater produced from local adjudicated groundwater basins and surface water produced from the San Antonio Creek Watershed; and,
- Recycled water from Inland Empire Utilities Agency.

Each of these sources are briefly described in the following sections, while the quantities and agreements with the associated supply and regulatory agencies are described more fully in Section 4.2.

4.1.1 Chino Groundwater Basin

The sole groundwater supply source for the District's own groundwater wells is the Chino Groundwater Basin. This basin is located in the Santa Ana River Watershed and has an area of approximately 220 square miles (Figure 4-1). The Basin is a relatively flat alluvial valley from east to west and slopes from north to south at a one to two percent grade. Valley elevations range from about 2,000 feet in the foothills below the San Gabriel Mountain to about 500 feet near Prado Dam. The principal drainage course for the Basin is the Santa Ana River. Year-round flow occurs along the entire reach of the Santa Ana River due to surface inflows at Riverside Narrows, discharges from municipal water recycling plants to the Santa Ana River, and rising groundwater. While still considered to be a single basin, the Basin has been divided into five Management Zones (MZs), based upon similar hydrologic conditions, and three sub-basins as defined in the Optimum Basin Management Program, June 2000, and the 1995 Water Quality Control Plan for the Santa Ana Watershed (Region 8).

[8] In the past, the District has purchased water from the City of Upland when available. For the purposes of long-term water supply planning, the District will not include Upland's supply in its supply availability projections.

The Chino Groundwater Basin has a total storage capacity of approximately 6 million acre-feet (MAF) and currently holds approximately 5 MAF of groundwater. The legally designated safe yield from the basin is 145,000 AF, which is the amount of groundwater that can be pumped from the basin each year while maintaining adequate groundwater levels. Purchasing imported water from MWD through IEUA for basin recharge generally makes up any excess of pumping over the safe yield of the Basin, although supplemental water may be obtained from any available source including recycled water and imported water.

The Chino Groundwater Basin is managed by the Chino Basin Watermaster, which is guided by the provision of the Basin adjudication and subsequent agreements between the parties to the Judgment. These agreements provide for groundwater production rights and a physical solution to the condition of the Basin. The District's current water rights, based on assigned share of the safe yield, are 4,824 AFY from the Basin. Additional water rights are received from reallocations of Early Transfers and Land Use Conversions, although they are subject to availability. Additionally, the District owns the Monte Vista Irrigation Company, which has water rights, also based on the assigned share of safe yield, of 677 AFY from the Basin.

4.1.2 State Water Project

The State Water Project (SWP) is a water storage and delivery system that provides supplemental water to 25 million people, two-thirds of California's population, and approximately 750,000 acres of irrigated farmland. The SWP is comprised of 34 storage facilities, reservoirs and lakes; 20 pumping plants; four pumping-generating plants; five hydroelectric power plants and about 701 miles of open canals and pipelines. Its main purpose is to store water and distribute it to 29 urban and agricultural water suppliers in northern California, the San Francisco Bay Area, the San Joaquin Valley, the Central Coast, and southern California. Of the contracted water supply, 70 percent goes to urban users and 30 percent goes to agricultural users. The SWP is maintained and operated by the Department of Water Resources, and is also operated to improve water quality in the Delta, control Feather River flood waters, provide recreation, and enhance fish and wildlife.

Over the past decade, an average of 44 percent of the District's water supply portfolio is obtained from the SWP. The imported SWP surface water originates in northern California and is transported via the California Aqueduct to Lake Silverwood in the San Bernardino Mountains. This water is extracted from the lake and directed to the Rialto Feeder, a large pipeline, owned by Metropolitan Water District of Southern California, that travels along the foothills, delivering water to area surface water treatment plants. The Water Facility Authority's Aqua de Lejos Treatment Plant in Upland treats the surface water to meet drinking water standards and then distributes it to its member agency owners: the District and the cities of Chino, Chino Hills, Ontario and Upland (Figure 4-3).

Figure 4-1:
Chino Groundwater Basins with Management Zones

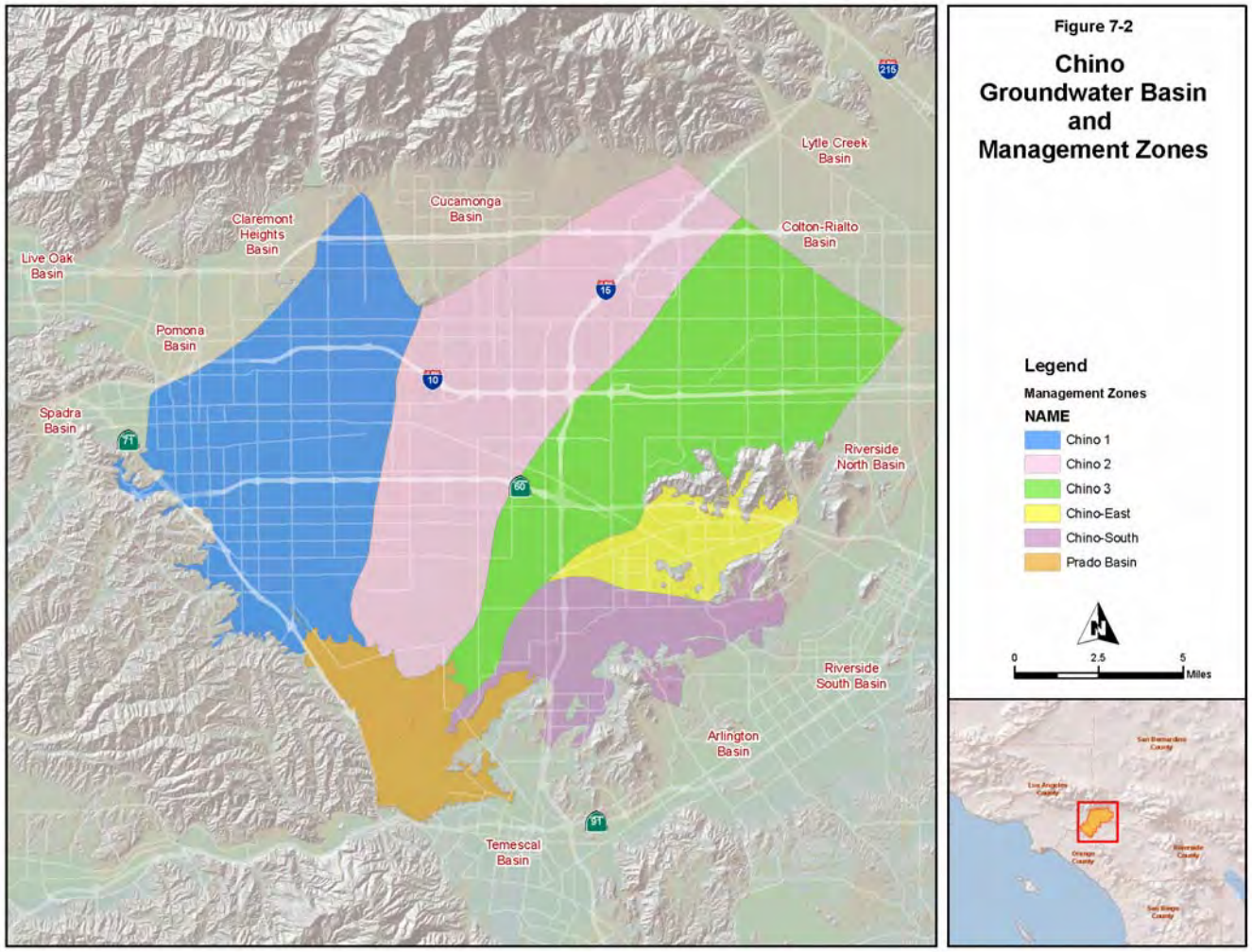
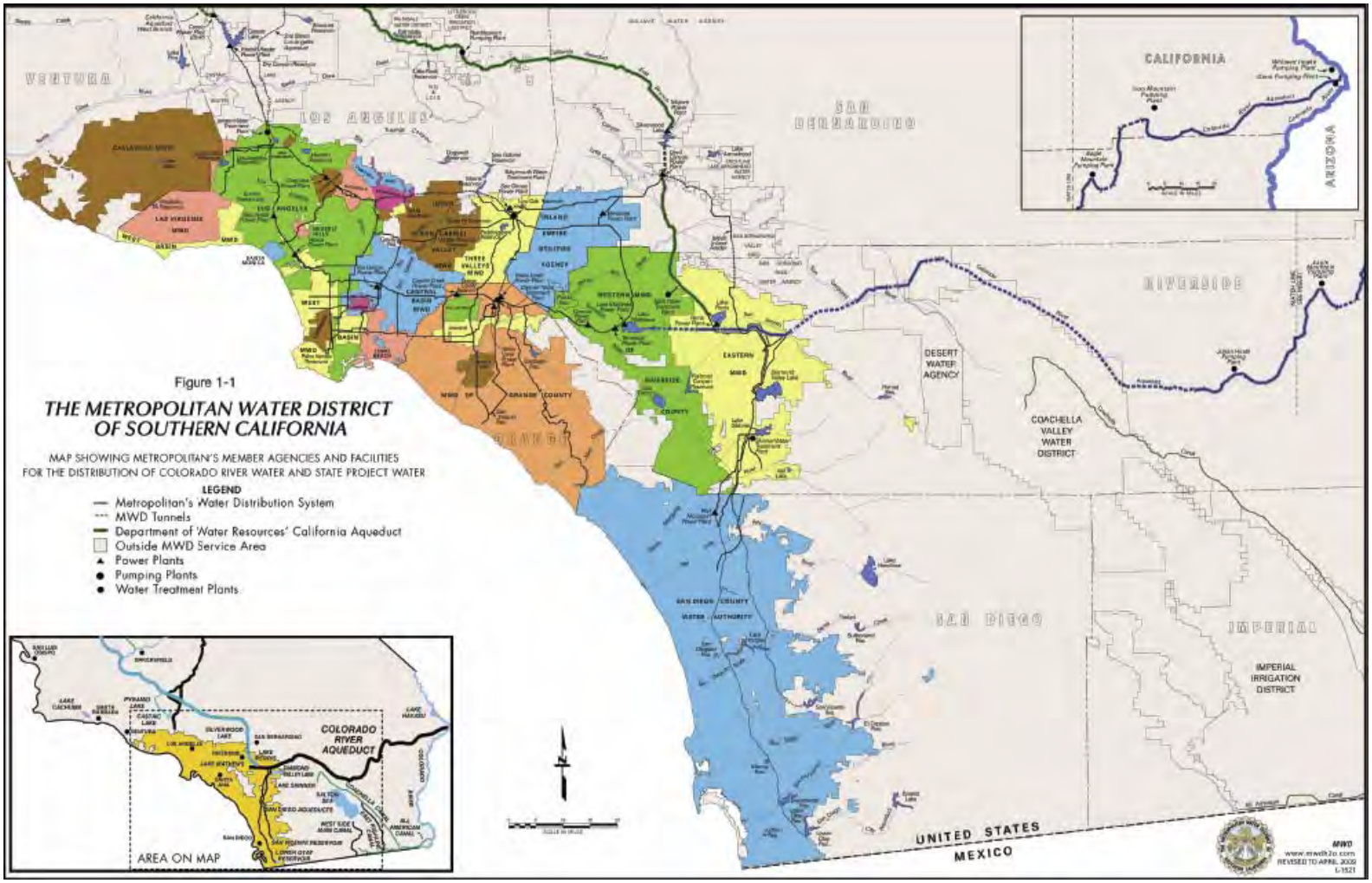


Figure 4-2:
Metropolitan Water District of Southern California Boundaries



Metropolitan Water District of Southern California

Metropolitan Water District of Southern California (MWD) was formed in the late 1920s to bring imported water to the southern California region. Collectively, the 13 charter members recognized the limited water supplies available within the region, and realized that continued prosperity and economic development of southern California depended on the acquisition and careful management of an adequate supplemental water supply. This foresight made the continued development of southern California possible. MWD acquires water from northern California via the SWP and from the Colorado River to supply water to most of southern California. As a wholesaler, MWD has no retail customers, and distributes treated and/or untreated water directly to its 26 member agencies, including IEUA (Figure 4-2).

MWD member agencies receive imported water at various delivery points on its system, and pay for it at uniform rates for each class of service established by the Board of Directors. Historically, MWD has been responsible for importing water into the region through its Colorado River Aqueduct and the SWP. Recently, MWD has increased its ability to supply water, particularly in dry years, through implementation of storage and transfer programs. Municipal and institutional use accounts for 93 percent of water use, while agricultural use is 7 percent and declining. MWD currently supplies an average of 50 percent of the total urban and agricultural water used within its boundaries.

MWD's ability to provide 100 percent reliability is expected to decline as existing imported water supplies from the Colorado River and SWP face increasing challenges unless new programs are implemented. Due to competing needs and uses for all of the water sources, and regional water operation issues, MWD undertook a number of planning processes, including the Integrated Resources Plan, the Water Surplus and Drought Management Plan, and the Regional Urban Water Management Plan, to provide a framework and guideline for optimum water planning into the future. Reliability of MWD's supply is further discussed in Section 5.1.2.

Inland Empire Utilities Agency and Water Facilities Authority

Inland Empire Utilities Agency (IEUA) was formed in 1950 to become a member of MWD for the purpose of importing supplemental water, augmenting local stream and groundwater supplies. Since its formation, IEUA has expanded its services to include production of recycled water, distribution of imported and recycled water supplies, sewage treatment, co-composting of manure and municipal biosolids, desalinization of groundwater supplies, and disposal of non-reclaimable industrial wastewater and brine. IEUA serves a population of more than 815,000.

IEUA is the local regional wholesaler of imported water from MWD. The District is a sub-agency of IEUA. Six other agencies also receive MWD water through IEUA: Cucamonga Valley Water District (CVWD), Fontana Water Company, and the cities of Chino, Chino Hills, Ontario, and Upland. Additional imported water supplies are also used for groundwater replenishment.

The majority of the water demand within IEUA's service area has historically been for urban (residential, commercial, and institutional) uses. The remaining water has been for agricultural purposes. In 2010, about 91 percent of the water demand was for urban use and 9 percent for agriculture. MWD supplies approximately 30 percent of all water demands in the IEUA service area 100 percent of the time.

IEUA wholesales the water to the District through the WFA. A Joint Powers Agreement (JPA) between IEUA, the Monte Vista County Water District, and the cities of Chino, Upland, Ontario, and Chino Hills was entered into in February 1989, creating the WFA (see Figure 4-3). The Agreement provided authority to study, plan, and provide facilities for the treatment of water and a distribution system to their members. Other public agencies may join the WFA, through an amendment to the JPA. The Agua de Lejos Water Treatment Plant, located in Upland, serves the District through three pipeline connections.

4.1.3 San Antonio Water Company

San Antonio Water Company (SAWCo), which was incorporated in October 25, 1882, is a privately owned mutual water company. Its shareholders are entitled to water supply based on the amount of owned shares and available water supply or SAWCo's ability to produce water. The District currently owns 309.5 SAWCo shares, which comprises approximately five percent of the 6,389 total outstanding shares. SAWCo has consistently provided full water service to its active shareholders since incorporation.

SAWCo's water supply sources include surface water and groundwater. Surface water is obtained from the San Antonio Watershed. Groundwater sources include the San Antonio Tunnel, Chino Groundwater Basin, Cucamonga Groundwater Basin, and the Six Basins area. For a detailed description of each of these water sources, see Section 4.2.3.

4.1.4 Recycled Water

The District receives recycled water from IEUA's wastewater treatment plants. IEUA operates four regional wastewater treatment plants that produce disinfected and filtered tertiary treated recycled water in compliance with California's Title 22 regulations: Regional Plants (RP)-1, RP-4, RP-5 and the Carbon Canyon Water Reclamation Facility (CCWRF). A fifth treatment plant, RP-2, was decommissioned in 2004 because it is located in a potential flood zone. Additional sources of recycled water that is received and used within IEUA's service area include the Upland Hills Water Reclamation Plant (operated by the City of Upland) and the California Institution for Men Water Reclamation Plant (operated by the California Institution for Men at Chino).

IEUA's facilities serve eight contracting agencies: CVWD, the cities of Chino, Chino Hills, Fontana, Montclair, Ontario, and Upland, and unincorporated areas of San Bernardino County within the IEUA service area.

Water recycling is a critical component of the water resources management strategy for the region. Reuse of highly treated tertiary water is a source of water available to meet the growing water demands of the region. Recycled water is a proven technology and will provide a more dependable local supply of water as well as reduce the likelihood of water rationing during droughts. In addition, the use of recycled water for groundwater recharge is an integral part of local groundwater management (see Section 4.4.3).

4.2 WATER SUPPLY

The District's current and projected available water supplies from the water sources described in Section 4.1 are shown in Table 4-1 and described in subsequent sections.

Table 4-1:
Water Supplies – Current and Projected

Water Supply Sources	2010[1]	2015	2020	2025	2030	2035
Chino Groundwater Basin[2]	15,774	30,260	30,260	30,260	30,260	30,260
Water Facilities Authority[3]	4,465	21,776	21,776	21,776	21,776	21,776
San Antonio Water Company[4]	476	800	800	800	800	800
City of Upland[5]	68	0	0	0	0	0
Inland Empire Utilities Agency – Recycled Water[6]	542	1,306	1,350	1,350	1,350	1,350
Total Water Supply	**21,325**	**54,142**	**54,186**	**54,186**	**54,186**	**54,186**

All amounts in AFY; available and projected supplies rounded to the nearest 10.
[1] Actual production and purchases for Fiscal Year 2010 (July 2009 – June 2010).
[2] District groundwater supply availability only limited by groundwater well production capacity minus a 10 percent adjustment to account for potential well shutdowns for maintenance or testing.
[3] The District may use up to its full contractual ownership share (24%) of WFA treatment plant capacity (81 mgd) at any time, subject to Tier 2 and penalty rates.
[4] Annual entitlement through District ownership of outstanding SAWCo shares.
[5] The District has purchased surplus water supplies from the City of Upland in the past. For planning purposes, the District is not projecting to purchase Upland water supplies in the future.
[6] Includes recycled water for direct reuse and for groundwater recharge (City of Montclair share of basin recharge—see Table 4-13).

4.2.1 Chino Basin Watermaster

Chino Basin Watermaster (Watermaster) was created pursuant to the terms of Court Judgment (Appendix G) entered in Superior Court of California, County of San Bernardino Case No. RCV 51010 (formerly Case No. SCV 164327) entitled *Chino Basin Municipal Water District v. City of Chino, et al.* to establish Operating Safe Yield (OSY) and allocated production rights for the Chino Groundwater Basin. The Judgment also provides a forum for Basin stakeholders to work cooperatively in managing the Basin to meet regional water supply needs. The Judgment, which was entered on January 27, 1978, established three groundwater "pool" committees: (1) the Overlying Agricultural Pool, which includes the State and all producers of water for uses other than industrial or commercial purposes; (2) the Overlying Non-Agricultural Pool, which represents producers of water for industrial or commercial purposes; and (3) the Appropriative Pool, which represents cities, districts and other public or private utilities. The representatives of the pool committees constitute an Advisory Committee that advises Watermaster's nine-member Board, which is comprised of three representatives of each of the three pools.

The Judgment was amended in 2000 through the signing of the Peace Agreement, which, among other things, established procedures to implement an Optimum Basin Management Program (OBMP) to preserve and enhance the Basin's safe yield and water quality, and again in 2007 through the signing of the Peace II Agreement, which, among other things, provided for the construction of desalters to treat groundwater degraded by past agricultural practices. These agreements also provide for groundwater production rights that are not fully utilized by the Basin's agricultural interests to be transferred to municipal water purveyors via two methods: agricultural land use conversion and early transfer. Over time, as agricultural production declines, the reallocation of groundwater to the Appropriative Pool is expected to increase. Finally, these agreements foster a market for the lease or sale of pumping rights within the Basin. Annual water exchanges occur regularly among agencies within the Appropriative Pool.

The amount of groundwater held in the Chino Groundwater Basin fluctuates depending upon precipitation, pumping demand, and the availability of replenishment water. Replenishment water has not been available for purchase from the SWP since 2007, resulting in limitations on Watermaster's ability to recharge the Basin. However, local replenishment supplies have been available in the form of recycled water supplies and purchases of water held in local storage accounts to offset overproduction.

The District's total annual appropriative rights in the Basin vary based on Watermaster's allocation of unused Overlying Agricultural Pool rights, District annual purchases from other producers, and other factors. Over the last three fiscal years (July through June), the District has underproduced its available appropriative rights, resulting in carryover for production in subsequent years or a credit to the District's Basin storage account. If District production is in excess of the District's appropriative rights, the District may transfer stored water to the Basin, purchase water from another Basin groundwater producer, or pay Watermaster a replenishment assessment fee.

In Fiscal Year (FY) 2009/10, the District's total appropriative rights to groundwater within the Basin, including the appropriative rights of Monte Vista Irrigation Company, assigned rights from the District's then-ownership of 7.5 shares of SAWCO, transfers from the Overlying Agricultural and Non-Agricultural Pools, and certain other rights, were equal to approximately 13,000 AF. As of June 30, 2010, the District has a total of 16,184 AF of water in its Basin storage account.

Watermaster prepares an Assessment Package each November to determine the assessments for each groundwater producer from the prior fiscal year. The most recent Assessment Package titled FY 2010/11 is for FY 2009/10 production rights. According to the current Assessment Package, the District's share of the Appropriative Pool's share of the OSY of the Basin, 54,834 AFY, is 8.797 percent, or 4,824 AFY. Monte Vista Irrigation Company (Company), owned by the District, has a share of the Appropriative Pool's share of the OSY of 1.234 percent, or 677 AFY. Additional groundwater supply ability is received from reallocations of agricultural Early Transfers and Land Use Conversions, although they are subject to availability.

As shown in Table 4-2, during FY 2009/10, the District and Company received their assigned Early Transfer[9] shares of 3,290 AF and a Land Use Conversion[10] amount of 55 AF. The District was assigned a debit of 288 AF based on its share of OSY and the amount available. As a result, the combined total Agricultural Pool Safe Yield Reallocation available to the District in FY 2009/10 was 3,057 AF. Further, the District had Water Transaction activity of 3,237 AF, including an assignment of 1,710 AF of water rights from the Company. Added to the District's share of safe yield (4,824 AF) and carry-over from FY 2008/09 production (2,359 AF), minus the 2 percent storage loss for the Basin (47 AF), the District's Total Annual Production Right for FY 2009/10 was 13,060 AF.[11]

Table 4-2 shows that the District produced 15,572 AF of groundwater from the Basin in 2009/10. However, 3,919 AF of the District's production was from a storage account created for MWD to facilitate its Dry Year Yield conjunctive use program (see below), and does not count against the District's annual production right. As a result, the District's under-produced by 1,407 AF compared to its production right for FY 2009/10. This amount will be carried over into next year's production right calculation.

While the District is currently an under-producer from the Basin, the District has in the past and may in the future overproduce if it is deemed necessary and appropriate to do so. The only consequence to the District when pumping above its Basin production water right in any given year is to purchase additional replenishment water for the benefit of the Basin, as governed by the Judgment and managed by Watermaster.

[9] Early Transfer is the reallocation of safe yield not produced by the Agricultural Pool to the Appropriative Pool on an annual basis rather than according to the five-year increment described in the Judgment (refer to Page 4-13).
[10] Land Use Conversion is the amount of water rights converted from agricultural land to urban use at 2.0 AF per acre of land with allocation between initial shares of safe yield and service provided, all of which is allocated upon conversion of the land to the Appropriative Pool member service provider (refer to Page 4-13).
[11] Chino Basin Watermaster, Final 2009/2010 Assessment Package, October 2010.

Table 4-2:
Chino Groundwater Basin Total Annual Production Right, Actual Production and Overproduction – FY 2009/10

FYE 2010	Monte Vista Water District	Monte Vista Irrigation Company
Early Transfer	2,885	405
Land Use Conversion[1]	55	0
2009/10 Debit[1]	<253>	<35>
Total Ag Pool Safe Yield Reallocation	**2,687**	**370**
Carry Over from 2008-09 Production	2,359	677
Assigned Share of Safe Yield	4,824	677
Water Transaction Activity[1,2]	3,237	<1,710>
2% Storage Loss	<47>	<14>
Total FYE 2010 Production Right	**13,060**	**0**
Total Actual FYE 2010 Production	**<15,572>**	**0**
Storage and Recovery Program(s)[3]	3,919	
Net Under-production	**1,407**	

All amounts in AF.
[1] Subject to change annually.
[2] For the District, includes 1,710 AF of leased water rights from the Company, 1,000 AF of leased water rights from the City of Upland, 24 AF of assigned water rights in lieu of direct deliveries from SAWCo, and 213 AF transferred from the Non-Agricultural Pool under Peace II (see below). For the Company, includes 2,000 AF transferred to the District and 290 AF transferred from storage.
[3] The District's DYY Program obligation is 3,963 AFY; however, the actual amount varies.

Table 4-3 provides the amount of groundwater pumped for the last five years, and Table 4-4 provides the District's groundwater production capacity projected through 2035. The District's actual future groundwater production will be determined based on replenishment water and imported water supply availability and cost. It is assumed that the District will lease additional groundwater rights or pay Watermaster replenishment rates when its adjudicated supply is exceeded.

Table 4-3:
Groundwater – Volume Pumped

Well Production	2006	2007	2008	2009	2010
Total	8,535	11,620	14,250	15,556	15,774
% of Total Supply	40.1%	53.9%	60.3%	79.0%	64.5%

All amounts in AF for fiscal year totals.

Table 4-4:
Groundwater – Projected Volume Available to be Pumped

Well Production	25-Year Projections				
	2015	2020	2025	2030	2035
Total[1]	30,260	30,260	30,260	30,260	30,260
% of Total Available Supply[2]	56.2%	56.1%	55.9%	55.8%	55.8%

All amounts in AF.
[1] District groundwater supply availability only limited by groundwater well production capacity minus a 10% adjustment to account for potential well shutdowns for maintenance or testing.
[2] Table 4-1.

Groundwater Management

The Chino Basin Watermaster was established in 1978 by a judgment entered by the Superior Court of California. The Judgment, included in Appendix G, required that Watermaster develop a management plan for the Chino Groundwater Basin that meets water quality and water quantity objectives for the region.

As mentioned earlier, Watermaster is guided by the provisions of the Chino Groundwater Basin adjudication and subsequent agreements between the parties to the Judgment. These agreements provide for groundwater production rights that are not fully utilized by the Basin's agricultural interests to be transferred to municipal water purveyors via two methods: agricultural land use conversion and early transfer. Four primary documents govern the adjudication and management of the Basin: 1) the 1978 Chino Basin Judgment, 2) the Peace Agreement, 3) the Peace II Agreement, and 4) the Optimum Basin Management Program. The following discusses each of these documents as they pertain to Basin management and the District's groundwater supply.

The District's current assigned Chino Groundwater Basin water production right, based on a share of safe yield, is 4,824 AFY, with the addition of 677 AFY from the Company. Additional production allocations are received from annual entitlements of Early Transfers and Land Use Conversions. Additional groundwater may also be available via a conjunctive use program for the Basin in partnership with Watermaster, IEUA, and MWD. The program is anticipated to reduce summertime peaking of SWP supply deliveries and reduce MWD surface water deliveries during future droughts/emergencies.

Adjudication – Judgment

In 1978, the Superior Court of the State of California entered a judgment that adjudicated the water rights of the Chino Groundwater Basin, and imposed a physical solution, which is the heart of the Judgment.

According to the Judgment, there are significant imported water supplies available to supplement the native safe yield of the Basin. Therefore, the purpose of the physical solution was to establish a legal and practical means for making the maximum reasonable beneficial use of the waters of the Basin by providing the optimum economic, long-term, conjunctive utilization of surface waters, ground waters, and supplemental water to meet the requirements of water users having rights in or dependence on the Basin. A fundamental premise of the physical solution was that all water users dependent on the Basin would be allowed to pump sufficient waters to meet their requirements. To the extent that a water producer's pumping exceeds its share of the safe yield, Watermaster has the obligation to provide for replenishment of the Basin for the amount of production exceeding its rights.

Watermaster, as an extension of the court, manages the Basin in accordance with the provisions of the Judgment. An Assessment Package is produced by Watermaster on an annual basis, which describes the rights and abilities to which appropriators are entitled according to the provisions of the Judgment.

Water Rights – Judgment

Three operating pools were established by the Judgment for Watermaster administration: the Overlying Agricultural Pool, the Overlying Non-Agricultural Pool, and the Appropriative Pool. Rights to the safe yield of the Basin were allocated to each pool.

An "overlying" right is defined as the appurtenant right of an owner of lands overlying the Basin to produce water from the Basin for overlying beneficial use on such lands. An "appropriative" right is defined as the annual production right of a producer from the Basin other than pursuant to an overlying right.

According to the 1978 Judgment, the safe yield of the Basin is 140,000 AFY. "Safe yield" is defined as the long-term average annual quantity of groundwater (excluding replenishment water or stored water but including return flow to the Basin from use of replenishment or storage water) which can be produced from the Basin under cultural conditions of a particular year without causing an undesirable result.

Aggregate preserved overlying rights in the safe yield for agricultural pool use, including the rights of the State of California, total 82,800 AFY, or 414,000 AF in any five consecutive years. Overlying rights for non-agricultural pool use total 7,366 AFY. In accordance with the provisions of the Watermaster process, when land converts from agricultural to urban use, the purveyor that will supply water to the converted land may apply for additional groundwater production credit; this process is known as Agricultural Land Use Conversion.

Appropriative rights allocated by the Judgment include rights by prescription and are entitled under the physical solution to share in the remaining safe yield, after satisfaction of overlying rights. "Operating Safe Yield" (OSY) is defined as the amount of groundwater that Watermaster shall determine can be produced from the Basin by the Appropriative Pool parties free of replenishment obligation under the physical solution. Any subsequent change in the OSY would be offset by use of available Overlying Agricultural Pool rights. The District's current share of the OSY is 8.797 percent and the Company's current share is 1.234 percent.

Reallocation of Water Rights – Judgment

According to the Judgment, in any five years that any portion of the share of safe yield allocated to the Overlying Agricultural Pool is not produced, that water is available for reallocation to the Appropriative Pool. Priority of that water is first to supplement water available from OSY to compensate for any reduction in the safe yield after the tenth year of operation (1988), conversion claims, and then for supplement to the OSY without regard to reductions in safe yield.

Appropriative rights and corresponding shares of OSY may be assigned or may be leased or licensed to another appropriator, as approved by Watermaster.

Overdraft – Judgment

Overdraft is defined as a condition wherein the total annual production from the Basin exceeds the safe yield. The 1978 Judgment stated that the Basin, since at least 1953, was in a condition of overdraft.

In adopting the OSY for any year, Watermaster is limited to 200,000 AF of accumulated overdraft, and in no event shall the OSY in any year be less than the Appropriative Pool's share of safe yield or exceed the Appropriative Pool's share of Safe Yield by more than 10,000 AF.

Groundwater Replenishment – Judgment

Watermaster levies an annual Replenishment Assessment in an amount sufficient to purchase replenishment water to replace production during the preceding year which exceeds the safe yield. Assessments are based on the Pooling Plan for each pool. The Replenishment Assessment for the Appropriative Pool is recovered by a uniform assessment against all production during the preceding year equaling 15 percent of replenishment cost of water, and a uniform assessment on each AF of production by each party in excess of its allocated share of OSY during the preceding year equaling 85 percent of costs.

Supplemental water may be used to recharge the Basin either directly by spreading and percolating or injecting the water into the Basin, or indirectly by delivering the water for use in lieu of production and use of safe yield or OSY. Supplemental water may be obtained from any available source including recycled water and imported water.

Much of the available natural surface water runoff in the Santa Ana River Watershed is captured and recharged to the groundwater aquifers. A system of flood control channels and percolation basins have been developed to increase the natural recharge capacity of the Basin. A limited quantity of excess storm water is captured for recharge; however, the groundwater recharge program is being expanded to include greater quantities of storm water, recycled water, and lesser quantities of imported water.

Groundwater Replenishment – Recycled Water

IEUA assumes responsibility for delivery of recycled water to Basin for recharge. All future direct use of recycled water will be given priority service over recharge deliveries. Recycled recharge water is credited to parties to the Regional Sewer Service Contract, based on relative contributions of wastewater flow delivered to the Regional Reclamation Plants by the respective agencies. This provides additional groundwater pumping rights calculated annually as stored water credits. In FY 2009/10, the District received 290 AF of additional production capability as a result of recycled water recharge activity and its Recycled Water Purchase Agreement with the City of Montclair (Section 4.2.4).[12] The Company does not participate in the recharge activity.

The Chino Basin Recycled Water Groundwater Project includes redevelopment and modification of the existing Basin groundwater recharge facilities. These basins have been used primarily for flood control but are simultaneously used for groundwater recharge to help "drought-proof" the Basin. The basins will be enhanced to capture storm water and provide for the greater ability to import and store water in the Basin. Redevelopment of the basins is in progress.

Carryover – Judgment

Any Appropriator who produces less than his assigned share of OSY may carry such unexercised rights forward for use in subsequent years. The first water used in any such subsequent year is to be an exercise of that carryover right. If the aggregate carryover of any appropriator exceeds its share of OSY, a storage agreement is executed with Watermaster as a condition of preserving the surplus carryover. Carry-over water has no limit at this time. For the District's latest carryover activity, see Table 4-2.

Groundwater Storage Capacity – Judgment

The Judgment states that a substantial amount of available groundwater storage capacity exists in the Basin which is not utilized for storage or regulation of Basin waters. The Basin stores approximately 5 MAF of groundwater and has the capability of storing an additional 1 MAF. Reservoir capacity can be utilized appropriately for storage and conjunctive use of supplemental water with Basin waters. Any person or public entity may make reasonable beneficial use of the available groundwater storage capacity for storage of supplemental water, with allocation preference of storage capacity to the needs and requirements of the lands overlying the Basin and the owners of rights in the Basin.

[12] Chino Basin Watermaster, Final 2009/2010 Assessment Package, October 2010

Optimum Basin Management Program for the Chino Basin

In 1998, Watermaster developed an integrated set of water management goals and actions for the Basin. Known as the Optimum Basin Management Program (OBMP), this document describes nine program elements to meet the water quality and local production objectives in the Basin. The OBMP encourages the increased use of local supplies to help "drought proof" the Basin. The OBMP is incorporated into this Plan as Appendix G.

The OBMP is intended to formulate and implement a groundwater management program that will preserve and enhance the safe yield and the water quality of the Basin. Watermaster's goal is to make it possible for all groundwater users to produce water from the Basin for beneficial uses at an affordable cost. The OBMP is intended to allow continued reliance on groundwater for beneficial use within the Basin while minimizing demand for imported water, and to encourage beneficial use of the large available storage space in the aquifer system. OBMP actions are intended to benefit both local and regional water supply programs.

The effort to complete the OBMP for the Basin was divided into two phases. The first phase culminated in the September 1999 submittal of the draft Phase 1 Report to the Court with continuing jurisdiction over the Basin groundwater resources. The second phase, including a programmatic Environmental Impact Report, was completed and adopted in July 2000, as the Implementation Plan.

Phase 1 of the OBMP defined the state of the Chino Groundwater Basin, established the goals and objectives concerning major issues identified by stakeholders, and affirmed a management plan for the achievement of the stated goals and objectives. Phase 2 of the OBMP is the Implementation Plan for the installation and operation of OBMP facilities. The major OBMP facilities include pipelines, desalters, possibly an ion exchange facility, recharge basins, pump stations, production wells, and monitoring devices.

The four primary OBMP management goals are to enhance basin water supplies, to protect and enhance water quality, to enhance management of the basin, and to equitably finance the OBMP.

The OBMP includes nine program elements that were developed during the Phase 1 OBMP Report that collectively will meet the goals of the OBMP. The scope of implementation of some of the programs have been combined since they overlap and have synergies between them. The program elements include developing and implementing each of the following:

- Element 1 – Comprehensive Monitoring Program
- Element 2 – Comprehensive Recharge Program
- Element 3 – Water Supply Plan for the Impaired Areas of the Basin

- Element 4 – Comprehensive Groundwater Management Plan for MZ 1
- Element 5 – Regional Supplemental Water Program
- Element 6 – Cooperative Programs With the Regional Water Quality Control Board, Santa Ana Region, and Other Agencies to Improve Basin Management
- Element 7 – Salt Management Program
- Element 8 – Groundwater Storage Management Program
- Element 9 – Storage and Recovery Programs

Peace Agreements

In July 2000, Watermaster's planning process culminated with the adoption of a "Peace Agreement" that ended over 15 years of litigation within the Basin. The Peace Agreement amended the 1978 Chino Basin Judgment and has a term of 30 years. The Peace Agreement facilitates the implementation of the OBMP and considers Orange County Water District's petition to change the fully appropriated status of the Santa Ana River and to appropriate up to the total amount of newly declared surplus water.

The Peace Agreement amended the judgment in three areas:

1. Members of the Overlying Non-Agricultural Pool have the right to transfer or lease their quantified production rights within the same pool or to Watermaster in conformance with specified procedures.
2. Any appropriator who provides water service to overlying lands may exercise overlying rights to the extent necessary to provide water service to overlying lands.
3. For the term of the Peace Agreement, in any year in which sufficient unallocated safe yield from Overlying Agricultural Pool is available for conversion claims, Watermaster can allocate each appropriator with a conversion claim, 2.0 AF of unallocated safe yield water for each converted acre approved.

The "Peace II" Agreement, signed in 2008, provided improved flexibility in managing the Basin's water supply, better utilization of the Desalters and reduced water losses to the Santa Ana River. The Peace II Agreement determined the financial and institutional arrangements needed to implement Basin reoperation and hydraulic control, including the following:

- Ensures the beneficial use of groundwater in the southern end of the Basin by enabling the construction of Desalters to produce and treat about 40,000 AFY of groundwater degraded by past agricultural practices.

- Maximizes the reuse of recycled water.
- Fulfills Watermaster's and IEUA's maximum benefit commitments.
- Increases the safe yield of the Basin by about 7,000 to 8,000 AFY and possibly more.
- Provides up to 400,000 AF of replenishment water for the Desalters.
- Creates 400,000 AF of new storage space available for groundwater storage programs.
- Extends the MZ 1 recharge obligation to be a minimum of 6,500 AFY in perpetuity.

Overdraft – Peace Agreement

Watermaster is responsible to conduct recharge and replenishment of the Basin. The Peace Agreement directs that during the five years from FY 2000/01, Watermaster will conduct physical recharge of supplemental water of 6,500 AFY in MZ 1. If the cumulative total of 32,500 AF of recharge has not been accomplished at the end of the five years, then recharge will continue at the same annual rate until 32,500 AF has been reached.

Recharged supplemental water increases the OSY under the Judgment. Cost and allocation of supplemental water is apportioned pro-rata among members of the Appropriative Pool according to the producer's share of the initial safe yield. Watermaster provides an annual accounting of the amount and location of recharge. Individual producers do not currently have a limit on how much they can over-produce; however, they are assessed an amount to replenish the Basin for all overproduction. Producers generally develop annual demand projections that assist in making arrangements with other appropriators for prepurchase of replenishment water through transfers and other agreements. This allows Watermaster to optimize planning within the OBMP.

In-Lieu Recharge – Peace Agreement

In lieu areas are designated by Watermaster, who has previously designated the entire Basin as an in-lieu area. Any member of the Appropriative Pool who is willing to abstain for any reason from producing any portion of its share of OSY in any year, may offer the unproduced water to Watermaster. Watermaster then may purchase water in place of spreading replenishment water for a calculated price to the appropriator as determined in the Peace Agreement. The price is the lesser of the cost of replenishment water plus the cost of spreading, or the cost of supplemental surface supplies less the appropriator's average cost of groundwater production and the applicable production assessment.

Local Storage – Peace Agreement

Local storage is protected and each party has the right to store its un-produced carry-over water in the Basin. Local storage agreements are approved so long as the total quantity of supplemental water under local storage agreements does not exceed the cumulative total of 50,000 AF. Water held in storage is transferable, but storage capacity is not. Operationally, it is the District's goal to maintain enough water in storage to meet one year's production from the Basin.

Parties may continue to produce the actual quantity of carry-over water and supplemental water held in its storage account, subject only to the loss provisions. Rate of loss from local storage is currently 2 percent. Losses will be deducted annually from each storage account.

Storage and Recovery Program – Peace Agreement

Since the Chino Basin Judgment was implemented in 1978, total groundwater storage in the Basin has stabilized. Current groundwater production from the Basin (total urban and agricultural production inside and outside the IEUA service area) is 145,000 AFY. By limiting annual water production to a safe yield level, but still allowing agencies to over pump as needed (provided replenishment water is later purchased and restored to the basin), the local agencies have alleviated overdraft concerns. Through improved management such as hydraulic control of the groundwater basin, Watermaster oversees a basin capable of storing 500,000 AF consistent with the OBMP.

Overlying Appropriative and Non-Agricultural Pool members are entitled to the compensation paid for a Storage and Recovery Program paid in any form, including money, revenues, credits, proceeds, programs, facilities, or other contributions. Compensation may also be used to offset the cost of operations, to reduce assessments on the members, and to defray the costs of capital projects at the request of the members.

Under the Peace Agreement, Watermaster is responsible to conduct best efforts to do the following: 1) complete the short-term conjunctive use project conducted by IEUA, Three Valleys Municipal Water District and MWD; 2) develop a seasonal peaking program for in-Basin use and dry year yield to reduce the Basin's demand on MWD water; 3) develop a dry year export program; and 4) develop a seasonal peaking export program. The short-term conjunctive use project includes construction of facilities to store water and later withdraw it for conjunctive use. The program goals are to reduce summertime peaking on MWD, deliver SWP supplies to the Basin, minimize MWD surface water deliveries during future droughts/emergencies, and allow MWD to export storage water for other member agencies (see below for more information).

Transfers – Peace Agreement

Transfers must have the approval of Watermaster. Transfers include the assignment, lease, or sale of a right to produce water to another producer within the Basin or to another person or entity for use outside the Basin whether the transfer is temporary or permanent. Lease of water rights are also permissible to allow producers to make up for the lessee's over-production. For the District's latest transfer activity, see footnote for Table 4-2.

Early Transfer and Land Use Conversion – Peace Agreement

An "early transfer" means the reallocation of safe yield not produced by the Overlying Agricultural Pool to the Appropriative Pool on an annual basis rather than according to the five-year increment described in the Judgment. The Early Transfer of not less than 32,800 AFY was the expected approximate amount of water not produced by the Overlying Agricultural Pool. Early transfer is to be the greater of 32,800 AF or 32,800 AF plus the actual quantity of water not produced in a given year after all the land use conversions are satisfied. Early transfer water is allocated among members of the Appropriative Pool in accordance with their pro-rata share of the initial safe yield.

With the effective date of the Peace Agreement, the amount of water rights converted from agricultural land to urban use was changed from 2.6 AF per acre with allocation between initial shares of safe yield and service provider to 2.0 AF per acre, all of which is allocated upon conversion of the land to the Appropriative Pool member service provider. Upon conversion of water rights, the purveyor pledges the amount of water needed for the urban land use, and up to 2.0 AFY per acre of land will be made available.

An Overlying Agricultural Pool member has the right to a voluntary agreement with an appropriator, which has a service area contiguous to or inclusive of the agricultural land, to provide the required water to the overlying land on behalf of the Pool member. The appropriator is then entitled to a credit to off-set production to the extent it is serving the overlying land up to the amount of the historical maximum annual quantity previously used on that property. The credit is debited to the Pool's collective production right.

Total required reallocations from Early Transfers and Land Use Conversions are subject to availability. For the District's latest Early Transfers and Land Use Conversions activity, see Table 4-2.

Basin Reoperation and Hydraulic Control – Peace II

A primary element of the Peace II Agreement is Basin Reoperation. Essentially, Basin Reoperation is the controlled overdraft of the Basin by 400,000 AF via forgiveness of the Desalter replenishment obligation, resulting in a regional lowering of groundwater levels across the Basin, which makes it possible for the Desalter pumping to achieve and maintain Hydraulic Control.

The many benefits of Basin Reoperation and Hydraulic Control include improved basin yield by reduced groundwater outflow to (and increased groundwater inflow from) the Santa Ana River, a local and reliable supply of potable water from the Chino Desalters, improved salinity management via salt export from the Chino Desalters, and the "maximum benefit" groundwater quality objectives which allow for recycled water reuse, among others. An independent macroeconomic analysis suggested that the net value of these management programs is about $900 million dollars.[13]

Overdraft – Cumulative Unmet Replenishment Obligation

Historically, when a pumper took more water than it had rights to, Watermaster would purchase replenishment water on its behalf and recharge it into the Basin. But, if Watermaster cannot purchase replenishment water due to unavailability, an unmet replenishment obligation is created. The sum of all these obligations becomes the Cumulative Unmet Replenishment Obligation (CURO).

One challenge of the CURO is that the cost of water increases over time. So, for example, if the replenishment obligation occurs in one year, but the water to make it up is available two years later, the cost will be higher than originally assessed for, making it increasingly costly to buy water to meet the CURO. If the CURO debt grows, the concern is that the replenishment obligation debt could get too big and costly to pay off—leading to a perpetual overdraft of the Basin. Although these severe possibilities have not occurred, Watermaster has begun working with stakeholders on resolving the policy, water supply, and financial issues of the CURO.[14]

Conjunctive Use / Dry Year Yield Program

Conjunctive use describes the coordinated operation of surface water storage and use, groundwater storage and use, and conveyance facilities to meet water management objectives. There are three primary components to a conjunctive management program. The first is to recharge groundwater when surface water is available to increase groundwater in storage. This can be accomplished by reducing groundwater use and substituting it with surface water, allowing natural recharge to increase groundwater (often called in-lieu recharge) or by augmenting recharge with supplemental supplies. The second component is to switch to groundwater use in dry years when surface water is scarce. The third component is to have an ongoing monitoring program to evaluate and allow water managers to respond to changes in groundwater, surface water, or environmental conditions that could exceed management objectives or impact other users.

[13] Chino Basin Watermaster, 33rd Annual Report, FY 2009-10.
[14] Chino Basin Watermaster, 33rd Annual Report, FY 2009-10.

Watermaster is working in partnership with MWD to develop regional conjunctive use programs that will store supplemental water for MWD and other agencies that have the capability of delivering surplus water for storage in the Basin. Under these programs, surplus water during wet periods would be banked and then withdrawn at a later time (either directly or through an in-lieu program). Under the OBMP, Watermaster has identified the potential to store and recover up to 500,000 AF in the Basin.

In 2004, Watermaster, TVMWD, and IEUA executed the Dry Year Yield (DYY) Program with MWD. The eight appropriators participating with MWD in the program are the District, the Cities of Chino, Chino Hills, Ontario, Upland and Pomona, CVWD, and Jurupa Community Services District. DYY developed facilities to pump 33,000 AFY during a dry year utilizing the 100,000 AF storage account. The participants are required to reduce (shift) their imported water usage by a predetermined amount during a dry year (see Table 4-5). Each participating agency has a specific shift obligation that, when added together, provide MWD with a total of 33,000 AFY of dry year supply.

In exchange for participating in the program, each agency received funding for new groundwater treatment and well facilities that would enable additional groundwater production during dry years. The District received $3.1 million to construct a groundwater production well and an aquifer storage and recovery well with wellhead treatment facilities; the latter project was a joint effort with the City of Chino. Project construction was completed in 2008, the same year the DYY Program went into effect.

Table 4-5:
DYY Shift Obligations for Participating Agencies

Local Retail Agency	DYY Program Shift Obligation (AFY)
City of Chino	1,159
City of Chino Hills	1,448
CVWD	11,353
Jurupa Community Services District	2,000
Monte Vista Water District	3,963
City of Ontario	8,076
City of Pomona	2,000
City of Upland	3,001
Total	**33,000**

4.2.2 Water Facilities Authority

The District receives its imported water through the WFA. The WFA Agua de Lejos Treatment Plant is located in Upland, and receives surface water from the SWP. The water is purchased from MWD through IEUA.

The WFA is permitted to treat 81 mgd of SWP water through a MWD import water connection located in the City of Upland. MWD's Rialto Branch of the Foothill Feeder delivers water to the Agua de Lejos Plant for treatment. The actual quantity of treated water has ranged from 12 mgd in the winter months to as high as 71 mgd during the summer. WFA water enters the District's potable water distribution system through two turnouts and provides WFA water to Chino Hills through another:

- Turnout Number 1 at Arrow Highway and Benson Avenue
- Turnout Number 2 at Benson Avenue and 17th Street
- City of Chino Hills turnout at Ramona Avenue, south of Philadelphia Street

Treated water is normally delivered into the District's distribution system at Plant 4 after recovering energy using three hydroelectric turbine generators. Water can also be diverted from the Ramona Feed to reservoirs or through pressure reducing valves.

The District is entitled to 24 percent of the WFA Agua de Lejos Plant capacity (21,776 AFY). The District can take delivery of more than its entitlement when other WFA members are not taking delivery of their full entitlements. Historically, there has always been unused capacity and the District has always had an opportunity to meet water quality standards and demands through additional WFA imported water. Many of the WFA members desire less dependence on imported water and greater reliability and control on local supplies. As a result, development of water supply programs has increased and the continued opportunity for purchase of unused capacity is anticipated.

Discussions on the opportunity to increase the capacity of the WFA treatment plant have occurred; however, analysis would need to be done to determine feasibility and economic benefits considering the climate of imported water reliability. The plant could be increased to 88 mgd through re-rating of the existing plant, and further capacity increases would need to be accomplished by plant expansion.

4.2.3 San Antonio Water Company

SAWCo delivers domestic and irrigation water to a variety of shareholders. These shareholders include most residents of San Antonio Heights (an unincorporated area of San Bernardino County), the District, the cities of Upland and Ontario, local golf courses, rock quarries, and grove irrigators.

There are a total of 6,389 outstanding SAWCo shares. Upland is the largest shareholder with 67.79 percent of the total outstanding shares, and the domestic customers of San Antonio Heights as a group represents the second largest block of shares owning 9.56 percent of the outstanding shares. The District currently owns 309.5 SAWCo outstanding shares, or 4.84 percent of the total.

Figure 4-3:
Water Facilities Authority and Inland Empire Utilities Agency Boundaries

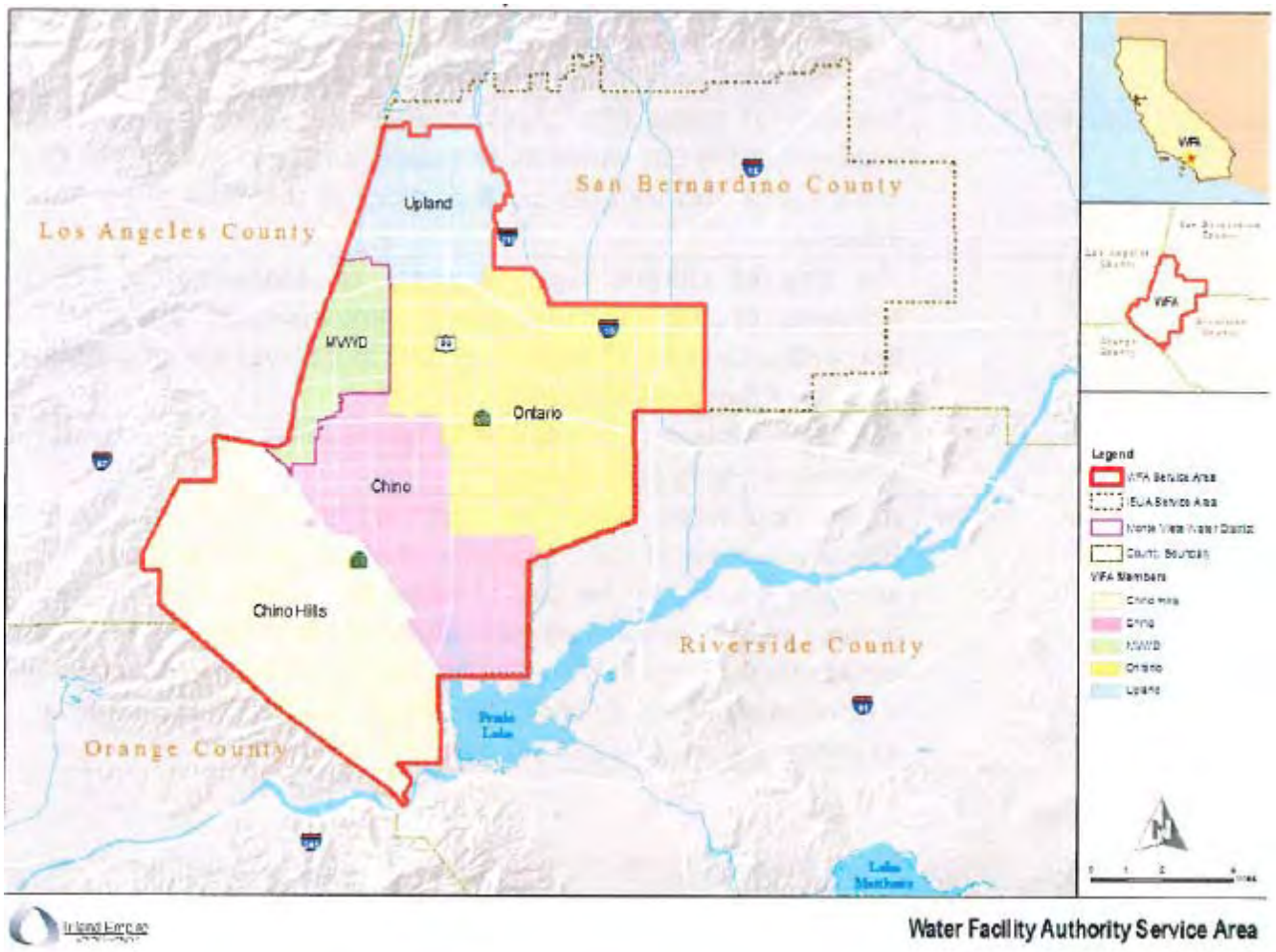
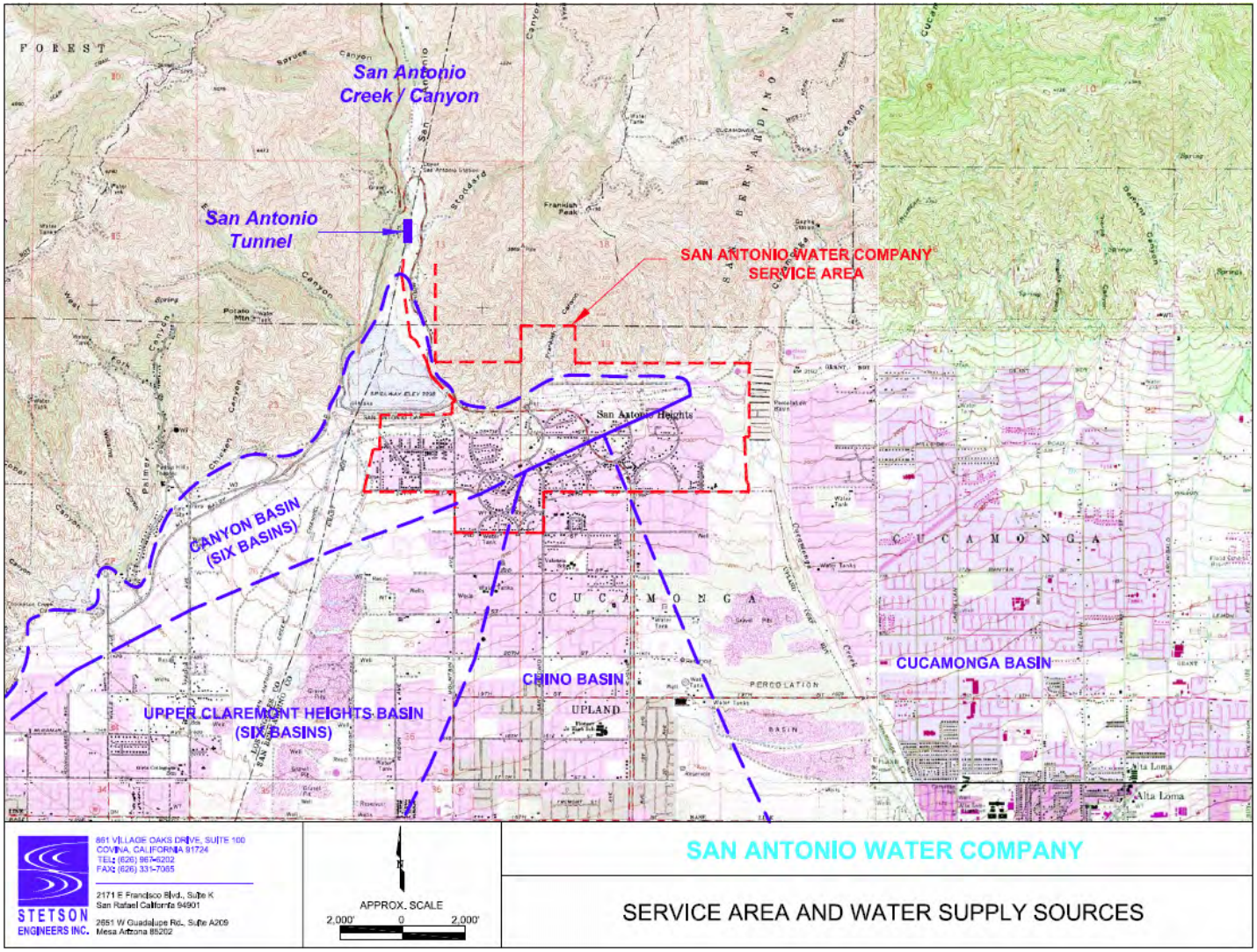


Figure 4-4:
San Antonio Water Company Water Supply Sources



According to the current Bylaws of SAWCo, there are two classes of service determined by the principal use known respectively as "domestic" and "irrigation." Any water delivered to a user other than domestic customers in San Antonio Heights is considered irrigation use. SAWCo's sources of domestic water supply include groundwater from the San Antonio Tunnel, Chino Groundwater Basin, and Cucamonga Groundwater Basin, and a small amount of purchased water from the City of Upland. SAWCo's sources of irrigation water supply include both surface water from the San Antonio Canyon and groundwater from Chino Groundwater Basin, Cucamonga Groundwater Basin, and the Six Basins area. Surface water from the San Antonio Canyon is used for irrigation, spreading over the San Antonio Tunnel for domestic supply, and delivered to the City of Upland's Surface Water Treatment Plant for domestic supply.

Total annual water production in the last twenty years ranged from 10,520 AFY in 1990 to 21,042 AFY in 2005, with an average of 15,344 AFY. SAWCO's production rights total approximately 29,221 AFY. Roughly 80 percent of total production is for non-domestic irrigation customers. SAWCo currently has generally fully utilized its water rights in all sources except San Antonio Creek, rights to which SAWCo is currently seeking to maximize.[15] SAWCo's currently total available water supply from all sources is 26,719.42 AFY.[16]

The District owns 309.5 shares in SAWCo. Currently, each share is entitled to 2.59 AFY of water deliveries, resulting in 801.6 AFY of District entitlement to SAWCo water supply.

SAWCO does not currently maintain a delivery system capable of delivering water to the District. In September 2010, SAWCO and the District entered into a Water Service Agreement (Appendix H), pursuant to which SAWCO will transfer to the District the right to pump the District's share of the SAWCO entitlement from the Chino Groundwater Basin. The term of the Agreement is five years, terminating on December 31, 2015. The District expects that delivery facilities to deliver the District's SAWCO entitlement will be constructed prior to December 31, 2015 or that other arrangements will be entered into by SAWCO and the District to permit the District to receive its SAWCO entitlement thereafter.

Surface Water Supply – San Antonio Canyon

SAWCo has rights to surface flow from San Antonio Creek, which appear to be pre-1914 rights and over the years have been supported by Court Judgments. These water rights are expressed in "miner's inches" (MI), which are equivalent to one cubic foot per second (cfs).

SAWCo has surface water rights in the San Antonio Canyon as follows:

- SAWCo has rights to the first 17 percent of all flow from the San Antonio Creek.

[15] SAWCo Water System Master Plan, February 2010.
[16] Charles Moorrees, SAWCo General Manager, Presentation to District Board, January 26, 2011.

- After deducting 17 percent of the total flow, SAWCo has a priority to the next 18 MI of the remaining flow.

- After deducting the 17 percent of the total flow and the 18 MI, the balance is divided equally between SAWCo and the West Side Owners (WSO) (currently Pomona Utility Service District), until WSO's share equals 312 MI.

- After WSO's entitlement of up to 312 MI, SAWCo is entitled to divert all additional flow as long as its total diversion does not exceed 740 MI (January 1 to March 31) or 965 MI (April 1 to December 31) annually.

- It is not clear what rights SAWCo has to diversions in excess of the above amounts for domestic use. SAWCo does have rights to spread flows in excess of 10,000 MI for recharge of local groundwater basins.[17]

According to SAWCo, its total rights to surface water from San Antonio Canyon is 17,458.53 AFY.[18]

Surface water diverted from the San Antonio Creek and the San Antonio Tunnel water (discussed below) may be used for domestic purposes, irrigation, and/or spreading in the Cucamonga Basin or elsewhere.

Groundwater Supply[19]

SAWCo utilizes various groundwater sources including the San Antonio Tunnel and groundwater wells in Chino Groundwater Basin, Cucamonga Groundwater Basin and the Six Basins area. SAWCo also engages in spreading operations that enhance the groundwater supply available to SAWCo. These groundwater sources are described below and shown in Figure 4-4.

San Antonio Tunnel

The San Antonio Tunnel is the primary water supply for SAWCo's domestic water system. SAWCo has rights to all water flowing in the San Antonio Tunnel. Groundwater wells are available to augment the tunnel water supply. Since 1988, the maximum production measured from the San Antonio Tunnel was 4,171 AFY which occurred in 1993. However, the natural supply available to SAWCo from this source is uncertain considering tunnel water flow is enhanced when natural flows are low from spreading San Antonio Canyon water, which is already counted as a source. In general there appears to be a potential correlation between the San Antonio Canyon flow and base flow in the San Antonio tunnel, which is estimated to be approximately 1,050 AFY.

[17] SAWCo Water System Master Plan, February 2010.
[18] Charles Moorrees, SAWCo General Manager, Presentation to District Board, January 26, 2011.
[19] SAWCo Water System Master Plan, February 2010, unless otherwise indicated.

Portions of the deep rock tunnel (4-foot by 4-foot rectangular tunnel) is supported by redwood and rock beams, and is situated approximately 100 feet below the ground surface. The deep rock tunnel is fed by groundwater that naturally percolates through the subsurface into the deep rock tunnel. The tunnel is also fed by a portion of water from the San Antonio Canyon, which is diverted into spreading grounds above the tunnel. Water collects in the deep rock tunnel, is piped to SAWCo's Forebay, chlorinated, and piped to SAWCo's potable water reservoirs.

Chino Groundwater Basin

SAWCo overlies the northwesterly portion of the Chino Groundwater Basin and has an appropriative right of 2,164.5 AFY, which represents 2.748 percent of the Basin OSY.

Although subject to change, the OSY of the Basin has historically been 54,834 AFY, of which SAWCo is entitled to 1,506.888 AFY. Recently, agricultural pool water transfers to SAWCo have averaged approximately 795 AFY. As agricultural production declines within the Basin, the reallocation of water to the Appropriative Pool is expected to increase.

For more information on the Chino Groundwater Basin, see Section 4.1.1. For more information on the management of the Basin by Watermaster, see Section 4.2.1.

Cucamonga Groundwater Basin

The Cucamonga Groundwater Basin is located east and north of the Red Hill Fault in the northeastern section of the City of Upland. In 1958, a stipulated Cucamonga Basin Judgment allocated groundwater within the Cucamonga Basin to 24 stipulating parties, which today consists of SAWCo, West End Consolidated Water Company, and CVWD.

The Cucamonga Basin Judgment stipulates SAWCo's water production as 6,500 AFY, provided SAWCo spreads an average 2,000 AFY of imported water (from the San Antonio Canyon and/or Creek) into the Cucamonga Groundwater Basin, based on a 10-year rolling average. However, if SAWCo's average annual spreading is less than 2,000 AFY during the 10-year average, SAWCo's stipulated water right of 6,500 AFY can be reduced by up to 2,000 AFY, to a minimum total of 4,500 AFY. Conversely, if SAWCo's average annual spreading is more than 2,000 AFY, SAWCo's stipulated water right of 6,500 AFY can be increased by up to 2,000 AFY, to a maximum total of 8,500 AFY. Only 95 percent of the water spread (up to a maximum of 2,105 AF spread), can be used to augment SAWCo's stipulated right above 6,500 AFY. In summary, to maximize its stipulated water right up to 8,500 AFY, SAWCo is required to spread an average of 4,105 AFY (2,000 + 2,105) of imported water over a rolling 10-year period. Historically from 1991 to 2006, SAWCo spreading has averaged 3,093 AFY in the Cucamonga Groundwater Basin.

There are currently discussions underway regarding revising the management of the Cucamonga Groundwater Basin to modernize the Judgment, establish CVWD as Watermaster, and establish storage accounts.

Six Basins Area

The Six Basins area is located north of the San Jose Hills, west of Chino Basin, south of the San Gabriel Mountains, and east of the Main San Gabriel Basin. The Six Basins area consists of six interconnected groundwater basins, which includes the "Four Basins" (Canyon, Upper Claremont Heights, Lower Claremont Heights, and Pomona) and the "Two Basins" (Live Oak and Ganesha).

SAWCo operates groundwater wells overlying the Upper Claremont Heights Groundwater Basin and owns rights to produce groundwater from the Four Basins area. The Six Basins Judgment set the initial OSY of the Four Basins at 19,300 AF, of which SAWCo was entitled to 1,383 AF (7.166 percent) based on SAWCo's historical production from Upper Claremont Heights. SAWCo is entitled to 7.166 percent of the Four Basins annual OSY determined by Six Basins Watermaster.

SAWCo's initial water right in Six Basins is about 1,383 AFY. In 2006, SAWCo established a storage and recovery account with Six Basins Watermaster that allows SAWCo to recharge up to 1,000 AFY and up to two years of storage. Thus SAWCo's stipulated initial water right in Six Basins can be increased by up to 2,000 AFY to a maximum total of 3,383 AFY. The OSY of Four Basins has averaged approximately 19,300 AFY for the past eight years. However, OSY has continuously decreased from 24,000 AFY (in 1999) to 16,000 AFY (in 2006 and 2007). SAWCo is currently entitled to 1,254 AFY.[20]

The Six Basin Judgment did not allocate any production rights from the Two Basins to SAWCo. In addition, rights to the Four Basins and Two Basins are not transferable between the two basins. However, rights may be transferable from within the Four Basins if certain conditions are met.

Appropriators like SAWCo, who are parties to the Six Basins Judgment, are authorized to produce groundwater in addition to the allocated amounts within Four Basins. Such extractions result in an assessment by Six Basins Watermaster to pay for water to replenish Four Basins through imported surface water recharge. Water to replenish Four Basins is purchased from MWD by TVMWD or IEUA in coordination with Six Basins Watermaster.

[20] Charles Moorrees, SAWCo General Manager, Presentation to District Board, January 26, 2011.

4.2.4 Inland Empire Utilities Agency – Recycled Water

Development of the District's recycled water program had been in the conceptual and planning phases since the 1990s when IEUA began the process of developing a regional wholesale recycled water distribution system. Since then, IEUA has moved aggressively to expand its regional distribution system.

IEUA has produced and distributed high quality recycled water since 1972 when the Agency expanded its services to include regional wastewater treatment. Initially recycled water was delivered to a few large water users such as the Whispering Lakes Golf Course and Westwind Park in Ontario and Prado Park and Golf Course in Chino.

Beginning in the early 1990's IEUA began the construction of the first phase of the Carbon Canyon Recycled Water Project (CCRWP) which included treatment facilities and distribution pipelines to serve customers in Chino and Chino Hills. In conjunction with the construction of the first phase of the CCRWP, IEUA began planning for a regional recycled water delivery system to provide recycled water throughout its service area. This planning effort culminated with the completion of the IEUA Regional Recycled Water Program Feasibility Study in January 2002. The Feasibility Study identified facilities to deliver over 70,000 AFY of recycled water to customers and recharge sites throughout the IEUA service area.

In 2004 IEUA developed a regional recycled water program implementation plan to prioritize the phased construction of the adopted 2002 Recycled Water Program Feasibility Study. This major planning effort resulted in the completion of the 2005 Recycled Water Implementation Plan which identified projects to deliver recycled water of approximately 93,000 AFY utilizing an interconnected distribution pipeline system supplied from all four of IEUA's major recycled water plants. Many of the District's current recycled water customers were included in this plan.

In 2007, IEUA developed the Recycled Water Three Year Business Plan. The Business Plan is intended to guide the expansion of the IEUA recycled water system. The Plan focused on the most cost-effective and rapid ways to increase the amount of recycled water available and used within IEUA's service area to 50,000 AFY by 2012. Table 4-6 shows the goals of the Recycled Water Three Year Business Plan.

Figure 4-5 shows the current extent and planned expansion of IEUA's regional recycled water distribution system.

The District has developed a retail recycled water distribution system to deliver recycled water purchased from the City of Montclair and delivered by IEUA's regional distribution system (Figure 4-6). The District currently delivers approximately 340 AFY to seven District customers at 19 different locations for landscape irrigation. The District developed a Recycled Water Master Plan in 2011 which projects expansion of its recycled water distribution system to serve up to 440 AFY by 2015 (see Section 4.4.3 and Appendix I).

Figure 4-5:
IEUA Regional Recycled Water Distribution System – Current and Projected

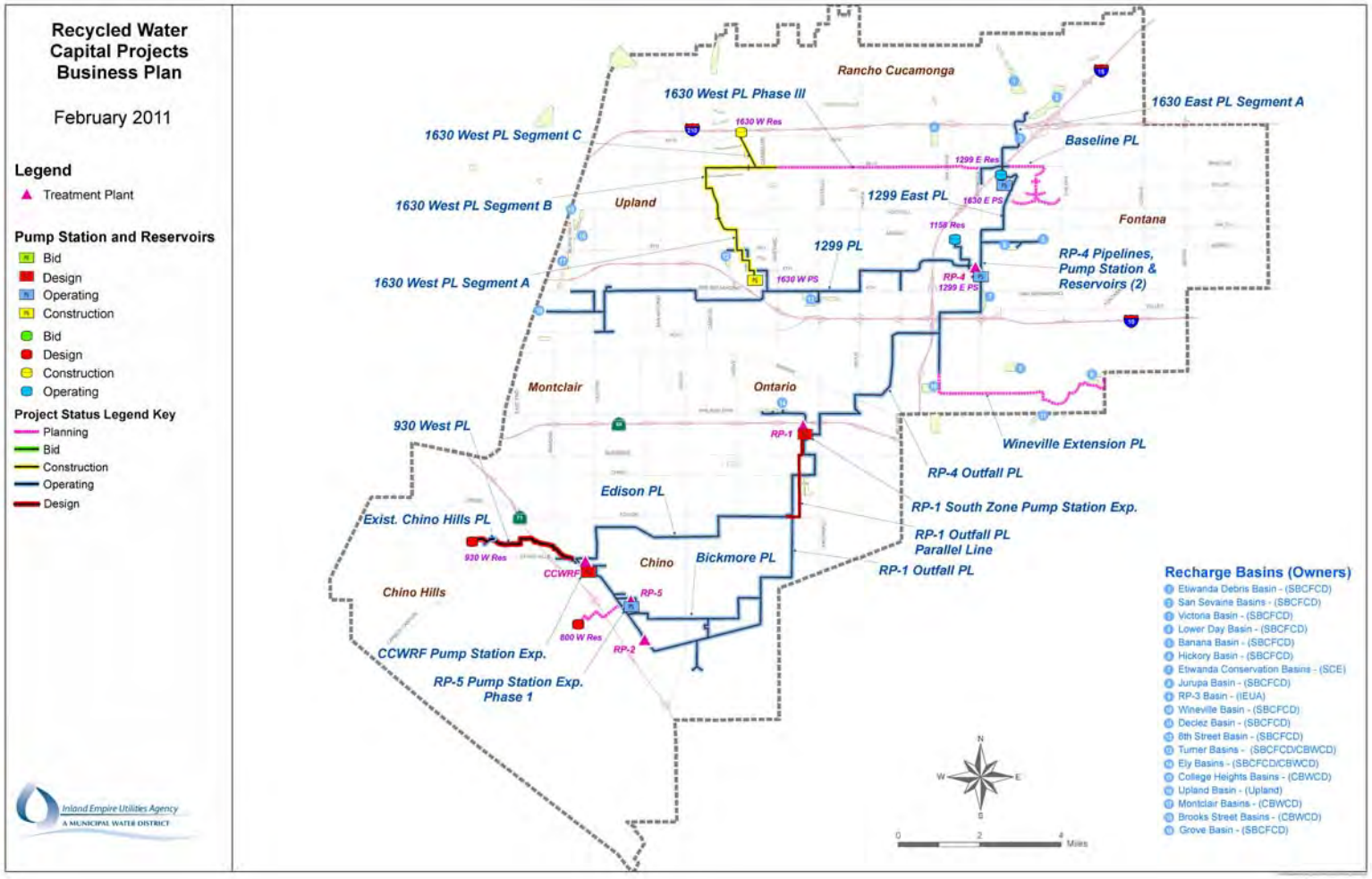


Figure 4-6:
District Existing Retail Recycled Water Distribution System

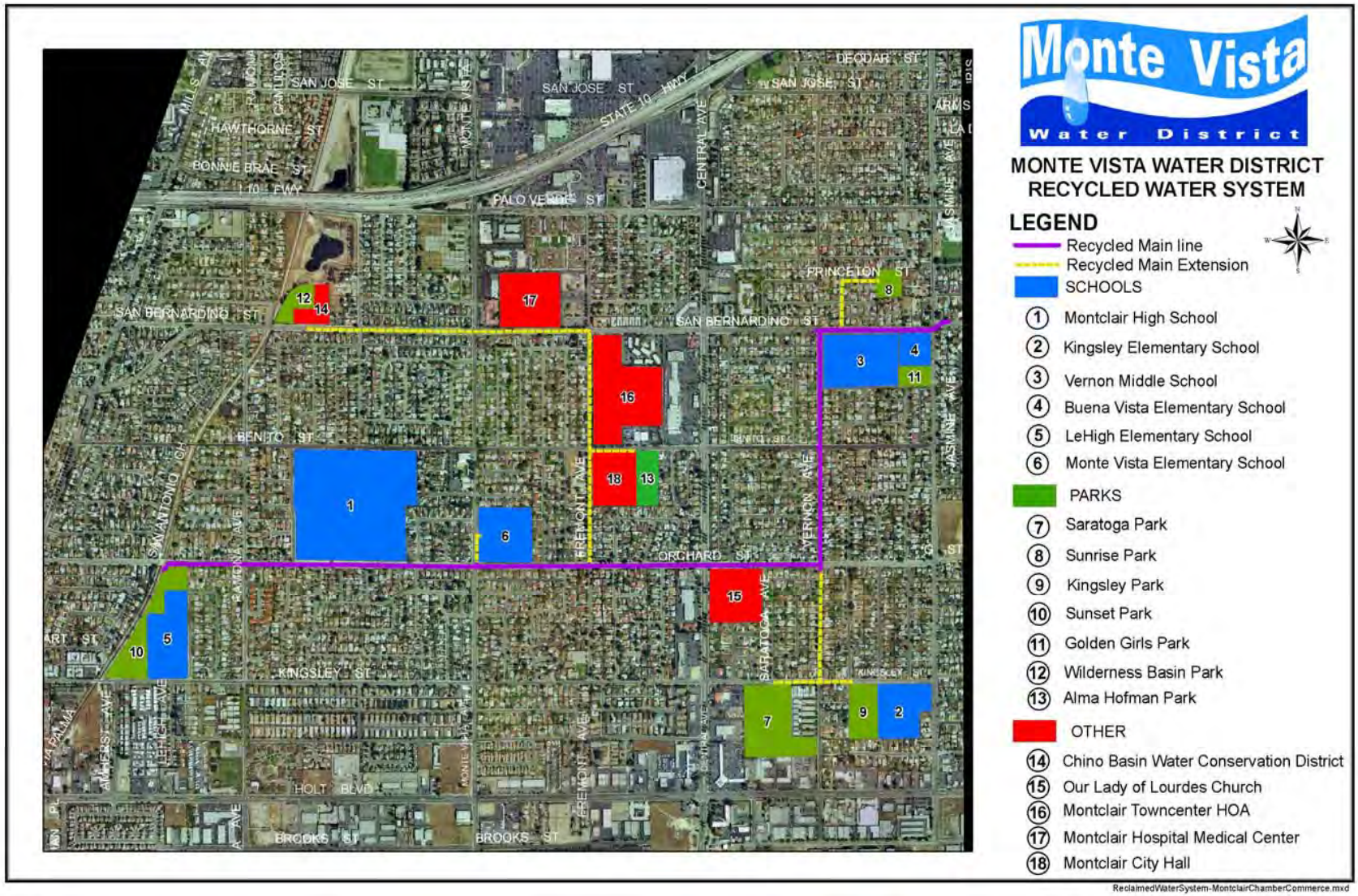


Table 4-6:
Recycled Water Three Year Business Plan
Annual Goals for Connected Demand and Sales

Fiscal Year	Connected Demand (AFY)	Increase (AFY)	Increase (%)	Estimated Sales*
2006/07	13,000	---	---	---
2007/08	17,600	4,600	135%	13,500
2008/09	27,034	14,034	208%	16,000
2009/10	36,000	13,000	277%	32,000*
2010/11	45,000	32,000	346%	40,000*
2011/12	50,000	37,000	385%	45,000*

* Estimated sales lag connections.
Source: IEUA Draft 2010 Regional UWMP, February 2011

Wastewater Treatment

IEUA manages the Regional Sewage Service System within its 242-square miles service area to collect, treat, and dispose of wastewater delivered by contracting local agencies. IEUA's facilities serve seven contracting agencies: the cities of Chino, Chino Hills, Fontana, Montclair, Ontario, and Upland, and CVWD. A system of regional trunk and interceptor sewers convey sewage to regional wastewater treatment plants, which are all owned and operated by IEUA. Local sewer systems are owned and operated by local agencies.

Wastewater Treatment Plants

IEUA operates four regional water recycling production plants: Regional Plant No.1 (RP-1), RP-4, RP-5, and the CCWRF. A fifth treatment plant, RP-2, was decommissioned in 2004 because it was in a potential flood zone due to of the Prado Dam project. Each facility is briefly described below:

- **RP-1** began operation in 1948 through a joint powers agreement between the cities of Ontario and Upland. IEUA, then known as Chino Basin Municipal Water District, purchased RP-1 in January 1973. Its current capacity is 44 mgd and is projected to remain at that capacity through 2035.[21] RP-1 serves all or part of the Cities of Ontario, Rancho Cucamonga, Upland, Montclair, Fontana and unincorporated areas of San Bernardino County.

[21] IEUA, March 2011.

- **RP-2** began operation in 1960 to serve the City of Chino and the Chino Hills area. It was expanded to 5 mgd to increase capacity and to meet stringent water quality requirements. Because RP-2 sits in a flood prone area, much of the facility has been shut down and all liquid wastes diverted to the new RP-5 facility. RP-2 continues to handle wastewater biosolids generated by RP-5 and CCWRF.

- **CCWRF** has been in operation since 1992. The recycled water plant capacity is 11.4 mgd, while solids are treated at RP-2. CCWRF serves the cities of Chino, Chino Hills, Montclair and Upland.

- **RP-4** was completed in 1997. This facility was recently expanded to 14 mgd. RP-4 serves CVWD, the City of Fontana, and unincorporated areas of San Bernardino County in the northeast portion of the IEUA service area.

- **RP-5** began operation in March 2004. The 16.3 mgd plant serves existing and planned development in the cities of Chino, Chino Hills, and Ontario.

Figure 4-5 shows the location of regional wastewater treatment plants and the existing and potential recycled water distribution lines. The combined production of the current wastewater treatment plants is 65,018 AFY (58 mgd). By 2035, the plants are expected to produce 77,349 AF of water (69 mgd).[22] Table 4-7 shows the estimated past, current, and projected wastewater collected and treated from the District's service area. It should be noted that, because IEUA's regional recycled water system is fully integrated, the District's recycled water customers are not necessarily delivered recycled water which originated from its service area.

Table 4-7:
Recycled Water – Estimated Wastewater Collection and Treatment

Wastewater Collection/Treatment	2005	2010	2015	2020	2025	2030	2035
Wastewater Collected & Treated in District Service Area	3,951	4,115	4,291	4,434	4,556	4,656	4,794
Volume Meets Recycled Water Standard	3,951	4,115	4,291	4,434	4,556	4,656	4,794

All amounts in AF. Past, current and projected wastewater flow estimates through 2020 provided by IEUA based on projected population growth (Table 2-2) and 70 gpcd of wastewater produced.

Wastewater Treatment Process

All of IEUA's wastewater treatment plants produce recycled water that meets or exceeds the requirements of the State of California Department of Public Health (DPH) Title 22 for recycled water.

[22] IEUA Draft 2010 Regional UWMP, February 2011.

The treatment process begins with raw sewage that is collected from the local cities. The raw sewerage is passed through screening and grit removal units, primary clarifiers, aeration basins, secondary clarifiers, chemical addition, tertiary filters, chlorination, and finally dechlorination facilities prior to discharge. Some of the effluent flow is placed into the nearby creeks and allowed to flow ultimately into the Santa Ana River where it is recharged into Orange County's groundwater basin. The remainder of the flow is pumped into IEUA's recycled water distribution system for reuse.

Solids removed from the liquid treatment processes are thickened and stabilized in anaerobic digesters before being dewatered and transported to the Agency's composting facility in Rancho Cucamonga which is a joint venture with Los Angeles County Sanitation District.

IEUA maintains a Federal- and State-approved industrial pre-treatment program for industrial discharges to the sewage system that requires dischargers to comply with water quality objectives and to submit periodic monitoring reports to IEUA.

IEUA produces a supply of highly polished tertiary-treated water suitable for irrigation, industrial water supply, groundwater recharge, environmental enhancement, and unrestricted recreation use such as boating and fishing.

Existing Recycled Water Program Supplies

Currently, IEUA produces about 65,000 AFY (58 mgd) of recycled water annually. In 2009, recycled water use totaled about 32,362 AF. The remaining supply of recycled water, about 32,638 AF, was discharged to the Santa Ana River for reuse in Orange County. Currently, there are 680 recycled water connections to the regional recycled water distribution system, and it continues to expand. Additionally, as the result of a revised region-wide permit, recharge of recycled water into the Chino Groundwater Basin will increase rapidly over the next few years (see Section 4.2.1).

A transmission line connecting RP-1 and RP-4 serves as part of the backbone system for recycled water use in the northern portion of IEUA's service area. The District's current retail recycled water distribution system relies on deliveries from this portion of IEUA's regional system, specifically through the recently constructed San Antonio Channel Pipeline which provide recycled water service to Ontario and Montclair. As shown in Table 4-8, the available recycled water supply from the RP-1/RP-4 portion of IEUA's regional system over the past five years has vastly exceeded the recycled water demand on the system. It should be noted that, because IEUA's regional recycled water system is fully integrated, IEUA is capable of delivering recycled water from any of its RPs to meet the demands of the District's recycled water customers.

Table 4-8:
RP-1/RP-4 Plant Supply vs. Recycled Water Usage

RP-1/RP-4	2005	2006	2007	2008	2009
Plant Flow	45,768	44,179	44,840	44,541	43,363
Recycled Water Usage	1,206	3,969	3,969	5,540	20,751

All amounts in AF.
Source: IEUA Draft 2010 Regional UWMP, February 2011

In 2006, the District began the process of planning a retail recycled water distribution system off of IEUA's planned San Antonio Channel Recycled Water Pipeline. The original alignment of IEUA's pipeline was modified to permit recycled water distribution to the District customers with large landscapes, including Montclair High School, City of Montclair parks, and multiple Ontario Montclair School District school sites. Initial demand for the retail system was estimated at 200 to 330 AFY.

Completed in 2008, the San Antonio Channel Pipeline traverses the District's service area from its eastern boundary at San Bernardino Street and Benson Avenue to the San Antonio Channel. Although the primary function of this regional pipeline is to deliver recycled water into the channel for groundwater recharge in Brooks Basin, it also functions as the "backbone" pipeline of the District's recycled water distribution system, from which the District can extend recycled water branch laterals to serve additional customers. In November 2007, IEUA and the District entered into an agreement to design and construct District-owned local laterals off of the regional pipeline; to date, four such laterals have been constructed under the amended agreement.

In 2010, the District delivered 267 AF to its recycled water customers and purchased 275 AF of the City of Montclair's share of regional recycled water groundwater recharge. As shown in Table 4-9, this is 172 AF more than the amount projected in the District's 2005 UWMP. With the connection of additional customers, it is estimated that recycled water sales will eventually reach 440 AFY.

Table 4-9:
2005 UWMP Recycled Water Use Projection vs. Actual Use

Use Type	2010 Actual Use	2005 Projection for 2010
Landscape Irrigation	267	370
Groundwater Recharge	275	0

All amounts in AF for fiscal year totals.

4.3 PLANNED WATER SUPPLY ENHANCEMENT PROJECTS

This section summarizes planned District and regional projects to enhance the reliability of the District's water supply, including consideration of transfer and exchange, desalination, and recycled water supply opportunities available to the District.

4.3.1 District Projects

The District's Capital Improvement Plan (CIP), last updated in its 2008 Water Master Plan, is a comprehensive, prioritized outline of recommended projects that involve the repair and/or replacement of existing domestic water system facilities and improvements for future needs. The CIP lists specific prioritized capital improvement projects over the next 10 years and general improvements and projects envisioned over the next 30 years.

The CIP, as amended, includes a variety of potable water system improvements that are necessary to eliminate current deficiencies as well as improvements for the purpose of providing reliable water services through the year 2039. The accompanying Financial Master Plan provides a mechanism for funding the identified capital projects at a cost of $35.5 million over the next 10 years and $96.7 million over the next 30 years. Projects include:

- A comprehensive pipeline replacement/rehabilitation program;
- Construction of three new wells and retrofitting an existing well maintain existing groundwater production capacity;
- Construction of two new reservoirs for a combined additional storage capacity of 5.5 mg;
- Installation of two back-up power generators at key wells for additional supply reliability during emergency conditions;
- A booster pump station retrofit and capacity enhancement project; and,
- Seismic and plant improvements to various District facilities.

The District's 2011 Recycled Water Master Plan (Appendix I) is a comprehensive analysis of potential expansion of the District's recycled water distribution system, with a prioritized implementation plan of recommended projects. Key elements of the Master Plan are summarized in Section 4.4.3.

4.3.2 Regional Projects

The following sections describe regional projects to enhance the reliability of the District's imported and purchased potable water supplies.

Chino Basin Watermaster Reliability Projects

Chino Basin Watermaster is dedicated to maintaining a reliable supply of water for its groundwater users through implementation of the OBMP, an integrated set of water management goals and actions that will preserve and enhance the safe yield and the water quality of the Basin. The OBMP is intended to allow continued reliance on groundwater for beneficial use within the basin while minimizing demand for imported water, and to encourage beneficial use of the large available storage space in the aquifer system. OBMP actions are intended to benefit both local and regional water supply programs. The OBMP encourages the increased use of local supplies to help "drought proof" the Basin. For more information on the OBMP, see Section 4.2.1.

Groundwater Recharge Master Plan[23]

To enhance groundwater storage, Watermaster has developed a Groundwater Recharge Master Plan (2001) that identified sources of recharge water and the improvements needed in recharge facilities to ensure capture and percolation of this water. Studies conducted by Watermaster identified the potential for increasing annual groundwater recharge capacity by over 100,000 AFY from a combination of improved storm water capture, recycled water, and imported water.

Capture of storm water has been identified as a top priority by Watermaster. Increasing the yield of the Basin with this high quality source of water will improve groundwater quality and increase the assimilative capacity of the Basin. Studies indicate that, as a result of increasing urbanization and the construction of flood control facilities that expedite the conveyance of storm water to the Santa Ana River, the Basin is losing an average of 40,000 AFY of the storm water that historically recharged the groundwater aquifer. Improvements to the flood control facilities plus modifications to the recharge basins could result in the capture of approximately 23,000 AFY.

The second priority for recharge is the use of the high quality recycled water produced at IEUA's wastewater treatment facilities. Over 67,000 AFY of recycled water is currently produced and there is approximately 20,000 AFY of capacity in the Basin to be recharged. In 2005, the Santa Ana Regional Water Quality Control Board (RWQCB) issued the permit for the use of recycled water for groundwater recharge. This is the first permit for indirect potable reuse in California that received unanimous local and statewide support. In 2007, the permit was updated to include additional recharge sites. In 2009, the permit was amended to increase the averaging period used for compliance to 120 months and to allow groundwater underflow to be used as diluent in the computation of the running average Recycled Water Contribution.

The third priority for recharge is the use of imported water supplies. The Groundwater Recharge Master Plan identifies opportunities to use these supplies during wet years when surplus water is available.

[23] IEUA Draft 2010 Regional UWMP, February 2011.

In 2002, Watermaster, CBWCD, San Bernardino County Flood Control District, and IEUA formed a partnership to implement the Chino Basin Groundwater Recharge Master Plan. Titled the Chino Basin Facilities Improvement Project, this award-winning $40 million construction program within IEUA's service area resulted in the modification of 18 existing recharge sites and the construction of one additional facility. Recharge basin improvements included the modification of inlet and outlet structures, placement of rubber dams to facilitate diversion of storm water, earthwork to improve water percolation, and the construction of pump stations, conveyance facilities and turnouts from IEUA's Regional Recycled Water Distribution System and MWD's Foothill Feeder.

In 2009, IEUA and Watermaster implemented Phase 2 of the Chino Basin Facilities Improvement Project utilizing $11 million to add additional imported water turnout capacity, drill monitoring wells, heighten and harden conservation berms, and add new automated control structures to several recharge sites. Consistent with the goals of the OBMP, additional recharge facilities may be developed by Watermaster in the future. Regional implementation of storm water Best Management Practices in new land developments will also improve recharge opportunities by encouraging local infiltration and reducing the amount of water lost from the groundwater basin. These practices will assist local communities in implementing the Stormwater Management Program Permit issued by the RWQCB to San Bernardino County in 2005 and with future Total Maximum Daily Load requirements.

Projected regional groundwater production levels from the Basin, including production from District-owned wells, will require groundwater replenishment to sustain the groundwater supply. Replenishment requirement have been identified by Watermaster and are summarized in Table 4-10 along with expected replenishment sources.

Table 4-10:
Actual and Projected Chino Groundwater Basin Recharge

Source	2005	2010	2015	2020	2025	2030	2035
Storm Water	12,940	14,141	12,000	12,000	12,000	12,000	12,000
Recycled Water	1,303	6,294	20,000	21,000	21,000	21,000	21,000
Imported Water	34,567	5,001	30,000	30,000	30,000	30,000	30,000
Totals	**48,810**	**25,436**	**62,000**	**63,000**	**63,000**	**63,000**	**63,000**

All amounts in AF.
Source: IEUA Draft 2010 Regional UWMP, February 2011

Under the District's Recycled Water Purchase Agreement with the City of Montclair, the District has right of first refusal to purchase the entire City apportionment (4.38 percent) of recycled water used by IEUA for groundwater replenishment. This amount is used to offset the District's replenishment obligation for overproduction from the Chino Groundwater Basin (Section 4.2.1). For current and projected amounts of recycled water purchased by the District from Montclair for groundwater recharge, see Table 4-13.

Hydraulic Control/Groundwater Desalination[24]

As more water is recharged in the upper alluvial fans of the Basin, groundwater production in the lower portion of the basin needs to be managed to ensure that groundwater is not lost to the Santa Ana River and that poor quality water in the lower portion of the Basin does not reach downstream basins. To retain hydraulic control, desalter facilities have been constructed, operated by the Chino Basin Desalter Authority, at the down-gradient end of the Basin, near the Santa Ana River. The current capacity of the desalter facilities is 27,600 AFY and an expansion is currently underway to increase the capacity to 40,000 AFY. The expansion is expected to be complete by 2012.

Chino Basin Maximum Benefit Plan/Basin Plan Amendment[25]

To ensure that water quality within the groundwater basin is protected while storage and recovery of groundwater supplies increases, Watermaster, IEUA and other water agencies have worked with the RWQCB to develop an approved Maximum Benefit Plan. This plan specifies water quality objectives for the Basin and the actions that will be taken to mitigate total dissolved solids and nitrate loadings to the groundwater basin resulting from the augmented recharge program. This plan was adopted as a 2004 Basin Plan Amendment by the RWQCB and has been approved by the California Water Resources Control Board.

Dry Year Yield Program Expansion[26]

In 2008, IEUA completed a California Environmental Quality Act document for a proposed expansion of the DYY program. The expansion would include increasing the storage account to 150,000 AF and help fund construction of the additional facilities required. These facilities include new wells, ion exchange treatment, and ASR wells.

Groundwater Level Monitoring[27]

Watermaster has three active groundwater level monitoring programs operating in the Basin: 1) a semiannual basin-wide well monitoring program, 2) a key well monitoring program associated with the Chino I/II Desalter Well Fields and the Hydraulic Control Monitoring Program, and 3) a piezometric monitoring program associated with land subsidence and ground fissuring in MZ 1. The frequency of groundwater level monitoring varies with each program, depending on the needs of the data analyst. These groundwater level monitoring programs also rely on municipal producers, other government agencies, and private entities to supply their groundwater level measurements on a cooperative basis. Watermaster digitizes all these measurements and combines them into a relational database for general usage.

[24] IEUA Draft 2010 Regional UWMP, February 2011.
[25] IEUA Draft 2010 Regional UWMP, February 2011.
[26] IEUA Draft 2010 Regional UWMP, February 2011.
[27] Chino Basin Watermaster, Status Report No. 2009-1, January to June 2009.

Voluntary Forbearance

Land subsidence is a current groundwater issue in the Basin, although not specifically within the District service area. Land subsidence can occur in areas where underlying fine-grained sediment layers (silt and/or clay) are dewatered over a long period of time allowing these layers to compress. According to the Phase I OBMP Report, subsidence and ground fissuring has been documented in portions of the cities of Chino and Chino Hills. The area underlying the cities has experienced ground fissuring as early as 1973, but an accelerated occurrence of ground fissuring ensued after 1991. A common cause of ground fissuring within alluvial basins is the removal of subsurface fluids resulting in compaction of poorly consolidated aquifer materials and land subsidence.

Remote sensing studies of subsidence were conducted for the City of Chino in 1999 to further analyze subsidence in MZ 1. These studies confirmed the location and relative magnitude of subsidence in MZ 1. It was concluded that the cause of this subsidence was localized groundwater overdraft and declining groundwater levels, and effects resulting from groundwater production from mostly deep wells in the area.

Watermaster has developed a groundwater level monitoring program that includes multiple tools to evaluate subsidence. To further reduce the risk of subsidence in the western portion of the Basin, the cities of Chino and Chino Hills agreed to reduce their groundwater production from certain wells by 1,500 AFY each. Under this forbearance agreement, production from specified wells is reduced between October 1 and June 30.

Water Facilities Authority Reliability Projects

Historically, there has always been unused capacity in the WFA's Agua de Lejos water treatment plant, and the District has always had an opportunity to meet water quality standards and demands through additional WFA imported water. Many of the WFA members desire less dependence on imported water and greater reliability and control on local supplies. As a result, the development of local water supply programs has received increased attention and the continued opportunity for utilization of unused WFA treatment capacity is anticipated.

Discussions on the opportunity to increase the capacity of the WFA treatment plant have occurred; however, analysis would need to be done to determine feasibility and economic benefits considering the climate of imported water reliability. The plant could be increased to 88 mgd through re-rating of the existing plant, and further capacity increases would need to be accomplished by plant expansion.

Metropolitan Water District Reliability Projects[28]

MWD continues to develop and encourage projects and programs to ensure 100 percent reliability now and into the future, in the face of increased challenges to its supplies. These projects and programs are determined by MWD's continuously updated Integrated Resource Plan (IRP). MWD has made investments in conservation, water recycling, storage, and supply that are all part of MWD's long-term water management strategy. MWD's approach to a long-term water management strategy was to develop an IRP that depended on many sources of supply.[29] For a comprehensive description of MWD's implementation approach, summarized below, please refer to 2010 MWD's Regional UWMP.

Integrated Resource Planning

MWD's IRP establishes the framework for the policies, projects, and programs that will ensure that southern California has an adequate and reliable water supply of imported water. MWD's IRP emphasizes the need for a diverse and adaptable water supply strategy to cope with changing circumstances and conditions, including climate change, energy use and greenhouse gas emissions, endangered species protection, and conveyance needs in the Sacramento-San Joaquin River Delta system.

Colorado River Aqueduct Supply Enhancement

The District currently does not use imported water from the Colorado River Aqueduct (CRA). However, from a regional perspective, the increased reliability of MWD's CRA supplies indirectly benefit the District. The major actions MWD is completing to improve its CRA reliability include the following:

- **Imperial Irrigation District / MWD Conservation Program** – Under a 1988 agreement, MWD funds water efficiency improvements within Imperial Irrigation District's service area in return for the right to divert the water conserved by those investments. Through this program, MWD obtains an additional 85 thousand acre-feet (TAF) per year, on average, upon completion of program implementation.

- **Palo Verde Land Management, Crop Rotation, and Water Supply Program** – In 2004, MWD's Board authorized a 35-year land management, crop rotation, and water supply program with Palo Verde Irrigation District. Under the program, participating farmers are paid to reduce their water use by not irrigating a portion of their land. This program provides up to 133 TAF of water to be available to MWD in certain years, and a minimum of 33 TAF per year.

[28] MWD 2010 Regional UWMP, November 2010, unless otherwise indicated.
[29] IEUA Draft 2010 Regional UWMP, November 2011.

- **Southern Nevada Water Authority (SNWA) / MWD Storage and Interstate Release Agreement** – SNWA and MWD, along with the United States and the Colorado River Commission of Nevada entered into a storage and interstate release agreement in October 2004. Under the agreement, additional Colorado River water supplies are made available to MWD when there is space available in the CRA to receive the water. MWD has received 70 TAF through 2009.

- **Lower Colorado Water Supply Project** – In March 2007, MWD, the City of Needles, and the U.S. Bureau of Reclamation (USBR) executed a Lower Colorado Water Supply Project contract, under which MWD receives Project water unused by Needles and other entities. In 2009, MWD received 2.3 TAF from this project.

- **Lake Mead Storage Program** – In December 2007, MWD entered into agreements to set Intentionally Created Surplus (ICS) rules for water stored in Lake Mead. MWD created 55.8 TAF of ICS water in 2009. As of January 1, 2010, MWD had a total of 79.8 TAF of ICS water in Lake Mead. Additionally, MWD was assigned 100 TAF of ICS for its contribution to the Drop 2 Reservoir, and MWD is expected to secure 23.2 TAF of ICS for its contribution to the Yuma Desalting Plant.

- **Hayfield Groundwater Storage Program** – This program allows CRA water to be stored in the Hayfield Groundwater Basin in east Riverside County for future withdrawal and delivery to the CRA. As of 2003, there were over 70 TAF in storage. When water supplies become more plentiful, MWD may pursue this program and develop storage capacity of about 400 TAF.

State Water Project Supply Enhancement

The major actions MWD is completing to improve SWP reliability include the following:

- **Bay Delta Conservation Plan (BDCP)** – The BDCP, prepared through a collaboration of state, federal, and local water agencies, state and federal fish agencies, environmental organizations, and other interested parties, will identify a set of water flow and habitat restoration actions that contribute to the recovery of endangered and sensitive species and their habitats in California's Bay-Delta. The goal of the BDCP is to provide for both species/habitat protection and improved reliability of water supplies. In order to select the most appropriate elements of the final conservation plan, the BDCP will consider a range of options for accomplishing these goals using information developed as part of an environmental review process.

- **Phase 8 Settlement** – This agreement includes various recommended water supply projects that meet demand and water quality objectives within the Sacramento Valley. The various conjunctive use projects will yield approximately 185 TAF per year in the Sacramento Valley of which approximately 55 TAF would be available to MWD through its SWP allocation.

- **Monterey Amendment** – The Monterey Amendment enables MWD to use a portion of the San Luis Reservoir's capacity for carryover storage. This will increase SWP delivery to MWD by 93 to 285 TAF depending on supply conditions.

- **SWP Terminal Storage** – MWD has water rights for storage at Lake Perris and Castaic Lake. The storage provides MWD with options for managing SWP deliveries and store up to 73 to 219 TAF of carryover water.

- **Yuba Dry Year Water Purchase Program** – An agreement with DWR allowing MWD's participation in the Yuba Dry Year Water Purchase Program between Yuba County Water Agency and DWR, providing for transfers of water from the Agency during dry years through 2025.

- **Desert Water Agency/Coachella Valley Water District (DWCV) SWP Table A Transfer** – This transfer to DWCV includes 100 TAF of MWD SWP Table A amount in exchange for other rights such as its full carryover amounts in San Luis and full use of flexible storage in Castaic and Perris Reservoirs. It is anticipated that the call-back provision of the entitlement transfer can provide between 5 and 26 TAF of water depending on the water year.

- **DWCV Advance Delivery Program** – Under this program MWD delivers Colorado River water to the DWCV in exchange for their SWP Contract Table A allocations. MWD can expect increases in SWP Table A deliveries of 6 to 18 TAF depending on the water year.

- **DWCV Other SWP Deliveries** – Delivery from SWP facilities of non-SWP supplies separately acquired by each agency, including 46 TAF of exchange deliveries to DWCV.

Central Valley Project / State Water Project Storage and Transfer Programs

MWD currently has several Central Valley Project (CVP)/SWP storage programs in operation that serve to increase the reliability of supplies received from the California Aqueduct. MWD is also pursuing a new storage program with Mojave Water Agency. In addition, MWD pursues Central Valley water transfers on an as needed basis. Operational programs include the following:

- Semitropic – 125 TAF dry-year supply

- Arvin-Edison – 75 TAF dry-year supply
- San Bernardino Valley Municipal Water District – 70 TAF dry-year supply
- Kern-Delta Water District – 50 TAF dry-year supply
- Mojave Storage Program – 35 TAF dry-year supply
- Central Valley Transfer Program – 150 TAF dry-year supply

Conservation and Public Affairs

MWD's conservation policies and practices are shaped by its IRP and per their signatory responsibilities to the California Urban Water Conservation Council's *Memorandum of Understanding Regarding Water Conservation in California*. For more information on MWD's conservation programs, see Section 6.3.1.

Recycling, Groundwater Recovery, and Desalination

MWD supports the use of alternative water supplies such as recycled water and degraded groundwater when there is a regional benefit to offset imported water supplies. Currently, 335,000 AFY of recycled water is permitted for use within the MWD service area. These include landscape irrigation, commercial and industrial use, seawater intrusion barriers, and groundwater recharge applications. It is anticipated that about 458,000 AFY of new recycled water could be developed in MWD's service area by the year 2035. MWD has identified a potential for more than 1.0 MAF of recycled water to be developed by 2050.

MWD recognizes the importance of member agencies developing local supplies and has implemented several programs to provide financial assistance. MWD's incentive programs include:

- **Competitive Local Resources Program –** Supports the development of cost-effective water recycling and groundwater recovery projects that reduce demands for imported supplies
- **Seawater Desalination Program** – Supports the development of seawater desalination within MWD's service area
- **Innovative Supply Program** – Encourages investigations into alternative approaches to increasing the region's water supply.

Since the inception of these programs, MWD has invested more than $347 million and partnered with member agencies on 62 recycling projects and 22 groundwater recovery projects producing 161,000 AFY and 62,000 AFY, respectively, in 2009. MWD continues to pursue a target for seawater desalination of 150,000 AFY by 2025.

In-Region Storage and Groundwater Management Programs

Other programs within MWD to maximize water supplies include storage and groundwater management programs. The IRP identified the need for dry-year storage within surface water reservoirs in the amount of 620,000 AF and the need for groundwater storage in the amount of 300,000 AF. Approximately 400,000 AF in the Diamond Valley Lake is dedicated for dry-year storage; the reservoir holds 800,000 AF. In 2007, MWD published the Groundwater Assessment Study that estimated 3.2 MAF of space in groundwater basins available for storage within MWD's service area.

In 2000, DWR selected MWD to receive financial funding to help fund the Southern California Water Supply Reliability Projects Program. The program coordinates nine conjunctive use projects, combined with one additional conjunctive use program previously developed, for storage of up to 422,000 AF and dry-year yield of up to 117,000 AF.

20x2020 Water Reduction Target

For background on the Water Conservation Act of 2009, see Section 6.1.3.

Based on MWD's analysis of population and demand and the methodologies for setting targets described in the legislation, compliance with 20x2020 on an individual agency basis throughout the region would result in reduced potable demand of 380,000 AF in 2020. Achieving regional consistency with the legislative goal—a 20 percent reduction for the region as a whole—would result in additional savings of 200,000 AF for a total of 580,000 AF.

For the region, the baseline water demand is estimated to be 178 GPCD. A 20 percent reduction would reduce this to 142 GPCD. Achieving an annual demand reduction of 580 TAF by 2020 will require additional local and regional investments in both conservation and recycled water.

Inland Empire Utilities Agency Reliability Projects

IEUA relies on MWD for imported water supply into the region. The region is vulnerable to shutdowns on the Rialto Feeder. Therefore, locations for installation of isolation valves have been identified and installed.

Further, sufficient water storage programs will help to ensure adequate water supplies into the future and in time of drought. The need for local storage intensifies with southern California's and the region's dependence on imported water to serve water demands. One of the most effective forms of storage in a highly dry and arid climate is conjunctive use wherein water is stored under ground during wet periods and pumped out during dry or drought periods. IEUA will continue implementation of the DYY Program in partnership with MWD and Watermaster.

In addition, IEUA planned projects for recycled water also impact the District (see Section 4.4.3).

San Antonio Water Company Reliability Projects

SAWCo has generally fully utilized its water rights in all sources except San Antonio Creek. Average annual production from the San Antonio Creek is approximately 5,019 AF (approximately 29 percent of SAWCO's production rights to 17,460 AF of San Antonio Creek water) because of the limitations of SAWCO's infrastructure.

SAWCo's 2010 Water System Master Plan has identified the following potential opportunities to maximize its right of San Antonio Creek:

- Expand the Tunnel Spreading Grounds
- Conservation Levee/Expansion of Edison Ponds
- Increased Spreading in Cucamonga Basin
- Investigate Expansion of the San Antonio Creek Diversion
- Investigate Construction of Reservoir East of Reservoir No. 6
- Hardwood Canyon Spring
- Installation of Flow Measuring Devices
- Implement Enhanced Measuring at Edison Box

Santa Ana Watershed Project Authority Reliability Projects

The Santa Ana Watershed Project Authority (SAWPA) was formed in 1968 as a planning agency and reformed in 1972 as a joint powers agency for the purpose of coordinating regional planning within the Santa Ana River Watershed to address water quality and supply improvements. SAWPA is comprised of five major water supply and wastewater management agencies within the Santa Ana Watershed: IEUA, Eastern Municipal Water District, Orange County Water District, San Bernardino Valley Municipal Water District, and Western Municipal Water District.

Since the early 1970s, SAWPA has held a key role in the development and update of the Regional Basin Plan for the RWQCB. SAWPA conducts water-related investigations and planning studies and builds facilities needed for regional water supply, wastewater treatment, or water quality remediation.

To facilitate improvements to the local water supply system, SAWPA adopted an Integrated Watershed Management Plan (IWMP) in June 1998. SAWPA conducted a stakeholder process, which resulted in identifying potential projects with a total estimated cost of over $1 billion. Approved in March 2000, State Water Bond Act (Proposition 13) was approved including $235 million to the Southern California Integrated Watershed Program. On July 17, 2000 the State Water Resources Control Board (SWRCB) entered into a memorandum of understanding to set forth general procedures and criteria for selecting projects to be funded by the Program for the Santa Ana River Watershed. On August 1, 2000, SAWPA approved an Initial Project Priority List of 44 projects with an estimated cost of $689 million, and adopted a policy to ensure that the Project Priority List is reviewed and updated periodically to ensure timely and cost-effective use of funds.

The Basin received $87 million for the construction of water desalters, groundwater recharge facilities and new wells, of which $48 million has been allocated by SAWPA and the SWRCB for the Chino I Desalter Expansion and construction of the new Chino II Desalter. This is part of the $235 million approved for the Santa Ana River Watershed, subject to administration by SAWPA.

In early 2009, SAWPA completed a new IWMP for the region known as “One Water One Watershed,” or OWOW. Part of the impetus for starting the OWOW planning process was the passage of Proposition 84 by the California voters in 2006. Proposition 84 allocated $1 billion to regions with qualifying integrated watershed plans. The OWOW plan provides the basis for seeking Proposition 84 grant funds from DWR for projects to assist in management water resources in the Santa Ana River Watershed. The goal of OWOW is a sustainable watershed that is drought-proofed, salt-balanced, and supports economic and environmental vitality.

4.4 ADDITIONAL WATER SUPPLY ENHANCEMENT OPPORTUNITIES

4.4.1 Transfer and Exchange Opportunities

Water transfers are a water management concept with great potential for helping to alleviate water shortages in the region. The concept is that two agencies, one willing seller of water and one willing buyer, can enter into an exchange agreement that is mutually beneficial from a water management point of view. Water transfers allow an agency to “move” water from one service area to another, even when the two agencies are not connected by any pipelines.

As a water management tool, water transfers can be effective during periods of severe drought or emergencies. Water transfers, as shown below, can take multiple forms to increase water supply reliability among agencies.

Chino Groundwater Basin Conjunctive Use

The Chino Groundwater Basin is expected to prove a valuable resource for water transfers because of its ability to be a storage facility for multiple sources of water. The Basin has storage capability of up to 6 MAF. Because of the tremendous capability of the Basin to store water, outside agencies are encouraged to enter into agreements with agencies to store water in the Basin. For example, another agency who is a contractor to the SWP may wish to store their surplus SWP water in the Basin for future droughts or emergencies. When they need their stored water, the outside agency simply asks the Basin agency to pump and utilize the stored water while the outside agency takes direct delivery through the SWP.

Funding was allocated for conjunctive use programs through Proposition 13, the Water Bond passed by California voters in March 2000. The District participated in the groundwater recovery program by constructing new wells and converting inactive wells to injections/recovery wells that utilize imported water during period of low demand to recharge the Basin. Water stored under this program could be utilized to meet demand during periods of drought.

Chino Groundwater Basin Transfers

The District's ability and right to use a portion of the vast storage capacity of the underlying Chino Groundwater Basin, and ability to spread significant quantities, gives additional flexibility, particularly if transfer water is available. According to the Peace Agreement, transfers include the assignment, lease, or sale of a right to produce water to another producer within the Basin or to another person or entity for use outside the Basin whether the transfer is temporary or permanent. Lease of water rights are also permissible to allow producers to make up for the lessee's over-production.

Interconnections

Local water agencies have the ability to enter into contracts between each other to provide water on an annual basis or on an as-needed basis. The District currently has six emergency connections to receive water from the Golden State Water Company and the cities of Chino, Chino Hills, and Upland. A supply connection with Golden State Water Company can be used for emergencies to serve the City of Claremont. The interconnections allow water to be supplied or received. The District has utilized the emergency connection when the WFA treated deliveries were interrupted, as well as to received deliveries of purchased or entitlement water supply from the City of Upland and SAWCo.

4.4.2 Desalinated Water Opportunities

Desalination is viewed as a way to develop a local, reliable source of water that assists agencies reduce their demand on imported water and make unusable groundwater available for municipal uses. The District currently does not use desalted water from the Basin in its water resources mix through the Chino Desalter Authority (CDA) facilities. However, from a regional perspective, the CDA and other desalination projects within the region indirectly benefit the District.

Desalted Groundwater – Chino Groundwater Basin

Consistent with the OBMP and the Maximum Benefit Program (approved by the SWRCB in 2005), desalting facilities must be constructed in the lower portion of the Basin to remove salt and nitrates as well as to prevent poor quality water from the Basin from moving down the watershed and eventually into Orange County groundwater basins. The desalters use a combination of reverse osmosis and ion exchange technology to treat the pumped groundwater. The concentrated brine from the desalter operations will be delivered to the Inland Empire Brine Line and conveyed to the Orange County Sanitation District for treatment and ultimate disposal in the Pacific Ocean.

The Chino I Desalter was constructed in 2000 through a joint participation agreement among five agencies: SAWPA, Western Municipal Water District, Orange County Water District, MWD and IEUA. Located in Chino, the facility currently produces 10,000 AFY of which approximately 9,000 AF is provided as potable water supply to the cities of Chino and Chino Hills. In 2002 the CDA, a joint powers authority comprised of the Jurupa Community Services District, the Santa Ana River Water Company, and the cities of Chino, Chino Hills, Ontario, and Norco, was formed to manage the production, treatment, and distribution of water produced by this facility. The Chino II Desalter was constructed in 2007 and currently produces between 14,000 and 15,900 AFY of potable water. The Chino III Desalter is expected to be complete by 2012 and expand existing capacity by another 14,000 AFY to a total of 40,000 AFY.

Regional Seawater Desalination Programs[30]

As regional and local brackish water and seawater desalination projects are developed, reliability of water supplies will be enhanced through the development of new water supplies, indirectly benefiting the District.

Seawater desalination represents a significant opportunity to diversify the region's water resource mix with a new, locally controlled, reliable potable supply. Like conservation, recycling, and other new local supplies, seawater desalination will increase regional supply reliability by offsetting existing and future demands for imported water. MWD continues to pursue a target for seawater desalination of 150,000 AF per year by 2025, and several local and retail water agencies have identified seawater desalination as an important component of their water supply portfolio in their UWMPs.

[30] MWD 2010 Regional UWMP, November 2010.

The implementation of large-scale seawater desalination plants in California offers many opportunities and challenges. In the past decade, advances in energy efficiency and membrane technology have reduced the cost of seawater desalination relative to the costs for imported water supplies and other supply alternatives. Challenges to seawater desalination include high capital and operation costs, pre-treatment design, addressing environmental issues, system integration, and navigating an uncertain permitting process. MWD's member agencies are actively pursuing research into alternative intake and outfall technologies, process designs, and treatment alternatives that could minimize some of the environmental issues and lower unit costs.

4.4.3 Recycled Water Opportunities

There are many opportunities for the District to expand the direct and indirect reuse of recycled water within its service area to offset the need for additional imported potable water supply. Although the District has established a recycled water retail distribution system to serve most of its major landscape irrigation customers in the City of Montclair, it has identified additional potential recycled water customers in its 2011 Recycled Water Master Plan for a potential additional use up to 100 AFY of recycled water by 2015. The Recycled Water Master Plan is incorporated into this UWMP as Appendix I. Also, recycled water used to recharge the Chino Groundwater Basin is expected to expand and will supplement the District's groundwater replenishment obligation.

Recycled Water Availability

Region-wide, available recycled water supplies are projected to reach 107,400 AFY in 2020. In conformance with the 1969 Santa Ana River Judgment, a minimum of 17,000 AFY of water will be discharged to the Santa Ana River. This leaves more than 86,000 AFY of recycled water available for beneficial reuse within the IEUA service area by 2020. Table 4-11 shows the potential recycled water supply from each of IEUA's RPs.

IEUA's overall goal is to achieve maximum reuse of all available recycled water. In the short term, the primary focus of IEUA's recycled water program will be the connection of industrial and landscape customers and development of facilities to ensure cost-effective delivery of recycled water to groundwater recharge spreading sites. In the long term, IEUA seeks to construct a "looped" distribution system that will interconnect IEUA water reclamation plants, ensure direct supply reliability to customers and maximize the flexibility to recharge all surplus recycled water in flood control spreading grounds.[31]

[31] IEUA Draft 2010 Regional UWMP, February 2011.

Table 4-11:
Potential Recycled Water Supply in IEUA Service Area

Regional Plants	2015	2020	2025	2030	2035
CCWRF	8,071	8,295	8,968	10,089	11,210
RP-1	32,061	32,957	33,630	34,191	35,872
RP-4	10,874	12,779	13,452	15,134	15,134
RP-5	10,650	11,658	12,331	13,452	15,134
Total	**61,655**	**65,691**	**68,381**	**72,865**	**77,349**

All amounts in AFY.
Source: IEUA Draft 2010 Regional UWMP, February 2011.

Table 4-12 provides projections for total regional recycled water usage between 2010 and 2035.

Table 4-12:
Projected Regional Recycled Water Usage

Category	2010	2015	2020	2025	2030	2035
Recharge	7,208	20,000	21,000	21,000	21,000	21,000
Direct Reuse	17,298	28,865	31,662	34,359	37,056	40,903
Total	**24,506**	**48,865**	**52,662**	**55,359**	**58,056**	**61,903**

All amounts in AFY.
Source: IEUA Draft 2010 Regional UWMP, February 2011.

The source of recycled water for the District service area is the IEUA San Antonio Channel Pipeline which is fed by IEUA Wastewater Reclamation Regional Plant No. 4 (RP-4). The supply capacity of RP-4 is currently 14.0 mgd, and IEUA expects its capacity to continue ramping up to 48.0 mgd at build-out. However, IEUA has informed the District that its recycled water distribution system has sufficient flexibility to supply recycled water to District customers from any of its regional RPs.

Though not definitively stated in IEUA's 2005 Recycled Water Implementation Plan, IEUA's apparent intent and commitment is to provide sufficient recycled water supply to meet recycled water demand from the present through build-out conditions for its entire service area, including the District.

Recycled Water for Groundwater Recharge

Recycled water used for regional groundwater recharge will be blended with MWD's imported SWP supplies and local storm water, consistent with the water quality requirements of Watermaster's OBMP, RWQCB's Basin Plan, and DPH requirements.

Depending on basin specific measurements, up-gradient groundwater migration data the blending ratio will be calculated to achieve up to 50 percent with all other sources of water as determined by DPH over a 10-year period. Currently IEUA can recharge 1,000 AF per month. As more basins are connected to recycled water and the underflow calculation is formalized, more recycled water will be recharged. Additional facilities, including the development/modifications of new groundwater recharge basins, and installation of additional pumping capacity, will be needed to achieve the long-term water recycling goals for the region. As more and more direct use customers are connected groundwater recharge will be operated to ensure availability for direct reuse. All future direct use (landscape and industrial customers) of recycled water will be given priority service over recharge deliveries. Recharge will be credited based upon the annual flow contributions for all contracting agencies on a pro-rata basis.[32]

As shown in Table 4-12, recharge of recycled water in the Chino Groundwater Basin is expected to peak at 21,000 AFY by 2020 and remain at that level through 2035. The City of Montclair's percentage allocation of this recharge is 4.38 percent, providing the District with approximately 920 AFY of recycled water recharge, which the District can use to offset its Basin groundwater replenishment obligations (see Section 4.2.1).

Current and Projected Recycled Water Use in District Service Area

Table 4-13 shows the current and projected recycled water usage in the District's service area through 2035. This includes direct reuse by the District's recycled water customers and indirect reuse through groundwater recharge credits. The recycled water use projections to 2035 are consistent with IEUA's projections included in its Draft 2010 Regional UWMP (February 2011).

Table 4-13:
Current and Projected Recycled Water Uses

	2010	2015	2020	2025	2030	2035
Landscape Irrigation	267	430	430	430	430	430
Groundwater Recharge[1]	275	876	920	920	920	920
Total	542	1,306	1,350	1,350	1,350	1,350

All amounts in AFY.
[1] City of Montclair portion (4.38%) of IEUA recycled water recharge (Table 4-12).

[32] IEUA Draft 2010 Regional UWMP, February 2011.

Encouraging Recycled Water Use

The District has and will continue to encourage recycled water use by potential recycled water users through a variety of measures. The District is confident that, when performed collectively, these measures will continue to result in an increase in recycled water use through 2035.

Customer Development Process

Through the first phase of its recycled water system development, the District has successfully implemented the process of developing recycled water customers from identification to final system connection. However, the expansion of the District's recycled water system as described in this Plan will require a more comprehensive customer development process.

The District's first recycled water users have for the most part been large public sector institutional customers, most notably the City of Montclair, Ontario Montclair School District, and Chaffey Joint Union High School District. While the District will continue to work with these large customers in identifying new sites for recycled water use, the District will also focus more on smaller private sector customers, including nurseries, farms, multi-family residential developments, and commercial establishments. The District will draw on its experience working with its initial customers, including public agency partners as well as Montclair Hospital Medical Center, Montclair Towncenter Homeowners Association, and Our Lady of Lourdes Catholic Church, in developing a more robust private sector customer development process.

The District will also build on the experience of other recycled water distribution systems in developing a diverse and robust recycled water customer base. Central Basin and West Basin Municipal Water Districts in Los Angeles County developed a ten-step customer development process that assisted them to quickly identify, assess, and secure potential recycled water customers in order to secure available MWD funding. The steps, outlined in Table 4-14, represent the major events during their customer development process and estimate the effort associated with those steps.

It should be noted that many potential customers have currently expressed interest in converting their sites to use recycled water. These customers, including the City of Montclair, Omnitrans, Montclair Towncenter Shopping Center, The Pines Apartments, and the Girl Scouts, have responded positively to the District's initial inquiries and preliminary site investigations to determine near-term ("Phase II") expansion possibilities (see Appendix I, Section 9.2).

Table 4-14:
Ten-Step Process for Recycled Water Customer Development

Step	Description	Share of Total Effort
1. Site Information	Confirm location and status of site	3%
2. Site Assessment	Contact site representative; introduce District, opportunity of recycled water availability	20%
3. Site Assessment Summary	Gather onsite water system information; develop schematics; determine tasks to convert to recycled water; develop cost estimate	5%
Milestone 1	Sufficient viable potential customers exist along alignment to proceed with recycled water lateral development	
4. Letter of Commitment	Recommend at this stage using letters of commitment rather than formal agreements to secure intent without threat of punitive action	5%
5. Regulatory Approval	Prepare draft schematics of conversion to recycled water; confirm accuracy with end user; send to DPH and County Department of Health Services for review and tentative approval	42%
6. Construction Estimates	Obtain three bids from qualified contractors; select one to complete retrofit work	5%
7. Retrofit Financing Agreement	As required, prepare and circulate retrofit financing agreement	5%
Milestone 2	Sufficient progress achieved prior to lateral construction	
8. Construction Oversight	Perform site inspections; document compliance with DPH regulations	5%
9. Final Cross-Connection Test	Perform final cross-connection test with County DPH; obtain final project approval	5%
10. Prepare As-Built Drawings	Modify schematics to comply with actual construction; distribute to customer, regulators	5%

Financial Incentives

The District policy is to set its recycled water rate at 75 percent of its potable domestic water flat rate in order to incentivize use of recycled water as a renewable, locally controlled, and drought-proof resource. The District has also developed its own and identified external funding mechanisms to assist potential recycled water customers in offsetting the expense of retrofitting their onsite irrigation systems to use recycled water (see Appendix I, Section 6).

Plumbing Codes

The District's Ordinance 31 requires all new residential, commercial, and industrial developments have dual plumbing so that recycled water (when available) can be used for outdoor irrigation and other non-potable water uses. Additionally, the City of Montclair's recently adopted and AB 1881-compliant Water Efficient Landscape and Conservation Ordinance requires all applicable new developments to dual plumb and use recycled water, if available. The District works closely with the cities and county in which is serves regarding plumbing codes.

Optimizing Recycled Water Use

The District's 2011 Recycled Water Master Plan, incorporated into this UWMP as Appendix I, is the District's plan to optimize recycled water use within its service area.

SECTION 5
WATER SUPPLY RELIABILITY

5.1 RELIABILITY OF DISTRICT WATER SUPPLIES

Reliability is a measure of a water service system's expected success in managing water shortages. In addition to climate, other factors that can cause water supply shortages are natural disaster, such as earthquakes, chemical spills, energy outages, and water quality issues.

The District and all southern California communities and water agencies are facing increasing challenges and opportunities in their role as stewards of water resources in the region. The region faces a growing gap between its water requirements and its firm water supplies. Increased environmental regulations and the collaborative competition for water from outside the region have resulted in reduced supplies of imported water. Continued population and economic growth increase water demand within the region, putting an even larger burden on water supplies.

This section starts with a brief description of the reliability of the District's various water supplies, followed by discussions of the potential impacts on reliability due to water quality and climate. Finally, the section ends with an analysis of the District's overall water supply reliability during normal, single dry-year, and multiple dry-year periods through 2035.

5.1.1 Chino Groundwater Basin Supply Reliability

With the completion of Well 34 in 2011, the total maximum daily production of the District's groundwater wells from the Chino Groundwater Basin will be approximately 30 mgd (Table 2-3), which is sufficient to supply significantly more than the total retail water demand within the District. The District's 2008 Water Master Plan, functioning as its CIP, has developed a schedule of groundwater well replacement and rehabilitation to maintain, if not enhance, this production capacity through 2038.

District groundwater pumping is affected by the policies of Watermaster, including optimizing the Basin's safe yield, providing replenishment supplies to offset overproduction, and levying and collecting administrative and replenishment assessments. Nevertheless, under the Judgment and subsequent Agreements, the District has the ability to pump sufficient groundwater to meet its water supply needs.

For the purposes of reliability planning, in order to allow for equipment breakdown and other contingencies, the District estimates that its full groundwater production capacity will be available 75 percent of the time.

For potential water quality impacts to the District's available groundwater supply, see Section 5.2.1.

5.1.2 Water Facilities Authority Supply Reliability

As discussed in Section 4.2.2, the District is entitled to 24 percent of the WFA Agua de Lejos Plant capacity, or up to 22,420 AFY. The District has never drawn its full contractual amount from WFA, having historically considered its imported water supply as supplemental to and providing redundancy for its local groundwater supply. However, even during dry years, the District may draw its full contractual amount of imported water supply through WFA; the only limitations on the District are higher Tier 2 rates during normal years and, during dry years, its DYY shift obligation and potential MWD penalty rates.

WFA receives imported water from MWD via the SWP. In its 2010 Regional UWMP, MWD demonstrates its ability to provide 100 percent reliability for its water supply through 2035. Much of this reliability is accomplished through implementation of its IRP (Section 4.3.2). The reliability of MWD's imported supply availability to the District may be impacted by the annual availability of SWP water (see below). However, the greatest impact to the reliability of the District's imported water supply is through simultaneous implementation of MWD's Water Surplus and Drought Management (WSDM) Plan (see below) and the regional DYY Program (Section 4.2.2). This collective impact is evaluated in Section 5.3.2.

State Water Project Reliability Projections[33]

More than two-thirds of California's residents obtain some of their drinking water from the Bay-Delta system. For decades, the Bay-Delta has experienced water quality and supply reliability challenges and conflicts due to variable hydrology and environmental standards that limit pumping operations. The reliability of the SWP impacts MWD's member agencies' abilities to plan for future growth and supply. This is particularly true for IEUA member agencies, including the District, which rely exclusively on the SWP for their imported water supply.

In December 2009, DWR released its draft biannual SWP Delivery Reliability Report update. The report shows that future SWP deliveries will be impacted by two significant factors: 1) significant restrictions on SWP and CVP Delta pumping required by various biological opinions regarding the decline in Delta smelt fish populations; and 2) climate change, which is altering State hydrologic conditions. The 2009 draft report shows significant reductions in water deliveries during dry years. For example, over multiple-year dry periods average annual Table A deliveries vary from 32 to 34 percent of the maximum Table A amount.

In evaluating the supply outlook for its 2010 Regional UWMP, MWD used the draft 2009 reliability report to project future water supply availability during single and multiple dry-year periods. Even with these projected reductions in SWP supply availability, MWD has sufficient supply available to provide 100 percent reliability.

[33] MWD 2010 Regional UWMP, November 2010.

MWD's Water Surplus and Drought Management Plan

In 1998, MWD's Board of Directors adopted the Water Surplus and Drought Management Plan (WSDM). The guiding principle of the WSDM Plan is to manage MWD's water resources and management programs to maximize management to wet year supplies and minimize adverse impacts of water shortages to retail customers. From this guiding principle come the following supporting principles:

- Encourage efficient water use and economical local resource programs;
- Coordinate operations with member agencies to make as much surplus water as possible available for use in dry years;
- Pursue innovative transfer and banking programs to secure more imported water for use in dry years; and,
- Increase public awareness about water supply issues.

In February of 2008, MWD's Board of Directors adopted the Water Supply Allocation Plan (WSAP). The WSAP was developed in consideration of the principles and guidelines described in the WSDM Plan, with the objective of creating an equitable needs-based allocation. The WSAP formula seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level for shortages of MWD supplies of up to 50 percent.

For an analysis of the impact of this program's implementation, in conjunction with the DYY Program, see Section 0.

5.1.3 Recycled Water Supply Reliability

Recycled water is an exceedingly reliable local water resource. According to IEUA, during a single dry year, it has been assumed that recycled water will be 100 percent reliable. During multiple dry years, reliability remains constant and continues to help reduce potable water demands as new recycled water users are added to the regional recycled water system. It has been assumed that during multiple dry years, the production of recycled water will gradually increase from 100 percent during the first dry year to 105 and 110 percent, respectively, during the next two subsequent dry years as more customers become connected to the recycled water system. Recycled water is a reliable resource not subject to droughts or imported water availability.

5.1.4 San Antonio Water Company Supply Reliability

SAWCo is responsible for providing water service to its domestic and irrigation shareholders. Water is currently delivered to shareholders based on monthly entitlement and respective shareholdings of shareholders (6,389 outstanding shares in total) and available water supply or SAWCo's ability to produce water. If SAWCo is able to produce more water, entitlement increases; if less, entitlement decreases. As SAWCo improves its water supply facilities and increases its ability to produce water over the next 20 years, total water supply and water supply reliability to the shareholders would be expected to increase. The increased water supply would also be driven by the company's shareholders looking to the water company for maximum deliveries of their entitlements. Water deliveries to these shareholders are provided by SAWCo based on the entitled shares and available water supply during different periods of the year. Maximizing the water company's deliveries to its shareholders requires making full use of the groundwater and surface water rights owned by SAWCo.

The District will work with SAWCo to maximize its supply and potentially increase its per-share entitlement, thus increasing the District's total annual SAWCo entitlement; however, for planning purposes the current per-share entitlement will be used. In order to provide a conservative estimate of SAWCo's water supply reliability during dry years, the District will use the average reliability adjustments developed by IEUA in its Draft 2010 Regional Urban Water Management Plan (February 2011) for local groundwater and surface water supplies (see Table 5-2)

5.2 WATER QUALITY IMPACTS ON RELIABILITY

Federal regulations require the U.S. Environmental Protection Agency (EPA) to safeguard drinking water by establishing standards that limit the amount of substances in drinking water. In California, DPH also safeguards drinking water by establishing standards that are as stringent as the EPA's. These standards, also known as maximum contaminant levels (MCL), are established in two categories: 1) primary standard: to protect the public health; and 2) secondary standard: to preserve water's aesthetic qualities such as taste, odor, clarity, and color.

The District safeguards its water supply by exceeding the monitoring requirements set by the EPA and DPH. In addition to the 125 contaminants for which it regularly monitors and reports in its Annual Water Quality Report, the District safeguards the distribution system by monitoring for Coliform bacteria in the distribution system and at each active well. Coliform bacteria are not necessarily harmful, but indicate the possible presence of disease-causing organisms. The District samples 16 DPH-approved locations within the distribution system weekly, and samples each active well monthly.[34]

[34] Monte Vista Water District 2009 Annual Water Quality Report.

The District also completed a Source Water Assessment (November 2002) for its active wells to evaluate the vulnerability of water sources to contamination. The groundwater source is considered most vulnerable to contamination by high density housing, parks, office complexes/buildings, schools, apartments, condominiums, funeral services and graveyards, grazing, and sewer collection systems, as well as automobile gas stations, dry cleaners, mining operations (historic and active), known contaminant plumes, hospitals, parking lots/malls, fleet/truck/bus terminals, above ground storage tanks, transportation corridors/freeways/state highways, and National Pollution Discharge Elimination System/Waste Discharge Requirements permitted discharges.

5.2.1 Chino Groundwater Basin Water Quality

The Chino Groundwater Basin is a critical resource to the District. From a regulatory perspective, the use of Basin groundwater to serve potable demands is limited by drinking water standards, groundwater basin water quality objectives, and Santa Ana River water quality objectives. In August 1999, Phase 1 of the OBMP established that groundwater monitoring must be conducted in order to obtain current water quality and water level data in the Basin.

The groundwater quality in Basin is generally very good, with better groundwater quality found in the northern portions of the Basin where recharge occurs. Salinity and nitrate concentrations increase in the southern portion of the Basin resulting from past and continuing agricultural uses. Other constituents that have the potential to impact groundwater quality from a regulatory standpoint are certain volatile organic compounds, arsenic, and perchlorate. There are a number of point source releases of VOCs in the Basin that are in various stages of investigation or cleanup. There are also known point source releases of perchlorate (Milliken Valley Sanitary Landfill, Stringfellow, etc.), and non-point source related perchlorate contamination appears to have resulted from natural and anthropogenic sources. Arsenic at levels above the water quality standard appears to be limited to the deeper aquifer zone near the City of Chino Hills. Hexavalent chromium, while not currently a groundwater quality issue in the Basin, may become so, depending on the promulgation of future standards.[35] The principal groundwater quality issues facing the District involve nitrate, dibromochloropropane, and total dissolved solids, and perchlorate.

Nitrates

The Basin has areas of high concentrations of nitrates. Nitrate concentrations in excess of 0.5 milligrams per liter (mg/L) or parts per million (ppm) indicate degradation from overlying land use. Areas with significant irrigated land use or dairy waste disposal histories overlie groundwater with elevated nitrate concentrations. The primary areas of nitrate degradation are the areas formerly or currently overlain by citrus in the northern parts of MZs 1, 2 and 3, and dairy areas in the southern parts of MZs 1, 2 and 3 and all of MZ 5.

[35] Chino Basin Optimum Basin Management Program, 2008 State of the Basin Report, November 2009.

Nitrate concentrations in groundwater have increased slightly or remained relatively constant in northern parts of the MZs 1, 2, and 3 from 1960 to present. These are areas formerly occupied by citrus and vineyard land uses and nitrate concentrations underlying these areas rarely exceed 20 mg/L (as nitrate). Over the same period, nitrate concentrations have increased significantly in the southern parts of MZs 1, 2, and 3, and all of MZ 5.

Nitrate in drinking water at levels above 45 ppm is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness. Symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 ppm may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies.

DPH requires the District to provide a finished blended product that has an MCL of no more than 36 ppm, which is 80 percent of the State MCL of 45 ppm. In 2009, average nitrate concentration in the District wells was 30 mg/L, while the concentrations ranged from 10 to 58 ml/L.[36] Water from several District wells with higher levels of nitrates is combined with water from other wells with lower levels or with imported water to create a blended supply that is below the MCL. One of the District's wells is equipped with an ion exchange treatment facility that removes salts, in particular nitrates, from the pumped groundwater. Several District wells have been inactivated due to high levels of nitrates.

The District's Aquifer Storage and Recovery (ASR) Program, which consists of recharging the groundwater basin through direct injection of treated imported water and subsequent extraction during summer months and dry years, is expected to enhance water quality over time. ASR wells inject higher quality water into an aquifer of lesser quality; the wells operate to create a zone or "bubble" of better quality water to be recovered at a later time. Four ASR wells are now operational. Annual injection of imported water is anticipated to be approximately 2,000 AF; District estimates its ability to inject at one in five years (20 percent). The District obtained a $3.7 million Groundwater Storage Construction Loan from DWR to assist with the financing of the program. The ASR Program was the recipient of the SAWPA "2005 Integrated Project of the Year Award."

Dibromochloropropane

Dibromochloropropane (DBCP), an organic chemical, is a banned nematocide (pesticide) that remains in the soils due to run-off or leaching from former use on soybeans, cotton, vineyards, tomatoes, and tree fruit. In 1977, 831,000 pounds of DBCP was used in California, mainly on grapes and tomatoes. In 1979, all registrations of end use products were canceled except for use as soil fumigant for pineapple horticulture in Hawaii. The use was completely canceled in 1985. Some people who drink water containing DBCP in excess of the MCL of 0.0002 mg/L or 200 parts per trillion (ppt) over many years may experience reproductive difficulties and may have an increased risk of developing cancer.

[36] Monte Vista Water District, 2009 Annual Water Quality Report.

In 2009, average DBCP concentration in the District wells was 22 ppt, while the concentrations ranged from non-detect to 120 ppt.[37] DBCP concentrations were detected above the MCL in water purchased from the City of Upland, which probably originated in the Chino Groundwater Basin. The water supply from Upland is mixed with water from other District water sources with no DBCP detection to create a blended supply. DPH requires the District to blend the water so that the concentration is 80 percent of the MCL.

Total Dissolved Solids

Total Dissolved Solids (TDS) concentrations in the northeast part of the Basin range from about 170 to about 300 mg/L, with typical concentrations in the mid- to low 200s. TDS concentrations in excess of 200 mg/L indicate degradation from overlying land use. With few exceptions, areas with significant irrigated land use or dairy waste disposal histories overlie groundwater with elevated TDS concentrations. Most of these degraded areas are located south of the Interstate 10 Freeway. The impact of agriculture on TDS in groundwater primarily is caused by fertilizer use on crops, consumptive use, and dairy waste disposal.

TDS concentrations in groundwater have increased slightly or remained relatively constant in northern parts of the MZs 1, 2, and 3. TDS concentrations are significantly higher in the southern parts of these zones and in all of MZ 5, where they typically exceed the 500 mg/L recommended secondary MCL and frequently exceed the upper limit secondary MCL of 1,000 mg/L. In 2009, the average TDS concentration in District wells was 118 mg/L.[38]

Perchlorate

DPH has indicated that perchlorate in groundwater in California likely reflects its use in the aerospace industry as a solid rocket propellant (in the form of ammonium perchlorate). Perchlorate is a regulated drinking water contaminant in California, with an MCL of 6 ppb. The MCL became effective October 2007. Perchlorate is believed to inhibit the thyroid's ability to process iodide. Normal body metabolism requires thyroid hormones, as do normal prenatal and postnatal development and growth.

As of 2008, Perchlorate had been detected in 188 wells in the Basin. Historical values of perchlorate exceeding the State Notification Level have occurred in the following areas of Basin:

[37] Monte Vista Water District, 2009 Annual Water Quality Report.
[38] Monte Vista Water District, 2009 Annual Water Quality Report.

- There is a significant perchlorate plume in the Rialto-Colton Basin. The source of the plume is being investigated by the RWQCB and it appears to be located near the Mid-Valley Sanitary Landfill. The perchlorate in the Fontana area of Basin may be a result of (i) the Rialto-Colton perchlorate plume migrating across the Rialto-Colton fault; (ii) other point sources in Basin; and (iii) non-point application of Chilean nitrate fertilizer in citrus groves.

- Downgradient of the Stringfellow Superfund Site. Concentrations have exceeded 600,000 ppm in on-site observation wells and the plume has likely reached Pedley Hills and may extend as far as Limonite Avenue.

- City of Pomona well field.

- Wells in the City of Ontario water service area, south of the Ontario Airport.

- Scattered wells in the City of Chino water service area.

- Scattered wells in the District service area.[39]

- In 2009, perchlorate was detected in one District well at 4.6 ppm.[40]

Groundwater Quality Monitoring

Watermaster initiated a comprehensive monitoring program as part of the implementation of the OBMP. The groundwater quality monitoring program consists of the following four components:

1. An Annual Key Well Water Quality Monitoring Program designed to target privately owned agricultural wells in the southern portion of Basin;

2. Quarterly sampling at nine Hydraulic Control Monitoring Program (HCMP) multi-port monitoring wells strategically placed between the Chino Basin Desalter well fields and the Santa Ana River;

3. Monthly sampling at four near-river wells to characterize the Santa Ana River's influence to nearby groundwater; and,

4. The Chino Basin Data Collection (CBDC) program, a cooperative basin-wide data collection effort which relies on municipal producers and other government agencies to supply groundwater quality data on a cooperative basis.

[39] Chino Basin Optimum Basin Management Program, 2008 State of the Basin Report, November 2009.
[40] Monte Vista Water District, 2009 Annual Water Quality Report (data provided to City of Chino Hills).

All water quality data are routinely collected, reviewed, and loaded into Watermaster's relational database. Additionally, Watermaster and IEUA collect weekly water quality samples from basins that are actively recharging recycled water and from lysimeters installed within those basins.

Santa Ana River Basin Plan[41]

The SWRCB and the nine Regional Water Quality Control Boards (Regional Boards) are responsible for the protection and, where possible, the enhancement of the quality of California's waters. The SWRCB sets statewide policy, and together with Regional Boards, implements state and federal laws and regulations. Each of the nine Regional Boards adopts a Water Quality Control Plan or Basin Plan, which recognizes and reflects regional differences in existing water quality, the beneficial uses of the region's ground and surface waters, and local water quality conditions and problems.

In 1975, the Santa Ana Regional Water Quality Control Board (RWQCB) adopted the original Water Quality Control Plan for the Santa Ana River Basin (Basin Plan). In 1995, the RWQCB updated the Basin Plan to address issues that had evolved over time due to increasing populations and changing water demands in the region. The scope of the document covers the Santa Ana River Basin, which includes the upper and lower Santa Ana River watersheds including northwestern Orange County. In 2006, a triennial review of the Basin Plan was performed. In July 2002, at a public hearing, the RWQCB adopted Resolution No. R8-2006-0085, approving the Triennial Review Priority List and Work Plan. The February 2008 Basin Plan update incorporated into the text of the Plan amendments that had been previously adopted and approved, but did not include any other changes.

Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. Legal basis and authority for the RWQCB reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Porter-Cologne Water Quality Control Act and the Clean Water Act.[42]

Water quality degradation due to high concentrations of nitrogen and TDS is the most significant regional water quality problem in the Santa Ana River Watershed. Historically, the Santa Ana River likely flowed during most of the year, recharging deep alluvial groundwater basins in the inland valley and the coastal plain. However, irrigation projects eventually led to the diversion of all surface flow in the river, and the quantity of groundwater recharge diminished greatly.

[41] Santa Ana Regional Water Quality Control Board. Region 8 Water Quality Control Plan (Santa Ana River Basin). February 2008.
[42] Santa Ana Regional Water Quality Control Board. Region 8 Water Quality Control Plan (Santa Ana River Basin). February 2008.

Water quality concerns in the Watershed focus on elevated concentrations of TDS and total inorganic nitrogen (TIN). A Task Force was formed in 1995 to provide oversight, supervision, and approval of a study to evaluate the impact of TIN and TDS on water resources in the Watershed. The study, coordinated by SAWPA, investigated questions related to TIN and TDS management in the Watershed, including groundwater subbasin water quality objectives, subbasin boundaries, and regulatory approaches to wastewater reclamation and recharge.[43] The Task Force resulted in recommendations for changes to the TDS and TIN water quality objectives for groundwater within the Basin, incorporated into Basin Plan through passage of Resolution No. R8-2004-0001 which implemented Basin Plan amendments to assure the reasonable protection of the beneficial uses of surface and groundwaters within the Santa Ana Region are consistent with the state's antidegradation policy.[44]

HCMP Annual Report

In January 2004, the RWQCB amended the Basin Plan for the Santa Ana River Basin to incorporate an updated TDS and nitrogen (N) management plan. The Basin Plan Amendment includes both "antidegradation" and "maximum benefit" objectives for TDS and nitrate-nitrogen for the Chino and Cucamonga groundwater management zones. The application of the "maximum benefit" objectives relies on Watermaster and IEUA's implementation of a specific program of projects and requirements, which are an integral part of the OBMP. On April 15, 2005, the RWQCB adopted resolution R8-2005-0064; thus approving the Surface Water Monitoring Program and Groundwater Monitoring Program in support of maximum benefit commitments in the Chino and Cucamonga Basins. Pursuant to the Basin Plan Amendment and Watermaster/IEUA permit to recharge recycled water, Watermaster and IEUA have conducted groundwater and surface water monitoring programs.

5.2.2 Water Facilities Authority Water Quality

The District receives imported water through IEUA from MWD, which receives raw water from northern California through the SWP. The SWP water is delivered to the WFA Agua de Lejos Water Treatment Plant through the MWD Rialto Reach of the Foothill Feeder. The WFA receives and treats SWP raw water.

At the time of its construction in 1988, the plant had an initial capacity of 68 mgd. The plant has been re-rated and has a current DPH-permitted capacity of 81 mgd. The plant is a conventional water treatment plant featuring coagulation, flocculation, sedimentation, filtration, and chloramine disinfection. The quality of water from the WFA is generally and consistently quite good, although it can vary depending on hydrologic conditions in both northern and southern California.

[43] Santa Ana Regional Water Quality Control Board. Watershed Management Initiative. Revised May 2004.
[44] Santa Ana Regional Water Quality Control Board , Resolution No. R8-2004-0001.

In 2009, the District reported the following water quality concentrations for imported water from the WFA:

- TDS = 330 ppm (less than the MCL)
- Nitrates = 2.04 ppm
- VOCs = non-detectable
- Perchlorate = non-detectable

MWD Imported Water Quality[45]

Implementing the major components of MWD's planning efforts—groundwater storage, recycled water, and minimized impacts on the Delta—requires meeting specific water quality targets for imported water. MWD has two major sources of water: the Colorado River and the SWP. Groundwater inflows are also received into the SWP through groundwater banking programs in the Central Valley. Each source has specific quality issues, which are summarized below. To date, MWD has not identified any water quality risks that cannot be mitigated.

As described below, the only potential effect of water quality on the level of water supplies based on current knowledge could result from increases in the salinity of water resources. If diminished water quality caused a need for membrane treatment, MWD could experience losses of up to 15 percent of the water processed. However, MWD would only process a small proportion of the affected water and would reduce total salinity by blending the processed water with the remaining unprocessed water. Thus, MWD anticipates no significant reductions in water supply availability from these sources due to water quality concerns.

Colorado River

High salinity levels represent a significant issue associated with Colorado River supplies. In addition, MWD has been engaged in efforts to protect its Colorado River supplies from threats of uranium, perchlorate and Chromium VI. MWD has also been active in efforts to protect these supplies from potential increases in nutrient loading due to urbanization, as well as investigating the sources and occurrence of constituents of emerging concern, such as N-nitrosodimethylamine (NDMA) and pharmaceuticals and personal care products (PPCPs). MWD fully expects its source water protection efforts to be successful, so the only foreseeable water quality constraint to the use of Colorado River water will be the need to blend (mix) it with SWP supplies to meet the adopted salinity standards.

[45] IEUA Draft 2010 Regional UWMP, February 2011.

State Water Project

The key water quality issues on the SWP are disinfection byproduct precursors, in particular total organic carbon and bromide. MWD is working to protect the water quality of this source, but it has needed to upgrade its water treatment plants to deal adequately with disinfection byproducts. Disinfection byproducts result from total organic carbon and bromide in the source water reacting with disinfectants at the water treatment plant, and they may place some near term restrictions on MWD's ability to use SWP water. MWD expects these treatment restrictions to be overcome through the addition of ozone disinfection at its treatment plants. Arsenic is also of concern in some groundwater storage programs.

Groundwater inflows into the California Aqueduct are managed to comply with regulations and protect downstream water quality while meeting supply targets. Additionally, nutrient levels are significantly higher in the SWP system than within the Colorado River, leading to the potential for algal related concerns that can affect water management strategies. MWD is engaged in efforts to protect the quality of SWP water from potential increases in nutrient loading from wastewater treatment plants. Also, as in the Colorado River watershed, MWD is active in studies on the occurrence, sources, and fate and transport of constituents of emerging concern, such as NDMA and PPCPs.

5.2.3 San Antonio Water Company Water Quality

Surface water from local sources that originate in the San Antonio Canyon, Cucamonga Canyon, Day Creek, Deer Creek, Lytle Creek and several other smaller surface streams is generally of high quality, as these creeks are fed by snowmelt and other precipitation in the San Gabriel Mountains. Nevertheless, surface water sources are treated prior to introduction to the potable water supply in order to insure bacteriological quality and compliance with state and federal drinking water quality standards.

5.2.4 Recycled Water Quality[46]

DPH has established regulations and guidelines for the use of recycled water under the California Code of Regulations, Title 22. In addition, IEUA sets requirements on recycled water retailers, including the District, that are incorporated in its agreements with retailers and in IEUA Ordinance No. 69, which regulates the availability and use of recycled water.

All of IEUA water recycling treatment plants produce recycled water suitable for full body contact recreation and generally meet the more stringent aquatic habitat criteria. Due to salinity management (brine line) and the exclusive use of the SWP supply for imported water, TDS concentrations in recycled water remain relatively low for recycled water (typically 500 mg/L). Since recycled water is regulated and monitored carefully, water quality is expected to remain high.

[46] IEUA Draft 2010 Regional UWMP, February 2011.

5.2.5 Impact on Water Management Strategies and Supply Reliability

While the Chino Groundwater Basin water quality is considered very good, especially where recharge occurs, Watermaster is thoroughly implementing its water quality monitoring program as required by the OBMP. Since the principal groundwater quality issues facing the Basin include TDS, nitrate, and perchlorate, early monitoring and implementation of programs have maintained the groundwater production ability in accordance with the Judgment. The District will continue with its blending program for groundwater high in nitrates and DBCP.

Imported water that is treated and delivered through the WFA is consistently of good quality, resulting in a reliable supply of imported water. MWD has identified those water quality issues that are of concern and has implemented necessary water management strategies to minimize the impact on water supplies.

SAWCo water is consistently of high quality, and IEUA's recycled water supply meets all water quality requirements.

If water quality does impact the water supply to the District in the future, the District will continue to implement its Water Master Plan and Capital Improvement Program, which provides for system redundancy and supply. For example, if groundwater becomes unusable due to water quality concerns, more imported water will be required. If imported water becomes limited due to diminished water quality, then more treatment is necessary, and more groundwater may be used.

Expanded Water Quality Monitoring

To comply with MCLs, the District safeguards its water supply by exceeding the monitoring requirements by the EPA and DPH. The District's distribution system is also monitored at various locations to ensure good quality water throughout the distribution system and at each active well. The District samples 16 DPH-approved locations within the distribution system weekly, and samples each active well monthly.[47]

Water Source Blending

The District blends its various sources of water to ensure that the quality of drinking water is in strict compliance with standards. For example, groundwater from wells with higher levels of nitrate is blended with other well water or imported water to create a blended supply that complies with state and federal standards.

[47] Monte Vista Water District 2009 Annual Water Quality Report.

Groundwater Treatment and Injection

To address the concerns of nitrate, the District has installed an ion exchange treatment plant at one well. Also, as described earlier, the District's ASR Program recharges the groundwater basin through direct injection of treated imported water and follows with extraction during summer months and dry years. This program is expected to enhance water quality over time.

Diversified Water Resource Mix

The District is seeking to maximize the use of alternative supplies resulting in a diversified water resource mix. The District is implementing the use of recycled water, where appropriate and available, as part of the District's plan to ensure a reliable water supply for its service area, as has accessed additional local water supply through its purchase of SAWCo shares. Additionally, groundwater will continue to be a focus of water management for the District to optimize and ensure reliability of this valuable and significant local resource.

5.3 CLIMATIC IMPACTS ON RELIABILITY

As described in Section 2.2.2, the District is located in a semi-arid, Mediterranean climate with mild winters, warm summers, and moderate rainfall. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. The usually mild to warm climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

While the local climate may directly impact the use patterns of District customers, the District's water supply is more directly impacted by the climate of northern California due to the District's continued (though lessening) reliance on water imported from northern California for a portion of its water supply.

5.3.1 Historical Dry Years

Periods of dry weather, or droughts, exceeding three years are relatively rare in northern California. The 1929-34 drought established the criteria commonly used in designing storage capacity and yield of large northern California reservoirs. Table 5-1 compares the 1929-34 drought in the Sacramento and San Joaquin Valleys to the 1976-77 and 1987-92 droughts, as well as the most recent 2007-09 drought. The driest single year of California's measured hydrologic record was 1977.

Southern California and, in particular, the Inland Empire area sustained few adverse impacts from the 1976-77 drought, due in large part to the availability of Colorado River water and groundwater stored in the Chino Groundwater Basin. In contrast, the 1987-91 drought created considerably more concern for southern California. Southern California also experienced generally dry conditions from 1999-2002, ending with the 2002 precipitation year (measured from July 2001 to June 2002) as the driest on the southern coast to that point.[48]

The most recent drought, though not as severe as past droughts from a runoff perspective, combined record dry conditions with other impacts. Year 2007 again set a new record for a single dry year in the southern coastal region, and water years 2007–09 were the 12th driest three-year period in the state's measured hydrologic record. Massive wildfires caused by the dry conditions occurred in 2007 and 2008. Water years 2007–09 also marked a period of unprecedented restrictions in SWP and federal CVP diversions from the Sacramento-San Joaquin River Delta to protect listed fish species, a regulatory circumstance that significantly exacerbated the impacts of hydrologic drought for customers of those water projects. The 2007–09 drought was the first in California's water history for which a statewide proclamation of emergency was issued. [49]

While the data presented in Table 5-5 and Table 5-6 indicate water availability during single and multiple dry-year scenarios, response to a future drought would follow the water use efficiency mandates of MWD's WSDM Plan and IEUA's Drought Plan, and the resulting implementation of the appropriate stage of the District's Ordinance 33. These programs are discussed more specifically in Section 7.

Table 5-1:
Drought Severity in the Sacramento and San Joaquin Valleys

Drought Period	Sacramento Valley Runoff		San Joaquin Valley Runoff	
	(MAF/yr)	(% average 1901–2009)	(MAF/yr)	(% average 1901–2009)
1929-34	9.8	56	3.3	56
1976-77	6.6	38	1.5	26
1987-92	10.0	57	2.8	48
2007-09	11.2	64	3.7	63

Source: DWR, *California's Drought of 2007–2009: An Overview*, September 2010.

[48] DWR, Recent California Drought, 2009.
[49] DWR, *California's Drought of 2007–2009: An Overview*, September 2010.

5.3.2 Supply Modifications during Dry Years

The District water supply that would be most significantly impacted by dry years is its imported SWP surface water supply.

Groundwater is not directly impacted, due to its being underground and hidden from changes to the climate, and the impact of dry and wet years is mollified because of the many years required to percolate to the depths from which it is later extracted. However, the District's Chino Groundwater Basin supply is indirectly impacted by dry conditions due to the District's conjunctive use obligations under the DYY Program to use groundwater in lieu of imported surface water.

Recycled water is considered "drought proof" because it originates from the wastewater resulting from indoor uses which are not impacted by changes in the climate; in fact, IEUA projects that it will make more recycled water available during multiple dry-year periods to offset the lack of imported surface water.[50]

Finally, as a portion of SAWCo's supply to the District is from local surface water to sources, its supply may be impacted in dry years but only minimally due to diverse available groundwater resources.

Table 5-2 summarizes the projected supply reliability impacts of single and multiple dry-year scenarios for each of the District's water supply sources. The historical bases for the supply reliability data is presented in Table 5-3.

Table 5-2:
Supply Reliability as Percentage of Normal Water Year Supply

			Multiple Dry Years		
Supply Source	**Normal Year**	**Single Dry Year**	**Year 1**	**Year 2**	**Year 3**
Chino Groundwater Basin[1]	100%	100%	100%	100%	100%
Water Facilities Authority[1]	100%	62%	60%	61%	62%
San Antonio Water Company[2]	100%	66%	75%	92%	89%
Recycled Water[1]	100%	100%	100%	100%	100%

[1] IEUA Draft 2010 Regional UWMP, February 2011. Percentages reflect decrease in imported water; as the District is claiming full available groundwater production capacity and recycled water system expansion, it will not increase groundwater production and recycled water deliveries during dry years as called for by IEUA.
[2] As SAWCo depends on both local groundwater and surface water sources, the District will use an average of these sources' reliability factors in the IEUA Draft 2010 Regional UWMP, November 2011 (local groundwater = Chino Groundwater Basin, above; local surface water = 31% single dry year, 49% multiple dry year 1, 84% multiple dry year 2, 77% multiple dry year 3).

[50] IEUA Draft 2010 Regional UWMP, February 2011.

Table 5-3:
Bases of Water Year Data

Normal Year	Single Dry Year	Multiple Dry Years
2004	1977	1990-1992

Dry Year Yield Program and Water Supply Allocation Plan

On May 1, 2010, MWD implemented a third consecutive year of the DYY Program (Section 4.2.1), reducing the amount of direct imported water deliveries IEUA retail agencies could purchase by 31,000 AF. Two months later, on July 1, 2010, MWD implemented a Level 2 regional shortage under WSAP (Section 5.1.2). IEUA and its retail agencies were allocated approximately 83,000 AF for fiscal year 2010/11 (actual allocation was based on demand and use of local supplies).

The overlap of these two programs brought significant challenges to IEUA's member agencies and caused a dramatic change in how each retailer used its individual water supply. The District responded by reducing its reliance on imported water from MWD by 40 percent during this period through implementation of water use restrictions, public information campaigns, and prudent management and diversification of its water supply portfolio.

As discussed in Section 5.1.2, during normal and dry years MWD will have available supply to meet 100 percent of the District's imported water demands. However, the District can expect to be called upon by MWD to reduce its imported water demand through its DYY Program shift obligation of 3,963 AFY. Simultaneously, the District can expect to have its Tier 1- and Tier 2-priced imported water supplies reduced by 10-40 percent, depending on the level of implementation of MWD's WSAP. IEUA projects that, for all member agencies that participate in the DYY Program, demands for MWD's imported water supply will decrease by approximately 38 percent during single dry-year period and an average of 39 percent over a three-year multiple dry-year period, while demands on groundwater pumping are expected to increase by on average 15 percent (Table 5-2). For planning purposes, the District will use IEUA's supply adjustment factors in its reliability analyses for dry years (Table 5-5 and Table 5-6).

Recycled Water

As mentioned earlier, recycled water is a 100 percent reliable resource during dry years. In fact, the District expects that the use of recycled water will gradually increase from 100 percent during the first dry year to 105 and 110 percent, respectively, during the next two subsequent dry years, as more customers seek to become connected to the drought-proof recycled water supply.[51]

[51] IEUA Draft 2010 Regional UWMP, February 2011.

5.3.3 Demand Modifications during Dry Years

Demands on the District's water system can be impacted by changes in climate conditions. This is mostly due to shifts in outdoor water use patterns that result from wet or dry weather conditions.

The District's 2005 UWMP established water demand patterns for single and multiple dry–year periods based on the most recent five years of production and rainfall data. It found that District customers increased their water use during dry years on average about 5 percent over normal years' usage levels. In the five years since 2005, California has experienced a drought from 2007 up until the present. During these dry years, the District significantly expanded its customer communications and implemented water waste restrictions, and its customers responded with sizeable reductions in water use during these dry years (see Section 3.1). These reductions were also aided, at times, by cooler summer temperatures, as well as by a slump in the economy resulting in a higher than normal number of vacant homes and businesses.

The District has determined that the minimal demand increases experienced in the past during dry years will be more than be offset by the increased awareness and responsiveness of District customers to the need to conserve, as experienced in the most recent dry-year period. Therefore, for planning purposes, the District's 2010 UWMP will not adjust customers' demands on its water supply for its dry-year reliability analyses.

5.3.4 Climate Change Impacts on Water Supply Reliability[52]

Water resource managers have long strived to meet their goals of system reliability and environmental protection in the face of many uncertainties, including demographic and economic forecasts and intrinsic weather variability. Now water managers also face a new uncertainty—the potential for climate change, which in coming years may significantly affect patterns of water demand and the availability of supplies. However, information about the future impacts of climate change is deeply uncertain and likely to remain so for the foreseeable future.

The Inland Empire region will face significant water management challenges in the future. As population grows and the economy evolves, water supply and wastewater treatment demands will likely increase and be difficult to match with new supplies and means for disposal. Landowners and cities will continue to place heavy demands on the region's groundwater resources, requiring continuous, diligent management of both supply and quality. Water agencies that rely on imported water may face difficulties in meeting reliability objectives as other demands in the state compete for those same supplies. While the District already has reduced its vulnerability to cutbacks and interruptions of imported supply through conjunctive use management and supply diversification, it could face supply shortfalls under prolonged drought conditions. Reliability concerns could be exacerbated under possible climate change.

[52] IEUA Draft 2010 Regional UWMP, February 2011.

Climate change could affect the District's water management strategies in a number of ways. First, climate warming would likely increase the water needs of vegetation (natural, landscaping, and agricultural) through increased ETo. With no change in precipitation, this warming could lead to (1) drying of soils and impacts on natural vegetation in non-irrigated regions; (2) increasing irrigation demands for landscaping and agriculture; and (3) reductions in natural flows due to increased evaporation of lakes, rivers, and streams, and greater absorption by soils.

Precipitation changes add another dimension to the impacts of climate change. The average amount of precipitation may decrease or increase, the intensity of precipitation events will likely become more intense, and the variability of precipitation could change. These changes in precipitation could affect timing of winter snow runoff, the variability of local surface supplies, the long-term replenishment of the groundwater basins, and the intensity of flooding events.

Finally, climate change impacts outside the region could also affect the District's water supply reliability. Changes in rain and snowfall patterns in the Sacramento River watershed in northern California are likely to reduce the reliability of SWP supplies. Although a formal assessment of these impacts upon SWP supplies has not yet been completed, initial assessments suggest that climate change would reduce the reliability of this supply and reduce average yields.

Climate Change Decision Making Under Uncertainty – RAND Corporation

In 2006, RAND Corporation conducted a large multi-year study under a grant from the National Science Foundation on climate change decision making under uncertainty. As part of this project, RAND worked with water agencies in California, including IEUA, to help them better understand how climate change might affect their systems and what actions, if any, they need to take to address climate change. The study

- Developed methods to assess and interpret decision makers' preferences among three different representations of key uncertainties and their impact on water resources systems performance;

- Developed and used a new planning model for IEUA that enables consideration of the impacts of large uncertainties on future system performance; and,

- Provided IEUA with state-of-the-art estimates of future climate change for their service area.

Modeling Climate Change Effects on IEUA – RAND Corporation

RAND developed a quantitative model of the IEUA system to examine relationships among supply and demand, changing climate and hydrologic conditions, and impacts of various management actions and policies on supply, demand, and reliability. This "systems" model allows water managers to understand how different characterizations of uncertainty may influence long-term water management decisions. RAND used this model to evaluate how various water management strategies in the IEUA region would perform under alternative future conditions. Three different analyses were performed:

- **Traditional Scenarios**: Four scenarios were evaluated reflecting different assumptions about future climate and the level of success in meeting key management objectives.

- **Probabilistic-Weighted Scenarios**: A large set of future conditions were developed on the basis of information pertaining to their likelihood as reported in scientific literature and surveys administered during the study. Single probability-weighted results were then computed for each management strategy.

- **Policy-Relevant Scenarios**: A wide range of plausible future conditions were evaluated and a few key scenarios that were most relevant to the choice among plans were identified.

5.4 RELIABILITY ANALYSES – NORMAL, SINGLE, MULTIPLE DRY YEARS

The following tables compare the District's current and projected water supplies and demands in normal, single dry-year and multiple dry-year scenarios for the District.

Projections presented in Table 5-4 through Table 5-6 indicate the District can expect its available supplies to significantly exceed anticipated demands over the 25-year planning period. As a result of these surplus supplies, the District should not experience any problems in meetings its demands during normal, single, or multiple dry-year scenarios during the next 25 years.

Table 5-4:
Supply and Demand Comparison – Normal Year

	2015	2020	2025	2030	2035
Chino Groundwater Basin	30,260	30,260	30,260	30,260	30,260
Water Facilities Authority	21,776	21,776	21,776	21,776	21,776
San Antonio Water Company	800	800	800	800	800
Recycled Water	1,306	1,350	1,350	1,350	1,350
Total Supply[1]	**54,142**	**54,186**	**54,186**	**54,186**	**54,186**
Total Demand[2]	**36,073**	**35,157**	**35,457**	**35,707**	**36,037**
Difference	*18,069*	*19,029*	*18,729*	18,479	18,149
Difference as % of Supply	*33.4%*	*35.1%*	*34.6%*	*34.1%*	*33.5%*
Difference as % of Demand	*50.1%*	*54.1%*	*52.8%*	*51.8%*	*50.4%*

All amounts in AF.
[1] Table 4-1: Total available water supply capacity.
[2] Table 3-8.

Table 5-5:
Supply and Demand Comparison – Single Dry Year

	2015	2020	2025	2030	2035
Chino Groundwater Basin	30,260	30,260	30,260	30,260	30,260
Water Facilities Authority	13,501	13,501	13,501	13,501	13,501
San Antonio Water Company	524	524	524	524	524
Recycled Water	1,306	1,350	1,350	1,350	1,350
Total Supply[1]	**45,591**	**45,635**	**45,635**	**45,635**	**45,635**
Total Demand[2]	**36,073**	**35,157**	**35,457**	**35,707**	**36,037**
Difference	9,518	10,478	10,178	9,928	9,598
Difference as % of Supply	*20.9%*	*23.0%*	*22.3%*	*21.8%*	*21.0%*
Difference as % of Demand	*26.4%*	*29.8%*	*28.7%*	*27.8%*	*26.6%*

All amounts in AF.
[1]Total available water supply capacity (Table 4-1) x single dry-year adjustment (Table 5-2)
[2] Table 3-8.

Table 5-6:
Supply and Demand Comparison – Multiple Dry Years

		2015	2020	2025	2030	2035
Year 1	Chino Groundwater Basin	30,260	30,260	30,260	30,260	30,260
	Water Facilities Authority	13,066	13,066	13,066	13,066	13,066
	San Antonio Water Company	596	596	596	596	596
	Recycled Water	1,306	1,350	1,350	1,350	1,350
	Total Supply[1]	**45,228**	**45,271**	**45,271**	**45,272**	**45,272**
	Total Demand[2]	**36,073**	**35,157**	**35,457**	**35,707**	**36,037**
	Difference	9,155	10,114	9,814	9,565	9,235
	Difference as % of Supply	*20.2%*	*22.3%*	*21.7%*	*21.1%*	*20.4%*
	Difference as % of Demand	*25.4%*	*28.8%*	*27.7%*	*26.8%*	*25.6%*
Year 2	Chino Groundwater Basin	30,260	30,260	30,260	30,260	30,260
	Water Facilities Authority	13,283	13,283	13,283	13,283	13,283
	San Antonio Water Company	736	736	736	736	736
	Recycled Water	1,306	1,350	1,350	1,350	1,350
	Total Supply[1]	**45,585**	**45,629**	**45,629**	**45,629**	**45,629**
	Total Demand[2]	**36,073**	**35,157**	**35,457**	**35,707**	**36,037**
	Difference	9,512	10,472	10,172	9,922	9,592
	Difference as % of Supply	*20.9%*	*23.0%*	*22.3%*	*21.7%*	*21.0%*
	Difference as % of Demand	*26.4%*	*29.8%*	*28.7%*	*27.8%*	*26.6%*
Year 3	Chino Groundwater Basin	30,260	30,260	30,260	30,260	30,260
	Water Facilities Authority	13,501	13,501	13,501	13,501	13,501
	San Antonio Water Company	708	708	708	708	708
	Recycled Water	1,306	1,350	1,350	1,350	1,350
	Total Supply[1]	**45,775**	**45,819**	**45,819**	**45,819**	**45,819**
	Total Demand[2]	**36,073**	**35,157**	**35,457**	**35,707**	**36,037**
	Difference	9,702	10,662	10,362	10,112	9,782
	Difference as % of Supply	*21.2%*	*23.3%*	*22.6%*	*22.1%*	*21.3%*
	Difference as % of Demand	*26.9%*	*30.3%*	*29.2%*	*28.3%*	*27.1%*

All amounts in AF.
[1]Total available water supply capacity (Table 4-1) x multiple dry-year adjustment (Table 5-2)
[2] Table 3-8.

SECTION 6
WATER DEMAND MANAGEMENT

Over the last five years, the State of California, and specifically the southern California region, reached a critical point in water supply reliability with the convergence of several key factors that included significant population increases, unseasonably low rainfall, critically dry conditions, and federally mandated environmental restrictions.

The District has been proactive in developing programs that protect existing water resources so that adequate water supplies will be available for sustainable future growth. The development of reliable local resources has been critical to maintaining current and future water supplies. The District also recognizes water use efficiency as an integral component of current and future water strategy for the service area.

In 1991, the District became one of the first water agencies to sign the California Urban Water Conservation Council's *Memorandum of Understanding Regarding Urban Water Conservation*, accepting its obligation to implement a prescribed set of urban water conservation Best Management Practices (BMPs). The BMPs, which have been deemed equivalent to the demand management measures set forth in the Urban Water Management Planning Act, form the cornerstone of the District's conservation programs and a key element in the overall regional water resource management strategy. The District has maintained its compliance with the BMPs, as demonstrated in its coverage reports included as Appendix J of this Plan.

In addition to the BMPs, the District is required to comply with the Water Conservation Act of 2009's requirements to set and then to meet its urban water use reduction targets of 190 GPCD by 2015 and 169 GPCD by 2020. Section 3.3.2 of this Plan describes how these targets are determined.

Though the District is currently meeting its urban water use reduction targets, additional conservation efforts will be required as the economy improves with resulting growth and development in the near future. As many of the District's conservation activities are implemented on a regional basis through IEUA's Regional Conservation Workgroup, the District will also actively participate in any attempt by IEUA to achieve regional compliance with the Water Conservation Act of 2009.

In the following section, the District will describe its past, current, and future conservation efforts and demonstrate how the District plans to assist its customers in maintaining their current water use efficiency practices.

6.1 LEGISLATIVE AND REGULATORY REQUIREMENTS

The strategies and programs included in this Section are designed to meet the following compliance requirements:

- CUWCC's BMPs
- Assembly Bill (AB) 1420 – Implementation of Demand Management Measures
- SB X7-7 – The Water Conservation Act of 2009, which requires urban water suppliers to achieve a 20 percent per capita reduction in urban water use by 2020
- Any future conservation legislation and regulations

6.1.1 California Urban Water Conservation Council

The California Urban Water Conservation Council (CUWCC) is a voluntary state-wide organization of water agencies, public interest organizations, and private entities tasked with overseeing the BMP reporting process, implementing and revising the *Memorandum of Understanding Regarding Urban Water Conservation* (MOU), and generally promoting urban water use efficiency in California. Membership in CUWCC consists of three groups: Group 1: Urban Water Suppliers; Group 2: Public Advocacy Organizations; and Group 3: Other Interested Parties. Only Groups 1 and 2 have voting rights to alter MOU provisions, and both groups must agree to any alterations. The MOU was last amended in June 2010.

The District became a Group 1 member of CUWCC in 1991, when it was one of nearly 100 water agencies and environmental groups to become charter signatories to the MOU. There are currently 389 CUWCC members.[53]

In 2010, the District amended its signatory status to become a wholesale as well as a retail water agency signatory to the MOU. The District's wholesale signatory status will become effective in the 2011-2012 BMP reporting period.

Best Management Practices

As an MOU signatory, the District is obligated to make "good faith efforts" to meet coverage requirements for the BMPs for efficient urban water usage as set forth in the MOU. Every two years, water agencies that are signatories to the MOU are required to fill out and submit online BMP reports on conservation program activities as they relate to individual BMPs. The latest reports for 2009 and 2010 were due on May 11, 2011.

A BMP is defined by the MOU as a policy, program, practice, rule, regulation or ordinance or the use of devices, equipment or facilities which meets either of the following criteria:

- An established and generally accepted practice among water suppliers that results in more efficient use or conservation of water; or,

[53] CUWCC website, www.cuwcc.org.

- A practice for which sufficient data are available from existing water conservation projects to indicate that significant conservation or conservation-related benefits can be achieved; that the practice is technically and economically reasonable and not environmentally or socially unacceptable; and that the practice is not otherwise unreasonable for most water suppliers to carry out.

The BMPs listed below are incorporated into the MOU:

- BMP 1: Utility Operations
    - BMP 1.1: Conservation Coordinator
    - BMP 1.2: Water Waste Prevention
    - BMP 1.3: Wholesale Agency Assistance Programs
    - BMP 1.4: System Water Audits, Leak Detection and Repair
    - BMP 1.5: Metering with Commodity Rates For All New Connections and Retrofit of Existing Connections
- BMP 2: Education Programs
    - BMP 2.1: Public Information Programs
    - BMP 2.2: School Education
- BMP 3: Residential Programs
    - BMP 3.1: Residential Landscape Water Survey Program
    - BMP 3.2: Residential Leak Assistance Program
    - BMP 3.3: High Efficiency Clothes Washers
    - BMP 3.4: WaterSense Specification Toilets
- BMP 4: Commercial, Institutional, Industrial
- BMP 5: Landscape

BMPs 1 and 2 are considered “Foundational” because they are essential water conservation activities and are adopted for implementation by all signatories to the MOU as ongoing practices with no time limits. The remaining BMPs are considered “Programmatic” and provide minimal levels of activity in order to achieve coverage. Coverage requirements for the current BMPs are meant to achieve conservation-related activity and water savings goals over a ten-year period ending in 2018.

Compliance with the Programmatic BMPs can be accomplished in one of three ways:

1. Accomplishing the specific BMP measures;

2. Accomplish a set of alternative measures which achieves equal or greater water savings, referred to in the MOU as the Flex Track Menu; or

3. Accomplish a GPCD water savings goal.

The latter option is similar but not identical to the GPCD target required in the Water Conservation Act of 2009.

A water agency may also achieve coverage for an individual BMP by doing one of the following:

- File for an exemption from the BMP based on "good faith" efforts, lack of cost-effectiveness, inadequate funds, or lack of legal authority to implement the BMP; or,

- Provide evidence that the agency has implemented an "at least as effective as" conservation activity that would provide equal water savings to implementing the BMP.

Retail agencies are required to achieve coverage for all the BMPs except BMP 1.3. Wholesale agencies are required to achieve coverage for all the Foundational BMPs except BMPs 1.2 and 1.5.

6.1.2 Assembly Bill 1420

Under AB 1420 (2007), effective January 1, 2009, the terms of, and eligibility for, a water management grant or loan made to an urban water supplier and awarded or administered by the department, state board, or California Bay-Delta Authority or its successor agency shall be conditioned on the implementation of the Demand Management Measures (DMMs) incorporated into the Urban Water Management Planning Act. Under State Law, even through the revised BMPs no longer match the DMMs as set forth in the Act, achieving compliance under the CUWCC's BMPs is equivalent to implementing the DMMs.

DWR must consider whether an agency is implementing or has scheduled to implement the DMM activities that an agency has identified in its UWMP in evaluating applications for grants and loans financed by specified bond funds.

6.1.3 The Water Conservation Act of 2009

Enacted in November 2009 as part of an historic package of bills concerning California water management, SBX 7-7 establishes a statewide urban per capita water use reduction of 20 percent by 2020. This initiative applies to all urban retail water suppliers serving a minimum of 3,000 customers or supplying 3,000 AFY or more. Urban retail water suppliers must establish a baseline GPCD and report it in their 2010 UWMPs by July 1, 2011.

Beginning in 2010, an urban retail water supplier must establish a baseline and continue to implement required DMMs under AB 1420. On July 1, 2016, SBX 7-7 will repeal AB 1420 and condition eligibility of all state water management grants and loans on meeting or exceeding the 20 percent water use reduction target by 2020. An interim target of 10 percent must be met by December 31, 2015.

6.1.4 Assembly Bill 1881

AB 1881 (Laird 2006), the Water Conservation in Landscaping Act, requires statewide land use agencies to update and adopt local landscaping ordinances by January 1, 2010. The adopted landscaping ordinances must be "at least as effective as" the State Model Landscape Ordinance developed by DWR.

Key elements in the updated ordinances include: applying a water budget approach to large new and redeveloped landscapes which require a permit, reducing the ETo adjustment factor used in the calculation of the water budget to at least 0.7, increasing the public's awareness of the importance of water use efficiency in landscaping, requiring "smart" (e.g., weather-based) irrigation controllers, and adopting and enforcing statewide prohibitions on overspray and runoff.

The District is not a land use agency and is not required to implement AB 1881. However, the District has been directly engaged with its local land use agencies in the process of developing a model landscape ordinance for the Chino Basin region through the Inland Empire Landscape Alliance, formed by IEUA. The District also assisted the City of Montclair in adapting the regional ordinance for adoption into the City Code. The District will work with the City and its other land use agencies in implementing their ordinances for applicable new and rehabilitated developments.

6.2 DEMAND MANAGEMENT MEASURE IMPLEMENTATION

As mentioned earlier, the District has maintained its compliance with the BMPs, as demonstrated in its most recent 2009-2010 coverage reports included as Appendix J of this Plan. According to Section 10631(j) of the Urban Water Management Planning Act, submission of CUWCC BMP coverage reports meets the Act's requirement to describe the water supplier's DMM implementation process.

The District has chosen the GPCD compliance option for achieving all of the Programmatic BMPs' water savings goals. The method of determining GPCD compliance under the MOU differs slightly from that of the Water Conservation Act of 2009, but not enough to be consequential to the District's plans to maintain compliance under both requirements.

6.3 DEMAND MANAGEMENT PLANNING

The following is a general description of the District's demand management strategies to maintain compliance with the Water Conservation Act of 2009 and with the DMMs/BMPs under the GPCD compliance option.

6.3.1 Regional Conservation Programs

A significant portion of the District's water conservation efforts are conducted through regional programs. The District, through IEUA, has access to MWD's extensive array of conservation programs. In addition, the District is a member of two major regional conservation groups: IEUA's Regional Conservation Workgroup, which facilitates and supplements MWD programs in the IEUA service area; and the Water Education – Water Awareness Committee (WEWAC), which manages a number of regional water education and public information programs. The District also has a strong working relationship with CBWCD, which provides conservation and education programs for District customers.

MWD's Regional Conservation Programs

MWD currently provides financial support for local water projects and water conservation projects implemented by its member agencies that contribute to an increase in the reliable regional water supplies available to the region.

The District, through its MWD member agency IEUA, currently receives financial contribution from MWD for the following conservation programs:

- **Save-A-Buck Commercial and Multi-Family Rebate Program** – MWD provides rebates from $30 to $2,250 for water saving technologies for indoor and outdoor water use.

- **SoCal Water $mart Residential Rebate Program** – MWD sponsors a region-wide program that offers single-family residents rebates for High Efficiency Clothes Washers (HECWs), weather-based irrigation controllers (WBICs), and rotating nozzles. The Program formerly provided rebates on High Efficiency Toilets (HETs—1.28 gpf) and synthetic turf.

- **Enhanced Conservation Program** – The Enhanced Conservation Program provides funding directly to MWD member agencies to encourage new and creative approaches to implement urban water conservation.

- **California Friendly Landscape Irrigation Efficiency Training** – MWD offers classroom and online training to professional landscapers and the residential community.

- **Community Partnering Program** – MWD provides co-sponsorships to support water-related and education community projects, programs, and events.

- **Innovative Conservation Program** – The Innovative Conservation Program provides funding for research and development of new and creative ways to conserve water. The participants include public agencies, individuals, and organizations.

- **California Friendly® Model Homes for New Construction** – MWD offers financial incentives to builders who incorporate California Friendly® features into new Southern California homes, which include appliances and irrigation devices.

- **Public Sector Program Phase I** – MWD provided up-front funding to increase water use efficiency at public facilities through indoor/outdoor water audits, enhanced device incentives, and recycled water hook-ups. (Phase II is currently suspended.)

- **Water Savings Performance Program** – MWD provides incentives for customized water process and irrigation system improvements for both large landscape water use efficiency and industrial process improvements.

- **Pilot Turf Removal Program** – Currently suspended due to the State economic crisis, this program may in the future provide $1 per square foot of turf removed for residential and Commercial, Industrial and Institutional (CII) customers to assist them in reducing outdoor irrigation.

Since 2005, the MWD programs have achieved 27,378 AFY in passive and active water conservation savings across the MWD region. Savings for District customers from MWD programs are achieved through the District's participation in the IEUA Regional Conservation Workgroup, as described below.

IEUA's Regional Conservation Workgroup

IEUA coordinates a comprehensive regional conservation program through its Regional Conservation Workgroup. The Workgroup, comprised of representatives from each of IEUA's eight member retail agencies, advises IEUA on the implementation of conservation and education programs funded primarily through a per-AF surcharge (currently $4/AF) on imported water purchased by the member agencies from IEUA. The program also receives funds through retail meter revenues collected by IEUA. These funds are used to leverage additional funding from MWD, DWR, and USBR, resulting in an annual conservation budget which is consistently over $1 million.

The District actively works through the Regional Conservation Workgroup to advocate for conservation and education programs that will be of direct benefit to District customers. The District has determined that the value its customers receive from IEUA programs developed and implemented through the Workgroup process greatly outweighs the cost of the programs to the District through the per-AF imported water surcharge.

From FY 2005/06 through FY 2009/10, the IEUA region has achieved 2,629 AF in annual savings and 39,660 AF in lifetime savings, and the District has achieved 130 AF in annual savings and 2,106 AF in lifetime savings from IEUA's regional conservation programs over the same time period.[54] The programs are described below and under MWD's programs above. Table 6-1 shows regional and District device/rebate numbers and savings by program:

- **MWD's SoCal Water$mart Residential Rebate Program** – See above. The Workgroup often supplements MWD's rebate amounts with local funds to increase regional participation in the program.

- **MWD's Save-A-Buck Commercial and Multi-Family Rebate Program** – See above. The Workgroup often supplements MWD's rebate amounts with local funds to increase regional participation in the program.

- **MWD's Public Sector Program Phase I** – See above. Public agencies located within the IEUA service area received $2,612,227 in funding.

- **Restaurant Pre-Rinse Spray Valves Program** – This program, implemented in 2006, installed approximately 2,500 spray valves throughout the region.

- **Multi-Family Toilet Installation Program** – Beginning in 2006, IEUA and member agencies launched a DWR grant-funded toilet installation program to perform 22,500 retrofits of high volume toilets with ultra-low flush toilets (ULFTs—1.6 gpf) and HETs in older apartment and condominium complexes throughout the region.

- **Regional SmarTimer of Inland Empire Program** – In 2006, IEUA and its member agencies launched a WBIC distribution program sponsored by MWD and through a grant from DWR. WBICs were distributed at three events held within the IEUA service area.

- **Water Wise Residential Landscape Rebate Program** – Launched in 2007, this pilot program encouraged residents to remove high water consuming lawns and replace them with climate-appropriate landscaping and other permeable surfaces that allow for groundwater infiltration. Qualifying applicants were eligible to receive $2 per square foot of turf removed with a maximum award of $2,000. A total of $240,620 in rebates was distributed.

[54] IEUA Annual Water Conservation Programs Report, FY 2009-2010.

Table 6-1:
IEUA Regional Program Water Savings – 2006-2010

Program	Regional Devices/ Rebates (#)	Regional Annual Savings (AFY)	Regional Lifetime Savings (AF)	District Devices/ Rebates (#)	District Annual Savings (AFY)	District Lifetime Savings (AF)
SoCal Water$mart Residential Rebates	26,672	1,680	19,612	7,699	73	885
Save-A-Buck Commercial and Multi-Family Program	23,320	2,579	10,704	3,498	23	400
Public Sector Program	906	575	5,702	26	5	52
Restaurant Pre-Rinse Spray Valves Program	2,500	383	1,913	98	15	75
Multi-Family Toilet Installation Program	16,817	649	13,000	1,046	35	702
Regional SmarTimer of Inland Empire Program	375	122	1,219	34	22	221
Water Wise Residential Landscape Rebate Program	136	26	260	10	3	28
Total	**70,726**	**6,014**	**52,410**	**12,411**	**176**	**2,363**

In addition, IEUA provides the following additional agency support, conservation, and education programs to the District and its customers through the Workgroup process:

- **BMP Support Grant** – An annual grant of $2,000 to each member agency for a BMP-related program or project. In the past, the District has used its grant to purchase public information materials, develop landscape budgets, and assist in funding regional projects such as the Chino Basin Groundwater Model.

- **CUWCC Dues** – Fifty percent of CUWCC dues for each member agency is paid through the regional program (the other 50 percent is paid by MWD).

- **Phase II Landscape Audit Program** – Launched in 2006, this program evaluated landscape efficiency for 150 commercial sites and 50 large residential sites and was completed in 2007. A total of 740 irrigated acres were audited with an estimated water savings potential of 1,340 AFY if all recommendations are implemented. In the District service area, 70 irrigated acres were audited with an estimated water savings potential of 91 AFY if all recommendations are implemented.

- **Phase III Landscape Audit Program** – Beginning in 2008, this landscape program was a three-year DWR grant-funded partnership between IEUA, its member agencies, and CBWCD to provide landscape efficiency evaluations for 250 commercial sites and 50 residential sites. This program was completed ahead of schedule in August 2010, with a total of 478 irrigated acres audited for an estimated water savings potential of over 1,500 AFY if all recommendations are implemented. In the District service area through FY 2009/10, 71 irrigated acres were audited with an estimated water savings potential of 304 AFY if all recommendations are implemented.

- **Garden-In-Every School® Program** – Established in 2005 and continuing over the last five years, this Program provides an outdoor laboratory and classroom for students through creating a water efficient education program by installing water wise gardens in elementary schools throughout the service area. To date, 36 local elementary schools, 7 within the District service area, have participated in the program and received garden grants to install water efficient gardens.

- **National Theatre for Children (NTC)** – Over the last eight years, IEUA and member agencies have provided a school education program (K-6th grade) that provides water conservation and environmental education to elementary school level children. NTC is a live interactive theatre performance that advances water and environmental awareness, and introduces simple water conservation practices that students can incorporate into their daily lives at home. Since 2005, this program has reached 143,387 students, teachers, and parents, with 419 performances at 250 schools. Within the District service area, this program has reached 16,766 students, 743 teachers, and 43 schools.

- **Inland Empire Landscape Alliance** – The Inland Empire Landscape Alliance was established as a voluntary collaborative working group in which landscaping policies are reviewed and implementation regionally coordinated. The Alliance provides a unified voice in recommending landscaping-related policies within the Chino Basin, ensuring that landscaping ordinances meet or exceed new standards laid out in AB 1881 (see Section 6.1.4).

- **MWD Solar Cup** – The Solar Cup is an educational competition in which high school teams comprised of approximately 800 students build and race solar-powered boats at Lake Skinner, in Temecula Valley, learning about conservation of natural resources, electrical and mechanical engineering, problem-solving and much more. Over the last five years, IEUA has sponsored approximately 12 teams at $1,500 per team in the annual events. The District matched IEUA's $1,500 sponsorship of the Montclair High School team in 2007.

- **Regional Water and Landscape Conservation Fair** – Held annually in October, the Fair is a community awareness partnering event with CBWCD, IEUA, and its member agencies created to educate the public on the importance of using water efficiently. Over 400 people usually attend the event where money-saving devices, tips, and rebate information is provided. The Fair was held at Montclair Plaza mall in 2006-2008 and at CBWCD's Wilderness Park in Montclair in 2009-2010. Approximately 540 District customers attended the 2010 Fair.

In the future, all IEUA conservation programs will align with the recently adopted Regional Water Use Efficiency Business Plan, as described below.

Regional Water Use Efficiency Business Plan

In 2009, IEUA and its member agencies developed a Regional Water Use Efficiency Business Plan to guide its future conservation efforts.[55] The Plan includes the following information:

- The current water supply situation and usage patterns;
- Specific market opportunities;
- A strategy for reaching water savings goals;
- Recommended programs with budgets, water savings, costs, marketing, and operational details;
- A program implementation plan and schedule; and,
- A system for tracking and reporting performance over time.

At the beginning of the planning process, IEUA and its member agencies established the following Regional Goals and Principles for future conservation programs and efforts:

Regional Goals

- Achieve and maintain compliance with AB 1420 to ensure eligibility for member agencies for grants and loans.
- Achieve and maintain compliance with other water use efficiency laws and regulations.
- Achieve a reduction in per-capita water use by 20 percent by 2020.
- Guide regional water use efficiency programs.

[55] IEUA, Water Use Efficiency Business Plan, September 2010.

- Relieve drought and environmental impacts on regional water supply.
- Increase water use efficiency, eliminate waste, and improve water supply reliability.
- Contribute to other regional water resource management goals through the identification and integration of common interests such as groundwater recharge, recycled water, and composting.

Regional Principles

- **Promote Water Resource Management.** Manage cost-effective water use efficiency programs at a regional level using sound business decision-making practices to develop and implement strategies to meet water use efficiency targets and stretch limited water resources.
- **Develop and Implement Regional Programs.** Take advantage of economies of scale and stretch the limited regional water use efficiency budget by implementing programs on a regional basis. It is recognized that some programs can only be implemented at the individual agency level, such as budget-based tiered rate structures and water use efficiency ordinances.
- **Build Member Agency Cooperation.** Foster the cooperation, collaboration, and active participation of all member agencies for the successful development and implementation of water use efficiency programs. It is recognized that successful development and implementation of regional water use efficiency programs requires member agency cooperation in obtaining accurate water demand data, by customer class, in a timely manner, and promotion of cost-effective programs to customers.
- **Develop Incentive-Based Programs.** Develop cost-effective incentive programs that encourage participation, provide public benefit, and achieve quantifiable water savings.
- **Public Recognition.** Provide recognition to customers who have implemented measures resulting in extraordinary water use efficiency achievements.

The Business Plan lays out the following strategies for implementing these Regional Goals and Principles:

- **Target markets with highest water savings opportunity.** Comprising 69 percent of total water demand in the IEUA region, landscape usage is the key market to address. Landscape water usage makes up an estimated 66 percent of total single-family residential demand and 57-94 percent of total commercial and multi-family residential demand.

- **Provide program innovation to transform the landscape WUE market**. For years, water agencies in southern California have overlooked outdoor water savings opportunities because retrofit technologies and services were expensive and unreliable. Over the last several years, however, there have been major advancements in product designs and performance. By studying the successes and shortfalls of historical landscape programs, IEUA and its member agencies have devised a cost-effective array of programs to capture outdoor water savings, mostly through the distribution and direct installation of smart controllers and high efficiency sprinkler nozzles. Once the products are well established in the market, it will no longer be necessary to provide them at water agency expense.

- **Secure outside funding for programs.** Grants and funding will be pursued whenever possible in order to drive down the regional program's cost per AF of water saved. There are some funding sources available, but water agencies must be proactive and prepared to access them. Funding sources may include federal grants offered through USBR; efficiency grants offered through state agencies such as DWR and SWRCB; and regional grants and incentives offered by MWD.

- **Provide sustained education and outreach to customers**. IEUA and its member agencies will communicate the continued and urgent need for water use efficiency and direct customers to available programs. This will be accomplished through school education, regional public outreach and campaigns, and communication regarding local ordinances.

- **Advocate for state and regionally appropriate rules, regulations and ordinances for the efficient use of water.** Legislation requiring enhanced water efficiency product performance, as well as implementation of local, state, and national ordinances, can significantly aid water demand reduction. IEUA and its member agencies will advocate for responsible passive savings initiatives.

Finally, the Business Plan identified through a comprehensive review process a menu of selected water use efficiency programs to be implemented over the next five years, with their heavy emphasis on landscape opportunities. The following is a brief description of these selected programs:

- **High Efficiency Nozzle Installations** – Retrofitting pop-up spray heads with high efficiency rotary nozzles is a low-cost measure and delivers high water savings. The saturation rate of high efficiency nozzles is extremely low, and the sheer volume of spray heads offers a prime market opportunity.

- **Smart Controllers in Combination with High Efficiency Nozzle Installations for Larger Landscape Sites** – Smart controllers are cost-effective for sites with large landscape areas. By combining controllers with high efficiency nozzles, significant and cost-effective water savings can be achieved.

- **Turf Removal** – Although turf removal delivers extremely high water savings in most retrofit projects, it is not yet deemed cost-effective for IEUA and its member agencies to fund a turf removal "direct" incentive program at this time, unless substantially funded through outside sources. By offering a low interest financing option customers would not be required to pay for up-front costs and should be able to realize substantial water savings. As a result, IEUA and its member agencies will be driving a market transformation—away from high water use turf and towards regional plants with low precipitation rates and minimal irrigation needs.

- **Water Budgets** – A "water budget" is the calculated amount of water a site would require over a particular time period (usually a month, billing cycle, or year) based on the lot size and local weather conditions. A water budget program would educate customers about their water consumption patterns as compared to their budget. The savvy customer is now armed with a tool to better understand their usage and then independently make modifications to reduce their water use. The program is extremely cost effective because the educated customer makes the changes on their own thereby transforming the market.

- **Landscape Evaluations** – Comprehensive landscape evaluations provide customer education and information on landscape and irrigation system upgrades specific to each individual site. Intended to drive customers to make improvements in their landscape irrigation efficiency, the evaluations will direct customers to SoCalWater$mart, Save A Buck or other customer incentives, as applicable.

- **MWD's SoCalWater$mart and Save A Buck Programs** – These programs are slated to continue for at least three to five years, providing IEUA and its member agencies with continued outside funding and program administration. Moving forward, IEUA and its member agencies will add additional funding to landscape water use efficiency products to provide increased customer response.

- **Multi-family HET Direct Installation Program** – This program leverages DWR grant funding, as well as MWD incentives. The program will continue until the DWR grant and MWD funding ends.

- **Education and Outreach Programs** – IEUA and its member agencies will continue to provide regional educational and outreach programs (see above for descriptions). On an annual basis, IEUA and its member agencies will review the effectiveness and desirability of regional educational and outreach programs. Budget priority will be given to programs that assist member agencies in meeting state mandates.

Water Education – Water Awareness Committee

The Water Education – Water Awareness Committee (WEWAC) is a voluntary consortium of 14 local water agencies formed to promote the efficient use of water and to increase public awareness of the importance of water in southern California. WEWAC was founded originally as the "West End Water Awareness Committee" by the District and other local water agencies in the west end of San Bernardino County in 1986 during a severe drought, and it has since grown to include agencies in Los Angeles County (hence the change in the organization's name).

WEWAC implements the following annual education and public outreach programs:

- **EduGrant Program** – Provision of $500 grants to local educators for water-related classroom activities. District staff help organize the program and select grant recipients. Since 2005, District educators have received seven EduGrants for a total of $3,415 in classroom activity funding.

- **Project WET Workshops** – Free workshop to introduce local educators to the Project WET ("Water Education for Teachers") *Curriculum & Activity Guide*, a collection of field-tested, innovative, interdisciplinary, water-related lessons and activities aligned with the California Content Standards. Teachers have the option of receiving Continuing Education Units for attending the workshop. The District pays substitute costs for the first five teachers from schools within its service area who register for the workshop. District staff, who have received Project WET facilitator training, help organize and run the workshop. Since 2005, 12 District educators have attended these workshops.

- **Public Service Announcement (PSA) Video Contest** – Competition among local junior high and high school students to produce 28- or 58-second PSA videos specifically focused on water conservation issues. The goal of the contest is to increase awareness of the importance of water in southern California through group participation. Additionally, the contest is intended to enhance academic instruction by providing awards ranging from $50 to $600 to financially support local schools' creative education programs. District staff help organize the program and select award recipients. Since 2005, four Montclair High School entries have won awards from this contest.

- **WEWAC Website** – The WEWAC website, UseWaterWisely.com, provides education resources in an attractive and engaging way. Includes signup for the monthly *Next Wave* email newsletter, a water quiz, links to other online resources, and information on WEWAC education programs. Also, the front page provides a monthly feature of one of the WEWAC member agencies. The website averages around 7,000 unique visitors a month.

- **Los Angeles County Fair Demonstration Garden** – A demonstration garden located at the Los Angeles County Fairplex which showcases water efficient plants and landscape designs. The Los Angeles County Fair pays WEWAC to maintain the site.

- **Quakes Messaging** – Messages on how to use water efficiently posted on the video board during Rancho Cucamonga Quakes minor league baseball games (four per game with one public address). Over 170,000 attended Quakes games in 2010, down from over 250,000 in attendance in 2008.

As noted above, District staff are actively engaged in assisting in the implementation of WEWAC programs. Additionally, a District staff member has served in the role of WEWAC Chairperson in 2006-20 and 2010-11 and Vice Chairperson in 2009-10.

Chino Basin Water Conservation District

CBWCD was established in 1949 to protect and replenish the Chino Groundwater Basin with rainfall and storm water runoff from the San Gabriel Mountains. CBWCD uses an extensive system of percolation ponds and spreading grounds to augment the natural capacity of the region to capture runoff for the recharge of the groundwater basin. CBWCD also promotes water conservation through public education programs and water conservation services provided free of charge to residents within its service area. Finally, CBWCD provides funding through its Public Sector Program for onsite retrofits of parks and school yards within its service area to use recycled water.

The District's retail service area lies fully within CBWCD's service area, providing District customers with full access to all CBWCD conservation, education, and funding programs. CBWCD and the District work closely together to develop these programs and communicate their availability to District customers.

The following are brief descriptions of CBWCD's conservation, education, and funding programs which provide direct benefit to the District's conservation programs:

- **Landscape Evaluation and Audit Program (LEAP)** – CBWCD offers all District customers a free landscape irrigation system evaluation. The LEAP program's certified irrigation system evaluators visit customers' properties, conduct the evaluation, and provide a comprehensive evaluation report containing the following information:

    - Past water use, correct future use levels, and potential savings;

    - Irrigation water budget;

    - Recommended improvements;

    - Identification of onsite concerns, with photographs;

- Individualized seasonal watering schedules; and,
- Information on rebates and incentives available for irrigation system improvements.

LEAP has been partially funded through the IEUA Phase III Landscape Audit Program's DWR grant and subsequent contracts with IEUA.

- **Gardening Workshops** – CBWCD holds regular and ongoing free gardening workshops for both professionals and homeowners. The workshops are hosted at CBWCD's office, adjacent to its drought tolerant demonstration garden (see below). Past workshop topics have included "The Basics"; Irrigation, Soil and Fertilizers; Plants and Planting; Landscape Preparation and Design; Maintenance, Pruning and Integrated Pest Management; Backyard Composting; and Vegetable Gardening and Fruit Trees. CBWCD contracts with IEUA to hold workshops exclusively for its member agencies, upon request. The District has scheduled a number of workshops with CBWCD exclusively for District customers.

- **Drought-Tolerant Demonstration Garden** – CBWCD maintains a drought-tolerant demonstration garden within the District's service area, providing District customers with the unique opportunity of seeing the variety and beauty of water efficient plants growing in their native environment. The garden provides numerous examples of plants and design approaches for a variety of garden styles. The garden is open to the public 7 days a week (excluding holidays) free of charge and is available for both guided and unguided tours for schools and the public. Approximately 3,000 people visit the garden annually.

- **Earth Day Festival** – CBWCD holds an annual Earth Day Festival for 1,000-1,200 fifth-grade students from local schools, including those within the District service area. The District regularly and actively participates in the festival by providing sponsorship funding, hosting a water education display booth, and providing educational materials to teachers and students.

- **Education Grants** – CBWCD awards Education Grant scholarships to local students focusing on water related majors for $5,000, $2,500, $1,000 and $500.

- **Poster-Art Contest** – CBWCD holds their annual "Theme" Poster-Art Contest. Winners are chosen from the K-6th grade and 7th-12th grade categories. Winners and their teachers are awarded cash prizes. Each class that participates receives a gift card for school supplies. The winning entries are posted at CBWCD's administrative offices.

- **Recycled Water Conversion Incentive Program** – CBWCD helped fund conversion projects for eight public schools and 13 public parks in FY 2008/09. In FY 2009/10 the District expended $37,050 for the conversion of five schools within the Ontario Montclair School District to recycled water for landscape use and $26,022 for the conversion of six public parks within the City of Montclair.

- **School Tours** – CBWCD hosts tours to thousands of elementary school students who visit the garden as part of their yearly curriculum for earth sciences.

- **Public Outreach** – CBWCD staff participates in a number of community events, including the Regional Water and Landscape Conservation Fair (see above), where they educate attendees and distribute materials that encourage water conservation. CBWCD has a created a variety of water conservation educational materials which they provide free of charge to visitors in their lobby.

Regional Compliance with Water Conservation Act of 2009

Many of the District's conservation activities are implemented on a regional basis through IEUA's Regional Conservation Workgroup. The Water Conservation Act of 2009 provides a regional compliance option, where a group of agencies that regionally coordinate conservation efforts can set collective urban water use targets and determine regional methods to achieve said targets through a Regional Alliance.

IEUA is preparing to form a Regional Alliance in support of its eight retail member agencies that must comply with the Act. All member agencies within IEUA's service area have agreed to the formation of a Regional Alliance, and will continue to cooperatively participate in developing programs and meeting water conservation goals. The District is an active participant in IEUA's regional conservation program and supports IEUA's plan to form a Regional Alliance and exceed its regional water use reduction goal of 20 percent by 2020 through regional conservation programs and aggressive recycled water development, as described in IEUA's 2010 Regional UWMP.

6.3.2 District Conservation Programs

In the late 1980's, faced with a significant drought, the District provided regional leadership in helping to form WEWAC to communicate to the region's water users the need to conserve limited water resources. In 1996, the District initiated its comprehensive conservation incentive programs with free toilet distributions, in partnership with IEUA. Since then, the District has generated nearly 400 AFY in water savings, or 5,350 AF over the lifetime of the incentivized high efficiency devices. The District has also developed ongoing, award-winning public information and outreach campaigns.

In addition to the District's leadership, active engagement, and full utilization of regional conservation programs to benefit its customers, the District has also developed District-specific programs to address the particular needs and generate additional water savings and value for its customers.

Budget-Based Tiered Rate Structure

In August 2010, the District implemented a budget-based tiered rate structure for its single-family residential customers. A budget rate structure relies on a calculation of the indoor and outdoor water needs for each individual customer per billing period which, added together, form the customer's "budget." Customers who stay within their budget will pay lower rates than those who exceed their budget, thus incentivizing wise and efficient water use.

Table 6-2:
Budget-Based Tiered Rate Structure Assumptions

	Tier Formulas
Tier 1	4 persons * 75 gallons * 30.4 days / 748 gallons
Tier 2	Lot Size – Residential Structure Footprint – Hardscape (20% Remaining Lot) * 54 inches
Tier 3	50% of Tier 1 + 50% of Tier 2
Tier 4	All usage above Tier 3

Table 6-2 shows the default values and formulas that the District uses to determine each customer's water budget. These default values represent a generous allocation of water to cover almost all reasonable indoor and outdoor water needs. If, due to special circumstances, individual customers require greater amounts of water to meet their indoor or outdoor needs, they may seek a budget variance.

Budget-based rate structures are widely considered to be a very effective way to incentivize water customers to use water efficiently. As part of its 2009 IRP Update process, MWD developed a component analysis of potential regional conservation measures, including the implementation of budget-based rate structures. MWD's analysis conservatively assumed that 20 percent of customers' total water use would fall outside their respective budgets, and that the higher rates paid for this water would reduce water usage that is over budget by an average of 20 percent. As a result, according to MWD's analysis, a minimum 4 percent reduction in total water use can be expected solely through implementation of a budget-based rate structure.

Additionally, the budget-based rate structure dedicates revenues received through its highest penalty tier for conservation-related expenses. The District plans to use its Tier 4 revenues to supplement regional conservation programs and to develop new conservation programs targeted to assist customers paying Tier 4 rates to reduce water use to within their budget allocation.

Water Waste Reduction – Year-Round Water Use Efficiency "Best Practices"

Water Conservation Ordinance

In February 2008, the District Board of Directors adopted Ordinance 32, establishing water conservation best practices and staged water shortage demand management measures. The purpose of the ordinance was twofold: to encourage District customers to use water efficiently by practicing year-round water conservation, and to establish procedures for the Board to declare a water supply shortage and request retail and wholesale customers to put into practice voluntary and mandatory demand management measures.

Following adoption of Ordinance 32, the District's "Watch the Water" public awareness campaign (see below) successfully encouraged customers to practice year-round water conservation. Additionally, due to water supply conditions, the Board declared a Stage I Water Supply Shortage in October 2008, requiring a 5-10 percent reduction in demand on the District's water supply through voluntary conservation measures. This was followed by a Stage II Water Supply Shortage declaration in April 2009, requiring a 10-15 percent reduction through mandatory water use reduction measures. This was the first time in District history that it had instituted mandatory conservation requirements on its customers. As described in Section 3.1, the District's customers responded by reducing their annual demands by over 15 percent compared to the previous non-shortage year, more than meeting the Stage II demand reduction targets. Due to this response, the District allowed its Stage II declaration to expire in April 2010.

In May 2010, the District Board of Directors adopted Ordinance 33 (Appendix K), updating Ordinance 32 in order to address continued water supply uncertainties due to drought conditions, environmental restrictions, and lack of inexpensive water for groundwater replenishment, as well as to help the District meet the water use reduction requirements of the Water Conservation Act of 2009. This state mandate, combined with continued water supply challenges, created the need for a new approach on demand management where District customers made permanent their recent successful conservation practices.

Under Ordinance 33, many of the mandatory conservation requirements implemented under the Stage II declaration were made permanent year-round "best practices." Additionally, Ordinance 33 changed the criteria for water supply shortage stages to better reflect the impact of year-round best practices (for more information on these stages, see Section 7.2 below). Ordinance 33 included explicit mention of AB 1881 (see Section 6.1.4) and the Water Conservation Act of 2009, and updated language on water recirculation and car wash technology requirements.

Water Use Efficiency Best Practices

Under Ordinance 33, District customers are requirement to implement the following water use efficiency "best practices":

- Set automatic irrigation timers to water only between 8:00 p.m. and 8:00 a.m. for 15 minutes or less per cycle (exceptions: hand-watering, drip irrigation, WBICs);
- No runoff from excessive watering;
- No watering during rain;
- Repair leaks within 7 days of discovery;
- Use shutoff nozzle to wash vehicles, or use commercial wash that recycles;
- No hosing or washing paved surfaces (except when required for health and safety reasons, and then only with a high-pressure washer);
- Restaurants provide water service only on request;
- Hotels provide option for no daily linen service; and,
- Water recycling systems for conveyer and in-bay automatic vehicle washes, decorative water features, and cooling towers and evaporative cooling systems.

Recycled water customers are exempt from these practices, but they must follow the water use requirements under the District's Ordinance 31 (Appendix I) governing recycled water use within the District's service area.

Enforcement

The District's enforcement of year-round water use efficiency best practices is dictated by established courtesy notice and enforcement procedures, as well as by water supply conditions and staff availability. If violations are reported by customers or witnessed by District staff, the District provides one or more courtesy notices by door hanger, phone call, or letter, informing the customer about the violation and requesting that it be addressed in a timely manner. If the violation is witnessed again by District staff after at least seven (7) days, the District initiates official notifications by letter. If the customer receives two such notifications and the violation is still not addressed after at least seven (7) days from receipt of the last and final notice, the customer is subject to fines and possible flow restriction on the schedule in Table 6-3.

Table 6-3:
Best Practice Notifications and Penalties

	First Violation	Second Violation	Third Violation	Fourth Violation	Fifth Violation
Best Practices	Written Notice	Final Written Notice	$50 Fine	$100 Fine	$150 Fine; Flow Restrictor

Customers have the right to request in writing a waiver for hardship or special circumstances. A staff review board reviews written waivers and grants or revokes waivers. Review board appeals may be heard by the District Board of Directors.

"Watch the Water" Public Awareness Campaign

In July 2007, faced with an impending water supply challenges due to low Sierra Mountain snowpack levels, record dry conditions across much of the state, and court-imposed reductions in water exports out of the Sacramento-San Joaquin Delta, the District Board of Directors authorized the implementation of the District's "Watch the Water" campaign for promoting voluntary water conservation for District customers. Since 2007, this public outreach campaign has gone through three phases of development:

- Phase I: Development of a campaign logo, literature, signage, and publicity;
- Phase II: Targeted outreach to schools, community organizations, and churches; and,
- Phase III: Increased customer communication efforts through special billing inserts, direct mail publications, large landscape "checkup" and runoff reduction programs, and recognition programs for customers who demonstrate significant water savings.

In June 2008, the "Watch the Water" campaign coordinated with a regional "Water Supply Alert" outreach campaign to communicate MWD's declared Water Supply Alert (Condition 2 of MWD's WSDM Plan—see Section 7.3.1) in response to the Governor's proclamation of a statewide drought.

In 2008, the "Watch the Water" campaign won the Exceptional Public Outreach Award from the California Special Districts Association.

Website Renewal and Email Newsletter

In 2010, the District completely redesigned and reorganized its website, www.mvwd.org, to enhance its customers' ability to interact and do business with the District. Part of the redesign was to create a special website conservation section tied to the District's "Watch the Water" public outreach campaign (see above). The new website section includes a carousel with featured conservation programs and resources, a "Watch the Water" news section, rotating water savings tips, a form for reporting water wasters, a garden class signup form, and a full listing of programs and resources for teachers and students. Figure 6-1 shows the new website section's front page.

Figure 6-1:
District Website Renewal – "Watch the Water" Section

In 2009, the District initiated an online bill paying option for its customers. Since then, nearly 20 percent of the District's customers have signed up to manage their water accounts through the District's online bill pay service. In order to reach this sizeable segment of its customer base, the District plans in the coming year to develop an opt-in email newsletter to package and distribute District website news items to its online customers.

WaterSense Promotional Partnership

In October 2010, the Board of Directors agreed to participate as a Promotional Partner in the EPA's WaterSense program. WaterSense is a voluntary partnership program, established by the EPA in 2006, whose mission is "to protect the future of our nation's water supply by promoting and enhancing the market for water efficient products and programs." WaterSense brings together local water utilities and governments, product manufacturers, retailers, consumers, builders, irrigation professionals, irrigation certification programs, and other stakeholders to:

- Decrease indoor and outdoor non-agricultural water use through the adoption of more efficient products and practices;
- Help consumers make water-efficient choices, including differentiating between products and services in the marketplace and adopting simple daily activities that reduce water use;
- Encourage innovation in manufacturing; and,
- Establish and standardize rigorous certification criteria that ensure product efficiency, performance, and quality.

The WaterSense program has built the national brand for water efficiency, similar to the Energy Star branding program for energy-saving products and programs. Water efficient products and programs that meet designated EPA efficiency and performance criteria are eligible for the WaterSense label, shown on the right.

Products bearing the WaterSense label perform as well or better than their less efficient counterparts yet are 20 percent more water efficient than average products in that category. The WaterSense label can be found on products for the home, including bathroom sink faucets and accessories, showerheads, toilets, urinals, and new homes.

WaterSense brings together various partners, including manufacturers, retailers and distributors, landscape irrigation professionals, builders, professional certifying organizations, licensed certification providers, and promotional partners. Utilities, water districts, state and local governments, trade associations, and other organizations become "promotional partners" so they can share information with the program and promote WaterSense.

WaterSense Promotional Partners agree to:

- Promote the value of water efficiency and WaterSense labeled products/programs;
- Encourage eligible constituents to participate in WaterSense;
- Provide a brief annual update about water promotional activities;
- Adhere to label, promotional label, partner logo, and program logo guidelines;
- Feature WaterSense on website/related promotional materials; and,
- Abide by the general terms and disclaimers outlined on the partnership agreement.
- The District promotes WaterSense certified products and events like “Fix a Leak Week” on its website and customer communication materials.

“Water Is Life” Art Poster Contest

The District has conducted an annual "Water is Life" Art Poster Contest since 2002 for students in Kindergarten through 12th grade that attend schools located within the District's service area. Winners in several grade categories are selected by District staff and members of the Board of Directors.

The winning entries of the District's contest are entered in another regional contest conducted by MWD which selects approximately 36 winning posters from several hundred entries submitted by MWD member and retail water agencies located within six counties. The winning art posters in this contest are reproduced for inclusion in a brightly colored 12-month calendar. The student winners in the MWD contest are invited to attend a special recognition event held in early December at its headquarters in Los Angeles.

Students are invited to create an art poster depicting various water uses and/or "wise" water use/conservation including: inside or outside the home, recreation, using drought-tolerant plants, use of efficient irrigation systems.

Chino Youth Museum Water Exhibit

In early 2001, the District proposed the concept of a water exhibit at the Chino Youth Museum and initiated discussions with representatives from the City of Chino and the Museum Board of Directors. A planning committee was formed consisting of representatives from the District, the City of Chino Water Department, and IEUA. A proposal for the exhibit was developed, which featured the sources of water for the Chino Valley, water conservation, water users, and the water cycle. Each water agency committed $5,000 toward the project. In 2006, the above agencies were joined by the City of Chino Hills and CBWCD in planning and funding refreshment of the exhibit. MWD also contributed to the project through its Community Partnering Program.

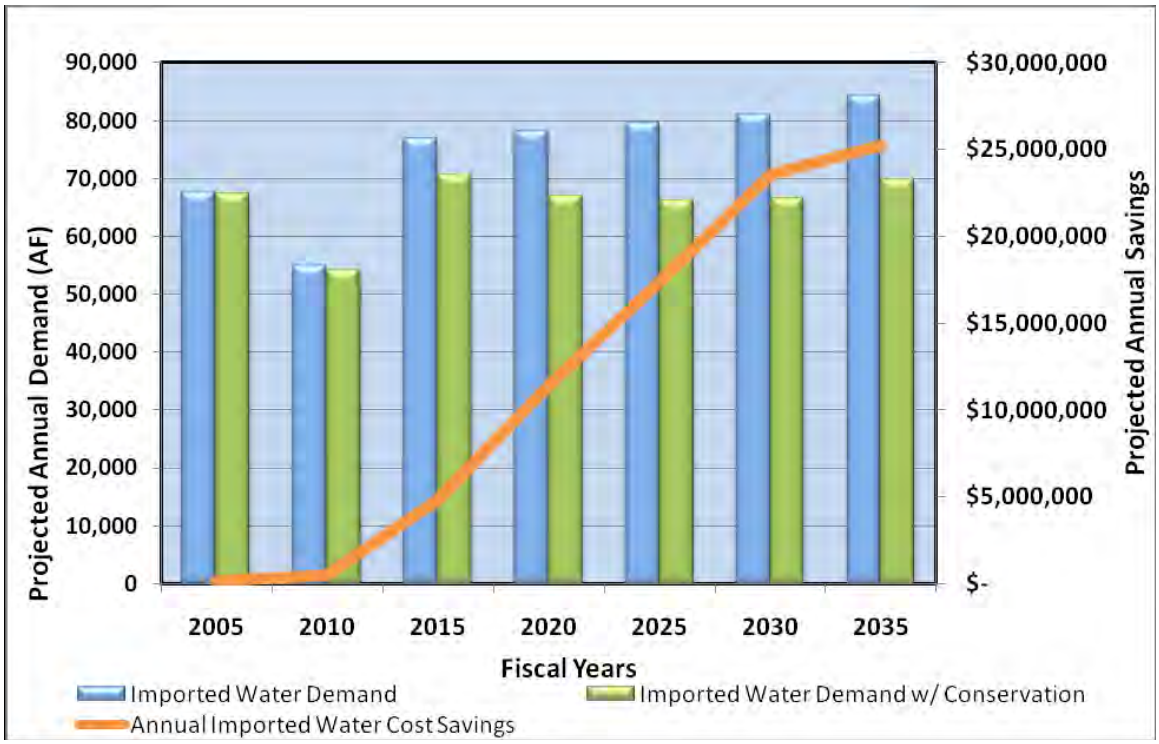
6.3.3 Potential Customer Sector and Economic Impacts

The District's conservation strategies are equally targeted to all of its customer sectors. Therefore, any economic impacts are expected to be borne equally by all customer sectors.

Conservation has multiple benefits, one of which is the value of conservation to the District's ratepayers. In the end, conservation saves money to the ratepayer.

Figure 6-2 shows the projected cumulative amount of "new" water that will be conserved over the next 25 years (not including water saved prior to 2005) and how that affects regional retail agencies financially. The avoided imported water purchases, at the Tier II rate, are projected to be more than 60,000 AF which is equivalent to more than $83 million saved.

Figure 6-2:
Avoided Tier II Costs Due to Conservation (Dry Year)



Source: IEUA Draft 2010 Regional UWMP, February 2011.

Overall, there are multiple benefits of conservation:

- Ratepayers save money on their water utility bills;
- Reduced urban runoff from improved irrigation efficiency;
- Avoidance of purchasing additional expensive imported water; and
- Environmental benefits.

Another regional benefit for maintaining a strong support for conservation is the reduced dependence on imported water from the Sacramento-San Joaquin River Bay-Delta. The Bay-Delta is the single most important link in California's water supply system. Two major water supply projects, the SWP and the CVP convey Bay-Delta water to more than 22 million Californians and seven million acres of farmland. The local region receives a significant portion of its supply (about 30 percent) from the SWP via MWD. Local water supply projects such as conservation help limit the amount of water taken out of the Bay-Delta for water supply, thus enhancing Bay-Delta water supply, water quality, and environmental protection. Conservation also helps increase irrigation efficiency which reduces runoff and the associated damage to the asphalt of roads and parking lots that can be very expensive to repair.

Finally, conservation also benefits the region through energy savings. Whenever water moves from one point to another, energy is involved. Electricity to pump water is the single greatest use of power in the state amounting to about 19 percent of all power used in California. When water deliveries are reduced, significant energy is saved.

SECTION 7
WATER SHORTAGE CONTINGENCY PLAN

The District's Water Shortage Contingency Plan is incorporated into District Ordinance 33, which establishes year-round water use efficiency best practices (Section 6.3.2) and staged water supply shortage measures. This Plan addresses emergency shortages, including catastrophic interruptions, and contains mandatory prohibitions, penalties, and consumption reduction methods. Ordinance 33 is incorporated into this UWMP as Appendix K.

The District's stages of action present the measures by which customers are required to implement mandatory water conservation practices during a declared water shortage. The District may declare a shortage due to imported water supply cutbacks by MWD, as well as extended drought, equipment failure, act of terrorism, and/or natural disaster. Although the District will respond to the implementation of MWD's WSDM Plan (Section 5.1.2), the District will focus on implementing its own stages of action with consideration of IEUA's response to a declared water shortage throughout its service area.

7.1 WATER SHORTAGE CONTINGENCY ORDINANCE

See Section 6.3.2 for a description of the development of District Ordinance 33.

Ordinance 33 identifies actions to be taken by water consumers within the District's service area during periods of adequate water supply, during "significant" water shortages, "critical" water shortages, and "emergency" water shortages including shortages of up to 50 percent. Each shortage stage includes such actions as limiting outside irrigation, leak repair, avoiding water use during peak demand hours, and reduced overall water usage.

7.2 STAGES OF ACTION

Ordinance 33 describes mandatory conservation measures to be implemented during a declared Significant, Critical, and Emergency Water Supply Shortage. Table 7-1 summarizes the expected demand reduction for each declared stage.

The District believes that, based on its experience in implementing Ordinance 32 under shortage conditions (Section 6.3.2), it can achieve up to 10 percent reduction in demand through a heightened public awareness campaign without the need of declaring a shortage.

Ordinance 33 establishes water use restrictions based on three phases or shortage conditions: "Significant," "Critical," and "Emergency." Table 7-2 outlines which conservation measures are to be implemented during each stage, as identified in Ordinance 33.

Table 7-1:
Water Shortage Stages and Demand Reductions

Stage No.	Water Supply Conditions	% Shortage
Significant Water Supply Shortage	Current or near-term water supply shortage conditions require a 10 to 25 percent demand reduction	10-25%
Critical Water Supply Shortage	Current or near-term water supply shortage conditions require a 25 to 40 percent demand reduction	25-40%
Emergency Water Supply Shortage	Due to emergency circumstances, current or near-term water supply shortage conditions require a 40 percent or higher demand reduction	40+%

The implementation of the water shortage stages above will result in a significant reduction in water consumption. In the most severe water shortage, the collective implementation of residential and commercial landscape irrigation restrictions may achieve a reduction of up to 50 percent in irrigation water use. Combined with other use restrictions on top of a total customer percentage curtailment of 20 percent, such restrictions are expected to result in an overall water consumption reduction of 50 percent for all water use sectors within the District's service area.

Table 7-2:
Water Shortage Phase Mandatory Prohibitions

Prohibitions	Stage When Mandatory
Outdoor irrigation except on Tuesday, Thursday and Saturday (exemptions for water-dependent industries, efficient irrigation practices)	Significant
Dedicated irrigation use above 75% prior non-shortage year's use	Significant
Potable water used for construction, dust control without plan authorization	Significant
Fire hydrant use other than approved uses (fire prevention, public welfare)	Significant
Outdoor irrigation except on Tuesday and Saturday	Critical
Dedicated irrigation use above 50% prior non-shortage year's use	Critical
Implementation of local landscape requirements resulting in increased water use	Critical
Vehicle washing except at commercial car wash	Critical
Refilling swimming pools, spas or ponds for cleaning purposes	Critical
Outdoor irrigation except on Saturday	Emergency
Dedicated irrigation use above 33% prior non-shortage year's use	Emergency
Installation of new landscaping	Emergency
Use of potable water for construction and dust control	Emergency
Filling swimming pools, spas or ponds	Emergency
Wholesale customer demand reduction same percentage as retail customers	All

7.3 REGIONAL WATER SHORTAGE CONTINGENCY PLANNING

7.3.1 MWD's Water Surplus and Drought Management Plan

In 1998, MWD's Board of Directors adopted the Water Surplus and Drought Management (WSDM) Plan. This plan addresses both surplus and shortage operating strategies. The WSDM plan reflects anticipated responses based on the water supplies available to MWD.

The WSDM Plan's guiding principle is to minimize adverse impacts of water shortage and ensure regional reliability. From this guiding principle come the following supporting principles:

- Encourage efficient water use and economical local resource programs.
- Coordinate operations with member agencies to make as much surplus water as possible available for use in dry years.
- Pursue innovative transfers and banking programs to secure more replacement water for use in dry years.
- Increase public awareness about water supply issues.

The WSDM Plan guides the operations of water resources (local resources, Colorado River, SWP, and regional storage) to ensure regional reliability. It identifies the expected sequence of resource management actions MWD will take during surpluses and shortages of water to minimize the probability of severe shortages that require curtailment of full-service demands. Mandatory allocations are avoided to the extent practicable, however, in the event of an extreme shortage an allocation plan will be adopted in accordance with the principles of the WSDM Plan.

The WSDM Plan distinguishes between *Surpluses*, *Shortages*, *Severe Shortages*, and *Extreme Shortages*. Within the WSDM Plan, these terms have specific meaning relating to MWD's capability to deliver water to the IEUA and the District.

- **Surplus:** MWD can meet full-service and interruptible program demands, and it can deliver water to local and regional storage.
- **Shortage:** MWD can meet full-service demands and partially meet or fully meet interruptible demands, using stored water or water transfers as necessary.
- **Severe Shortage:** MWD can meet full-service demands only by using stored water, transfers, and possibly calling for extraordinary conservation. In a Severe Shortage, MWD may have to curtail Interim Agricultural Water Program.
- **Extreme Shortage:** MWD must allocate available supply to full-service customers.

Except in severe or extreme shortages or emergencies, MWD's resource management will allow shortages to be mitigated without impacting municipal and industrial customers.

The equitable allocation of supplies is addressed by the Implementation Goals for the WSDM Plan, with the first goal being to "avoid mandatory import water allocations to the extent practicable." However, the second fundamental goal of the WSDM Plan is to "equitably allocate imported water on the basis of agencies' needs." Factors for consideration in establishing the equitable allocation include retail and economic impacts, recycled water production, conservation levels, growth, local supply production, and participation and investment in MWD's system and programs. In the event of an extreme shortage, an allocation plan is to be adopted in accordance with the principles of the WSDM Plan. Such an allocation plan was adopted by MWD in 2008.

In February 2008, in anticipation of possible water supply shortages and consistent with its WSDM Plan, the MWD Board of Directors adopted the Water Supply Allocation Plan (WSAP). The WSAP provides guidance for allocating limited water supplies to member agencies should the need arise. If it is determined the WSAP needs to be implemented, this decision is made by the MWD Board of Directors in April and the plan goes into effect in July.

7.3.2 IEUA's Drought Plan

In response to MWD's WSAP, IEUA developed a Drought Plan for the purpose of implementing the WSAP within the IEUA's service area in a manner that is fair and equitable to IEUA's member agencies. The Drought Plan is consistent with and supplements the WSAP for specific IEUA service area drought planning issues. All WSAP definitions, policies, principals, and program provisions are incorporated into the Drought Plan by reference and are considered to be a part of the Drought Plan. For example, if IEUA is not imposed a penalty from MWD then IEUA would not impose a penalty on a member agency within IEUA's service area. In addition, MWD does not allow resale or "marketing" of WSAP allocation credits and IEUA will not allow IEUA Drought Plan credits to be sold internally within IEUA's service area or externally without IEUA's approval.

IEUA's Drought Plan is consistent with and contributes to the existing IEUA imported water policies and programs. For example, the IEUA's Drought Plan principles encourage development and full utilization of local water resources, such as recycled water and conservation measures. The IEUA Drought Plan also addresses MWD's Chino Groundwater Basin DYY program and the need for best management of DYY program "shift" obligations concurrent with WSAP reductions of imported water supplies to IEUA.

7.4 MINIMUM SHORT-TERM SUPPLY AVAILABILITY

The District has evaluated the short-term supply outlook during each of the next three years from 2011 through 2013 and determined the minimum water supplies available based on the driest three-year historic sequence of 1990 through 1992, as shown in Table 7-3.

Local supplies are projected to exceed demand through the next three years based on the driest historic three-years (Table 5-3). Additionally, MWD has projected 100 percent reliability for full-service demands, which include WFA water, through the year 2035.[56]

Table 7-3:
Minimum Short-Term Supply Availability

Source	2010 Normal	2011 Dry	2012 Dry	2013 Dry
Chino Groundwater Basin[1]	24,000	27,840	27,600	27,360
Water Facilities Authority[1]	22,420	13,452	13,676	13,900
San Antonio Water Company[1]	800	664	800	768
City of Upland	68	0	0	0
Recycled[1]	275	275	289	303
Total	**47,563**	**42,231**	**42,365**	**42,331**
Percent of Normal Year	100.0%	88.8%	89.1%	89.0%

All amounts in AF.
[1]Total available water supply capacity (Table 4-1) x Multiple Dry-Year Adjustment (Table 5-2)

7.5 CATASTROPHIC SUPPLY INTERRUPTION PLAN

The District's imported water supply source, the SWP, crosses the San Andreas Fault, and many other fault lines bisect major water facilities throughout the region. Experts consider it likely that one or more of these supplies will be disrupted in the event of a major earthquake.

MWD estimates that restoring service on any of its imported water supply facilities following a catastrophic outage could take up to six months. This, in turn, could reduce annual deliveries by roughly up to 50 percent for MWD-supplied water. The Urban Water Management Planning Act requires agencies to consider the effect of a 50 percent cutback in water supplies. This corresponds approximately to the degree of cutback contemplated by MWD's earthquake disruption scenario.

[56] MWD 2010 Regional UWMP, November 2010.

7.5.1 Water Shortage Emergency Response

A water shortage emergency could be the result of a catastrophic event such as result of drought, failures of transmission facilities, a regional power outage, earthquake, flooding, supply contamination from chemical spills, or other adverse conditions. In response to such an emergency, the District General Manager is authorized under Ordinance 33, Section 10, to declare the extent of the water supply shortage and implement the appropriate water supply shortage stage as defined by the Ordinance, and then report such water supply shortage condition and level of response to the District Board as soon as possible. Subsequently, the District Board shall be responsible for authorizing and directing implementation of the water conservation stages described in Ordinance 33, as appropriate, to address emergencies.

The District will also activate its disaster response operations plan. The current plan calls for the creation of an Emergency Response Coordinator and Team, emergency conditions staffing plan, a public information and inter-agency communications plan, listing of District facilities, maps and other pertinent information. In addition, the Vulnerability Assessment and Local Hazard Mitigation Plan (LHMP) will assist in meeting emergency needs through operational and facility adjustments.

Some of the District's steel reservoirs are particularly vulnerable to structural damage from earthquakes. Retrofitting with tie-down anchorages and modification of drain piping and overflow piping will continue to take place during the next five years as part of the District's Water Master Plan.

The District also provides wholesale water supply to the City of Chino Hills through a long-term contractual arrangement. The agreement between the two agencies contains provisions regarding water delivery limitations during emergency situations such as natural or other disasters.

The District will consider such actions as stretching existing water storage and obtaining additional water supplies from neighboring agencies if appropriate. The District has interconnections with four other agencies: Golden State Water Company and the cities of Chino, Chino Hills, and Upland. A supply connection with Golden State can be used for emergencies to serve the City of Claremont. The interconnections with the three cities will allow water to be supplied or received.

The City of Montclair Fire Department houses an emergency command center for Zone 1 of the San Bernardino County and State Office of Emergency Services. The District is currently a member of the Montclair Disaster Group to coordinate disaster preparedness planning for the entire community. Members include the local hospital, the high school, the elementary/middle school district, the major retail mall in the city, police and fire departments, and the Red Cross and related groups. The group assists each other in updating disaster plans and keeps abreast of new information in the area of disaster planning.

Construction equipment owned by IEUA is available to the District to use in disaster recovery for the initial emergency period when danger to life and to property exists.

Public health notifications conforming to state laws will be distributed if District management determines that any damage to the water supply distribution system has compromised water quality, i.e., some level of contamination to the drinking water supply has occurred. Public advisories include directives to use bottled water or to boil tap water prior to consumption. In the case of the absence of natural gas or electricity, instructions on the use of household bleach to disinfect tap water will be provided.

If the imported water supplies are reduced dramatically and power supply is not available for extended periods of time, the District will rely on the implementation of MWD's regional emergency water supply plan in coordination with IEUA.

Vulnerability Assessment

In compliance with federal regulations, the District conducted a Vulnerability Assessment to identify areas for security enhancement and to develop a prioritized plan for the mitigation of risks to critical assets. The plan was completed and submitted to the EPA in March 2003, followed by the development of the required revised Emergency Response Plan in September 2003, which complies with Section 1433(b) of the Safe Drinking Water Act as amended by the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Public Law 107-188, Title IV – Drinking Water Safety and Security).

Local Hazard Mitigation Plan

The purpose of mitigation planning is to recognize hazards, analyze risks, and identify actions, measures, and projects to implement during the pre-disaster period. In 2010, the District participated in the County of San Bernardino's Multi-jurisdictional Local Hazard Mitigation Plan (LHMP) along with 55 other partners. Each local agency's plan became an "annex" of the county's overall plan. The District provided an opportunity for the public to comment on the plan during its development and prior to plan approval. The District also participated in planning meetings with local agencies, including the City of Montclair and CBWCD.

Four natural hazards that may impact the District were identified as earthquake, drought, flooding, and dam failure. Critical structures were identified and costs to replace those structures were determined. Table 7-4 outlines the mitigation goals and project goals of the District's LHMP.

The 2011 LHMP update plan was submitted to San Bernardino County Office of Emergency Services on February 9, 2011 and is currently under review by the Federal Emergency Management Agency and the California Emergency Management Agency.

Table 7-4:
2011 Local Hazard Mitigation Plan Goals and Objectives

Project Goals	Mitigation Goals	Objectives
Conservation Programs	To implement conservation programs, with emphasis on outdoor conservation measures, to reduce demand, especially in drought conditions.	Promote drought-tolerant landscapes and plant materials in residential and commercial and industrial uses. Promote water-saving appliances by providing rebate programs, providing incentives to purchase (toilets, washing machines, pool covers). Develop ordinances that would outline mandatory conservation measures during droughts. Develop landscape ordinances that will decrease water use. Conduct water conservation education programs (water efficient gardening and irrigation classes, school education, etc.).
Develop Interconnections	To seek alternatives to enhance reliability and to provide adequate water supply during emergency situations.	To construct permanent water system interties to link District's system with adjacent water systems to increase water supply during disruptions due to earthquake events, flood damage or reduction of imported water supply during droughts.
Increase Access to Groundwater Supply	To increase access to groundwater supply to meet demand of retail and wholesale customers during emergency situations that may result in the total disruption or decrease of imported water supply.	To construct new groundwater production facilities to increase access to water supply. To construct aquifer storage and recovery wells to inject imported water into the ground for storage that can be extracted during drought conditions. This modality also improves water quality over time by providing in-basin blending. To construct ion exchange treatment facilities at wellhead sites. To increase storage capacity to store water from increased production.

Project Goals	Mitigation Goals	Objectives
Increase Redundancy in Water System	To increase water supply and distribution system redundancy and flexibility. Redundancy in the supply and pipeline systems so that water deliveries can continue when portions of the entire system are disrupted. The uncertainty is predicting the location of damage increases the importance of system redundancy and alternative supplies.	Construct pipeline facilities and connections.
Increase Storage Capability	Increase reservoir storage capacity or implement storage equivalents.	Increase system reliability in the event of a power failure, pumping interruptions, a natural disaster, fire or atypical events.
Pipeline Improvements	To rehabilitate or replace water distribution pipelines that are deteriorating due to age considerations in order to minimize damage or failure during earthquake event.	Implement the Pipeline Replacement Program as recommended by the 2008 Domestic Water Master Plan.
Provide Back-up Power for Wells	To provide back up, temporary power sources in the event of a prolonged electrical service disruption. Groundwater production wells use electricity to pump water from the ground. Booster stations use electricity to boost water from wells to reservoirs and service zones.	Obtain portable trailer-mounted diesel engine generators.
Recycled Water	To develop a program where non-potable recycled water can be used for irrigation of large landscapes within the District's service area.	Identify potential customers and work with Inland Empire Utilities Agency to facilitate building of infrastructure to bring recycled water to District's service area.
Earthquake Seismic Retrofitting for Reservoirs	To increase the ability of District reservoirs to withstand seismic events within projected magnitudes.	Install tie-down anchorages at Reservoir 18-1 and 18-2. Modification of drainpiping and overflow piping at the steel reservoirs in order to increase the flexibility of piping systems. Existing rigid connections of aboveground piping to buried piping at these reservoirs are subject to disconnection and rupture during seismic shaking. Piping retrofits are recommended at Reservoir 18-1, 18-2, 18-3, 4 and 5.

MWD/IEUA Catastrophic Loss Planning Measures[57]

To safeguard the region from a catastrophic loss of water supply, MWD and its member agencies have made and are continuing to make substantial investments in emergency storage and interconnections with adjacent water purveyors. MWD's emergency plan assumes that demands are reduced 25 percent from the 2020 baseline demand forecast through extraordinary conservation, while the local supplies are largely undisrupted. With few exceptions, MWD asserts it can deliver emergency supply from its Diamond Valley Lake Reservoir throughout its service area via gravity, thereby eliminating dependence on power sources that could also be disrupted by a major earthquake. MWD's WSDM Plan will guide management of available supplies and resources during an emergency.

In September 2005, IEUA adopted federal emergency response procedures called NIMS (National Incident Management System) which can be implemented by IEUA personnel for a localized event such as an accident at one of IEUA's facilities or on a broader based regional event such as an earthquake or flood. This system provides a consistent nationwide template to enable federal, state, and local governments (and local private sector and non-governmental organizations) to work together effectively and efficiently to prepare for, prevent, respond to, and recover from domestic incidents, regardless of cause, size, or complexity, including acts of terrorism. Complementary to NIMS, IEUA has completed Mutual Aid Agreements between itself and its local retail agencies.

Use of Dry Year Yield during Emergencies

In 2002, IEUA executed an agreement with the MWD to utilize the Chino Groundwater Basin for dry year storage of up to 100,000 AF of surplus imported water and new groundwater pumping capacity of 33,000 AF in a twelve-month period. A 50,000 AF expansion of the DYY Program has been discussed and is currently under review by MWD and the participating agencies (the environmental study was complete in December 2008—see Section 4.3.2). This stored water and more importantly these new groundwater production facilities and the Chino Desalters with their new water transmission lines, pumping plants, and storage tanks increase significantly local supplies and reliability to meet shortages and emergency outages by individual agencies and with the interconnections between utilities allow for mutual supply arrangements.

Emergency Curtailment of Imported Water

In June 2004, MWD conducted an unplanned shutdown of the Rialto Feeder pipeline. The pipeline was discovered to be in danger of collapse and repairs were needed immediately. Because the Rialto Feeder is the only source of significant imported water deliveries to the IEUA and TVMWD service areas, the loss of that supply during the summer when municipal and industrial water demand was high, could have had a devastating impact on local agencies. The Rialto Pipeline Shutdown occurred from Monday, June 7, 2004 through Saturday, June 12, 2004.

[57] IEUA Draft 2010 Regional UWMP, February 2011.

To prepare their customers for the shutdown, the local agencies coordinated among themselves, MWD, and the local television and newspaper media. The TVMWD offices became the media center for press conferences and other addresses to the general public. Water agencies asked their largest customers to stop irrigating their landscapes and stop all non-essential water uses during the 5-day shutdown for repairs. Also, local agencies asked their residential customers to eliminate landscape irrigation and to reduce or eliminate their non-essential water use practices. Because each local agency has a different resource mix, each agency was affected somewhat differently by the shutdown.

In the weeks following the shutdown MWD, IEUA, and TVMWD issued a survey questionnaire to the affected water agencies asking for their assessment of the way MWD, IEUA, and TVMWD handled the shutdown. The responses to the survey showed, that overall, the lead agencies response to the shutdown and coordination with local media were reasonably successful. There was some confusion by commercial and residential properties owners on how to operate their irrigation controllers. As a result, a few landscapes remained watered during the first days of the shutdown. There was also some confusion by the public as to why several large landscapes in Chino and Ontario were being watered. As it turned out, these sites were using recycled water to irrigate. Ultimately, the irrigation was turned off to avoid further confusion.

Each of the agencies learned valuable lessons during this water emergency. Clearly, when the public is informed about the issue, water supply officials can expect a generally positive response from the public. The coordination with local agencies, the distribution of information, and conservation suggestions to the residents are the keys to maintaining credibility and confidence with the public.

Health and Safety Requirements

The primary goal of the District's water system is to preserve the health and safety of its personnel and the public. Meeting this goal is a continuous function of the water system—before, during and after a disaster or water shortage. Fire suppression capabilities will continue to be maintained during any water shortage contingency stage. Some water needs are more immediate than others. The following list of public health needs and the allowable time without potable water is a guideline and will depend on the magnitude of the water shortage:

- Hospitals – continuous need
- Emergency shelters – immediate need
- Kidney dialysis – 24 hours
- Drinking water – 72 hours
- Personal hygiene, waste disposal – 72 hours

Based on commonly accepted estimates of interior residential water use in the United States, Table 7-5 indicates per capita health and safety water requirements.

Table 7-5:
Per Capita Health and Safety Water Quantity Calculations

	Non-Conserving Fixtures		Conserving Fixtures[1]	
Toilet	5 flushes x 3.6 gpf	18.0	5 flushes x 1.6 gpf	8.0
Shower /Bath	12.7 shower / 2.6 bath	15.3	9.2 shower / 2.6 bath	11.8
Washer	1/3 load	14.7	1/3 load	7.8
Kitchen	Faucets and Dishwasher	5.0	Faucets and Dishwasher	3.0
Other	Faucets etc.	5.0	Faucets etc.	3.7
Total		58.0		34.3

All data in GPCD.
Source: DWR Urban Drought Guidebook, 2008 Updated Edition.
[1] Fixtures include ULFTs (1.6 gpf), 2.5 gpm showerheads, and efficient clothes washers.

Priority by Use

Conditions prevailing in the District area require that the water resources available be put to maximum beneficial use to the extent to which they are capable. The waste of water should be prevented and water conservation, along with water use efficiency, will be encouraged to the maximum reasonable and beneficial use of the District customers and the public welfare. Preservation of health and safety will be a top priority for the District.

7.6 PROHIBITIONS, PENALTIES, AND CONSUMPTION REDUCTION METHODS

District customers who violate the provisions of Ordinance 33 are subject to the procedures and/or penalties described in the Ordinance (Section 11).

Table 7-6:
Penalties and Procedures for Ordinance 33 Violations

	First Violation	Second Violation	Third Violation	Fourth Violation	Fifth Violation
Best Practices	Written Notice	Final Written Notice	$50 Fine	$100 Fine	$150 Fine; Flow Restrictor
Significant Water Supply Shortage	Written Notice	$50 Fine	$100 Fine	$150 Fine	$200 Fine; Flow Restrictor
Critical Water Supply Shortage	Written Notice	$100 Fine	$200 Fine	$300 Fine; Flow Restrictor	---

Table 7-6 outlines the procedures and penalties for violating Ordinance 33 provisions, including year-round best practices and each declared water supply shortage stage, and for subsequent violations which occurs at least 7 days subsequent to the previous violation.

After multiple violations of Ordinance provisions, the District may install a flow restricting device on a customer's water meter. The District may also terminate a customer's landscape meter service upon a prior determination that the customer has repeatedly violated the Ordinance. Any restricted or terminated service may be restored upon showing that the customer is ready, willing, and able to comply with the provision of the Ordinance. Customers may request waivers and appeal staff decisions to the District General Manager and Board of Directors.

7.6.1 Revenue and Expenditure Impacts

The District has two types of charges. 1) The base charge, called the Readiness-to-Serve (RTS) charge, is a fixed charge per month, dependent on the meter size, with the larger meters having a higher charge. The revenue from the RTS charge is considered as fixed revenue since it does not vary with water usage. 2) The commodity or variable charge: the amount charged per unit of water used (a unit is 100 cubic feet or 748 gallons). The revenue from the commodity charge is variable since it fluctuates with water usage. For the District, the water RTS charges have historically accounted for about 20 percent and the commodity charges for about 80 percent of the District's revenue.

During severe droughts and emergencies, District water sales revenue would be substantially impacted due to the fact that the impact of the loss of revenue would only be partially mitigated by a reduction in costs. The difficulty lies in the fact that only variable costs can be proportionally reduced, thus limiting the District's ability to reduce expenditures to a level commensurate with the anticipated decrease in revenues.

The District's revenue sources are sufficient to cover operating expenditures in the event of a minor reduction condition (10-20 percent reduction in consumption), as experienced in the past three years. In the event of a severe drought (30+ percent reduction in consumption), the District's current rate structure would not be sufficient to cover operation expenditures for an extended period of time. As a result, the District would be required to utilize reserve funds. In its FY 2010/11 Budget, the District allocated $3.7 million for annual operating reserves and $2.3 million in annual emergency reserves.[58] If the drought condition continued for an extended period, the District may have to consider a revision of its current rate structure.

[58] Monte Vista Water District FYE 2011 Budget, approved June 23, 2010.

7.7 MECHANISMS TO DETERMINE ACTUAL REDUCTIONS IN WATER USE

The District tracks water production through use of the real-time Supervisory Control Data Acquisition System (SCADA) system. Production is monitored through use of the blending station (Plant 17), real time trend screens indicating reservoir storage and monitoring of WFA supply flows. Operations personnel conduct daily rounds and maintenance checks on the groundwater wells. Production reports are prepared monthly and quarterly.

Historically, during a water supply shortage, operations personnel have conducted production facility inspections twice a day with increased monitoring of the SCADA system screens. Reservoir storage trend screens are the key indicators of overall system demand. In addition, field staff has monitored the District service area for signs of system or individual service leaks or excessive landscape watering.

The District will also follow implementation of stages of water shortage declared by MWD through its WSAP and continue to monitor water demand levels. In the event that MWD may call for a Level 3 or 15 percent reduction in demand or higher, the District will coordinate emergency activities with IEUA staff and MWD's Drought Program Officer, and monitor the effectiveness of ongoing conservation programs. Monthly or more frequent reporting on estimated conservation water savings will be provided and reviewed. Water consumption reports, water facility condition, watershed hydrology information, and Basin conditions, will all be considered for further appropriate action in response to the water shortage.

Appendix A:
Urban Water Management Planning Act of 1983 as Amended to 2010

CALIFORNIA WATER CODE DIVISION 6
PART 2.6. URBAN WATER MANAGEMENT PLANNING

All California Codes have been updated to include the 2010 Statutes.

CHAPTER 1.	GENERAL DECLARATION AND POLICY	10610-10610.4
CHAPTER 2.	DEFINITIONS	10611-10617
CHAPTER 3.	URBAN WATER MANAGEMENT PLANS	
Article 1.	General Provisions	10620-10621
Article 2.	Contents of Plans	10630-10634
Article 2.5.	Water Service Reliability	10635
Article 3.	Adoption and Implementation of Plans	10640-10645
CHAPTER 4.	MISCELLANEOUS PROVISIONS	10650-10656

WATER CODE
SECTION 10610-10610.4

10610. This part shall be known and may be cited as the "Urban Water Management Planning Act."

10610.2. (a) The Legislature finds and declares all of the following:

(1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.

(2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.

(3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.

(4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years.

(5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.

(6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.

(7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.

(8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.

(9) The quality of source supplies can have a significant impact

on water management strategies and supply reliability.
(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

10610.4. The Legislature finds and declares that it is the policy of the state as follows:
(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.
(b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.
(c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

WATER CODE
SECTION 10611-10617

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

10611.5. "Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

10612. "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

10616. "Public agency" means any board, commission, county, city

and county, city, regional agency, district, or other public entity.

10616.5. "Recycled water" means the reclamation and reuse of wastewater for beneficial use.

10617. "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

WATER CODE
SECTION 10620-10621

10620. (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

(c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

(d) (1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

(2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

(f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

10621. (a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero.

(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water

supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

(c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

WATER CODE
SECTION 10630-10634

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

10631. A plan shall be adopted in accordance with this chapter that shall do all of the following:

(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) (1) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(A) An average water year.

(B) A single dry water year.

(C) Multiple dry water years.

(2) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.

(B) Residential plumbing retrofit.

(C) System water audits, leak detection, and repair.

(D) Metering with commodity rates for all new connections and retrofit of existing connections.

(E) Large landscape conservation programs and incentives.

(F) High-efficiency washing machine rebate programs.

(G) Public information programs.

(H) School education programs.

(I) Conservation programs for commercial, industrial, and institutional accounts.

(J) Wholesale agency programs.
(K) Conservation pricing.
(L) Water conservation coordinator.
(M) Water waste prohibition.
(N) Residential ultra-low-flush toilet replacement programs.
(2) A schedule of implementation for all water demand management measures proposed or described in the plan.
(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.
(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.
(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:
(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.
(2) Include a cost-benefit analysis, identifying total benefits and total costs.
(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.
(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.
(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.
(i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.
(j) For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivisions (f) and (g) by complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California,"

dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.

(k) Urban water suppliers that rely upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).

10631.1. (a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

(b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower income households will assist a supplier in complying with the requirement under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower income households.

10631.5. (a) (1) Beginning January 1, 2009, the terms of, and eligibility for, a water management grant or loan made to an urban water supplier and awarded or administered by the department, state board, or California Bay-Delta Authority or its successor agency shall be conditioned on the implementation of the water demand management measures described in Section 10631, as determined by the department pursuant to subdivision (b).

(2) For the purposes of this section, water management grants and loans include funding for programs and projects for surface water or groundwater storage, recycling, desalination, water conservation, water supply reliability, and water supply augmentation. This section does not apply to water management projects funded by the federal American Recovery and Reinvestment Act of 2009 (Public Law 111-5).

(3) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if the urban water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the water demand management measures. The supplier may request grant or loan funds to implement the water demand management measures to the extent the request is consistent with the eligibility requirements applicable to the water management funds.

(4) (A) Notwithstanding paragraph (1), the department shall

determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if an urban water supplier submits to the department for approval documentation demonstrating that a water demand management measure is not locally cost effective. If the department determines that the documentation submitted by the urban water supplier fails to demonstrate that a water demand management measure is not locally cost effective, the department shall notify the urban water supplier and the agency administering the grant or loan program within 120 days that the documentation does not satisfy the requirements for an exemption, and include in that notification a detailed statement to support the determination.

(B) For purposes of this paragraph, "not locally cost effective" means that the present value of the local benefits of implementing a water demand management measure is less than the present value of the local costs of implementing that measure.

(b) (1) The department, in consultation with the state board and the California Bay-Delta Authority or its successor agency, and after soliciting public comment regarding eligibility requirements, shall develop eligibility requirements to implement the requirement of paragraph (1) of subdivision (a). In establishing these eligibility requirements, the department shall do both of the following:

(A) Consider the conservation measures described in the Memorandum of Understanding Regarding Urban Water Conservation in California, and alternative conservation approaches that provide equal or greater water savings.

(B) Recognize the different legal, technical, fiscal, and practical roles and responsibilities of wholesale water suppliers and retail water suppliers.

(2) (A) For the purposes of this section, the department shall determine whether an urban water supplier is implementing all of the water demand management measures described in Section 10631 based on either, or a combination, of the following:

(i) Compliance on an individual basis.

(ii) Compliance on a regional basis. Regional compliance shall require participation in a regional conservation program consisting of two or more urban water suppliers that achieves the level of conservation or water efficiency savings equivalent to the amount of conservation or savings achieved if each of the participating urban water suppliers implemented the water demand management measures. The urban water supplier administering the regional program shall provide participating urban water suppliers and the department with data to demonstrate that the regional program is consistent with this clause. The department shall review the data to determine whether the urban water suppliers in the regional program are meeting the eligibility requirements.

(B) The department may require additional information for any determination pursuant to this section.

(3) The department shall not deny eligibility to an urban water supplier in compliance with the requirements of this section that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of

the agencies participating in the project or plan is not implementing all of the water demand management measures described in Section 10631.

(c) In establishing guidelines pursuant to the specific funding authorization for any water management grant or loan program subject to this section, the agency administering the grant or loan program shall include in the guidelines the eligibility requirements developed by the department pursuant to subdivision (b).

(d) Upon receipt of a water management grant or loan application by an agency administering a grant and loan program subject to this section, the agency shall request an eligibility determination from the department with respect to the requirements of this section. The department shall respond to the request within 60 days of the request.

(e) The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities. In addition, for urban water suppliers that are signatories to the Memorandum of Understanding Regarding Urban Water Conservation in California and submit biennial reports to the California Urban Water Conservation Council in accordance with the memorandum, the department may use these reports to assist in tracking the implementation of water demand management measures.

(f) This section shall remain in effect only until July 1, 2016, and as of that date is repealed, unless a later enacted statute, that is enacted before July 1, 2016, deletes or extends that date.

10631.7. The department, in consultation with the California Urban Water Conservation Council, shall convene an independent technical panel to provide information and recommendations to the department and the Legislature on new demand management measures, technologies, and approaches. The panel shall consist of no more than seven members, who shall be selected by the department to reflect a balanced representation of experts. The panel shall have at least one, but no more than two, representatives from each of the following: retail water suppliers, environmental organizations, the business community, wholesale water suppliers, and academia. The panel shall be convened by January 1, 2009, and shall report to the Legislature no later than January 1, 2010, and every five years thereafter. The department shall review the panel report and include in the final report to the Legislature the department's recommendations and comments regarding the panel process and the panel's recommendations.

10632. (a) The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier:

(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions that are applicable to each stage.

(2) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic

sequence for the agency's water supply.
(3) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.
(4) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.
(6) Penalties or charges for excessive use, where applicable.
(7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.
(8) A draft water shortage contingency resolution or ordinance.
(9) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.
(b) Commencing with the urban water management plan update due December 31, 2015, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:
(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.
(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.
(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.
(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.
(e) The projected use of recycled water within the supplier's

service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

WATER CODE SECTION 10635

10635. (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

(b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

(c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

(d) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

WATER CODE
SECTION 10640-10645

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630).

The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

10641. An urban water supplier required to prepare a plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

10643. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

10644. (a) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

(b) The department shall prepare and submit to the Legislature, on or before December 31, in the years ending in six and one, a report summarizing the status of the plans adopted pursuant to this part. The report prepared by the department shall identify the exemplary elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

(c) (1) For the purpose of identifying the exemplary elements of the individual plans, the department shall identify in the report those water demand management measures adopted and implemented by specific urban water suppliers, and identified pursuant to Section

10631, that achieve water savings significantly above the levels established by the department to meet the requirements of Section 10631.5.

(2) The department shall distribute to the panel convened pursuant to Section 10631.7 the results achieved by the implementation of those water demand management measures described in paragraph (1).

(3) The department shall make available to the public the standard the department will use to identify exemplary water demand management measures.

10645. Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

WATER CODE
SECTION 10650-10656

10650. Any actions or proceedings to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(a) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.

(b) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 90 days after filing of the plan or amendment thereto pursuant to Section 10644 or the taking of that action.

10651. In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the State Water Resources Control Board and the Public Utilities Commission, for the preparation of water management plans or conservation plans; provided, that if the State Water Resources Control Board or the Public Utilities Commission requires additional information concerning water conservation to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan prepared to meet federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

10654. An urban water supplier may recover in its rates the costs incurred in preparing its plan and implementing the reasonable water conservation measures included in the plan. Any best water management practice that is included in the plan that is identified in the

"Memorandum of Understanding Regarding Urban Water Conservation in California" is deemed to be reasonable for the purposes of this section.

10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

10656. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

Appendix B:
Water Conservation Act of 2009 (SBX7-7)

Senate Bill No. 7

CHAPTER 4

An act to amend and repeal Section 10631.5 of, to add Part 2.55 (commencing with Section 10608) to Division 6 of, and to repeal and add Part 2.8 (commencing with Section 10800) of Division 6 of, the Water Code, relating to water.

[Approved by Governor November 10, 2009. Filed with Secretary of State November 10, 2009.]

LEGISLATIVE COUNSEL'S DIGEST

SB 7, Steinberg. Water conservation.

(1) Existing law requires the Department of Water Resources to convene an independent technical panel to provide information to the department and the Legislature on new demand management measures, technologies, and approaches. "Demand management measures" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

This bill would require the state to achieve a 20% reduction in urban per capita water use in California by December 31, 2020. The state would be required to make incremental progress towards this goal by reducing per capita water use by at least 10% on or before December 31, 2015. The bill would require each urban retail water supplier to develop urban water use targets and an interim urban water use target, in accordance with specified requirements. The bill would require agricultural water suppliers to implement efficient water management practices. The bill would require the department, in consultation with other state agencies, to develop a single standardized water use reporting form. The bill, with certain exceptions, would provide that urban retail water suppliers, on and after July 1, 2016, and agricultural water suppliers, on and after July 1, 2013, are not eligible for state water grants or loans unless they comply with the water conservation requirements established by the bill. The bill would repeal, on July 1, 2016, an existing requirement that conditions eligibility for certain water management grants or loans to an urban water supplier on the implementation of certain water demand management measures.

(2) Existing law, until January 1, 1993, and thereafter only as specified, requires certain agricultural water suppliers to prepare and adopt water management plans.

This bill would revise existing law relating to agricultural water management planning to require agricultural water suppliers to prepare and adopt agricultural water management plans with specified components on or before December 31, 2012, and update those plans on or before December

31, 2015, and on or before December 31 every 5 years thereafter. An agricultural water supplier that becomes an agricultural water supplier after December 31, 2012, would be required to prepare and adopt an agricultural water management plan within one year after becoming an agricultural water supplier. The agricultural water supplier would be required to notify each city or county within which the supplier provides water supplies with regard to the preparation or review of the plan. The bill would require the agricultural water supplier to submit copies of the plan to the department and other specified entities. The bill would provide that an agricultural water supplier is not eligible for state water grants or loans unless the supplier complies with the water management planning requirements established by the bill.

(3) The bill would take effect only if SB 1 and SB 6 of the 2009–10 7th Extraordinary Session of the Legislature are enacted and become effective.

The people of the State of California do enact as follows:

SECTION 1. Part 2.55 (commencing with Section 10608) is added to Division 6 of the Water Code, to read:

PART 2.55. SUSTAINABLE WATER USE AND DEMAND REDUCTION

Chapter 1. General Declarations and Policy

10608. The Legislature finds and declares all of the following:

(a) Water is a public resource that the California Constitution protects against waste and unreasonable use.

(b) Growing population, climate change, and the need to protect and grow California's economy while protecting and restoring our fish and wildlife habitats make it essential that the state manage its water resources as efficiently as possible.

(c) Diverse regional water supply portfolios will increase water supply reliability and reduce dependence on the Delta.

(d) Reduced water use through conservation provides significant energy and environmental benefits, and can help protect water quality, improve streamflows, and reduce greenhouse gas emissions.

(e) The success of state and local water conservation programs to increase efficiency of water use is best determined on the basis of measurable outcomes related to water use or efficiency.

(f) Improvements in technology and management practices offer the potential for increasing water efficiency in California over time, providing an essential water management tool to meet the need for water for urban, agricultural, and environmental uses.

(g) The Governor has called for a 20 percent per capita reduction in urban water use statewide by 2020.

(h) The factors used to formulate water use efficiency targets can vary significantly from location to location based on factors including weather, patterns of urban and suburban development, and past efforts to enhance water use efficiency.

(i) Per capita water use is a valid measure of a water provider's efforts to reduce urban water use within its service area. However, per capita water use is less useful for measuring relative water use efficiency between different water providers. Differences in weather, historical patterns of urban and suburban development, and density of housing in a particular location need to be considered when assessing per capita water use as a measure of efficiency.

10608.4. It is the intent of the Legislature, by the enactment of this part, to do all of the following:

(a) Require all water suppliers to increase the efficiency of use of this essential resource.

(b) Establish a framework to meet the state targets for urban water conservation identified in this part and called for by the Governor.

(c) Measure increased efficiency of urban water use on a per capita basis.

(d) Establish a method or methods for urban retail water suppliers to determine targets for achieving increased water use efficiency by the year 2020, in accordance with the Governor's goal of a 20-percent reduction.

(e) Establish consistent water use efficiency planning and implementation standards for urban water suppliers and agricultural water suppliers.

(f) Promote urban water conservation standards that are consistent with the California Urban Water Conservation Council's adopted best management practices and the requirements for demand management in Section 10631.

(g) Establish standards that recognize and provide credit to water suppliers that made substantial capital investments in urban water conservation since the drought of the early 1990s.

(h) Recognize and account for the investment of urban retail water suppliers in providing recycled water for beneficial uses.

(i) Require implementation of specified efficient water management practices for agricultural water suppliers.

(j) Support the economic productivity of California's agricultural, commercial, and industrial sectors.

(k) Advance regional water resources management.

10608.8. (a) (1) Water use efficiency measures adopted and implemented pursuant to this part or Part 2.8 (commencing with Section 10800) are water conservation measures subject to the protections provided under Section 1011.

(2) Because an urban agency is not required to meet its urban water use target until 2020 pursuant to subdivision (b) of Section 10608.24, an urban retail water supplier's failure to meet those targets shall not establish a violation of law for purposes of any state administrative or judicial proceeding prior to January 1, 2021. Nothing in this paragraph limits the use of data reported to the department or the board in litigation or an

administrative proceeding. This paragraph shall become inoperative on January 1, 2021.

(3) To the extent feasible, the department and the board shall provide for the use of water conservation reports required under this part to meet the requirements of Section 1011 for water conservation reporting.

(b) This part does not limit or otherwise affect the application of Chapter 3.5 (commencing with Section 11340), Chapter 4 (commencing with Section 11370), Chapter 4.5 (commencing with Section 11400), and Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

(c) This part does not require a reduction in the total water used in the agricultural or urban sectors, because other factors, including, but not limited to, changes in agricultural economics or population growth may have greater effects on water use. This part does not limit the economic productivity of California's agricultural, commercial, or industrial sectors.

(d) The requirements of this part do not apply to an agricultural water supplier that is a party to the Quantification Settlement Agreement, as defined in subdivision (a) of Section 1 of Chapter 617 of the Statutes of 2002, during the period within which the Quantification Settlement Agreement remains in effect. After the expiration of the Quantification Settlement Agreement, to the extent conservation water projects implemented as part of the Quantification Settlement Agreement remain in effect, the conserved water created as part of those projects shall be credited against the obligations of the agricultural water supplier pursuant to this part.

Chapter 2. Definitions

10608.12. Unless the context otherwise requires, the following definitions govern the construction of this part:

(a) "Agricultural water supplier" means a water supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water. "Agricultural water supplier" includes a supplier or contractor for water, regardless of the basis of right, that distributes or sells water for ultimate resale to customers. "Agricultural water supplier" does not include the department.

(b) "Base daily per capita water use" means any of the following:

(1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

(2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of

a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

(3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.

(c) "Baseline commercial, industrial, and institutional water use" means an urban retail water supplier's base daily per capita water use for commercial, industrial, and institutional users.

(d) "Commercial water user" means a water user that provides or distributes a product or service.

(e) "Compliance daily per capita water use" means the gross water use during the final year of the reporting period, reported in gallons per capita per day.

(f) "Disadvantaged community" means a community with an annual median household income that is less than 80 percent of the statewide annual median household income.

(g) "Gross water use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

(1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier.

(2) The net volume of water that the urban retail water supplier places into long-term storage.

(3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.

(4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.

(h) "Industrial water user" means a water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development.

(i) "Institutional water user" means a water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.

(j) "Interim urban water use target" means the midpoint between the urban retail water supplier's base daily per capita water use and the urban retail water supplier's urban water use target for 2020.

(k) "Locally cost effective" means that the present value of the local benefits of implementing an agricultural efficiency water management practice is greater than or equal to the present value of the local cost of implementing that measure.

(*l*) "Process water" means water used for producing a product or product content or water used for research and development, including, but not limited to, continuous manufacturing processes, water used for testing and maintaining equipment used in producing a product or product content, and

water used in combined heat and power facilities used in producing a product or product content. Process water does not mean incidental water uses not related to the production of a product or product content, including, but not limited to, water used for restrooms, landscaping, air conditioning, heating, kitchens, and laundry.

(m) "Recycled water" means recycled water, as defined in subdivision (n) of Section 13050, that is used to offset potable demand, including recycled water supplied for direct use and indirect potable reuse, that meets the following requirements, where applicable:

(1) For groundwater recharge, including recharge through spreading basins, water supplies that are all of the following:

(A) Metered.

(B) Developed through planned investment by the urban water supplier or a wastewater treatment agency.

(C) Treated to a minimum tertiary level.

(D) Delivered within the service area of an urban retail water supplier or its urban wholesale water supplier that helps an urban retail water supplier meet its urban water use target.

(2) For reservoir augmentation, water supplies that meet the criteria of paragraph (1) and are conveyed through a distribution system constructed specifically for recycled water.

(n) "Regional water resources management" means sources of supply resulting from watershed-based planning for sustainable local water reliability or any of the following alternative sources of water:

(1) The capture and reuse of stormwater or rainwater.

(2) The use of recycled water.

(3) The desalination of brackish groundwater.

(4) The conjunctive use of surface water and groundwater in a manner that is consistent with the safe yield of the groundwater basin.

(o) "Reporting period" means the years for which an urban retail water supplier reports compliance with the urban water use targets.

(p) "Urban retail water supplier" means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.

(q) "Urban water use target" means the urban retail water supplier's targeted future daily per capita water use.

(r) "Urban wholesale water supplier," means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

Chapter 3. Urban Retail Water Suppliers

10608.16. (a) The state shall achieve a 20-percent reduction in urban per capita water use in California on or before December 31, 2020.

(b) The state shall make incremental progress towards the state target specified in subdivision (a) by reducing urban per capita water use by at least 10 percent on or before December 31, 2015.

10608.20. (a) (1) Each urban retail water supplier shall develop urban water use targets and an interim urban water use target by July 1, 2011. Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis, as provided in subdivision (a) of Section 10608.28, and may determine the targets on a fiscal year or calendar year basis.

(2) It is the intent of the Legislature that the urban water use targets described in subdivision (a) cumulatively result in a 20-percent reduction from the baseline daily per capita water use by December 31, 2020.

(b) An urban retail water supplier shall adopt one of the following methods for determining its urban water use target pursuant to subdivision (a):

(1) Eighty percent of the urban retail water supplier's baseline per capita daily water use.

(2) The per capita daily water use that is estimated using the sum of the following performance standards:

(A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.

(B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.

(C) For commercial, industrial, and institutional uses, a 10-percent reduction in water use from the baseline commercial, industrial, and institutional water use by 2020.

(3) Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's draft 20x2020 Water Conservation Plan (dated April 30, 2009). If the service area of an urban water supplier includes more than one hydrologic region, the supplier shall apportion its service area to each region based on population or area.

(4) A method that shall be identified and developed by the department, through a public process, and reported to the Legislature no later than December 31, 2010. The method developed by the department shall identify per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31, 2020. In developing urban daily per capita water use targets, the department shall do all of the following:

(A) Consider climatic differences within the state.

(B) Consider population density differences within the state.

(C) Provide flexibility to communities and regions in meeting the targets.

(D) Consider different levels of per capita water use according to plant water needs in different regions.

(E) Consider different levels of commercial, industrial, and institutional water use in different regions of the state.

(F) Avoid placing an undue hardship on communities that have implemented conservation measures or taken actions to keep per capita water use low.

(c) If the department adopts a regulation pursuant to paragraph (4) of subdivision (b) that results in a requirement that an urban retail water supplier achieve a reduction in daily per capita water use that is greater than 20 percent by December 31, 2020, an urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may limit its urban water use target to a reduction of not more than 20 percent by December 31, 2020, by adopting the method described in paragraph (1) of subdivision (b).

(d) The department shall update the method described in paragraph (4) of subdivision (b) and report to the Legislature by December 31, 2014. An urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may adopt a new urban daily per capita water use target pursuant to this updated method.

(e) An urban retail water supplier shall include in its urban water management plan required pursuant to Part 2.6 (commencing with Section 10610) due in 2010 the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

(f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.

(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).

(h) (1) The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part, including, but not limited to, both of the following:

(A) Methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use.

(B) Criteria for adjustments pursuant to subdivisions (d) and (e) of Section 10608.24.

(2) The department shall post the methodologies and criteria developed pursuant to this subdivision on its Internet Web site, and make written copies

available, by October 1, 2010. An urban retail water supplier shall use the methods developed by the department in compliance with this part.

(i) (1) The department shall adopt regulations for implementation of the provisions relating to process water in accordance with subdivision (*l*) of Section 10608.12, subdivision (e) of Section 10608.24, and subdivision (d) of Section 10608.26.

(2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

(j) An urban retail water supplier shall be granted an extension to July 1, 2011, for adoption of an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) due in 2010 to allow use of technical methodologies developed by the department pursuant to paragraph (4) of subdivision (b) and subdivision (h). An urban retail water supplier that adopts an urban water management plan due in 2010 that does not use the methodologies developed by the department pursuant to subdivision (h) shall amend the plan by July 1, 2011, to comply with this part.

10608.22. Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.

10608.24. (a) Each urban retail water supplier shall meet its interim urban water use target by December 31, 2015.

(b) Each urban retail water supplier shall meet its urban water use target by December 31, 2020.

(c) An urban retail water supplier's compliance daily per capita water use shall be the measure of progress toward achievement of its urban water use target.

(d) (1) When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:

(A) Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.

(B) Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.

(C) Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.

(2) If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.

(e) When developing the urban water use target pursuant to Section 10608.20, an urban retail water supplier that has a substantial percentage of industrial water use in its service area, may exclude process water from the calculation of gross water use to avoid a disproportionate burden on another customer sector.

(f) (1) An urban retail water supplier that includes agricultural water use in an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) may include the agricultural water use in determining gross water use. An urban retail water supplier that includes agricultural water use in determining gross water use and develops its urban water use target pursuant to paragraph (2) of subdivision (b) of Section 10608.20 shall use a water efficient standard for agricultural irrigation of 100 percent of reference evapotranspiration multiplied by the crop coefficient for irrigated acres.

(2) An urban retail water supplier, that is also an agricultural water supplier, is not subject to the requirements of Chapter 4 (commencing with Section 10608.48), if the agricultural water use is incorporated into its urban water use target pursuant to paragraph (1).

10608.26. (a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:

(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.

(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.

(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20, for determining its urban water use target.

(b) In complying with this part, an urban retail water supplier may meet its urban water use target through efficiency improvements in any combination among its customer sectors. An urban retail water supplier shall avoid placing a disproportionate burden on any customer sector.

(c) For an urban retail water supplier that supplies water to a United States Department of Defense military installation, the urban retail water supplier's implementation plan for complying with this part shall consider the United States Department of Defense military installation's requirements under federal Executive Order 13423.

(d) (1) Any ordinance or resolution adopted by an urban retail water supplier after the effective date of this section shall not require existing customers as of the effective date of this section, to undertake changes in product formulation, operations, or equipment that would reduce process water use, but may provide technical assistance and financial incentives to those customers to implement efficiency measures for process water. This section shall not limit an ordinance or resolution adopted pursuant to a declaration of drought emergency by an urban retail water supplier.

(2) This part shall not be construed or enforced so as to interfere with the requirements of Chapter 4 (commencing with Section 113980) to Chapter 13 (commencing with Section 114380), inclusive, of Part 7 of Division 104 of the Health and Safety Code, or any requirement or standard for the protection of public health, public safety, or worker safety established by federal, state, or local government or recommended by recognized standard setting organizations or trade associations.

10608.28. (a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement, by any of the following:

(1) Through an urban wholesale water supplier.

(2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).

(3) Through a regional water management group as defined in Section 10537.

(4) By an integrated regional water management funding area.

(5) By hydrologic region.

(6) Through other appropriate geographic scales for which computation methods have been developed by the department.

(b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

10608.32. All costs incurred pursuant to this part by a water utility regulated by the Public Utilities Commission may be recoverable in rates subject to review and approval by the Public Utilities Commission, and may be recorded in a memorandum account and reviewed for reasonableness by the Public Utilities Commission.

10608.36. Urban wholesale water suppliers shall include in the urban water management plans required pursuant to Part 2.6 (commencing with Section 10610) an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part.

10608.40. Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans submitted pursuant to Section 10631. The data shall be reported using a standardized form developed pursuant to Section 10608.52.

10608.42. The department shall review the 2015 urban water management plans and report to the Legislature by December 31, 2016, on progress towards achieving a 20-percent reduction in urban water use by December 31, 2020. The report shall include recommendations on changes to water efficiency standards or urban water use targets in order to achieve

the 20-percent reduction and to reflect updated efficiency information and technology changes.

10608.43. The department, in conjunction with the California Urban Water Conservation Council, by April 1, 2010, shall convene a representative task force consisting of academic experts, urban retail water suppliers, environmental organizations, commercial water users, industrial water users, and institutional water users to develop alternative best management practices for commercial, industrial, and institutional users and an assessment of the potential statewide water use efficiency improvement in the commercial, industrial, and institutional sectors that would result from implementation of these best management practices. The taskforce, in conjunction with the department, shall submit a report to the Legislature by April 1, 2012, that shall include a review of multiple sectors within commercial, industrial, and institutional users and that shall recommend water use efficiency standards for commercial, industrial, and institutional users among various sectors of water use. The report shall include, but not be limited to, the following:

(a) Appropriate metrics for evaluating commercial, industrial, and institutional water use.

(b) Evaluation of water demands for manufacturing processes, goods, and cooling.

(c) Evaluation of public infrastructure necessary for delivery of recycled water to the commercial, industrial, and institutional sectors.

(d) Evaluation of institutional and economic barriers to increased recycled water use within the commercial, industrial, and institutional sectors.

(e) Identification of technical feasibility and cost of the best management practices to achieve more efficient water use statewide in the commercial, industrial, and institutional sectors that is consistent with the public interest and reflects past investments in water use efficiency.

10608.44. Each state agency shall reduce water use on facilities it operates to support urban retail water suppliers in meeting the target identified in Section 10608.16.

Chapter 4. Agricultural Water Suppliers

10608.48. (a) On or before July 31, 2012, an agricultural water supplier shall implement efficient water management practices pursuant to subdivisions (b) and (c).

(b) Agricultural water suppliers shall implement all of the following critical efficient management practices:

(1) Measure the volume of water delivered to customers with sufficient accuracy to comply with subdivision (a) of Section 531.10 and to implement paragraph (2).

(2) Adopt a pricing structure for water customers based at least in part on quantity delivered.

(c) Agricultural water suppliers shall implement additional efficient management practices, including, but not limited to, practices to accomplish all of the following, if the measures are locally cost effective and technically feasible:

(1) Facilitate alternative land use for lands with exceptionally high water duties or whose irrigation contributes to significant problems, including drainage.

(2) Facilitate use of available recycled water that otherwise would not be used beneficially, meets all health and safety criteria, and does not harm crops or soils.

(3) Facilitate the financing of capital improvements for on-farm irrigation systems.

(4) Implement an incentive pricing structure that promotes one or more of the following goals:

(A) More efficient water use at the farm level.

(B) Conjunctive use of groundwater.

(C) Appropriate increase of groundwater recharge.

(D) Reduction in problem drainage.

(E) Improved management of environmental resources.

(F) Effective management of all water sources throughout the year by adjusting seasonal pricing structures based on current conditions.

(5) Expand line or pipe distribution systems, and construct regulatory reservoirs to increase distribution system flexibility and capacity, decrease maintenance, and reduce seepage.

(6) Increase flexibility in water ordering by, and delivery to, water customers within operational limits.

(7) Construct and operate supplier spill and tailwater recovery systems.

(8) Increase planned conjunctive use of surface water and groundwater within the supplier service area.

(9) Automate canal control structures.

(10) Facilitate or promote customer pump testing and evaluation.

(11) Designate a water conservation coordinator who will develop and implement the water management plan and prepare progress reports.

(12) Provide for the availability of water management services to water users. These services may include, but are not limited to, all of the following:

(A) On-farm irrigation and drainage system evaluations.

(B) Normal year and real-time irrigation scheduling and crop evapotranspiration information.

(C) Surface water, groundwater, and drainage water quantity and quality data.

(D) Agricultural water management educational programs and materials for farmers, staff, and the public.

(13) Evaluate the policies of agencies that provide the supplier with water to identify the potential for institutional changes to allow more flexible water deliveries and storage.

(14) Evaluate and improve the efficiencies of the supplier's pumps.

(d) Agricultural water suppliers shall include in the agricultural water management plans required pursuant to Part 2.8 (commencing with Section 10800) a report on which efficient water management practices have been implemented and are planned to be implemented, an estimate of the water use efficiency improvements that have occurred since the last report, and an estimate of the water use efficiency improvements estimated to occur five and 10 years in the future. If an agricultural water supplier determines that an efficient water management practice is not locally cost effective or technically feasible, the supplier shall submit information documenting that determination.

(e) The data shall be reported using a standardized form developed pursuant to Section 10608.52.

(f) An agricultural water supplier may meet the requirements of subdivisions (d) and (e) by submitting to the department a water conservation plan submitted to the United States Bureau of Reclamation that meets the requirements described in Section 10828.

(g) On or before December 31, 2013, December 31, 2016, and December 31, 2021, the department, in consultation with the board, shall submit to the Legislature a report on the agricultural efficient water management practices that have been implemented and are planned to be implemented and an assessment of the manner in which the implementation of those efficient water management practices has affected and will affect agricultural operations, including estimated water use efficiency improvements, if any.

(h) The department may update the efficient water management practices required pursuant to subdivision (c), in consultation with the Agricultural Water Management Council, the United States Bureau of Reclamation, and the board. All efficient water management practices for agricultural water use pursuant to this chapter shall be adopted or revised by the department only after the department conducts public hearings to allow participation of the diverse geographical areas and interests of the state.

(i) (1) The department shall adopt regulations that provide for a range of options that agricultural water suppliers may use or implement to comply with the measurement requirement in paragraph (1) of subdivision (b).

(2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

Chapter 5. Sustainable Water Management

10608.50. (a) The department, in consultation with the board, shall promote implementation of regional water resources management practices through increased incentives and removal of barriers consistent with state and federal law. Potential changes may include, but are not limited to, all of the following:

(1) Revisions to the requirements for urban and agricultural water management plans.

(2) Revisions to the requirements for integrated regional water management plans.

(3) Revisions to the eligibility for state water management grants and loans.

(4) Revisions to state or local permitting requirements that increase water supply opportunities, but do not weaken water quality protection under state and federal law.

(5) Increased funding for research, feasibility studies, and project construction.

(6) Expanding technical and educational support for local land use and water management agencies.

(b) No later than January 1, 2011, and updated as part of the California Water Plan, the department, in consultation with the board, and with public input, shall propose new statewide targets, or review and update existing statewide targets, for regional water resources management practices, including, but not limited to, recycled water, brackish groundwater desalination, and infiltration and direct use of urban stormwater runoff.

Chapter 6. Standardized Data Collection

10608.52. (a) The department, in consultation with the board, the California Bay-Delta Authority or its successor agency, the State Department of Public Health, and the Public Utilities Commission, shall develop a single standardized water use reporting form to meet the water use information needs of each agency, including the needs of urban water suppliers that elect to determine and report progress toward achieving targets on a regional basis as provided in subdivision (a) of Section 10608.28.

(b) At a minimum, the form shall be developed to accommodate information sufficient to assess an urban water supplier's compliance with conservation targets pursuant to Section 10608.24 and an agricultural water supplier's compliance with implementation of efficient water management practices pursuant to subdivision (a) of Section 10608.48. The form shall accommodate reporting by urban water suppliers on an individual or regional basis as provided in subdivision (a) of Section 10608.28.

Chapter 7. Funding Provisions

10608.56. (a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

(b) On and after July 1, 2013, an agricultural water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

(c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for achieving the per capita reductions. The supplier may request grant or loan funds to achieve the per capita reductions to the extent the request is consistent with the eligibility requirements applicable to the water funds.

(d) Notwithstanding subdivision (b), the department shall determine that an agricultural water supplier is eligible for a water grant or loan even though the supplier is not implementing all of the efficient water management practices described in Section 10608.48, if the agricultural water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the efficient water management practices. The supplier may request grant or loan funds to implement the efficient water management practices to the extent the request is consistent with the eligibility requirements applicable to the water funds.

(e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval documentation demonstrating that its entire service area qualifies as a disadvantaged community.

(f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier in compliance with the requirements of this part and Part 2.8 (commencing with Section 10800), that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).

10608.60. (a) It is the intent of the Legislature that funds made available by Section 75026 of the Public Resources Code should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for grants to implement this part. In the allocation of funding, it is the intent of the

Legislature that the department give consideration to disadvantaged communities to assist in implementing the requirements of this part.

(b) It is the intent of the Legislature that funds made available by Section 75041 of the Public Resources Code, should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for direct expenditures to implement this part.

Chapter 8. Quantifying Agricultural Water Use Efficiency

10608.64. The department, in consultation with the Agricultural Water Management Council, academic experts, and other stakeholders, shall develop a methodology for quantifying the efficiency of agricultural water use. Alternatives to be assessed shall include, but not be limited to, determination of efficiency levels based on crop type or irrigation system distribution uniformity. On or before December 31, 2011, the department shall report to the Legislature on a proposed methodology and a plan for implementation. The plan shall include the estimated implementation costs and the types of data needed to support the methodology. Nothing in this section authorizes the department to implement a methodology established pursuant to this section.

SEC. 2. Section 10631.5 of the Water Code is amended to read:

10631.5. (a) (1) Beginning January 1, 2009, the terms of, and eligibility for, a water management grant or loan made to an urban water supplier and awarded or administered by the department, state board, or California Bay-Delta Authority or its successor agency shall be conditioned on the implementation of the water demand management measures described in Section 10631, as determined by the department pursuant to subdivision (b).

(2) For the purposes of this section, water management grants and loans include funding for programs and projects for surface water or groundwater storage, recycling, desalination, water conservation, water supply reliability, and water supply augmentation. This section does not apply to water management projects funded by the federal American Recovery and Reinvestment Act of 2009 (Public Law 111-5).

(3) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if the urban water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the water demand management measures. The supplier may request grant or loan funds to implement the water demand management measures to the extent the request is consistent with the eligibility requirements applicable to the water management funds.

(4) (A) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if an urban water supplier submits to the department for approval documentation demonstrating that a water demand management measure is not locally cost effective. If the department determines that the documentation submitted by the urban water supplier fails to demonstrate that a water demand management measure is not locally cost effective, the department shall notify the urban water supplier and the agency administering the grant or loan program within 120 days that the documentation does not satisfy the requirements for an exemption, and include in that notification a detailed statement to support the determination.

(B) For purposes of this paragraph, "not locally cost effective" means that the present value of the local benefits of implementing a water demand management measure is less than the present value of the local costs of implementing that measure.

(b) (1) The department, in consultation with the state board and the California Bay-Delta Authority or its successor agency, and after soliciting public comment regarding eligibility requirements, shall develop eligibility requirements to implement the requirement of paragraph (1) of subdivision (a). In establishing these eligibility requirements, the department shall do both of the following:

(A) Consider the conservation measures described in the Memorandum of Understanding Regarding Urban Water Conservation in California, and alternative conservation approaches that provide equal or greater water savings.

(B) Recognize the different legal, technical, fiscal, and practical roles and responsibilities of wholesale water suppliers and retail water suppliers.

(2) (A) For the purposes of this section, the department shall determine whether an urban water supplier is implementing all of the water demand management measures described in Section 10631 based on either, or a combination, of the following:

(i) Compliance on an individual basis.

(ii) Compliance on a regional basis. Regional compliance shall require participation in a regional conservation program consisting of two or more urban water suppliers that achieves the level of conservation or water efficiency savings equivalent to the amount of conservation or savings achieved if each of the participating urban water suppliers implemented the water demand management measures. The urban water supplier administering the regional program shall provide participating urban water suppliers and the department with data to demonstrate that the regional program is consistent with this clause. The department shall review the data to determine whether the urban water suppliers in the regional program are meeting the eligibility requirements.

(B) The department may require additional information for any determination pursuant to this section.

(3) The department shall not deny eligibility to an urban water supplier in compliance with the requirements of this section that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the water demand management measures described in Section 10631.

(c) In establishing guidelines pursuant to the specific funding authorization for any water management grant or loan program subject to this section, the agency administering the grant or loan program shall include in the guidelines the eligibility requirements developed by the department pursuant to subdivision (b).

(d) Upon receipt of a water management grant or loan application by an agency administering a grant and loan program subject to this section, the agency shall request an eligibility determination from the department with respect to the requirements of this section. The department shall respond to the request within 60 days of the request.

(e) The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities. In addition, for urban water suppliers that are signatories to the Memorandum of Understanding Regarding Urban Water Conservation in California and submit biennial reports to the California Urban Water Conservation Council in accordance with the memorandum, the department may use these reports to assist in tracking the implementation of water demand management measures.

(f) This section shall remain in effect only until July 1, 2016, and as of that date is repealed, unless a later enacted statute, that is enacted before July 1, 2016, deletes or extends that date.

SEC. 3. Part 2.8 (commencing with Section 10800) of Division 6 of the Water Code is repealed.

SEC. 4. Part 2.8 (commencing with Section 10800) is added to Division 6 of the Water Code, to read:

PART 2.8. AGRICULTURAL WATER MANAGEMENT PLANNING

Chapter 1. General Declarations and Policy

10800. This part shall be known and may be cited as the Agricultural Water Management Planning Act.

10801. The Legislature finds and declares all of the following:

(a) The waters of the state are a limited and renewable resource.

(b) The California Constitution requires that water in the state be used in a reasonable and beneficial manner.

(c) Urban water districts are required to adopt water management plans.

(d) The conservation of agricultural water supplies is of great statewide concern.

(e) There is a great amount of reuse of delivered water, both inside and outside the water service areas.

(f) Significant noncrop beneficial uses are associated with agricultural water use, including streamflows and wildlife habitat.

(g) Significant opportunities exist in some areas, through improved irrigation water management, to conserve water or to reduce the quantity of highly saline or toxic drainage water.

(h) Changes in water management practices should be carefully planned and implemented to minimize adverse effects on other beneficial uses currently being served.

(i) Agricultural water suppliers that receive water from the federal Central Valley Project are required by federal law to prepare and implement water conservation plans.

(j) Agricultural water users applying for a permit to appropriate water from the board are required to prepare and implement water conservation plans.

10802. The Legislature finds and declares that all of the following are the policies of the state:

(a) The conservation of water shall be pursued actively to protect both the people of the state and the state's water resources.

(b) The conservation of agricultural water supplies shall be an important criterion in public decisions with regard to water.

(c) Agricultural water suppliers shall be required to prepare water management plans to achieve conservation of water.

Chapter 2. Definitions

10810. Unless the context otherwise requires, the definitions set forth in this chapter govern the construction of this part.

10811. "Agricultural water management plan" or "plan" means an agricultural water management plan prepared pursuant to this part.

10812. "Agricultural water supplier" has the same meaning as defined in Section 10608.12.

10813. "Customer" means a purchaser of water from a water supplier who uses water for agricultural purposes.

10814. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of that entity.

10815. "Public agency" means any city, county, city and county, special district, or other public entity.

10816. "Urban water supplier" has the same meaning as set forth in Section 10617.

10817. "Water conservation" means the efficient management of water resources for beneficial uses, preventing waste, or accomplishing additional benefits with the same amount of water.

Chapter 3. Agricultural Water Management Plans

Article 1. General Provisions

10820. (a) An agricultural water supplier shall prepare and adopt an agricultural water management plan in the manner set forth in this chapter on or before December 31, 2012, and shall update that plan on December 31, 2015, and on or before December 31 every five years thereafter.

(b) Every supplier that becomes an agricultural water supplier after December 31, 2012, shall prepare and adopt an agricultural water management plan within one year after the date it has become an agricultural water supplier.

(c) A water supplier that indirectly provides water to customers for agricultural purposes shall not prepare a plan pursuant to this part without the consent of each agricultural water supplier that directly provides that water to its customers.

10821. (a) An agricultural water supplier required to prepare a plan pursuant to this part shall notify each city or county within which the supplier provides water supplies that the agricultural water supplier will be preparing the plan or reviewing the plan and considering amendments or changes to the plan. The agricultural water supplier may consult with, and obtain comments from, each city or county that receives notice pursuant to this subdivision.

(b) The amendments to, or changes in, the plan shall be adopted and submitted in the manner set forth in Article 3 (commencing with Section 10840).

Article 2. Contents of Plans

10825. (a) It is the intent of the Legislature in enacting this part to allow levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

(b) This part does not require the implementation of water conservation programs or practices that are not locally cost effective.

10826. An agricultural water management plan shall be adopted in accordance with this chapter. The plan shall do all of the following:

(a) Describe the agricultural water supplier and the service area, including all of the following:

(1) Size of the service area.

(2) Location of the service area and its water management facilities.

(3) Terrain and soils.

(4) Climate.

(5) Operating rules and regulations.
(6) Water delivery measurements or calculations.
(7) Water rate schedules and billing.
(8) Water shortage allocation policies.
(b) Describe the quantity and quality of water resources of the agricultural water supplier, including all of the following:
(1) Surface water supply.
(2) Groundwater supply.
(3) Other water supplies.
(4) Source water quality monitoring practices.
(5) Water uses within the agricultural water supplier's service area, including all of the following:
(A) Agricultural.
(B) Environmental.
(C) Recreational.
(D) Municipal and industrial.
(E) Groundwater recharge.
(F) Transfers and exchanges.
(G) Other water uses.
(6) Drainage from the water supplier's service area.
(7) Water accounting, including all of the following:
(A) Quantifying the water supplier's water supplies.
(B) Tabulating water uses.
(C) Overall water budget.
(8) Water supply reliability.
(c) Include an analysis, based on available information, of the effect of climate change on future water supplies.
(d) Describe previous water management activities.
(e) Include in the plan the water use efficiency information required pursuant to Section 10608.48.

10827. Agricultural water suppliers that are members of the Agricultural Water Management Council, and that submit water management plans to that council in accordance with the "Memorandum of Understanding Regarding Efficient Water Management Practices By Agricultural Water Suppliers In California," dated January 1, 1999, may submit the water management plans identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of Section 10826.

10828. (a) Agricultural water suppliers that are required to submit water conservation plans to the United States Bureau of Reclamation pursuant to either the Central Valley Project Improvement Act (Public Law 102-575) or the Reclamation Reform Act of 1982, or both, may submit those water conservation plans to satisfy the requirements of Section 10826, if both of the following apply:
(1) The agricultural water supplier has adopted and submitted the water conservation plan to the United States Bureau of Reclamation within the previous four years.

(2) The United States Bureau of Reclamation has accepted the water conservation plan as adequate.

(b) This part does not require agricultural water suppliers that are required to submit water conservation plans to the United States Bureau of Reclamation pursuant to either the Central Valley Project Improvement Act (Public Law 102-575) or the Reclamation Reform Act of 1982, or both, to prepare and adopt water conservation plans according to a schedule that is different from that required by the United States Bureau of Reclamation.

10829. An agricultural water supplier may satisfy the requirements of this part by adopting an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) or by participation in areawide, regional, watershed, or basinwide water management planning if those plans meet or exceed the requirements of this part.

Article 3. Adoption and Implementation of Plans

10840. Every agricultural water supplier shall prepare its plan pursuant to Article 2 (commencing with Section 10825).

10841. Prior to adopting a plan, the agricultural water supplier shall make the proposed plan available for public inspection, and shall hold a public hearing on the plan. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned agricultural water supplier pursuant to Section 6066 of the Government Code. A privately owned agricultural water supplier shall provide an equivalent notice within its service area and shall provide a reasonably equivalent opportunity that would otherwise be afforded through a public hearing process for interested parties to provide input on the plan. After the hearing, the plan shall be adopted as prepared or as modified during or after the hearing.

10842. An agricultural water supplier shall implement the plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan, as determined by the governing body of the agricultural water supplier.

10843. (a) An agricultural water supplier shall submit to the entities identified in subdivision (b) a copy of its plan no later than 30 days after the adoption of the plan. Copies of amendments or changes to the plans shall be submitted to the entities identified in subdivision (b) within 30 days after the adoption of the amendments or changes.

(b) An agricultural water supplier shall submit a copy of its plan and amendments or changes to the plan to each of the following entities:

(1) The department.

(2) Any city, county, or city and county within which the agricultural water supplier provides water supplies.

(3) Any groundwater management entity within which jurisdiction the agricultural water supplier extracts or provides water supplies.

(4) Any urban water supplier within which jurisdiction the agricultural water supplier provides water supplies.

(5) Any city or county library within which jurisdiction the agricultural water supplier provides water supplies.

(6) The California State Library.

(7) Any local agency formation commission serving a county within which the agricultural water supplier provides water supplies.

10844. (a) Not later than 30 days after the date of adopting its plan, the agricultural water supplier shall make the plan available for public review on the agricultural water supplier's Internet Web site.

(b) An agricultural water supplier that does not have an Internet Web site shall submit to the department, not later than 30 days after the date of adopting its plan, a copy of the adopted plan in an electronic format. The department shall make the plan available for public review on the department's Internet Web site.

10845. (a) The department shall prepare and submit to the Legislature, on or before December 31, 2013, and thereafter in the years ending in six and years ending in one, a report summarizing the status of the plans adopted pursuant to this part.

(b) The report prepared by the department shall identify the outstanding elements of any plan adopted pursuant to this part. The report shall include an evaluation of the effectiveness of this part in promoting efficient agricultural water management practices and recommendations relating to proposed changes to this part, as appropriate.

(c) The department shall provide a copy of the report to each agricultural water supplier that has submitted its plan to the department. The department shall also prepare reports and provide data for any legislative hearing designed to consider the effectiveness of plans submitted pursuant to this part.

(d) This section does not authorize the department, in preparing the report, to approve, disapprove, or critique individual plans submitted pursuant to this part.

Chapter 4. Miscellaneous Provisions

10850. (a) Any action or proceeding to attack, review, set aside, void, or annul the acts or decisions of an agricultural water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(1) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.

(2) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 120 days after submitting the plan or amendments to the plan to entities in accordance with Section 10844 or the taking of that action.

(b) In an action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an agricultural water supplier, on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse

of discretion is established if the agricultural water supplier has not proceeded in a manner required by law, or if the action by the agricultural water supplier is not supported by substantial evidence.

10851. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part. This part does not exempt projects for implementation of the plan or for expanded or additional water supplies from the California Environmental Quality Act.

10852. An agricultural water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

10853. No agricultural water supplier that provides water to less than 25,000 irrigated acres, excluding recycled water, shall be required to implement the requirements of this part or Part 2.55 (commencing with Section 10608) unless sufficient funding has specifically been provided to that water supplier for these purposes.

SEC. 5. This act shall take effect only if Senate Bill 1 and Senate Bill 6 of the 2009–10 Seventh Extraordinary Session of the Legislature are enacted and become effective.

O

Appendix C:
Department of Water Resources
2010 Urban Water Management Plan
"Review for Completeness" Form

Table I-2 Urban Water Management Plan checklist, organized by subject

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
PLAN PREPARATION				
4	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	10620(d)(2)		Section 1.2.2
6	Notify, at least 60 days prior to the public hearing on the plan required by Section 10642, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Any city or county receiving the notice may be consulted and provide comments.	10621(b)		Section 1.2.2; Appendix E
7	Provide supporting documentation that the UWMP or any amendments to, or changes in, have been adopted as described in Section 10640 et seq.	10621(c)		Appendix E
54	Provide supporting documentation that the urban water management plan has been or will be provided to any city or county within which it provides water, no later than 60 days after the submission of this urban water management plan.	10635(b)		Section 1.2.1
55	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	10642		Section 1.2.2
56	Provide supporting documentation that the urban water supplier made the plan available for public inspection and held a public hearing about the plan. For public agencies, the hearing notice is to be provided pursuant to Section 6066 of the Government Code. The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water. Privately-owned water suppliers shall provide an equivalent notice within its service area.	10642		Section 1.2.1; Section 1.2.2
57	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642		Section 1.2.1; Appendix E
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		Section 1.2.1; Section 6.2: Section 6.3; Appendix D

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
59	Provide supporting documentation that, in addition to submittal to DWR, the urban water supplier has submitted this UWMP to the California State Library and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. This also includes amendments or changes.	10644(a)		Section 1.2.2
60	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the urban water supplier has or will make the plan available for public review during normal business hours	10645		Section 1.2.2
SYSTEM DESCRIPTION				
8	Describe the water supplier service area.	10631(a)		Section 2.2.1
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)		Section 2.2.2; Section 2.2.4
10	Indicate the current population of the service area	10631(a)	Provide the most recent population data possible. Use the method described in "Baseline Daily Per Capita Water Use." See Section M.	Section 2.2.3
11	Provide population projections for 2015, 2020, 2025, and 2030, based on data from State, regional, or local service area population projections.	10631(a)	2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	Section 2.2.3
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)		Not Applicable
SYSTEM DEMANDS				
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)		Section 3.3
2	*Wholesalers:* Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. *Retailers:* Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	Retailers and wholesalers have slightly different requirements	Section 1.2.1

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
3	Report progress in meeting urban water use targets using the standardized form.	10608.40	Targets set in 2010 UWMP; progress will be reported in 2015 and 2020 UWMPs	Section 6.2
25	Quantify past, current, and projected water use, identifying the uses among water use sectors, for the following: (A) single-family residential, (B) multifamily, (C) commercial, (D) industrial, (E) institutional and governmental, (F) landscape, (G) sales to other agencies, (H) saline water intrusion barriers, groundwater recharge, conjunctive use, and (I) agriculture.	10631(e)(1)	Consider 'past' to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	Section 3.4
33	Provide documentation that either the retail agency provided the wholesale agency with water use projections for at least 20 years, if the UWMP agency is a retail agency, OR, if a wholesale agency, it provided its urban retail customers with future planned and existing water source available to it from the wholesale agency during the required water-year types	10631(k)	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	Section 1.2.2
34	Include projected water use for single-family and multifamily residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)		Section 3.5
SYSTEM SUPPLIES				
13	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, and 2030.	10631(b)	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided.	Section 4.2
14	Indicate whether groundwater is an existing or planned source of water available to the supplier. If yes, then complete 15 through 21 of the UWMP Checklist. If no, then indicate "not applicable" in lines 15 through 21 under the UWMP location column.	10631(b)	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	Yes
15	Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)		Section 4.2.1: Appendix G
16	Describe the groundwater basin.	10631(b)(2)		Section 4.1.1

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		Section 4.2.1: Appendix G
18	Describe the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. If the basin is not adjudicated, indicate “not applicable” in the UWMP location column.	10631(b)(2)		Section 4.2.1; Table 4-2 (one-year example)
19	For groundwater basins that are not adjudicated, provide information as to whether DWR has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition. If the basin is adjudicated, indicate “not applicable” in the UWMP location column.	10631(b)(2)		Not Applicable
20	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	10631(b)(3)		Section 4.2.1; Table 4-3
21	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	10631(b)(4)	Provide projections for 2015, 2020, 2025, and 2030.	Section 4.2.1; Table 4-4
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		Section 4.4.1
30	Include a detailed description of all water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years, excluding demand management programs addressed in (f)(1). Include specific projects, describe water supply impacts, and provide a timeline for each project.	10631(h)		Section 4.3
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater.	10631(i)		Section 4.4.2
44	Provide information on recycled water and its potential for use as a water source in the service area of the urban water supplier. Coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	10633		Appendix I; Section 4.1.4; Section 4.2.4; Section 4.4.3
45	Describe the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)		Appendix I; Section 4.4.3

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
46	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)		Appendix I; Section 4.4.3; Table 4-7; Table 4-8
47	Describe the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)		Appendix I; Section 4.1.4; Section 4.2.4; Table 4-13
48	Describe and quantify the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)		Appendix I; Section 4.4.3
49	The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	10633(e)		Appendix I; Section 4.4.3; Table 4-9
50	Describe the actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.	10633(f)		Appendix I; Section 4.4.3
51	Provide a plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)		Appendix I
WATER SHORTAGE RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING [b]				
5	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)		Section 4.3; Section 4.4; Section 6.2; Section 6.3
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage and provide data for (A) an average water year, (B) a single dry water year, and (C) multiple dry water years.	10631(c)(1)		Section 5.3; Section 5.4; Table 5-4; Table 5-5; Table 5-6

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)		Not Applicable
35	Provide an urban water shortage contingency analysis that specifies stages of action, including up to a 50-percent water supply reduction, and an outline of specific water supply conditions at each stage	10632(a)		Section 7.2
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)		Section 7.4
37	Identify actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.	10632(c)		Section 7.5
38	Identify additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)		Section 7.6
39	Specify consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)		Section 7.2
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Section 7.6
41	Provide an analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)		Section 7.6.1
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Appendix K
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		Section 7.7

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
52	Provide information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments, and the manner in which water quality affects water management strategies and supply reliability	10634	For years 2010, 2015, 2020, 2025, and 2030	Section 5.2
53	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. Base the assessment on the information compiled under Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)		Table 5-4; Table 5-5; Table 5-6
DEMAND MANAGEMENT MEASURES				
26	Describe how each water demand management measures is being implemented or scheduled for implementation. Use the list provided.	10631(f)(1)	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	Section 6.2; Section 6.3; Appendix J
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)		Appendix J
28	Provide an estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the ability to further reduce demand.	10631(f)(4)		Appendix J
29	Evaluate each water demand management measure that is not currently being implemented or scheduled for implementation. The evaluation should include economic and non-economic factors, cost-benefit analysis, available funding, and the water suppliers' legal authority to implement the work.	10631(g)	See 10631(g) for additional wording.	Appendix J
32	Include the annual reports submitted to meet the Section 6.2 requirements, if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	Signers of the MOU that submit the annual reports are deemed compliant with Items 26, 27, 28 and 29.	Appendix J

a The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

b The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.

Appendix D:
References

Monte Vista Water District
2010 Urban Water Management Plan

Reference List

Chino Basin Watermaster. 33rd Annual Report, Fiscal Year 2009-10.

---. Final 2009/2010 Assessment Package. Approved October 2010.

---. Chino Basin Optimum Basin Management Program. 2008 State of the Basin Report. November 2009.

---. Status Report No. 2009-1, January to June 2009.

City of Chino. Jesus Plasencia, Associate Engineer. Personal Correspondence. January 24, 2011.

City of Montclair. Steve Lustro, AICP, Community Development Director. Personal Correspondence. January 19, 2011; November 9, 2010.

Countrystudies.us. Ontario Weather. 2008. www.countrystudies.us/united-states/weather/California/ontario.html.

Inland Empire Utilities Agency. Annual Water Conservation Programs Report, FY 2009-2010.

---. Draft 2010 Regional Urban Water Management Plan. February 2011.

---. Ryan Shaw, Associate Engineer. Personal Correspondence. March 21, 2011.

---. Water Use Efficiency Business Plan. September 2010.

Metropolitan Water District of Southern California. 2010 Regional Urban Water Management Plan. November 2010.

Monte Vista Water District. 2005 Urban Water Management Plan. December 2005.

---. 2008 Water Master Plan. December 2008.

---. 2009 Annual Water Quality Report. June 2010.

---. 2009 Annual Water Quality Report. Data Provided to City of Chino Hills. April 2010.

---. 2009-2013 Strategic Plan. May 2009.

---. 2011 Local Hazard Mitigation Plan. Submittal Copy. February 2011.

---. 2011 Recycled Water Master Plan. May 2011.

---. FYE 2011 Budget. Approved June 23, 2010.

Santa Ana Regional Water Quality Control Board. Region 8 Water Quality Control Plan (Santa Ana River Basin). February 2008.

---. Resolution No. R8-2004-0001.

---. Watershed Management Initiative. Revised May 2004.

San Antonio Water Company. Charles Moorrees, SAWCo General Manager. Presentation to Monte Vista Water District Board of Directors. January 26, 2011.

---. Water System Master Plan. February 2010.

Southern California Association of Governments. 2008 Regional Transportation Plan Growth Forecast by Census Tract. Adopted March, 6, 2008.

---. Final Regional Housing Need Allocation Plan - Planning Period (January 1, 2006 - June 30, 2014) for Jurisdictions within the Six-County SCAG Region. Approved July 2007.

State of California. California Irrigation Management Information System. Station #78 (Pomona). wwwcimis.water.ca.gov. Accessed November 2010.

---. California Water Code. Division 6, Part 2.55; §10608, et. seq.

---. California Water Code. Division 6, Part 2.6; §10610, et. seq.

---. Department of Finance, E-1 City / County Population Estimates with Annual Percent Change – January 1, 2009 and 2010.

---. Department of Water Resources. California's Drought of 2007–2009: An Overview. September 2010.

---. Department of Water Resources. Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan. March 2011.

---. Department of Water Resources. Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use. February 2011.

---. Department of Water Resources. Urban Drought Guidebook, 2008 Updated Edition.

United States of America. Department of Commerce. Census Bureau. 2000 Summary File 1 100-Percent Data.

---. Department of Commerce. Census Bureau. 2000 Summary File 3 Sample Data.

Water Facilities Authority. Draft 2010 Regional Urban Water Management Plan. March 2011.

Appendix E:
Notice of Public Hearing and Resolution for Plan Adoption

RESOLUTION 655-11

RESOLUTION OF THE BOARD OF DIRECTORS OF THE MONTE VISTA WATER DISTRICT, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, ADOPTING THE MONTE VISTA WATER DISTRICT'S 2010 URBAN WATER MANAGEMENT PLAN

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-84 Regular Session, and as amended subsequently, mandating that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the California Legislature enacted Senate Bill X7-7 (Water Code Section 10608 et. seq, known as the Water Conservation Act of 2009) during the 2009 Extraordinary Session, mandating that retail municipal water suppliers establish and include in their 2010 Urban Water Management Plan urban water use reduction targets to assist the state in achieving a 20 percent reduction in urban water use by 2020, and extending the deadline for adopting the 2010 Plan by six months to July 1, 2011; and

WHEREAS, Monte Vista Water District is an urban supplier of retail and wholesale water services which, in Fiscal Year 2010, supplied over 20,000 acre-feet of potable and non-potable water to nearly 12,000 customers; and

WHEREAS, the Plan shall be periodically reviewed at least once every five years, and that the District shall make any amendments or changes to its Plan which are indicated in the review; and

WHEREAS, the Plan must be adopted by July 1, 2011, after public review and hearing, and filed with the California Department of Water Resources within thirty days of adoption; and

WHEREAS, the District has therefore prepared and circulated for public review a draft Urban Water Management Plan, including its urban water use reduction targets; and

WHEREAS, a properly noticed public hearing regarding said Plan, including discussion of the District's method of determining its urban water use targets under the Water Conservation Act of 2009, its plan to meet these targets, and the potential economic impacts of meeting these targets, was held by the Board of Directors on June 8, 2011; and

WHEREAS, the District did prepare and shall file the said Plan with the California Department of Resources.

NOW, THEREFORE BE IT RESOLVED, the Board of Directors of the Monte Vista Water District does hereby, by this Resolution, authorize the adoption of its 2010 Urban Water Management Plan and orders the filing of the Plan with the California Department of Water Resources.

ADOPTED this 8th day of June 2011.

Sandra S. Rose
President of the Board of Directors
MONTE VISTA WATER DISTRICT

ATTEST:

Mark N. Kinsey
Secretary to the Board of Directors
MONTE VISTA WATER DISTRICT

Public Hearing Notifications
Published in
Inland Valley Daily Bulletin
on May 30, 2011
and June 6, 2011

Public Notice

NOTICE IS HEREBY GIVEN that Monte Vista Water District will conduct a public hearing in its Board room at 10575 Central Avenue, Montclair, on Wednesday, June 8, 2011, at 7:00 p.m., to receive public input on the draft 2010 Urban Water Management Plan. A copy of the plan is available for review Monday - Friday from 8:00 a.m. to 5:00 p.m. at the District office.

The public is invited to attend and comment on this issue. Any person unable to attend the public hearing may submit written comments to the District prior to the public hearing. All comments or inquiries should be directed to Justin Scott-Coe at (909) 267-2116.

Published May 30, June 6, 2011.
#217581

Monte Vista
Dedicated to Quality, Service and Innovation

December 14, 2010

Mark N. Kinsey
GENERAL MANAGER

Mr. Ed Starr
City of Montclair
5111 Benito Street
Montclair, CA 91763

Notification of Update to Urban Water Management Plan

Dear Mr. Starr:

Monte Vista Water District is initiating the process of updating its Urban Water Management Plan for 2010, in compliance with the California Urban Water Management Planning Act. Urban water agencies are required to update this planning document every five years.

Water Code Section 10621 states, "Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision."

The District has already initiated consultation with your agency's staff and welcomes your agency's assistance and involvement as we update our Urban Water Management Plan. The District's 2005 Urban Water Management Plan is available on our website, www.mvwd.org, following the "Public Documents" and "Planning Documents" menu links. We will post updates to our planning process on the website.

Your agency will receive timely notification on the availability to review the draft Plan and the date and time of the public hearing that will be conducted prior to the official adoption of the Plan. For more information, contact Justin Scott-Coe, public affairs representative, at (909) 267-2116 or at jscottcoe@mvwd.org.

Sincerely,

Monte Vista Water District

Mark N. Kinsey
General Manager

Water District
10575 Central Avenue, Post Office Box 71 • Montclair, CA 91763 • (909) 624-0035 • FAX (909) 624-4725 • www.mvwd.org

Sandra S. Rose, PRESIDENT
Maynard B. Lenhert, VICE PRESIDENT
Tony Lopez, DIRECTOR
Philip L. Erwin, DIRECTOR
G. Michael Milhiser, DIRECTOR

Monte Vista
Dedicated to Quality, Service and Innovation

December 14, 2010

Mark N. Kinsey
GENERAL MANAGER

Mr. Pat Glover
City of Chino
13220 Central Avenue
Chino, CA 91710

Notification of Update to Urban Water Management Plan

Dear Mr. Glover:

Monte Vista Water District is initiating the process of updating its Urban Water Management Plan for 2010, in compliance with the California Urban Water Management Planning Act. Urban water agencies are required to update this planning document every five years.

Water Code Section 10621 states, "Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision."

The District has already initiated consultation with your agency's staff and welcomes your agency's assistance and involvement as we update our Urban Water Management Plan. The District's 2005 Urban Water Management Plan is available on our website, www.mvwd.org, following the "Public Documents" and "Planning Documents" menu links. We will post updates to our planning process on the website.

Your agency will receive timely notification on the availability to review the draft Plan and the date and time of the public hearing that will be conducted prior to the official adoption of the Plan. For more information, contact Justin Scott-Coe, public affairs representative, at (909) 267-2116 or at jscottcoe@mvwd.org.

Sincerely,

Monte Vista Water District

Mark N. Kinsey
General Manager

Water District
10575 Central Avenue, Post Office Box 71 • Montclair, CA 91763 • (909) 624-0035 • FAX (909) 624-4725 • www.mvwd.org

Sandra S. Rose, PRESIDENT
Maynard B. Lenhert, VICE PRESIDENT
Tony Lopez, DIRECTOR
Philip L. Erwin, DIRECTOR
G. Michael Milhiser, DIRECTOR

Monte Vista
Dedicated to Quality, Service and Innovation

December 14, 2010

Mark N. Kinsey
GENERAL MANAGER

Mr. Mike Fleager
City of Chino Hills
14000 City Center Drive
Chino Hills, CA 91709

Notification of Update to Urban Water Management Plan

Dear Mr. Fleager:

Monte Vista Water District is initiating the process of updating its Urban Water Management Plan for 2010, in compliance with the California Urban Water Management Planning Act. Urban water agencies are required to update this planning document every five years.

Water Code Section 10621 states, "Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision."

The District has already initiated consultation with your agency's staff and welcomes your agency's assistance and involvement as we update our Urban Water Management Plan. The District's 2005 Urban Water Management Plan is available on our website, www.mvwd.org, following the "Public Documents" and "Planning Documents" menu links. We will post updates to our planning process on the website.

Your agency will receive timely notification on the availability to review the draft Plan and the date and time of the public hearing that will be conducted prior to the official adoption of the Plan. For more information, contact Justin Scott-Coe, public affairs representative, at (909) 267-2116 or at jscottcoe@mvwd.org.

Sincerely,

Monte Vista Water District

Mark N. Kinsey
General Manager

Water District
10575 Central Avenue, Post Office Box 71 • Montclair, CA 91763 • (909) 624-0035 • FAX (909) 624-4725 • www.mvwd.org

Sandra S. Rose, PRESIDENT
Maynard B. Lenhert, VICE PRESIDENT
Tony Lopez, DIRECTOR
Philip L. Erwin, DIRECTOR
G. Michael Milhiser, DIRECTOR

Monte Vista
Dedicated to Quality, Service and Innovation

December 14, 2010

Mark N. Kinsey
GENERAL MANAGER

Mr. Greg Devereaux
County of San Bernardino
385 North Arrowhead
San Bernardino, CA 92415

Notification of Update to Urban Water Management Plan

Dear Mr. Devereaux:

Monte Vista Water District is initiating the process of updating its Urban Water Management Plan for 2010, in compliance with the California Urban Water Management Planning Act. Urban water agencies are required to update this planning document every five years.

Water Code Section 10621 states, "Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision."

The District has already initiated consultation with your agency's staff and welcomes your agency's assistance and involvement as we update our Urban Water Management Plan. The District's 2005 Urban Water Management Plan is available on our website, www.mvwd.org, following the "Public Documents" and "Planning Documents" menu links. We will post updates to our planning process on the website.

Your agency will receive timely notification on the availability to review the draft Plan and the date and time of the public hearing that will be conducted prior to the official adoption of the Plan. For more information, contact Justin Scott-Coe, public affairs representative, at (909) 267-2116 or at jscottcoe@mvwd.org.

Sincerely,

Monte Vista Water District

Mark N. Kinsey
General Manager

Water District
10575 Central Avenue, Post Office Box 71 • Montclair, CA 91763 • (909) 624-0035 • FAX (909) 624-4725 • www.mvwd.org

Sandra S. Rose, PRESIDENT
Maynard B. Lenhert, VICE PRESIDENT
Tony Lopez, DIRECTOR
Philip L. Erwin, DIRECTOR
G. Michael Milhiser, DIRECTOR

Monte Vista

Dedicated to Quality, Service and Innovation

January 19, 2011

Mark N. Kinsey
GENERAL MANAGER

SAMPLE

Mr. Tom Love
Inland Empire Utilities Agency
Post Office Box 9020
Chino Hills, California 91709

Notification of Update to Urban Water Management Plan

Dear Mr. Love:

Monte Vista Water District has initiated the process of updating its Urban Water Management Plan for 2010, in compliance with the California Urban Water Management Planning Act. Urban water agencies are required to update this planning document every five years.

The District welcomes your agency's assistance and involvement as we update our Urban Water Management Plan. The District's 2005 Urban Water Management Plan is available on our website, www.mvwd.org, following the "Public Documents" and "Planning Documents" menu links. We will post updates to our planning process on the website.

Your agency will receive timely notification on the availability to review the draft Plan and the date and time of the public hearing that will be conducted prior to the official adoption of the Plan.

For more information, contact Justin Scott-Coe, public affairs representative, at (909) 267-2116 or at jscottcoe@mvwd.org.

Sincerely,

Monte Vista Water District

Mark N. Kinsey
General Manager

Water District

10575 Central Avenue, Post Office Box 71 • Montclair, CA 91763 • (909) 624-0035 • FAX (909) 624-4725 • www.mvwd.org

Sandra S. Rose, PRESIDENT
Maynard B. Lenhert, VICE PRESIDENT
Tony Lopez, DIRECTOR
Philip L. Erwin, DIRECTOR
G. Michael Milhiser, DIRECTOR

Monte Vista
Dedicated to Quality, Service and Innovation

December 14, 2010

Mark N. Kinsey
GENERAL MANAGER

SAMPLE

Darlene Curley
Montclair Chamber of Commerce
5220 Benito Street
Montclair, CA 91763

Notification of Update to Urban Water Management Plan

Dear Ms. Curley:

Monte Vista Water District is initiating the process of updating its Urban Water Management Plan for 2010, in compliance with the California Urban Water Management Planning Act. Water agencies are required to update this planning document every five years.

Water Code Section 10642 states, "Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan."

The District welcomes your organization's involvement as we update our Urban Water Management Plan. The District's 2005 Urban Water Management Plan is available on our website, www.mvwd.org, following the "Public Documents" and "Planning Documents" menu links. We will post updates to our planning process on the website.

Please let us know if your organization would like to receive notification on the availability to review the draft Plan and the date and time of the public hearing that will be conducted prior to the official adoption of the Plan. For more information, contact Justin Scott-Coe, public affairs representative, at (909) 267-2116 or at jscottcoe@mvwd.org.

Sincerely,

Monte Vista Water District

Mark N. Kinsey
General Manager

Water District
10575 Central Avenue, Post Office Box 71 • Montclair, CA 91763 • (909) 624-0035 • FAX (909) 624-4725 • www.mvwd.org

Sandra S. Rose, PRESIDENT
Maynard B. Lenhert, VICE PRESIDENT
Tony Lopez, DIRECTOR
Philip L. Erwin, DIRECTOR
G. Michael Milhiser, DIRECTOR

Monte Vista
Dedicated to Quality, Service and Innovation

Mark N. Kinsey
GENERAL MANAGER

April 4, 2011

Mr. Ed Starr
City of Montclair
5111 Benito Street
Montclair, CA 91763

SAMPLE

Notification of Public Hearing – 2010 Urban Water Management Plan

Dear Mr. Starr:

This letter is an update to Monte Vista Water District's process of developing its 2010 Urban Water Management Plan, in compliance with the California Urban Water Management Planning Act. Urban water agencies are required to update this planning document every five years.

The District's Board of Directors has set a public hearing for Wednesday, June 8, 2011, to consider adoption of the District's 2010 Urban Water Management Plan. District staff will present the draft Plan to the Board on Wednesday, April 13, 2011, and request authorization to release the draft for public review.

The District invites representatives from your agency to attend both the presentation of the draft Plan and the public hearing, both of which will occur during regularly scheduled Board of Director's meetings on the above dates, at the District Administrative Office, 10575 Central Avenue, Montclair, beginning at 7:00 p.m.

This and future announcements concerning progress in updating the District's 2010 Urban Water Management Plan will be posted on the District website, www.mvwd.org, in the "District News" section. Upon authorization to release for public review, the draft Plan will be available on the District website, following the "Public Documents" and "Planning Documents" menu links.

For more information, contact Justin Scott-Coe, public affairs representative, at (909) 267-2116 or at jscottcoe@mvwd.org.

Sincerely,

Monte Vista Water District

Mark N. Kinsey
General Manager

Water District
10575 Central Avenue, Post Office Box 71 • Montclair, CA 91763 • (909) 624-0035 • FAX (909) 624-4725 • www.mvwd.org

Sandra S. Rose, PRESIDENT
Maynard B. Lenhert, VICE PRESIDENT
Tony Lopez, DIRECTOR
Philip L. Erwin, DIRECTOR
G. Michael Milhiser, DIRECTOR

Monte Vista
Dedicated to Quality, Service and Innovation

Mark N. Kinsey
GENERAL MANAGER

May 2, 2011

Mr. Ed Starr
City of Montclair
5111 Benito Street
Montclair, California 91763

SAMPLE

Notification of Availability of Public Review Draft – 2010 Urban Water Management Plan

Dear Mr. Starr:

This letter is an update to Monte Vista Water District's process of developing its 2010 Urban Water Management Plan, in compliance with the California Urban Water Management Planning Act.

A draft of the District's Plan is now available for public review. The Plan can be downloaded from the District's website, www.mvwd.org, following the "Public Documents" and "Planning Documents" menu links. A hard copy is also available to review at the District's Administrative Office located at 10575 Central Avenue, Montclair. The District will also provide a copy of the Plan electronically or in hard copy upon request.

The District's Board of Directors has set a public hearing for 7:00 p.m., Wednesday, June 8, 2011, to consider adoption of the District's 2010 Urban Water Management Plan. The public hearing will take place at the District Administrative Office, 10575 Central Avenue, Montclair. The District would appreciate receiving comments on the draft Plan prior to the public hearing.

This and future announcements concerning progress in updating the District's 2010 Urban Water Management Plan will be posted on the District's website, www.mvwd.org, in the "District News" section. Upon adoption, the final Plan will be available on the District website's "Public Documents" section and provided to local cities and counties within which the District provides water service.

For more information, contact Justin Scott-Coe, Public Affairs Representative, at (909) 267-2116 or at jscottcoe@mvwd.org.

Sincerely,

Monte Vista Water District

Mark N. Kinsey
General Manager

cc: Steve Lustro
Marilyn Staats

Water District
10575 Central Avenue, Post Office Box 71 • Montclair, CA 91763 • (909) 624-0035 • FAX (909) 624-4725 • www.mvwd.org

Sandra S. Rose, PRESIDENT
Maynard B. Lenhert, VICE PRESIDENT
Tony Lopez, DIRECTOR
Philip L. Erwin, DIRECTOR
G. Michael Milhiser, DIRECTOR

Appendix F:
Resolution 604-07

RESOLUTION 604-07

RESOLUTION OF THE BOARD OF DIRECTORS OF THE MONTE VISTA WATER DISTRICT, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, ESTABLISHING POLICIES FOR PROVISION OF WATER SERVICE FOR DEVELOPMENTS THAT INCLUDE HOUSING UNITS AFFORDABLE TO LOW INCOME HOUSEHOLDS

WHEREAS, the State of California continues to experience very high rates of population growth and further tightening of its housing markets with new production not keeping pace with the State's housing needs, especially for renter households and low-income owner households throughout the State; and

WHEREAS, Senate Bill 1087 (Florez) prohibits the denial of approval of an application for water service or the reduction in the provision of water service of a proposed development that includes housing units to be sold or rented to lower income households at an affordable cost or rent, unless under certain conditions; and

WHEREAS, SB 1087 further requires that water providers adopt written policies and procedures for providing service to affordable housing projects and update these policies and procedures at least once every five years; and

WHEREAS, the District's policies and procedures for granting service are not discriminatory with regard to any entity requesting service, with service granted except in certain defined situations; and

WHEREAS, the District's 2005 Urban Water Management Plan documents that available water supplies are expected to significantly exceed anticipated demands over a 25-year planning period during normal, single, or multiple dry year scenarios, taking into account planned growth within the District's service area; and

WHEREAS, the Monte Vista Water District is a water provider subject to the requirements of SB 1087 and desires to fulfill its obligations under this statute.

NOW, THEREFORE, the Board of Directors of Monte Vista Water District so hereby RESOLVES, DETERMINES, AND ORDERS as follows:

Section 1. Provision of Water Service to Developments that Include Housing Units for Lower Income Households

In accordance with the provisions of SB 1087, the Monte Vista Water District shall grant water service to any development that includes housing units for lower income households, as defined in Sections 50079.5, 50052.5, and 50053 of the Health and Safety Code.

Section 2. Prohibiting Denial of Application for or Reduction of Service for Proposed Low Income Housing Developments Unless Under Certain Conditions

Monte Vista Water District will not deny approval of an application for water service or reduce service of a proposed development that includes lower income housing, unless the District makes specific written findings that the denial, condition, or reduction is necessary due to the existence of one or more of the following: 1) a declaration by the Board of Directors of a water shortage emergency condition or the existence of other conditions resulting in an insufficient water supply or insufficient water treatment or distribution capacity for human consumption, sanitation, and fire protection; 2) the District is subject to a compliance order issued by the California Department of Health Services that prohibits new connections; or 3) the applicant has failed to agree to the terms and conditions of service provision.

Section 3. Policies and Procedures for Service Determinations

The District shall utilize its 2005 Urban Water Management Plan as a guidance document to verify availability of water supplies for proposed projects and administer all applications under the provisions of Ordinance 28: Establishing Rules and Regulations for the Installation of Water Main Lines and Meters Required to Service New and Existing Development and Water Rates and Miscellaneous Fees and Resolution 563-03: Establishing Connection Fees and Charges for Installation of Meters, Services, and Design Review.

Section 4. Updating of Policies and Procedures for Provision of Water Service for Housing Units Affordable to Low Income Households

The District will update the above policies and procedures every five (5) years, beginning in September 2011.

Approved and adopted this 13th day of September 2006.

Robb D. Quincey
President of the Board of Directors of the
MONTE VISTA WATER DISTRICT

ATTEST:

Mark N. Kinsey
Secretary to the Board of Directors of the
MONTE VISTA WATER DISTRICT

Appendix G:
Chino Basin Judgment and
Optimum Basin Management Program

Click here for Chino Basin Judgment
(http://www.mvwd.org/download.cfm?ID=614)

Click here for Optimum Basin Management Program, Phase I
(http://www.mvwd.org/download.cfm?ID=615)

Click here for Optimum Basin Management Program, Phase II
(http://www.mvwd.org/download.cfm?ID=616)

Appendix H:
San Antonio Water Company
Water Service Agreement

WATER SERVICE AGREEMENT
(MVWD)

THIS WATER SERVICE AGREEMENT (**"Agreement"**) is made by and between San Antonio Water Company, a mutual water company (**"Water Company"**) and the Monte Vista Water District (MVWD).

Recitals

A. MVWD owns **Three Hundred and Seven and one-half (307.50)** shares of the common stock of Water Company.

B. MVWD is entitled to take delivery of water from Water Company in the amount of its entitlement as established by Water Company from time to time in accordance with its Articles of Incorporation, Bylaws and operating procedures (**"Entitlement"**).

C. Water Company does not maintain a delivery system in the geographic area where MVWD operates its water system for the benefit of its customers and, accordingly, MVWD cannot currently take delivery of its entitlement directly from Water Company, except to a limited extent (1) through a wheeling arrangement with the City of Upland, which if, as and when available would permit MVWD to take some portion of its entitlement through a connection to the City of Upland's system on 11th Street east of the logical extension of Dewey Avenue (West of Central Avenue) in Upland and (2) through a wheeling arrangement with the Water Facilities Authority (WFA), which , if, as, and when available would permit MVWD to take some portion of its entitlement thought a connection to the WFA system located at 1775 N. Benson Avenue. (collectively "Wheeling Arrangements")

D. Water Company possesses water rights in the Chino Basin which, under a Judgment decreed and entered on January 27, 1978 by the Superior Court of the State of California, County of San Bernardino, in Case No. 164327 (now No. RCV 51010) Chino Basin Municipal Water District v. MVWD of Chino, et al. ("Source") and under established rules and procedures of the Watermaster of the Chino Basin, Water Company can make available to MVWD for direct exercise in a water transfer (**"Water Transfer"**).

E. Water Company and MVWD desire to deliver to MVWD its Entitlement by Water Transfer for the calendar years 2011, 2012, 2013, 2014, 2015 and otherwise in accordance with the provisions of this Agreement.

Agreements

1. Recitals The Recitals are true and correct and are incorporated in this Agreement.

2. Term. The term of this Agreement is five (5) calendar years, namely, 2011, 2012, 2013, 2014, 2015 subject to renewal with mutual agreement. If, for any reason this Agreement is not renewed at the end of this term or any subsequent term, the parties shall promptly negotiate in good faith to reach mutual agreement on a new water service agreement to provide MVWD its entitlement.

3. Entitlement and Water Deliveries and Transfer. Water Company shall deliver water to MVWD through the Wheeling Arrangements and shall effect a Water Transfer in the amount of the balance of MVWD's Entitlement for and with respect each calendar year of the Term, subject to Paragraph 4 hereof. It is MVWD's desire and instruction to Water Company that it receive its full entitlement in each and every year of a term whether through Wheeling Arrangements or Water Transfer unless prevented by the provisions of Paragraph 4. Any Entitlement not delivered to MVWD for and with respect to any calendar year of the Term, which such failure to deliver is excused as provided for in Paragraph 4 hereof, shall be lost and forever gone. MVWD's Entitlement shall not be carried over from one calendar year to a succeeding calendar year under any circumstances.

4. Excuse of Performance by Water Company. Water Company's performance of its obligations under this Agreement shall be excused for and with respect to any calendar year should the Water Transfer contemplated to be made hereunder not be effected because (1)Watermaster fails to finally approve the Water Transfer or (2) Company determines in its sole and absolute discretion that something less than the Entitlement is available for Water Transfer to MVWD due to total demand upon the Source from all Shareholders having rights to delivery or Water Transfer from the Source, in which event Company shall allocate the available water from the Source among the Shareholders in a reasonable and equitable manner.

5. Payment for Water. (a) MVWD shall pay to Water Company for and with respect to each billing cycle of the Term, an amount equal to the result of multiplying the amount of the MVWD Entitlement by the base rate for Water for the billing cycle as established by Water Company in accordance with its normal and usual operating procedures ("Entitlement Payment"). The Entitlement Payment shall be paid for each billing cycle for the calendar year notwithstanding that MVWD take delivery of water either less than or more than its Entitlement for the billing cycle. Water Company's supplemental rate for water shall not be charged to MVWD for any billing cycle of the Term.

(b) Any charges imposed by City of Upland and/or WFA on account of delivering water to MVWD pursuant to the Wheeling Arrangements shall be the sole responsibility of MVWD and shall be paid directly by MVWD to the charging entity. Water Company shall have no responsibility for any such charges.

(c) To the extent that the Entitlement is not taken by MVWD for any calendar year, due to the unavailability of water through the Wheeling Arrangements or the inability of Water Company to effect the Water Transfer, and for other reason or reasons, and MVWD has made Entitlement Payments for such calendar year, then, in that event, and not otherwise, Water Company shall either refund or credit to MVWD for the next succeeding calendar year the Entitlement Payments for which and to the extent that water was not delivered to or taken by MVWD.

6. Mutual Cooperation. Water Company and MVWD shall cooperate with each other and with Watermaster to effect the Water Transfer for and with respect to each calendar year.

7. Responsibility for Charges, Costs and Fees. MVWD shall be responsible for any charges, costs and fees related to or associated with any Water Transfer or imposed in connection with delivery of water pursuant to the Wheeling Arrangements. Water Company shall have no responsibility for any such charges, cost and fees.

8. Complete Agreement / Amendment. This Agreement constitutes the entire agreement between the parties and supersedes all agreements, representations, warranties, statements, promises and understandings, whether oral or written, with respect to the subject matter thereof, and neither party shall be bound by nor charged with any oral or written agreements, representations, warranties, statements, promises or understandings not specifically set forth in this Agreement. This Agreement may not be amended, altered or modified except in writing signed by Water Company and MVWD.

9. Attorneys' Fees. Should any party to this Agreement, or its successor in interest, commence any litigation against any party hereto, or their respective representatives, arising out of the interpretation of any provision of this Agreement or the rights and duties of said parties hereunder, the party or parties prevailing in such litigation shall be entitled, in addition to such other relief as may be granted, to a reasonable sum as and for its or their attorneys' fees and court costs in such litigation which shall be determined by the court in such litigation or in a separate action brought for that purpose. Any such legal action shall be litigated in San Bernardino County, California.

10. Validity. In the event that any provision of this Agreement shall be held to be invalid or unenforceable, such partial invalidity shall not affect in any respect whatsoever the validity or enforceability of the remainder hereof.

11. Survival of Rights. Except as may be provided herein to the contrary, this Agreement shall be binding upon and inure to the benefit of the parties' signatory hereto and their respective successors and assigns.

12. Governing Law. This Agreement has been entered into in the State of California, and all questions with respect to it and the rights and liabilities of the parties thereunder, shall be governed by the laws thereof.

13 Waiver. A breach or default by any party hereto in the performance of its obligations hereunder shall not be deemed or construed to be a consent or waiver by the party, whether or not notice of such breach or default has been given to the offending party and notwithstanding the duration of said breach or default. The giving of consent by MVWD or Water Company in any one instance shall not limit or waive the necessity to obtain the other's consent in any future instance.

14. Remedies in Equity. The parties acknowledge and represent that damages at law are an inadequate remedy for any breach or threatened breach of this Agreement. The parties may enforce this Agreement by specific performance, injunction or other equitable remedy. Nothing contained in this Agreement shall be construed to limit or affect any rights the parties may have at law, by statute or otherwise against the other party for a breach or threatened breach of any provision thereof.

15. Further Assurances. Each party hereto agrees to do all acts and things to make, execute and deliver such written instruments, as shall from time to time be reasonably required to carry out the terms and conditions of this Agreement.

16. No Assignment or Delegation. MVWD shall not be entitled to assign this Agreement or any rights under it to any other person or entity, or to delegate any of its responsibilities hereunder to any other person or entity without the written consent of Water Company having been first obtained, which Water Company may withhold in its absolute discretion for any reason satisfactory to it.

The parties have executed this Water Service Agreement to be effective on and as of SEPT. 21, 2010.

San Antonio Water Company

By Tom Thomas
Tom Thomas
President

Attest:
By
Ken Willis
Secretary

Approved as to Form:
By
Thomas H. McPeters
McPeters McAlearney Shimoff & Hatt
General Counsel

Monte Vista Water District

By Sandra S. Rose
Sandra S. Rose
President, Board of Directors

Attest:
By:
Mark N. Kinsey
General Manager/Secretary

Approved as to Form:
By:
Bruce J. Lance, Jr.
General Legal Counsel

Appendix I:
Monte Vista Water District
2011 Recycled Water Master Plan

Click here for 2011 Recycled Water Master Plan
(http://www.mvwd.org/download.cfm?ID=578)

Appendix J:
2009-2010 CUWCC Best Management Practices Annual Reports and Coverage Reports

The fields in red are required.

Agency name: Monte Vista Water District

Reporting unit name (District name): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Base Year Data

Link to FAQs

Reporting Unit Base Year

What is your reporting period? Fiscal

Base Year 2006

BMP 1.3 Metering

Number of unmetered accounts in Base Year 0

BMP 3.1 & BMP 3.2 & BMP 3.3 Residential Programs

Number of Single Family Customers in Base Year

Number of Multi Family Units in Base Year

BMP 3.4 WaterSense Specification (WSS) Toilets

Number of Single Family Housing Units constructed prior to 1992

Number of Multi Family Units prior to 1992

Average number of toilets per single family household

Average number of toilets per multi family household

Five year average resale rate of single family households

Five-year average resale rate of multi family households

Average number of persons per single family household

Average number of persons per multi family household

BMP 4.0 & BMP 5.0 CII & Landscape

Total water use (in Acre Feet) by CII accounts

Number of accounts with dedicated irrigation meters

Number of CII accounts without meters or with Mixed Use Meters

Number of CII accounts

Comments:

GPCD Compliance Option

The fields in red are required.

Agency name: Monte Vista Water District

Division name (Reporting unit): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

CUWCC

WATER SOURCES

2009

Service Area Population: 51,766

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Chino Groundwater Basin	15,555.95	Groundwater	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Water Facilities Authority	6,286.31	Surface	State Water Project via MWD/IEUA
City of Upland	285.11	Other	Mix of local surface and groundwat
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?
City of Chino Hills	10,773.27	City of Chino Hills

The fields in red are required.

Agency name: Monte Vista Water District

Division name (Reporting unit): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

CUWCC

WATER SOURCES

2009

Service Area Population: 51,766

Non- Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Inland Empire Utilities Agency	185.79	Other	Purchased Recycled Water
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported?
Chino Groundwater Basin	117.56	Groundwater recharge

The fields in red are required.

Agency name: Monte Vista Water District

Division name (Reporting unit): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

CUWCC

Water Uses 2009

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	9,591.00	5,637.26			
Multi-Family	623.00	1,429.24			
Commercial	924.00	1,776.55			
Industrial	15.00	32.91			
Institutional	44.00	453.37			
Dedicated Irrigation	285.00	941.28			
Agricultural	10.00	75.27			
Other	328.00	53.02			Fire DC, hydrant
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: Monte Vista Water District

Division name (Reporting unit): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

Water Uses

2009

Non-Potable Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Dedicated Irrigation	7.00	68.23			
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Non-Potable Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: Monte Vista Water District

Reporting unit name (District name): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

CUWCC

Link to FAQs

2009

BMP 1.1 Operations Practices

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Comments:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name	Justin
Last Name	Scott-Coe
Title	Public Affairs Representative
Phone	909-267-2116
Email	jscottcoe@mvwd.org

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
b. Enact and enforce an ordinance or establish terms of service for water efficient design in new development
c. Support legislation or regulations that prohibit water waste
d. Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
e. Support local ordinances that prohibit water waste
f. Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

a. A description of, or electronic link to, any ordinances or terms of service
b. A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
c. A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
d. description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list: http://www.mvwd.org/download.cfm?ID=117

Enter a description:

Ordinance 33: Establishing Water Use Efficiency Best Practices and Staged Water Supply Shortage Measures
Section 5: Water Use Efficiency Best Practices

The fields in red are required.

Agency name: Monte Vista Water District

Reporting unit name (District name): Monte Vista Water District - Retail

Reporting unit number: 183

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

View MOU

2009 BMP 1.2 Water Loss Control

Did your agency complete a pre-screening system audit in 2009? Yes ◉ No ○

If yes, answer the following:

Determine metered sales in AF: 10,398.89

Definition: other accountable uses not included in metered sales, such as unbilled water use, fire suppression, etc.

Determine system verifiable uses AF: 33.89

Determine total supply into the system in AF: 11,354.10

Does your agency keep necessary data on file to verify the answers above? Yes ◉ No ○

Did your agency complete a full-scale system water audit during 2009? Yes ◉ No ○

Does your agency maintain in-house records of audit results or the completed AWWA worksheet for the completed audit which could be forwarded to CUWCC? Yes ◉ No ○

Did your agency operate a system leak detection program? Yes ○ No ◉

Comments:

The fields in red are required.

Agency name: Monte Vista Water District

Reporting unit name (District name): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

BMP 1.3 Metering with Commodity

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? ○ Yes ◉ No

If YES, has your agency completed a meter retrofit plan? ○ Yes ○ No

Enter the number of previously unmetered accounts fitted with meters during reporting year:

Are all new service connections being metered? ◉ Yes ○ No

Are all new service connections being billed volumetrically? ◉ Yes ○ No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? ◉ Yes ○ No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# of estimated bills/yr
Single-Family	9,591	9,591	9,591	Bi-monthly	135
Multi-Family	623	623	623	Bi-monthly	135
Commericial	924	924	924	Bi-monthly	6
Industrial	15	15	15	Bi-monthly	6
Institutional	44	44	44	Bi-monthly	6
Dedicated Irrigatic	285	285	285	Bi-monthly	6
Agricultural	10	10	10	Bi-monthly	6
Other	328	328	328	Other	6
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 983

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? ◉ Yes ○ No

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted: 04/12/2011

B. Email or provide a link to the feasibility study (or description of):

File name(s): Email files to natalie@cuwcc.org: MVWD_FeasibilityStudy_0411.pdf

Web address(s) URL: comma-separated list: Enter the URL to your documentation.

General Comments about BMP 1.3:

Feasibility Study Examining Incentive Programs to
Move Landscape Water Uses on Mixed-Use Meters to Dedicated Landscape Meters
April 2011

To comply with BMP 1.3 of the California Urban Water Conservation Council's Memorandum of Understanding, signatories must conduct a feasibility study examining incentive programs to move landscape water uses on mixed-use meters to dedicated landscape meters. It is thought that being able to measure indoor and outdoor water use separately may enable customers and water agencies to better identify opportunities for water use reduction and measure the success of conservation programs.

Monte Vista Water District (District) has looked at the feasibility of developing an incentive program to move large landscape water uses on mixed-use meters to dedicated landscape meters.

Current standards require the installation of separate irrigation meters for commercial, industrial, institutional, and residential development with substantial landscaping (over 2,500 square feet); however, older facilities built before these standards were in place do not have separate irrigation meters. If an additional meter were installed at a commercial/industrial/institutional site, an additional backflow prevention device would be required.

A. Initial costs:
   1. Cost of new irrigation meter varies depending on meter size. Estimated at $550, based on 2" meter.
   2. Cost of re-plumbing and installation varies depending on site conditions. Estimated at $5,000 - $15,000.
   3. Cost of additional backflow device and installation varies depending size, and on site conditions. Estimated at $1,800 - $3,000, based on 2" RP.

B. Affect on customer's ongoing billing and costs:
   1. Additional fixed meter fee (RTS): $732.60/year, based on 2" meter.
   2. Annual testing of backflow prevention device varies: estimated at $50.
   3. Cost of maintaining/repairing backflow device as needed: varies, estimate unavailable.
   4. Potential reduction of sewer bill – varies by site - estimate unavailable.

Based on the above estimates, the initial, one-time cost of installing a dedicated irrigation meter, potentially with a backflow prevention device, could vary somewhere in the range of $5,550-$18,550, with an ongoing net annual increase in the customer's utility bill and other fees estimated to be at least $782.60.

Potential Connection Fee Incentive

An existing incentive the District could offer to large water-use commercial, industrial, institutional, and residential customers to retrofit their existing mixed-use meters with dedicated landscape meters is to waive the connection fee for the new landscape meter. The customer would then only have to pay the meter installation fee, and could realize savings from downsizing their existing domestic service and negotiating a reduction in their sewer discharge fee with the City of Montclair or the City of Chino.

The District has precedent for waiving its connection fee as an incentive. The District waived the connection fee for installation of meters for its agricultural customers, as well as for installation of recycled water meters.

The District would have to keep track of which meters were not charged a connection fee, as a subsequent owner of the property may without cause receive a connection fee credit for the existing connection to the water system.

Conclusion

The costs of implementing incentive programs to move landscape water uses on mixed-use meters to dedicated landscape meters are high, and the potential benefits are not quantifiable; therefore, the District will not move forward with such a program.

The fields in red are required.

Agency name: Monte Vista Water District

Reporting unit name (District name): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

CUWCC

2009

Link to FAQs

View MOU

BMP 1.4 Retail Conservation Pricing

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Uniform		3,086,787.67	1,175,683.33
Uniform		805,402.30	145,321.28
Uniform		999,548.63	281,746.28
Uniform		18,565.24	6,386.11
Uniform		250,982.01	54,556.16
Uniform		555,199.09	113,261.34
Uniform		50,087.42	24,893.51

Implementation Option (Conservation Pricing Option)

⊙ Use Annual Revenue As Reported

○ Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service ○ Yes ⊙ No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			

Comments:

The fields in red are required.

Agency name: Monte Vista Water District

Reporting unit name (District name): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

CUWCC

Link to FAQs

2009

BMP 2.1 Public Outreach - Retail Reporting

View MOU

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP? (•) Yes ( ) No

Enter the name(s) of the wholesale agency (comma delimited): Inland Empire Utilities Agency, Metropolitan Water District of Southern California

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year? ✓

Number of Public Contacts	Public Information Programs
23	General water conservation information
2	Newsletter articles on conservation
	Select a public contact
	Select a public contact
	Select a public contact

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? (•) Yes ( ) No

Enter the name(s) of the wholesale agency (comma delimited): Inland Empire Utilities Agency, Metropolitan Water District of Southern California

OR Retail Agency (Contacts with the Media)

Media Contacts List

Did at least one contact take place during each quarter of the reporting year? ✓

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
11		News releases
1		Newspaper contacts
		Select a type of media contact
		Select a type of media contact
		Select a type of media contact
		Select a type of media contact

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP? ○Yes ⊙No

Enter the name(s) of the wholesale agency (comma delimited)

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address): www.mwwd.org

Describe a minimum of four water conservation related updates to your agency's website that took place during the year:

7/08 Water Supply Alert page
10/08 Stage I Water Supply Shortage page
1/09 Update to toilet rebate program availability
4/09 Stage II Water Supply Shortage, Mandatory Water Use Restrictions pages

Did at least one Website Update take place during each quarter of the reporting year? ⊙Yes ○No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or brake the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	
Waterline News	$9,600				
"Watch the Wat	$31,000			Includes PI programs, garden classes	
Website	$7,500				
Water Educatio	$750			Half of dues for public information programs	

Comments:

The fields in red are required.

Agency name: Monte Vista Water District

Reporting unit name (District name): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

CUWCC

Link to FAQs

2009

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?
Waterline Newsletter	$5,756	☐
"Watch the Water" Program	$25,222	☐
Website	$1,705	☐
Water Education Water Awareness	$750	☐

If yes, check the check box.

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts? ⊙ Yes ○ No

Public Outreach Additional Information

Public Information Programs	Importance
	$1
	$2
	$3

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? ⊙ Yes ○ No

Describe the brand, theme or mascot. "Watch the Water" is a comprehensive water awareness campaign promoting wise and efficient water use.

Market Research

Have you sponsored or participated in market research to refine your message? ○ Yes ⊙ No

Market Research Topic	N/A
Brand Message	Monte Vista Water District's "Watch the Water" campaign encourages customers to voluntarily increase their water use efficiency, while following the required "Best Practices" for wise water usage.
Brand Mission Statement	Monte Vista Water District believes that we can "Watch the Water" together to ensure a plentiful supply of water now and in the future!

Community Committees

Do you have a community conservation committee? ○ Yes ◉ No

Enter the names of the community committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other
Water Wise Garden	$2	$54	

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name	Type of Program
☐ CLCA?	
☐ Green Building Programs?	
☐ Master Gardeners?	
☐ Cooperative Extension?	
☐ Local Colleges?	
☐ Other	

☐ Retail and wholesale outlet; name(s) and type(s) of programs:

Partnering Programs - Newsletters

Number of newsletters per year: 2

Number of customers per year	11,500

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities	Chino Basin Water Conservation District; Water Education - Water Awareness Committee (partnership of 13 other local water agencies implementing regional public information and education programs); Regional Conservation Partnership Workshop (IEUA member agencies

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new	Drought-Tolerant Demonstration Garden, Chino Basin Water Conservation District, 4594 San Bernardino St., Montclair, CA. Provides numerous examples of plants and design approaches for a variety of garden styles. Open to public free of charge, 7 days a week, 8 a.m. to 5 p.m.

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency	

Comments:

The fields in red are required.

Agency name: Monte Vista Water District

Reporting unit name (District name): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

Click here to open a table that displays your agency name, reporting unit name and reporting unit number. Please ensure that you enter the correct information.

CUWCC

Link to FAQs

2009

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is a wholesale agency implementing school programs which can be counted to help your agency comply with this BMP? ⊙Yes ○No

Enter Wholesaler Names, separated by commas: Inland Empire Utilities Agency, Metropolitan Water District of Southern California

☑ Materials meet state education framework requirements?

Description of Materials: Project WET ("Water Education for Teachers") Curriculum & Activity Guide, a collection of field-tested innovative, water-related activities aligned with the California Content Standards. Distributed at an annual regional workshop.

☑ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students: Monte Vista Water District, in partnership with Inland Empire Utilities Agency, offers free live theatrical productions to schools in its service area. Grade appropriate workbooks and teacher guides are provided to reinforce students' learning.

Number of students reached: 2,280

☐ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students:

Number of Distribution:

Annual budget for school education program: $8,000.00

Description of all other water supplier education programs: "Water is Life" Art Poster Contest, National Theater for Children, Project WET Workshops, Edu-Grants, Public Service Announcement (PSA) Video Contest, Garden in Every School Program, Annual Education Grant Award

School Program Activities

Classroom presentations:

Number of presentations: 1 Number of attendees:

Large group assemblies:

Number of presentations: 6 Number of attendees: 690

Children's water festivals or other events:

Number of presentations: 1 Number of attendees: 1,200

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Number of presentations: Number of attendees:

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

Description: Montclair High School Environmental Model, developed in partnership with MHS, City of Montclair, Chino Basin Watermaster, and Chino Basin Water Conservation District.

Number distributed: 1 model, widely used

Staffing children's booths at events & festivals:

Number of booths:

Number of attendees:

Water conservation contests such as poster and photo:

Description: Annual "Water is Life" Art Poster Contest, K-12, winners in several grade categories are selected by District staff and members of the Board of Directors, entered in MWD regional contest.

Number distributed:

Offer monetary awards/funding or scholarships to students:

Number Offered:

Total Funding:

Teacher training workshops:

Number of presentations: 2

Number of attendees: 11

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips:

Number of participants:

College internships in water conservation offered:

Number of internships:

Total funding:

Career fairs/workshops:

Number of presentations:

Number of attendees:

Additional program(s) supported by agency but not mentioned above:

Description:

Number of events (if applicable):

Number of participants:

Total reporting period budget expenditures for school education programs (include all agency costs): 2668

Comments

The fields in red are required.

Agency name: Monte Vista Water District

Division name (Reporting unit): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

CUWCC

WATER SOURCES

2010

Service Area Population: 52488

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Chino Groundwater Basin	15,773.84	Groundwater	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Water Facilities Authority	4,464.71	Other	State Water Project via MWD/IEUA
City of Upland	68.16	Other	Mix of local surface and groundwat
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?
City of Chino Hills	10,171.33	City of Chino Hills

The fields in red are required.

Agency name: Monte Vista Water District

Division name (Reporting unit): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

CUWCC

2010

Service Area Population: 52488

Non- Potable Water

If you select Other for type, enter

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Inland Empire Utilities Agency	582.86	Recycled Non Potable	Purchased Recycled Water
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,
Chino Groundwater Basin	315.80	Groundwater recharge

The fields in red are required.

Agency name: Monte Vista Water District

Division name (Reporting unit): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

Water Uses 2010

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	9,901.00	5,097.43			
Multi-Family	628.00	1,261.89			
Commercial	986.00	1,674.06			
Industrial	17.00	30.82			
Institutional	42.00	296.46			
Dedicated Irrigation	299.00	690.25			
Agricultural	12.00	43.46			
Other	353.00	28.59			Fire DC, hydrant
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: Monte Vista Water District

Division name (Reporting unit): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

Water Uses 2010

Non-Potable Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Dedicated Irrigation	21.00	267.06			
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Non-Potable Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: Monte Vista Water District

Reporting unit name (District name): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

CUWCC

Link to FAQs

2010

BMP 1.1 Operations Practices

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Comments:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name	Justin
Last Name	Scott-Coe
Title	Public Affairs Representative
Phone	909-267-2116
Email	jscottcoe@mvwd.org

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
b. Enact and enforce an ordinance or establish terms of service for water efficient design in new development
c. Support legislation or regulations that prohibit water waste
d. Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
e. Support local ordinances that prohibit water waste
f. Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

a. A description of, or electronic link to, any ordinances or terms of service
b. A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
c. A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
d. description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list: http://www.mvwd.org/download.cfm?ID=117

Enter a description:

Ordinance 33: Establishing Water Use Efficiency Best Practices and Staged Water Supply Shortage Measures
Section 5: Water Use Efficiency Best Practices

The fields in red are required.

Agency name: Monte Vista Water District

Reporting unit name (District name): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

CUWCC

Link to FAQs

View MOU

2010 BMP 1.2 Water Loss Control

AWWA Water Audit

Agency to complete a Water Audit & Balance Using The AWWA Software ⊙ Yes ○ No

Email to natalie@cuwcc.org - Worksheets (AWWA Water Audit). Enter the name of the file below:

MVWD_2009_BMP1.2_Audit.xls; MVWD_2010_BMP1.2_Audit.xls

Water Audit Validity Score from AWWA spreadsheet: 65

Agency Completed Training In The AWWA Water Audit Method ⊙ Yes ○ No

Agency Completed Training In The Component Analysis Process ⊙ Yes ○ No

Completed/Updated the Component Analysis (at least every 4 years)? ○ Yes ⊙ No

Component Analysis Completed/Updated Date

Water Loss Performance

Agency Repaired All Reported Leaks & Breaks To The Extent Cost Effective ⊙ Yes ○ No

Recording Keeping Requirements:

Date/Time Leak Reported	Leak Location
Type of Leaking Pipe Segment or Fitting	Leak Running Time From Report to Repair
Leak Volume Estimate	Cost of Repair

Agency Located and Repaired Unreported Leaks to the Extent Cost Effective ⊙ Yes ○ No

Type of Program Activities Used to Detect Unreported Leaks

Annual Summary Information

Complete the following table with annual summary information (required for reporting years 2-5 only)

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)

Comments: N/A: According to the MOU for BMP 1.2, Implementation Schedule, "July 1, 2009 through June 30, 2010 will be the first year of implementation." Under Requirements for Documenting BMP Implementation, the above information is required "during years two through five of implementation." FY 2010 is only the first year of implementation and is, thus, not required at this time.

The fields in red are required.

Agency name: Monte Vista Water District

Reporting unit name (District name): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

BMP 1.3 Metering with Commodity 2010

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? ○ Yes ◉ No

If YES, has your agency completed a meter retrofit plan? ○ Yes ○ No

Enter the number of previously unmetered accounts fitted with meters during reporting year:

Are all new service connections being metered? ◉ Yes ○ No

Are all new service connections being billed volumetrically? ◉ Yes ○ No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? ◉ Yes ○ No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# of estimated bills/yr
Single-Family	9,901	9,901	9,901	Bi-monthly	135
Multi-Family	628	628	628	Bi-monthly	135
Commericial	986	986	986	Bi-monthly	6
Industrial	17	17	17	Bi-monthly	6
Institutional	42	42	42	Bi-monthly	6
Dedicated Irrigatic	320	320	320	Bi-monthly	6
Agricultural	12	12	12	Bi-monthly	6
Other	353	353	353	Bi-monthly	6
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 1,045

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? ◉ Yes ○ No

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted: 04/12/2011

B. Describe, upload or provide an electronic link to the Feasibility Study Upload File

File name(s): Email files to natalie@cuwcc.org: MVWD_FeasibilityStudy_0411.pdf

Web address(s) URL: comma-separated list:

Comments:

The fields in red are required.

Agency name: Monte Vista Water District

Reporting unit name (District name): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

CUWCC

2010

Link to FAQs

View MOU

BMP 1.4 Retail Conservation Pricing

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Uniform		2,911,832.85	1,267,677.38
Uniform		796,600.22	155,962.55
Uniform		948,922.00	302,979.68
Uniform		17,954.09	6,529.84
Uniform		174,656.40	54,836.79
Uniform		504,728.94	130,753.63
Uniform		42,563.85	23,553.89

Implementation Option (Conservation Pricing Option)

⊙ Use Annual Revenue As Reported

○ Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service ○ Yes ⊙ No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			

Comments:

The fields in red are required.

Agency name: Monte Vista Water District

Reporting unit name (District name): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

CUWCC

Link to FAQs

2010

BMP 2.1 Public Outreach - Retail Reporting

View MOU

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP? (•) Yes ( ) No

Enter the name(s) of the wholesale agency (comma delimited): Inland Empire Utilities Agency, Metropolitan Water District of Southern California

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year? ✓

Number of Public Contacts	Public Information Programs
20	General water conservation information
15	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
3	Newsletter articles on conservation
	Select a public contact
	Select a public contact

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? (•) Yes ( ) No

Enter the name(s) of the wholesale agency (comma delimited): Inland Empire Utilities Agency, Metropolitan Water District of Southern California

OR Retail Agency (Contacts with the Media)

Media Contacts List

Did at least one contact take place during each quarter of the reporting year? ✓

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
8		News releases
		Select a type of media contact
		Select a type of media contact
		Select a type of media contact
		Select a type of media contact
		Select a type of media contact

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP? ○Yes ⊙No

Enter the name(s) of the wholesale agency (comma delimited)

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address): www.mwwd.org

Describe a minimum of four water conservation related updates to your agency's website that took place during the year:

9/09 Update to rebate program schedules
12/09 Proposed budget-based rate structure info
2/10 Adopted budget-based rate structure updated info
4/10 Update to "Watch the Water" website section

Did at least one Website Update take place during each quarter of the reporting year? ⊙Yes ○No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or brake the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	
Waterline News	$10,000				
"Watch the Wat	$36,000			Includes PI programs, garden classes	
Website	$10,000				
Water Educatio	$750			Half of dues for public information programs	

Comments:

The fields in red are required.

Agency name: Monte Vista Water District

Reporting unit name (District name): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

CUWCC

Link to FAQs

2010

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?
Waterline Newsletter	$6,508	☐
"Watch the Water" Program	$21,605	☐
Website	$19,916	☐
Water Education Water Awareness	$750	☐

If yes, check the check box.

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts? ⊙ Yes ○ No

Public Outreach Additional Information

Public Information Programs	Importance
	$1
	$2
	$3

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? ⊙ Yes ○ No

Describe the brand, theme or mascot. "Watch the Water" is a comprehensive water awareness campaign promoting wise and efficient water use.

Market Research

Have you sponsored or participated in market research to refine your message? ○ Yes ⊙ No

Market Research Topic	N/A
Brand Message	Monte Vista Water District's "Watch the Water" campaign encourages customers to voluntarily increase their water use efficiency, while following the required "Best Practices" for wise water usage.
Brand Mission Statement	Monte Vista Water District believes that we can "Watch the Water" together to ensure a plentiful supply of water now and in the future!

Community Committees

Do you have a community conservation committee? ○ Yes ⊙ No

Enter the names of the community committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other
Water Wise Garden	$2	$69	

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name	Type of Program
☐ CLCA?	
☐ Green Building Programs?	
☐ Master Gardeners?	
☐ Cooperative Extension?	
☐ Local Colleges?	
☐ Other	

☐ Retail and wholesale outlet; name(s) and type(s) of programs:

Partnering Programs - Newsletters

Number of newsletters per year: 2

Number of customers per year	11,500

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities	Chino Basin Water Conservation District; Water Education - Water Awareness Committee (partnership of 12 other local water agencies implementing regional public information and education programs); Regional Conservation Partnership Workshop (IEUA member agencies

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new	Drought-Tolerant Demonstration Garden, Chino Basin Water Conservation District, 4594 San Bernardino St., Montclair, CA. Provides numerous examples of plants and design approaches for a variety of garden styles. Open to public free of charge, 7 days a week, 8 a.m. to 5 p.m.

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency	

Comments:

The fields in red are required.

Agency name: Monte Vista Water District

Reporting unit name (District name): Monte Vista Water District - Retail

Reporting unit number: 163

Primary contact:

First name: Justin

Last name: Scott-Coe

Email: jscottcoe@mvwd.org

Click here to open a table that displays your agency name, reporting unit name and reporting unit number. Please ensure that you enter the correct information.

CUWCC

Link to FAQs

2010

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is a wholesale agency implementing school programs which can be counted to help your agency comply with this BMP? ⊙Yes ○No

Enter Wholesaler Names, separated by commas: Inland Empire Utilities Agency, Metropolitan Water District of Southern California

☑ Materials meet state education framework requirements?

Description of Materials: Project WET ("Water Education for Teachers") Curriculum & Activity Guide, a collection of field-tested innovative, water-related activities aligned with the California Content Standards. Distributed at an annual regional workshop.

☑ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students: Monte Vista Water District, in partnership with Inland Empire Utilities Agency, offers free live theatrical productions to schools in its service area. Grade appropriate workbooks and teacher guides are provided to reinforce students' learning.

Number of students reached: 3,728

☐ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students:

Number of Distribution:

Annual budget for school education program: $3,000.00

Description of all other water supplier education programs: "Water is Life" Art Poster Contest, National Theater for Children, Project WET Workshops, Edu-Grants, Public Service Announcement (PSA) Video Contest, Garden In Every School Program, Annual Education Grant Award

School Program Activities

Classroom presentations:

Number of presentations: 3 Number of attendees:

Large group assemblies:

Number of presentations: 4 Number of attendees: 800

Children's water festivals or other events:

Number of presentations: 1 Number of attendees: 1200

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Number of presentations: 2 Number of attendees: 325

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

Description: "Water for Tomorrow" Magazine class sets

Number distributed: 370

Staffing children's booths at events & festivals:

Number of booths:

Number of attendees:

Water conservation contests such as poster and photo:

Description: Annual "Water is Life" Art Poster Contest, K-12, winners in several grade categories are selected by District staff and members of the Board of Directors, entered in MWD regional contest.

Number distributed: 160

Offer monetary awards/funding or scholarships to students:

Number Offered:

Total Funding:

Teacher training workshops:

Number of presentations: 2

Number of attendees: 9

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips: 1

Number of participants: 13

College internships in water conservation offered:

Number of internships:

Total funding:

Career fairs/workshops:

Number of presentations:

Number of attendees:

Additional program(s) supported by agency but not mentioned above:

Description: Monte Vista Water District, in partnership with Inland Empire Utilities Agency, offers free live theatrical productions to schools in its service area. Grade appropriate workbooks and teacher guides are provided to reinforce students' learning.

Number of events (if applicable): 6

Number of participants: 3728

Total reporting period budget expenditures for school education programs (include all agency costs): 2573

Comments

California Urban Water Conservation Council

TARGETS / COMPLIANCE
(CUWCC MOU)

Baseline / Initial GPCD
(Use option buttons to select)

GPCD in 2006 ○	200.3
Baseline GPCD (1997 to 2006) ◉	206.6

GPCD in 2010	171.4
GPCD Target for 2018	169.4

Potable Water GPCD for each Year in the Baseline Period

Year	GPCD
2006	200.3
2005	192.8
2004	221.0
2003	214.1
2002	217.3
2001	212.3
2000	217.5
1999	194.8
1998	211.6
1997	184.4

Biennial GPCD Compliance Table

Year	Report	Target		Highest Acceptable Bound	
		% Base	GPCD	% Base	GPCD
2010	1	96.4%	199.2	100%	206.6
2012	2	92.8%	191.7	96.4%	199.2
2014	3	89.2%	184.3	92.8%	191.7
2016	4	85.6%	176.8	89.2%	184.3
2018	5	82.0%	169.4	82.0%	169.4

Monthly GPCD Data for Weather Normalization

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
2010	235.1	224.2	227.3	180.8	164.5	118.7	137.4	98.2	137.9	162.9	178.1	203.6
Baseline avg*	269.0	288.9	261.2	211.3	173.0	158.9	151.9	139.1	170.5	173.9	228.8	252.6

* The average for each month is based on the baseline period 1997 to 2006

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Agency: Monte Vista Water District **District Name:** Monte Vista Water District - Retail **CUWCC Unit #:** 163
Retail

Primary Contact Justin Scott-Coe **Telephone** 909-267-2116 **Email:** jscottcoe@mvwd.org

Compliance Option Chosen By Reporting Agency:
(Traditional, Flex Track or GPCD)
GPCD if used:

GPCD in 2010	**172**
GPCD Target for 2018	169

Year	Report	Target		Highest Acceptable Bound	
		% Base	GPCD	% Base	GPCD
2010	1	96.4%	199	100%	207
2012	2	92.8%	192	96%	199
2014	3	89.2%	184	93%	192
2016	4	85.6%	177	89%	184
2018	5	82.0%	169	82%	169

Not on Track if 2010 GPCD is > than target

GPCD in 2010	172
Highest Acceptable GPCD for 2010	207

On Track

Reporting Period: Fiscal

Agency: Monte Vista Water District **District Name:** Monte Vista Water District - Retail **CUWCC Unit #:** 163
Retail

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

BMP 1.1 Operational Practices

		2009	2010
1.Conservation Coordinator	Name	Justin Scott-Coe	Justin Scott-Coe
	Title	Public Affairs Representative	Public Affairs Representative
	Email		jscottcoe@mvwd.o
		On Track	On Track
2. Water waste prevention documentation			
	Descriptive File	0	0
	URL	Ordinance 33: Establishing Water Use Efficiency Best Practices and Staged Water Supply Shortage Measures Section 5: Water Use Efficiency Best Practices	http://www.mvwd.org/download.cfm?ID=117
	Description	Ordinance 33: Establishing Water Use Efficiency Best Practices and Staged Water Supply Shortage Measures Section 5: Water Use Efficiency Best Practices	Ordinance 33: Establishing Water Use Efficiency Best Practices and Staged Water Supply Shortage Measures Section 5: Water Use Efficiency Best Practices
		On Track	On Track

Agency: Monte Vista Water District **District Name:** Monte Vista Water District - Retail **CUWCC Unit #:** 163
Retail

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

BMP 1.2 Water Loss Control

	2009		
Complete a prescreening Audit	yes	On Track	On Track if Yes
Metered Sales	10,399		
Verifiable Other Uses	34		
Total Supply	11,354		
(Metered Sales + System uses)/ Total Supply >0.89	0.92	On Track	On Track if =>.89, Not on Track if No
If ratio is less than 0.9, complete a full scale Audit in 2009?	Yes	On Track	On Track if Yes
Verify Data with Records on File?	Yes	On Track	On Track if Yes
Operate a system Leak Detection Program?	Yes	On Track	On Track if Yes

	2010		
Compile Standard Water Audit using AWWA Software?	Yes	On Track	On Track if Yes, Not on Track if No
AWWA file provided to CUWCC?	MVWD_2009_BMP1.2_Audit.xls; MVWD	On Track	On Track if Yes, Not on Track if No
AWWA Water Audit Validity Score?	65		Info only until 2012
Completed Training in AWWA Audit Method?	yes		Info only until 2012
Completed Training in Component Analysis Process?	Yes		
Complete Component Analysis?	No		Info only until 2012
Repaired all leaks and breaks to the extent cost effective?	Yes	On Track	On Track if Yes, Not on Track if No
Locate and repair unreported leaks to the extent cost effective.	Yes	On Track	On Track if Yes, Not on Track if No
Maintain a record-keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair.			Info only until 2012

Provided 7 types of Water Loss Control Info

Info only until 2012

Leaks Repaired	Value Real Losses	Value Apparent Losses	Miles Surveyed	Press Reduction	Cost of Interventions	Water Saved
0	$ -	$ -	0	Off	$ -	0

Agency: Monte Vista Water District **District Name:** Monte Vista Water District - Retail **CUWCC Unit #:** 163
Retail

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

1.3 METERING WITH COMMODITY RATES FOR ALL NEW CONNECTIONS AND RETROFIT OF EXISTING CONNECTIONS

If signed MOU prior to 31 Dec 1997, On Track if all connections metered; If signed after 31 Dec 1997, complete meter installations by 1 July 2012 or within 6 yrs of signing and 20% biannual reduction of unmetered connections.

	2009		2010		
Exemption or 'At least as Effective As' accepted by CUWCC					
Numbered Unmetered Accounts 2008	0	On Track	0	On Track	On Track if no unmetered accounts
Metered Accounts billed by volume of use	Yes	On Track	Yes	On Track	Volumetric billing required for all connections on same schedule as metering
Number of CII accounts with Mixed Use meters	983		1,045		Info only
Conducted a feasibility study to assess merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?	Yes	On Track	Yes	On Track	On Track if Yes, Not on Track if No
Feasibility Study provided to CUWCC?	Yes	On Track	Yes	On Track	On Track if Yes, Not on Track if No
Completed a written plan, policy or program to test, repair and replace meters	Yes	On Track	Yes	On Track	On Track if Yes, Not on Track if No

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Agency: Monte Vista Water District **District Name:** Monte Vista Water District - Retail **CUWCC Unit #:** 163
Retail

Primary Contact Justin Scott-Coe **Email:** jscottcoe@mvwd.org

1.4 Retail Conservation Pricing

Metered Water Rate Structure

On Track if: Increasing Block, Uniform, Allocation, Standby Service; Not on Track if otherwise

Customer Class	2009 Rate Type	Conserving Rate?	Customer Class	2010 Rate Type	Conserving Rate?
Single-Family	Uniform	Yes	Single-Family	Uniform	Yes
Multi-Family	Uniform	Yes	Multi-Family	Uniform	Yes
Commercial	Uniform	Yes	Commercial	Uniform	Yes
Industrial	Uniform	Yes	Industrial	Uniform	Yes
Institutional	Uniform	Yes	Institutional	Uniform	Yes
		On Track			On Track

Year Volumetric Rates began for Agencies with some Unmetered Accounts

Info only

Agencies with Partially Metered Service Areas: If signed MOU prior to 31 Dec. 1997, implementation starts no later than 1July 2010. If signed MOU after 31 Dec. 1997, implementation starts no later than 1July 2013, or within seven years of signing the MOU,

Agency: Monte Vista Water District
Retail

District Name: Monte Vista Water District - Retail

CUWCC Unit #: 163

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Adequacy of Volumetric Rates) for Agencies with No Unmetered Accounts

Customer Class	2009 Rate Type	2009 Volumetric Revenues $1000s	2010 Rate Type	2010 Volumetric Revenues $1000s
Single-Family	Uniform	$ 3,087		$ 2,912
Multi-Family		$ 805		$ 797
Commercial		$ 1,000		$ 949
Industrial		$ 19		$ 18
Institutional		$ 251		$ 175
Dedicated Irrigation		$ 555		$ 505
Other		$ 50		$ 43
Total Revenue Commodity Charges (V):		$ 5,767		$ 5,397
Total Revenue Fixed Charges (M):		$ 1,747		$ 1,942
Calculate: V / (V + M):		77%		74%
		On Track		On Track

Agency Choices for rates:

A) Agencies signing MOU prior to 13 June2007, implementation starts 1 July2007: On Track if (V / (V + M) ≥ 70% x .8 = **56% for 2009** and 70%x0.90 = **63% for 2010**; Not on track if (V / (V + M)) < 70%;

B) Use Canadian model.

Agencies signing MOU after 13June2007, implementation starts July 1 of year following signing.

Canadian Water & Wastewater Rate Design Model Used and Provided to CUWCC	No	No
If Canadian Model is used, was 1 year or 3 year period applied?		

Agency: Monte Vista Water District
Retail

District Name: Monte Vista Water District - Retail

CUWCC Unit #: 163

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Wastewater Rates

	2009		2010
Does Agency Provide Sewer Service?	No	If 'No', then wastewater rate info not required.	No

Customer Class	2009 Rate Type	Conserving Rate?	Customer Class	2010 Rate Type	Conserving Rate?
					No
		Yes			
		Yes			
		yes			
		On Track			On Track

On Track if: 'Increasing Block', 'Uniform', 'based on long term marginal cost' or 'next unit of capacity'

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

BMP 2. EDUCATION PROGRAMS

BMP 2.1 Public Outreach Actions Implemented and Reported to CUWCC

	2009	2010
1) Contacts with the public (minimum = 4 times per year)	25	38
2) Water supplier contacts with media (minimum = 4 times per year, i.e., at least quarterly).	12	8
3) An actively maintained website that is updated regularly (minimum = 4 times per year, i.e., at least quarterly).	Yes	yes
4) Description of materials used to meet minimum requirement.	General water conservation information Newsletter articles on conservation Website News releases Newspaper contacts "Watch the Water" Program Water Education	General water conservation information Flyers and/or brochures (total copies), bill Newsletter articles on conservation News releases Website "Watch the Water" Program Water Education
5) Annual budget for public outreach program.	$ 48,850	$ 56,750
6) Description of all other outreach programs	Description is too large for text area. Data will be stored in the BMP Reporting database when online.	Description is too large for text area. Data will be stored in the BMP Reporting database when online.
	On Track for 6 Actions	**On Track for 6 Actions**

All 6 action types implemented and reported to CUWCC to be 'On Track')

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

2.2 School Education Programs Implemented and Reported to CUWCC

	2009	2010	
Does a wholesale agency implement School Education Programs for this unility's benefit?	Yes	Yes	
Name of Wholesale Supplier?	Inland Empire Utilities Agency, Metropolitan Water District of Southern California	Inland Empire Utilities Agency, Metropolitan Water District of	
1) Curriculum materials developed and/or provided by agency	Project WET ("Water Education for Teachers") Curriculum & Activity Guide, a collection of field-tested innovative, water-related activities aligned with the California Content Standards. Distributed at an annual regional workshop.	Project WET ("Water Education for Teachers") Curriculum & Activity Guide, a collection of field-tested innovative, water-related activities aligned with the California Content Standards. Distributed at an annual regional workshop.	Yes/ No
2) Materials meet state education framework requirements and are grade-level appropriate?	Yes	Yes	All 5 actions types implemented and reported to CUWCC to be 'On Track'
3) Materials Distributed to K-6?	yes	Yes	
Describe K-6 Materials	Monte Vista Water District, in partnership with Inland Empire Utilities Agency, offers free live theatrical productions to schools in its service area. Grade appropriate workbooks and teacher guides are provided to reinforce students' learning.	Monte Vista Water District, in partnership with Inland Empire Utilities Agency, offers free live theatrical productions to schools in its service area. Grade appropriate workbooks and teacher guides are provided to reinforce students' learning.	Describe materials to meet minimum requirements
Materials distributed to 7-12 students?	No	No	Info Only
4) Annual budget for school education program.	$ 8,000	$ 3,000	
5) Description of all other water supplier education programs	"Water is Life" Art Poster Contest, National Theater for Children, Project WET Workshops, Edu-Grants, Public Service Announcement (PSA) Video Contest, Garden In Every School Program, Annual Education Grant Award	"Water is Life" Art Poster Contest, National Theater for Children, Project WET Workshops, Edu-Grants, Public Service Announcement (PSA) Video Contest, Garden In Every School Program, Annual Education Grant Award	
	See Wholesale Report	**See Wholesale Report**	
	0	1	
	On Track	**On Track**	

Appendix K:
Ordinance 33: Establishing Water Use Efficiency Best Practices and Staged Water Supply Shortage Measures

ORDINANCE 33

AN ORDINANCE OF THE BOARD OF DIRECTORS OF THE MONTE VISTA WATER DISTRICT, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, TO ESTABLISH WATER USE EFFICIENCY BEST PRACTICES AND STAGED WATER SUPPLY SHORTAGE MEASURES

The Board of Directors of the Monte Vista Water District (District) of San Bernardino County, California, does hereby ordain the following:

Section 1: Purpose

Monte Vista Water District is responsible for providing reliable water supply for the beneficial use, health, safety and welfare of its customers. The District has worked diligently to educate its customers about the value of water use efficiency and available water supplies to the District. In the unlikely event of a water shortage, the District shall request that its customers make reasonable and necessary reductions in their water use, according to the provisions of this Ordinance.

Section 2: Policy

1. The waste or unreasonable use of water by District customers shall be prevented to the greatest extent possible, and the efficient use of water shall be encouraged.

2. The District shall meet its urban water efficiency targets as set forth in California Water Code Sections 10608-10608.60, requiring the District to achieve a 20% reduction in per capita water use or a comparable water use reduction goal by December 31, 2020.

3. The District shall declare respective water supply shortage stages only if the District determines one or more of the following situations has occurred or may occur in the foreseeable future:

   a. The District may be unable to acquire or produce adequate water supplies to meet projected customer demands; or,

   b. The cost to acquire or produce adequate water supplies to meet projected customer demands may rise above the projected revenues generated by currently adopted water rates.

   Such circumstances would most likely occur due to one or more of the following events: imported water supply cutbacks by Metropolitan Water District of Southern California, extended drought, equipment failure, act of terrorism, and/or natural disaster.

4. During a declared water supply shortage, the District shall reduce water deliveries to wholesale water customers equal to the percentage of water demand reduction requested from the District's retail customers. The wholesale customer shall be responsible for managing water demand within its service area to comply with reduced deliveries during the declared water supply shortage.

5. The District shall offer to local agencies within whose boundaries the District provides retail and wholesale water service, upon their request, reasonable levels of assistance in complying with California Government Code Sections 65591-65599 (Water Conservation in Landscaping Act), enacted by Assembly Bill No. 1881 (2006).

Section 3: Authority and Implementation

1. The Board of Directors has the statutory power to declare that water supply shortage conditions exist and to implement the various staged provisions of this Ordinance as required to maintain reliable and safe water service to District customers.

2. The General Manager shall request the Board of Directors to declare a water supply shortage at a regular or special meeting of the Board of Directors. The Board shall receive evidence of water supply conditions at a public hearing and shall make findings concerning the adequacy of water supplies for the District and the necessity, if any, of declaring a water supply shortage.

3. The declaration of the Board that a water supply shortage exists or is threatened to exist shall be made by Resolution and public announcement, and shall be published in a newspaper of general circulation within ten (10) calendar days of adoption. The declaration shall become effective immediately upon adoption. The Resolution shall set a time schedule for expiration after review of water supply shortage conditions as reported by the General Manager.

Section 4: Compliance Responsibility

The District customer whose name is on the account shall be responsible for compliance with the provisions of this Ordinance.

Section 5: Water Use Efficiency Best Practices

1. District customers are required to implement the following water use efficiency best practices at all times:

   a. Set automatic irrigation controllers to water outdoor landscaped areas only between the hours of 8 p.m. and 8 a.m. and for no more than fifteen (15) minutes per day per valve-controlled station. Exempt from this requirement:

      i. Watering by hand.

      ii. Drip irrigation.

      iii. Irrigation systems equipped with weather-based or soil moisture-based irrigation controllers.

   b. Adjust irrigation system so there is no run-off, over-spray or excessive irrigation causing irrigation water to flow off of the customer's property.

   c. Turn off outdoor irrigation during rain.

   d. Repair all plumbing and irrigation system leaks within seven (7) days of discovery.

e. Wash motor vehicles, trailers, boats and other types of mobile equipment with a hand-held bucket or a hand-held hose equipped with a shutoff nozzle, or use a commercial vehicle wash equipped with a water recycling system.

f. Wash paved areas for health and safety purposes only with the use of a waterbroom or water-efficient pressure washer.

g. Restaurants serve water only upon request.

h. Hotels offer guests the option to not launder linen daily.

2. The following technologies shall be equipped with water recycling, recirculation or reuse systems prior to the establishment of new water service:

   a. Cooling towers and evaporative cooling systems.

   b. Decorative water fountains.

   c. Conveyer vehicle washes and in-bay automatic vehicle washes.

3. The District shall offer local agencies and retail and wholesale customers reasonable assistance in complying with State and local water use efficiency guidelines and requirements.

Section 6: Significant Water Supply Shortage

If the Board of Directors finds that current or near-term water supply shortage conditions require a 10 to 25 percent demand reduction, the Board may pass a Significant Water Supply Shortage Resolution, enacting the following water use requirements in addition to those described in Section 5 above:

1. Landscaping and Landscape Irrigation.

   a. All lawns, landscape or turf areas shall be irrigated only on Tuesday, Thursday and Saturday of each week. Exempt from this requirement:

      i. Commercial nurseries, golf courses and other water-dependent industries.

      ii. Watering by hand.

      iii. Drip irrigation.

      iv. Irrigation systems equipped with weather-based or soil moisture-based irrigation controllers.

   b. Water consumption through water meters designed for landscape irrigation shall not exceed 75 percent of the amount of water used during the same billing period in the last calendar year during which no water shortage was declared.

2. Potable water used on a one-time basis for construction and dust control shall be limited to that quantity identified in the plan submitted by the user which describes water use requirements. The plan shall be submitted to and approved by the General Manager. Upon availability, non-potable recycled water will be made available for these uses.

3. The use of water from fire hydrants shall be limited to fire fighting and related activities, or for municipal activities necessary to maintain the public health, safety and welfare, or for construction use and dust control as approved by the General Manager.

4. The District shall reduce wholesale water deliveries in the same amount applicable to its retail customers, by 10 to 25 percent, effective upon the date of its public announcement of a Significant Water Supply Shortage. The General Manager shall consult with District wholesale customers prior to the announcement to coordinate and implement periods of reduction in water delivery.

Section 7: Critical Water Supply Shortage

If the Board of Directors finds that current or near-term water supply shortage conditions require a 25 to 40 percent demand reduction, the Board may pass a Critical Water Supply Shortage Resolution, enacting the following water use requirements in addition to those described in Sections 5 and 6 above:

1. Landscaping and Landscape Irrigation.

   a. All lawns, landscape or turf areas shall be watered only on Tuesday and Saturday of each week.

   b. Water consumption through water meters designed for landscape irrigation shall not exceed 50 percent of the amount of water used during the same billing period in the last calendar year during which no water shortage was declared.

   c. No person or entity shall implement any landscaping requirements of any homeowners association, developer or governing agency if it will result in an increase in water consumption from the prior calendar year.

2. No washing of motor vehicles, trailers, boats and other types of mobile equipment shall be permitted, unless done on the premises of a commercial car wash.

3. No one shall empty or refill swimming pools, spas or ponds for cleaning purposes. Water levels may be maintained.

4. The District shall reduce wholesale water deliveries in the same amount applicable to its retail customers, by 25 to 40 percent, effective upon the date of its public announcement of a Critical Water Supply Shortage. The General Manager shall consult with the District wholesale customers prior to the announcement to coordinate and implement periods of reduction in water delivery.

Section 8: Emergency Water Supply Shortage

If the Board of Directors finds that, due to emergency circumstances, current or near-term water supply shortage conditions require a 40 percent or higher demand reduction, the Board may pass an Emergency Water Supply Shortage Resolution, enacting the following water use requirements in addition to those described in Sections 5, 6 and 7 above:

1. Landscaping and Landscape Irrigation.

    a. All lawns, landscape or turf areas shall be watered only on Saturday of each week.

    b. Water consumption through water meters designed for landscape irrigation shall not exceed 33 percent of the amount of water used during the same billing period in the last calendar year during which no water shortage was declared.

    c. No installation of new landscaping shall be permitted.

2. No potable water for construction and dust control shall be permitted. Upon availability, non-potable recycled water will be made available for these uses.

3. No water shall be used to fill or maintain swimming pools, spas or ponds.

4. The District shall reduce wholesale water deliveries in the same amount applicable to its retail customers, by at least 40 percent, effective upon the date of its public announcement of an Emergency Water Supply Shortage. The General Manager shall consult with District wholesale customers prior to the announcement to coordinate and implement periods of reduction in water delivery.

Section 9: Exceptions

No water use requirements described in Sections 5, 6, 7 and 8 above shall apply to the following water uses:

1. The use of recycled water distributed through the District's recycled water distribution system and used for landscape irrigation, construction, dust control or other approved uses, or the use of recycled water produced for direct reuse by commercial car washes, commercial laundries and various industries utilizing industrial water reuse systems.

2. The routine and necessary use of water by a governmental entity in pursuit of its functions for protecting the public health, safety and welfare of its citizens. This exception does not apply to the use of potable water for landscape irrigation by a governmental agency.

3. The necessary use of water for the routine maintenance, testing and/or repair of water distribution facilities, residential and commercial plumbing and permanently installed landscape irrigation systems.

4. The use of "gray water". For the purposes of this Ordinance, "gray water" is defined as non-septic domestic wastewater collected from clothes washers, bathtubs, showers, and sinks. This provision shall not be construed to authorize the use of "gray water" if such use is otherwise prohibited by law.

Section 10: Immediate Water Shortage Response

In the event that an immediate shortage of water supply occurs due to disaster, the General Manager shall declare the extent of the water supply shortage and shall implement the appropriate water supply shortage stage as defined herein. The General Manager shall report such water supply shortage condition and level of response to the Board of Directors at a time which is reasonable and practicable.

Section 11: Failure to Comply

1. Any District customer violating the provisions set forth in this Ordinance shall be subject to the procedures and/or penalties described in this Section.

2. The following table outlines the procedures and penalties for violating the provisions set forth in this Ordinance, and each subsequent violation which occurs at least seven (7) days subsequent to the previous violation:

	First Violation	**Second Violation**	**Third Violation**	**Fourth Violation**	**Fifth Violation**
Best Practices	Written Notice	Final Written Notice	$50 Fine	$100 Fine	$150 Fine; Flow Restrictor
Significant Water Supply Shortage	Written Notice	$50 Fine	$100 Fine	$150 Fine	$200 Fine; Flow Restrictor
Critical Water Supply Shortage	Written Notice	$100 Fine	$200 Fine	$300 Fine; Flow Restrictor	---
Emergency Water Supply Shortage	Written Notice	$150 Fine	$300 Fine; Flow Restrictor	---	---

3. Written Notice

   a. Notice of a violation of Ordinance provisions, as outlined in Subsection 2 above, shall be given in writing by regular mail or personal delivery to the customer at the address on file with the District. If notice is given by mail, the person depositing the notice by mail shall complete a Proof of Service by Mail form indicating the time, date and place the notice was deposited in the U.S. Mail.

   b. If personal delivery is used, any notice of violation of the water use requirements shall be made in the following manner:

i. By handing the notice to the customer personally. The person serving the notice shall complete a Proof of Service form indicating the time, date and place of service.

ii. If the customer is absent from or unavailable at the premises at which the violation occurred, by leaving a copy with some person of suitable age and discretion at the premises and sending a copy through the regular mail to the customer at the address at which the customer is normally billed.

iii. If a person of suitable age or discretion cannot be found, by affixing a copy in a conspicuous place at the premises at which the violation occurred and also sending a copy through the regular mail to the customer at the address at which the customer is normally billed.

c. The notice shall contain a description of the facts of the violation, a statement of the possible penalties for each violation and a statement informing the customer of his or her right to request a waiver due to hardship or special circumstances.

4. After multiple violations of Ordinance provisions, as outlined under Subsection 2 above, the District may install a flow restricting device on a customer's water meter. The District may terminate a customer's landscape meter service upon a prior determination that the customer has repeatedly violated this Ordinance. Such action will only be taken after a hearing held by the Review Board where the customer will have the opportunity to respond to the District's evidence of repeated violation.

5. Any restricted or terminated service may be restored upon request of the customer made not less than forty-eight (48) hours after the implementation of the action restricting or terminating service and only upon a showing by the customer that the customer is ready, willing and able to comply with the provision of this Ordinance. Prior to any restoration of the service, the customer shall pay all District charges for any restriction or termination of service and its restoration.

Section 12: Review Board

1. A District customer may request a waiver from any provisions of this Ordinance due to hardship or special circumstances. A Review Board comprised of members of the District staff shall be designated by the General Manager to review such requests. The Review Board shall respond to a waiver request within ten (10) working days of receipt of request.

2. The Review Board shall review customer written requests for a waiver from Ordinance provisions due to hardship or special circumstances, and determine whether or not the case warrants a waiver. No waiver shall be granted unless the water customer shows that he or she has achieved the maximum practical reduction in water consumption other than in the specific area(s) in which a waiver is being sought. No waiver shall be granted to any water customer who, when requested by the District, fails to provide any information necessary for resolution of the customer's request for a waiver.

3. Any customer who is granted a waiver shall provide proof of compliance with said waiver upon demand by any person authorized by the District. If the customer is found to violate any provision of the waiver, the Review Board shall revoke the waiver. The Review Board shall notify the customer in writing of the proposed revocation five (5) working days before taking such action, and the customer shall be given the opportunity to be heard by the Review Board prior to its taking such action.

4. A waiver issued under a particular water supply shortage stage shall not be valid upon passage of a higher water supply shortage stage. A new waiver must be granted by the Review Board for each enacted water supply shortage stage.

5. Appeal of Review Board decisions shall be made in writing to the Board of Directors, whose decision shall be final. The Board of Directors shall consider the appeal within thirty (30) days from the date the appeal was filed. The appealing customer shall be given the opportunity to address the Board of Directors and submit evidence orally and in writing.

Section 13: Validity

If any section, sub-section, clause, phrase or portion of this Ordinance is for any reason held to be invalid or unconstitutional by any court of competent jurisdiction, such decision shall not affect the validity of remaining portions of this Ordinance.

Section 14: Consistency

1. This Ordinance is consistent with the provision of California Water Code Sections 375-378, inclusive, and Sections 31020-31035.1, inclusive.

2. This Ordinance fulfills the District's water supply shortage planning obligation as required by California Water Code Sections 10610-10656, inclusive (Urban Water Management Planning Act). Subsequent District Urban Water Management Plan updates shall comply with this Ordinance.

Section 15: Effective Date

This Ordinance shall be effective immediately upon adoption and shall be published in any newspaper of general circulation and distributed within the District as required by law.

The President of the Board of Directors shall sign this Ordinance and the Secretary shall attest to the same. The Secretary shall cause this Ordinance to be published within ten (10) days after its adoption, at least once in a newspaper of general circulation which is distributed within the boundaries of the Monte Vista Water District.

Section 16: Repeal and Rescind

Upon adoption of this Ordinance, Ordinance 32 shall be repealed and rescinded effective on the date of adoption of this Ordinance.

ADOPTED THIS 12th day of May 2010.

Sandra S. Rose
President of the Board of Directors
MONTE VISTA WATER DISTRICT

ATTEST:

Mark N. Kinsey
Secretary to the Board of Directors
MONTE VISTA WATER DISTRICT