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## City of Ontario

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Final Report

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## Urban Water Management Plan

December 2005





**CITY OF ONTARIO**

# **Urban Water Management Plan**

**FINAL REPORT**

**December 2005**





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# List of Abbreviations

To conserve space and improve readability, abbreviations have been used in this report. Each abbreviation has been spelled out in the text the first time it is used. Subsequent usage of the term is usually identified by its abbreviation. The abbreviations used are as follows:

## List of Abbreviations

Abbreviation	Description
acre-ft/yr	acre-feet per year
AFY	acre-feet per year
Act	Urban Water Management Planning Act (Water Code Section 10610-10656)
ADD	Average Day Demand
BMP's	Best Management Practices
CBWM	Chino Basin Watermaster
CCI	Construction Cost Index
CDA	Chino Basin Desalter Authority
CDA-I	Chino Desalter No. 1 (located in the City of Chino)
CDA-II	Chino Desalter No. 2 (located in JCSD)
CDA-III	Chino Desalter No. 3 (no location)
City	City of Ontario
CII	Commercial-Industrial-Institutional
CIP	Capital Improvement Program
CUWCC	California Urban Water Conservation Council
CVWD	Cucamonga Valley Water District
DMM	Demand Management Measures
du	dwelling unit
DWR	California State Department of Water Resources
DYY	Dry Year Yield
ENR	Engineering News Record
ERP	Emergency Response Plan
ft/s	feet per second
FWC	Fontana Water Company
FY	Fiscal Year
GP	General Plan
gpd	gallons per day
gpd/cap	gallons per day per capita
FY	Fiscal Year
HDR	High Density Residential
HECW	High Efficiency Clothes Washers
HGL	Hydraulic Grade Line
IEUA	Inland Empire Utilities Agency
INF	Infrastructure
IRP	Integrated Resources Plan
JCSD	Jurupa Community Services District
LDR	Low Density Residential
MDD	Maximum Day Demand
MDR	Medium Density Residential

## List of Abbreviations (Continued)

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### List of Abbreviations (Continued)

MFR	Multi Family Residential
MOU	Memorandum of Understanding regarding water conservation in California
MWD	Metropolitan Water District of Southern California
MVWD	Monte Vista Water District
NMC	New Model Colony
NC	Neighborhood Commercial
OBMP	Optimum Basin Management Plan
OMC	Old Model Colony
OSY	Operating Safe Yield
RO	Reverse Osmosis
SAWC	San Antonio Water Company
SAWRC	Santa Ana River Water Company
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SFR	Single Family Residential
SR	State Route
SWP	State Water Project
TDS	Total Dissolved Solids
TVMWD	Three Valleys Municipal Water District
ULF	Ultra Low Flow (toilets)
UWMP	Urban Water Management Plan
WEWAC	Water Education Water Awareness Committee
WDF	Water demand factor
WFA	Water Facilities Authority
WMP	Water Master Plan

# Section 1

## Introduction

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### 1.1 PROJECT AUTHORIZATION

This Urban Water Management Plan (UWMP) has been prepared in accordance with the agreement for water master planning consulting services between the City of Ontario (City) and MWH Americas, Inc. (MWH) dated July 20, 2004. This report refers to the scope of services of Task 5 of this contract only. The work related to the remaining tasks are presented in separate reports.

### 1.2 REPORT OVERVIEW

This UWMP is divided into seven sections. This section provides a brief description of the Urban Water Management Planning Act, the relation of this UWMP with the regional UWMP prepared by the Inland Empire Utilities Agency (IEUA) and other water agencies. This section also included a description of the City's service area, land use, climate, and topography.

**Section 2** describes the City's historical and projected population through year 2030, which is the planning horizon of this report. The historical and projected potable and recycled water demands associated with the population are also discussed in this section. **Section 3** describes the water conservation efforts of the City to date and through year 2030, including a more detailed water conservation plan for the period 2006-2010. **Section 4** provides an overview of the City's water supplies, the historical usage of various supply sources and the projected water supply mix through year 2030 as presented in the *2005 Water and Recycled Water Master Plan Update* (MWH, 2005a). **Section 5** discusses the water supply reliability by comparing the projected water demands presented in Section 2 with the available supplies presented in Section 4. Normal Year, Single Dry Year, and Multiple Dry Year scenarios are evaluated through year 2030. The Water Shortage Contingency Plan is discussed in **Section 6**, and the UWMP Implementation Plan is provided in **Section 7**. A list of references used for the preparation of this UWMP is provided in **Appendix A**.

The majority tables presented in this report correspond with the sample table formats included in the *Guidebook to assist water suppliers in the preparation of a 2005 UWMP* prepared by the California Department of Water Resources (DWR, 2005). To facilitate DWR's review of this report, a lookup table is included in the Table of Contents which lists all the sample tables presented in DWR's Guidebook that are included in this report with the corresponding table numbering in this UWMP.

### 1.3 URBAN WATER MANAGEMENT PLANNING ACT

This is the UWMP for the City for the period of 2006 through 2010. This report has been prepared in compliance with California Water Code, Division 6, Part 2.6. The Urban Water Management Planning Act (Act; Water Code Section 10610 et. Seq.) became effective on

## Section 1 – Introduction

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January 1, 1984. Multiple amendments have been added to the Act, the most recent occurring in 2004.

The Act requires that every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually (AFY) prepare and adopt an UWMP. The Act requires urban water suppliers to prepare an UWMP that describes and evaluates sources of supply, reasonable and practical efficient water uses, recycling and water demand management activities. The amendments require additional actions addressing urban water management plan preparation and considerations of such issues as metering, drought contingency planning, and water recycling. The Act requires that each water supplier prepare or update its UWMP every five years before December 31, in years ending in five and zero. A copy of the Act is included in **Appendix B**.

The requirements for the preparation of an UWMP set forth in the California Water Code Sections 10610 through 10656 are 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. The need for the planning and management of urban water supplies are based on the following declaration of the State of California Legislature (Water Code 10610):

- The waters of the state are a limited and renewable resource subject to ever-increasing demands.
- 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.
- A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.
- 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.
- Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.
- 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.
- 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.
- Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.
- The quality of source supplies can have a significant impact on water management strategies and supply reliability.

According to the Act, this UWMP will be submitted to the DWR within 30 days of adoption by the City Council of the City of Ontario.

1.4 ONTARIO’S 2005 UWMP

The IEUA prepared an UWMP in year 2000 in compliance with the Act, which was adopted by the City on November 20, 2001 (Ontario, 2001). This Ontario UWMP updates the Ontario information as presented in the IEUA’s 2000 UWMP. It provides a greater level of detail on Ontario specific water demands, water supplies, and water conservation activities and it incorporates a number of significant changes in the region’s water planning and management activities that have taken place in the last five years. These changes include, but are not limited to, the Dry Year Yield (DYY) program of Metropolitan Water District of Southern California (MWD), the Chino Basin Recharge Master Plan, IEUA’s Recycled Water Implementation Plan, and the City’s Water and Recycled Water Master Plan (WMP) Update.

1.5 INTER-AGENCY COORDINATION

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 (Water Code 10620.d.2). The City is a member agency of the IEUA, Water Facilities Authority (WFA), Chino Basin Desalter Authority (CDA), and the Chino Basin Watermaster (CBWM). The City coordinated the preparation of this UWMP with these four regional agencies. In addition, the City has seven neighboring water retail agencies, City of Chino, City of Upland, Fontana Water Company (FWC), Jurupa Community Services District (JCSD), Monte Vista Water District (MVWD), Cucamonga Valley Water District (CVWD) and San Antonio Water Company (SAWC). The actions the City has taken to coordinate the preparation of this UWMP with these agencies is summarized in **Table 1-1**. A brief description of these agencies is summarized in **Table 1-2**.

**Table 1-1  
Coordination with Appropriate Agencies**

Water Agency Category	Participated in developing the plan	Was contacted for assistance?	Was sent a copy of the draft plan? <sup>(1)</sup>	Commented on the draft?	Attended public meetings?	Was sent a notice of intention to adopt?	Not Involved or no Information
Wholesale Water Suppliers	WFA	Yes	Yes	No	No	No	No
	MWD	Yes	Yes	No	No	No	No
	CDA	Yes	Yes	No	No	No	No
	IEUA	Yes	Yes	Yes	No	No	No
Water Mgmt Agencies	CBWM	Yes	Yes	No	No	No	No
Neighboring Water Agencies	City of Chino	No	Yes	No	No	No	No
	City of Upland	No	Yes	No	No	No	No
	MVWD	No	Yes	No	No	No	No
	FWC	No	Yes	No	No	No	No
	JCSD	No	Yes	No	No	No	No
	SAWC	No	Yes	No	No	No	No
	CVWD	No	Yes	No	No	No	No

This table corresponds to DWR Table 1 and 32. (1) Includes electronic copies available through the City’s website.

## Section 1 – Introduction

**Table 1-2  
Description of Coordination Agencies**

Agency	Description
IEUA	The Inland Empire Utilities Agency collects and treats wastewater and distributes recycled water to its member agencies and groundwater recharge basins in a 242 square mile service area. Its member agencies are the cities of Chino, Chino Hills, Ontario, Upland, Fontana, Cucamonga Valley Water District, Fontana Water Company, Monte Vista Water District, and San Antonio Water Company. IEUA is a member agency of MWD and a member of the Chino Basin Watermaster Board of Directors.
WFA	The Water Facilities Authority is a joint powers authority responsible for the operation and maintenance of the Aqua de Lejos Water Treatment Plant that treats imported State Water Project water from MWD through IEUA. Member of WFA are the cities of Chino, Chino Hills, Ontario, Upland, Monte Vista Water District, and Cucamonga Valley Water District.
CDA	The Chino Basin Desalter Authority is a joint powers authority responsible for the operation and maintenance of the CDA-I and the design, construction, and operation of the Chino I Desalter Expansion and the CDA-II.
CBWM	The Chino Basin Watermaster is responsible for the administrating adjudicated water rights and managing groundwater resources within the watershed of the Chino Basin.
City of Chino	The City of Chino serves water to approximately 66,000 residents in the city and some unincorporated areas in San Bernardino County and encompasses approximately 25 square miles.
City of Upland	The City of Upland serves water to approximately 70,000 residents in the city and encompasses approximately 15 square miles.
MVWD	Monte Vista Water District is an independent special district that serves a population of about 42,000 in the City of Montclair, portions of the City of Chino and some unincorporated areas in San Bernardino County. MVWD encompasses approximately 30 square miles.
FWC	Fontana Water Company is a retail investor-owned utility company that provides water to about 130,000 residents in the City of Fontana and some portions of the cities of Rancho Cucamonga and Rialto. FWC encompasses approximately 51 square miles.
JCSD	The Jurupa Community Services District provides water to approximately 60,000 residents and encompasses approximately 48 square miles (JCSD, 2005).
SAWD	The San Antonio Water Company serves water to approximately 1,200 residents in San Antonio Heights which is an unincorporated areas in San Bernardino County (SAWC, 2005).
CVWD	The Cucamonga Valley Water District provides water to approximately 140,000 residents and encompasses approximately 49 square miles (MWH, 2005a).

In addition to the agencies listed in **Table 1-1**, the City is indirectly related to other water retail agencies through its membership with IEUA and the CBWM. These agencies are not included in the inter-agency coordination, as this coordination is part of the preparation of IEUA’s UWMP Update. These agencies are listed in **Table 1-3**.

**Table 1-3  
Agencies Indirectly Related to the City through IEUA**

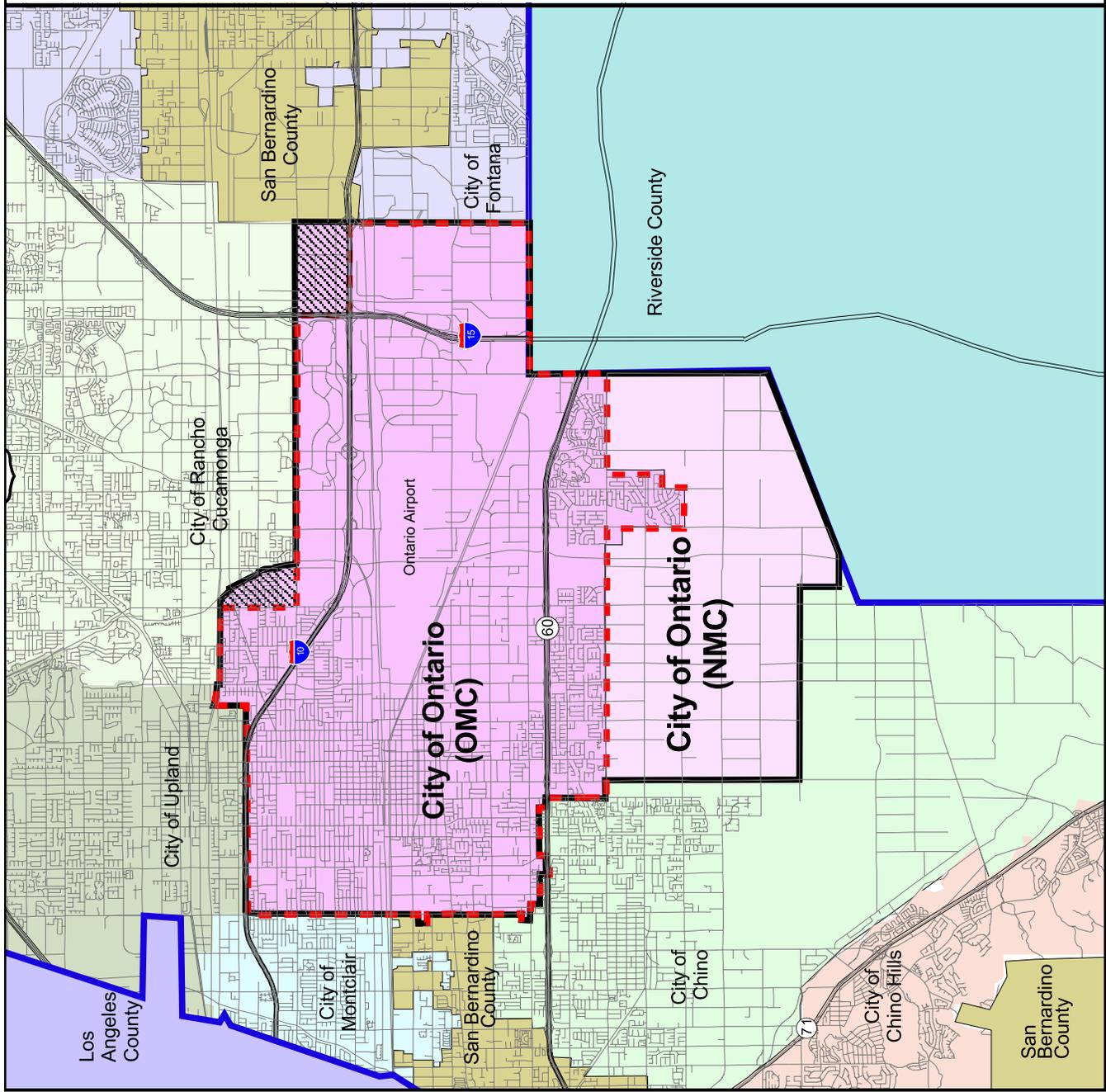
Other Regional Water Agencies	Other Retail Water Agencies
Metropolitan Water District of Southern California	City of Chino Hills
Santa Ana Watershed Project Authority	City of Fontana
	City of Montclair
	City of Norco
	City of Pomona
	Fontana Union Water Company
	Los Serranos Country Club
	Maygold Mutual Water Company
	Monte Vista Irrigation Company
	Santa Ana River Water Company
	San Bernardino County (Prado Shooting Park)
	Southern California Water Company
	West End Consolidated Water Company
	West Valley Water District

**1.6 ONTARIO’S SERVICE AREA**

The City is located in the western portion of San Bernardino County, California, and is surrounded by the City of Montclair to the west, the City of Upland and the City of Rancho Cucamonga to the north, the City of Chino to the southwest, the City of Fontana to the northeast, and some unincorporated areas of Riverside County to the southeast. The location of the City is shown on **Figure 1-1**. Also shown on this figure is that the City is traversed by four major freeways, Interstate 10, Interstate 15, and State Route (SR) 60, and the City is also the home of the Ontario International Airport.

The study area of this UWMP is the water service area of the City. With over 32,000 water meters, the City currently serves a population of approximately 169,000 people. As shown on **Figure 1-1**, the study area coincides with the City boundaries, with the exception of two small areas in the north and the northeast corner that are served by CVWD.

The City is divided into two distinct areas, the Old Model Colony (OMC) in the north and the New Model Colony (NMC) in the south, with Riverside Drive delineating the majority of the boundary between the two areas. The OMC is the existing City and consists mainly of residential, industrial, and commercial developments. The OMC comprises about 23,000 acres or 36 square miles. The NMC is an 8,200-acre agricultural area that was annexed in 1999. With the addition of the NMC, the City’s service area is expanded from 36 square miles to about 49 square miles, which equates to a 26 percent increase. The NMC is currently dominated with extensive agricultural activity. Rapid development of the eastern part of the NMC is about to start. Completion of the first homes is anticipated in late 2006 and occupancies in early 2007. The development of the NMC will significantly increase the City’s population in the coming decades. The historical and projected population of the City are discussed in **Section 2**.



**LEGEND**

-  City of Ontario (OMC)
-  City of Ontario (NMC)
-  City of Chino
-  City of Chino Hills
-  City of Fontana
-  City of Montclair
-  City of Rancho Cucamonga
-  City of Upland
-  San Bernardino County
-  Currently not Serviced by Ontario
-  Los Angeles County
-  Riverside County
-  City Service Area Boundary
-  NMC/ OMC Boundary
-  Freeways
-  Freeways



**Figure 1-1**  
**City of Ontario Service Area**

**1.6.1 Land Use**

The primary land use categories in the OMC are Single Family Residential (SFR) and industrial. Additionally, the OMC has Multi Family Residential (MFR), commercial, infrastructure, parks, schools, and institutional land uses. The City is also home of the Ontario International Airport and its airport-related businesses. The NMC is primarily characterized by agricultural land use, mostly of dairy and poultry farms along with cultivated crops, fallow fields, and plant nurseries. The NMC is planned to be converted to predominantly residential area with some schools, parks, and commercial land uses over the next 25 years.

**1.6.2 Climate**

The City is located within the desert climate zone of Southern California. The region receives an average annual rainfall of about 15 inches. Monthly average temperatures range from a low of 66 degrees in December and January to a summer high average of 92 degrees. Records show daily summer temperatures as high as 114 degrees. The monthly average rainfall, temperature, and evapotranspiration rate in the City’s service area are listed in **Table 1-4**.

**Table 1-4  
Climate Summary**

Month	Standard Average Eto <sup>(1)</sup> (in)	Average Rainfall <sup>(2)</sup> (in)	Average Max Temperature <sup>(2)</sup> (F)	Average Min Temperature <sup>(2)</sup> (F)
January	2.17	3.65	66.8	44.0
February	2.80	2.85	69.4	45.0
March	4.03	2.80	70.1	46.3
April	5.10	1.13	74.5	48.4
May	5.89	0.26	79.9	52.6
June	6.60	0.04	86.7	56.6
July	7.44	0.01	95.0	62.2
August	6.82	0.11	94.4	62.9
September	5.70	0.34	91.3	61.3
October	4.03	0.34	83.0	55.4
November	2.70	1.72	73.6	48.5
December	1.86	2.07	68.3	44.4
<b>Annual</b>	<b>55.10</b>	<b>15.32</b>	<b>79.4</b>	<b>52.3</b>

This table corresponds to DWR Table 3.

(1) California Irrigation Management Information System Dept. of Water Resources Office of Water Use Efficiency (CIMIS, 2005)

(2) Western Regional Climate Center, Fontana Kaiser, CA (WRCC, 2005)

**1.6.3 Topography**

The City is located on relatively flat terrain with a general rise in elevation as one moves from the southern boundary to the northeastern corner of the City. Elevations range from a low of approximately 550 feet above mean sea level to a high of approximately 1,200 feet. The City overlays a portion of the Chino Groundwater Basin, which is located in the northern part of the Santa Ana Watershed. The principal drainage direction is north to south from the San Bernardino Mountains and foothills to Prado Lake and the Prado Flood Control Basin located south of the City of Chino. The primary creeks and washes within the City that convey storm

## **Section 1 – Introduction**

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water are the West Cucamonga Creek, Cucamonga Creek, and Deer Lower Creek. Once the water reaches Prado Lake, it is discharged through the outlet of Prado Dam into the Santa Ana River which ultimately discharges into the Pacific Ocean.

# Section 2

## Population and Water Use

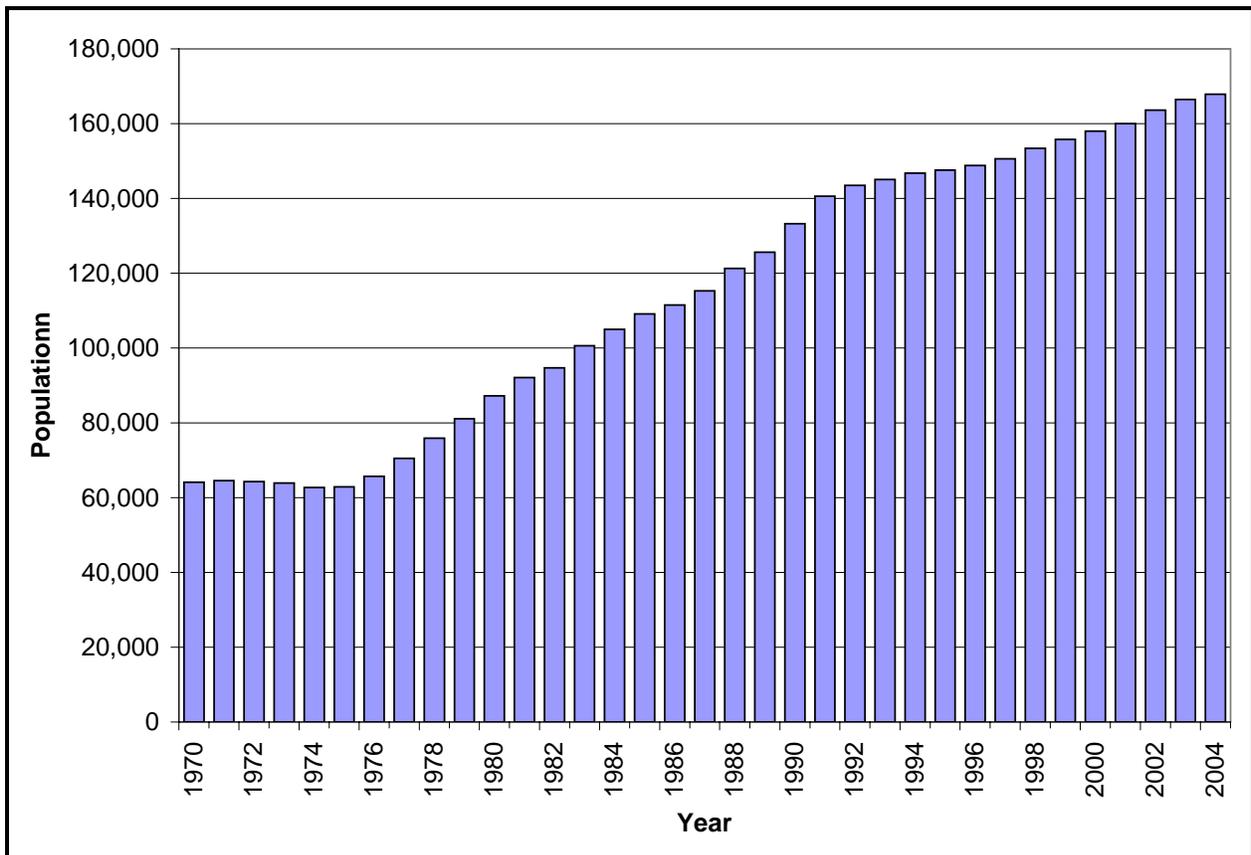
This section describes the historical and projected population for the City of Ontario (City) followed by a discussion of the historical and projected water use. The potable water and recycled water demands are discussed as well as the estimated water losses and water conservation. The information presented here is based on the 2005 Water and Recycled Water Master Plan (MWH,2005).

### 2.1 POPULATION

#### 2.1.1 Historical Population

The historical population from the year 1970 to 2004 for the City is shown on **Figure 2-1**. The City had a fairly steady population throughout the early 1970s, and began to steadily increase after 1975. This population growth will continue with the development of the New Model Colony (NMC) in the coming decades.

**Figure 2-1**  
**Historical Population of the City**



## Section 2 – Population and Water Use

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The existing (year 2004) population of the City is estimated at approximately 167,900 people. The overwhelming majority of the City’s population (98.5 percent) resides in the OMC. It is estimated that the existing (2004) population of the NMC is not more than about 2,500 people (1.5 percent).

### 2.1.2 Future Population

Once the City is fully developed and has reached build out conditions, the population is expected to rise to nearly 305,500 residents (SCAG, 2004). This corresponds to a population increase of about 81 percent or 3 percent per year.

This population projection was verified in the draft 2005 Water and Recycled Water Master Plan (2005 WMP) Update (MWH, 2005a) using land use information from the City’s General Plan, Specific Plans, and aerial photography. The population projections presented in the 2005 WMP show a population increase from 169,125 people to 297,670 people. Hence, the population projection of SCAG is about 7,839 people higher. This difference of 3 percent could be due to different land use, phasing, or population density assumptions.

The population projections used in this UWMP are based on SCAG data, which is consistent with the population projections presented in IEUA’s 2005 UWMP Update. The projections are presented in 5-year increments in **Table 2-1**, while the historical and projected population is shown on **Figure 2-2**. This figure also shows the projected by SCAG for the period 2004 through 2030.

**Table 2-1**  
**Estimated and Projected Population**

Population Projection Source	2005	2010	2015	2020	2025	2030
WMP Projections <sup>(1)</sup>	169,125	203,811	225,412	248,424	273,047	297,670
SCAG Projections <sup>(2,3)</sup>	171,154	204,645	226,182	250,811	275,440	305,509
Difference	(2,029)	(834)	(770)	(2,387)	(2,393)	(7,839)

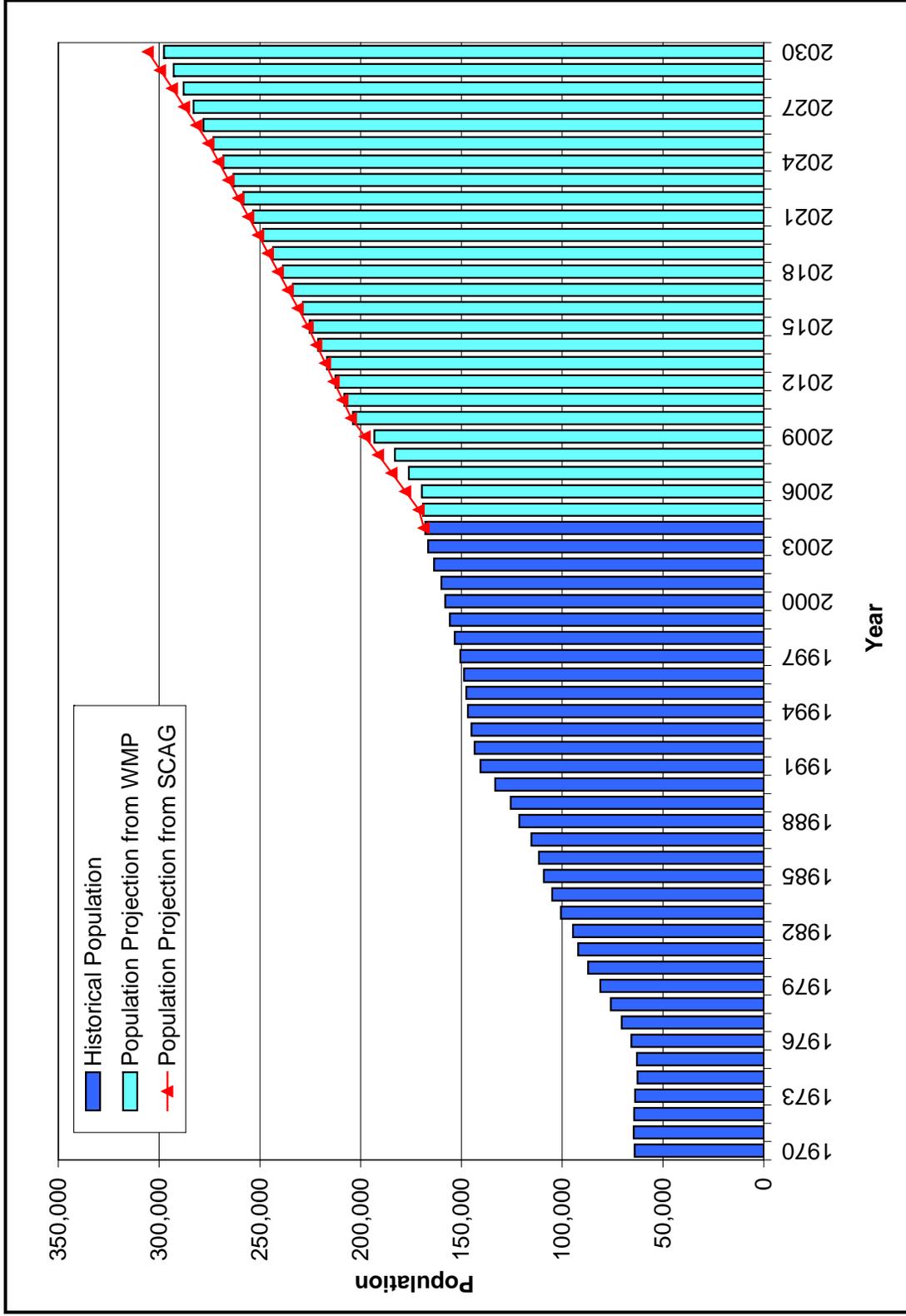
This table corresponds to DWR Table 2.

(1) 2005 Water and Recycled Water Master Plan Update (MWH, 2005a).

(2) Southern California Association of Governments 2004 population projections (SCAG,2004).

(3) 2005 Urban Water Management Plan (IEUA, 2005d).

Figure 2-2  
Historical and Projected Population Trend

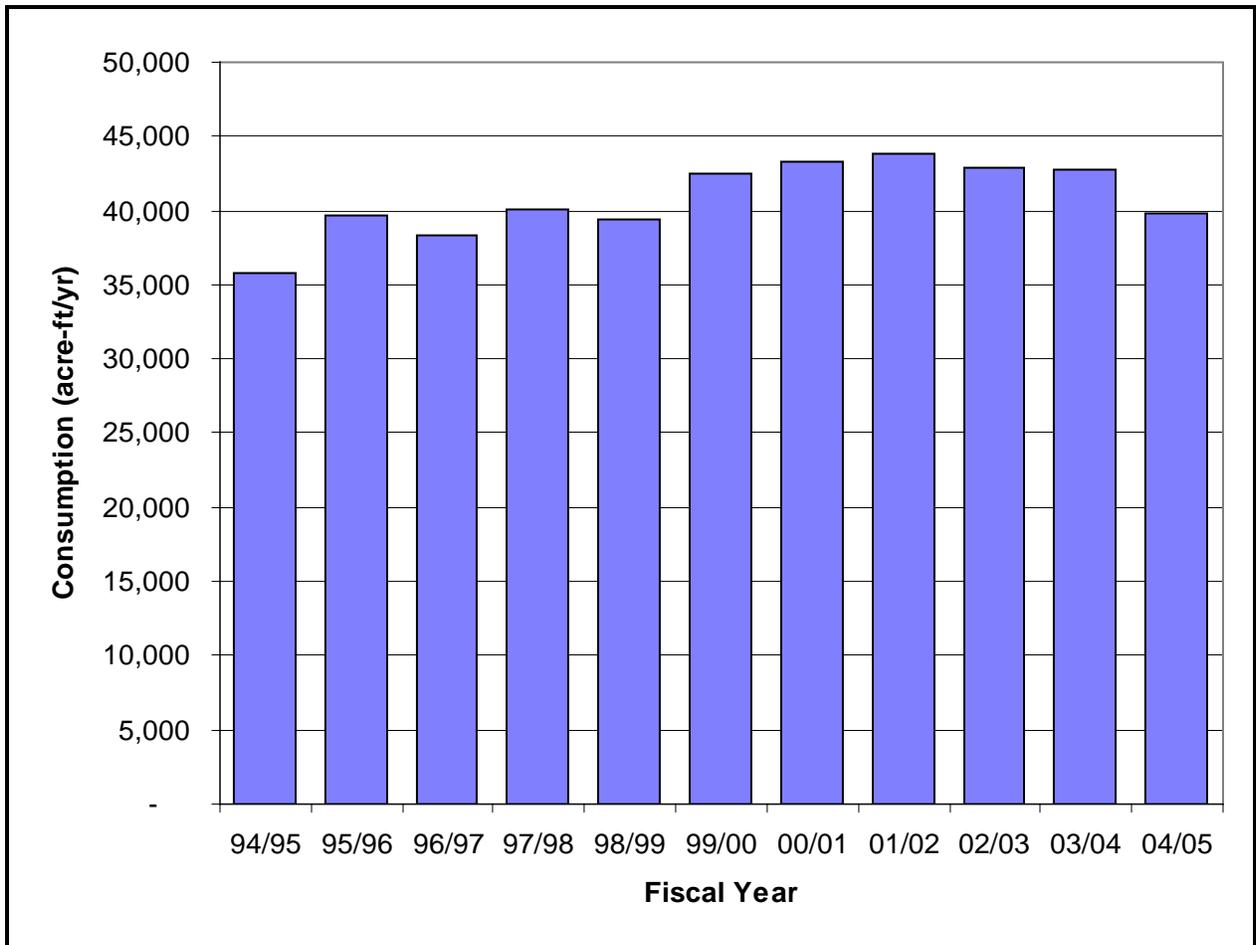


## Section 2 – Population and Water Use

### 2.2 HISTORICAL WATER USE

The historical water use of the City is shown on **Figure 2-3**. As shown in this figure, the City's water demand has increased from approximately 37,500 acre-feet per year (AFY) in fiscal year (FY)1994/1995 to approximately 39,800 AFY in FY 2004/2005.

**Figure 2-3**  
**Historical Water Consumption**



Source: Historical Water Consumption Records (Ontario, 2005)

Based on the historical population records and the metered consumption, the water usage trend per capita is calculated for the years 2000 through 2004. It should be noted that this usage does not express the water consumption per person in gallons per day per capita (gpd/cap) as the total water usage also includes non-residential demands such as industrial, commercial, schools, parks, fire fighting, etc. The per capita water usage of residential accounts only is listed separately in **Table 2-2**.

As shown in **Table 2-2**, the total per capita water use ranges from 224 to 243 gpd/cap. This is similar to the average per capita water usage of the entire Inland Empire Region, which ranges from 241 gpcd to 279 gpcd (IEUA, 2005).

**Table 2-2  
Per Capita Water Use – City of Ontario**

Calendar Year	2000	2001	2002	2003	2004
Population	158,007	160,000	163,600	166,500	167,900
Total Water Usage (AFY) <sup>(1)</sup>	43,028	43,109	44,194	41,772	42,087
Residential Water Usage (AFY) <sup>(1)</sup>	24,644	24,393	25,050	23,830	23,715
Capita Water Use (gpd/cap)	243	241	241	224	224
Residential Capita Water Use (gpd/cap)	139	136	137	128	126

(1) Source: Public Water System Statistics (Ontario, 2000), (Ontario, 2001a), (Ontario, 2002a), (Ontario, 2003), (Ontario, 2004)

Typically, areas that are located in dry and hot climate zones are expected to have higher water use rates than areas that are located in wet and cooler climate zones. The City is also characterized by industrial land use, which results in a higher water usage per capita. For comparison purposes, the per capita water use in MWD’s service areas are presented in **Table 2-3**.

**Table 2-3  
Per Capita Water Use – MWD Service Area**

County	1980 <sup>(1)</sup> (gpcd)	1985 <sup>(1)</sup> (gpcd)	1990 <sup>(1)</sup> (gpcd)	1995 <sup>(1)</sup> (gpcd)	2000 <sup>(1)</sup> (gpcd)	2005 <sup>(2)</sup> (gpcd)
Los Angeles County	191	197	188	164	175	171
Orange County	224	229	233	197	205	192
Riverside County	275	262	304	226	258	258
San Bernardino County	325	318	281	221	n/a	255
San Diego County	186	213	209	164	185	179
Ventura County	206	211	228	179	198	205
<b>Weighted Average of MWD</b>	<b>203</b>	<b>212</b>	<b>210</b>	<b>176</b>	<b>n/a</b>	<b>187</b>

(1) Source: Table I-4 of the MWD UWMP (MWD, 2005)

(2) Source: Table 2-5 of the IEUA UWMP (IEUA, 2005)

## 2.3 FUTURE WATER USE

### 2.3.1 Projected Potable Water Demand

As presented in section 2.1, the population of the City is projected to increase from 167,900 (year 2004) to about 305,500 residents in year 2030. This population increase, which will primarily occur in the NMC, will result in a substantial increase in water deliveries. The projected water demands for the period 2005 through 2030 in five year increments is listed in **Table 2-4** and shown on **Figure 2-4**.

## Section 2 – Population and Water Use

**Table 2-4  
Past, Current, and Projected Water Deliveries**

Year	Water Use	Single Family	Multi-Family	Commercial	Industrial	Institutional Governmental	Irrigation	Other <sup>(4)</sup>	Total <sup>(5)</sup>
2000 <sup>(1)</sup>	metered	25,600	1,988	2,089	342	258	1,011	340	31,628
	Deliveries (AFY) <sup>(1)</sup>	17,785	6,859	5,010	3,873	619	5,979	2,902	43,028
2005	metered	26,050	2,099	2,840	349	341	1,033		32,712
	Deliveries (AFY) <sup>(3)</sup>	17,222	6,454	6,836	2,040	1,132	5,743		39,428
2010	metered	34,903	2,812	2,951	363	354	1,073		42,457
	Deliveries (AFY) <sup>(3)</sup>	23,074	8,648	7,104	2,119	1,177	5,968		48,091
2015	metered	38,557	3,107	3,080	379	370	1,120		46,612
	Deliveries (AFY) <sup>(3)</sup>	25,490	9,553	7,414	2,212	1,228	6,229		52,127
2020	metered	45,176	3,640	3,174	390	381	1,154		53,915
	Deliveries (AFY) <sup>(3)</sup>	29,866	11,193	7,639	2,279	1,265	6,418		58,661
2025	metered	51,687	4,165	3,285	404	394	1,195		61,129
	Deliveries (AFY) <sup>(3)</sup>	34,170	12,807	7,907	2,359	1,310	6,643		65,195
2030	metered	58,198	4,689	3,396	417	408	1,235		68,344
	Deliveries (AFY) <sup>(3)</sup>	38,475	14,420	8,174	2,439	1,354	6,868		71,730

This table corresponds to DWR Table 12.

Note: All accounts are metered.

(1) From the Public Water System Statistic Reports submitted to the DWR by the City of Ontario.

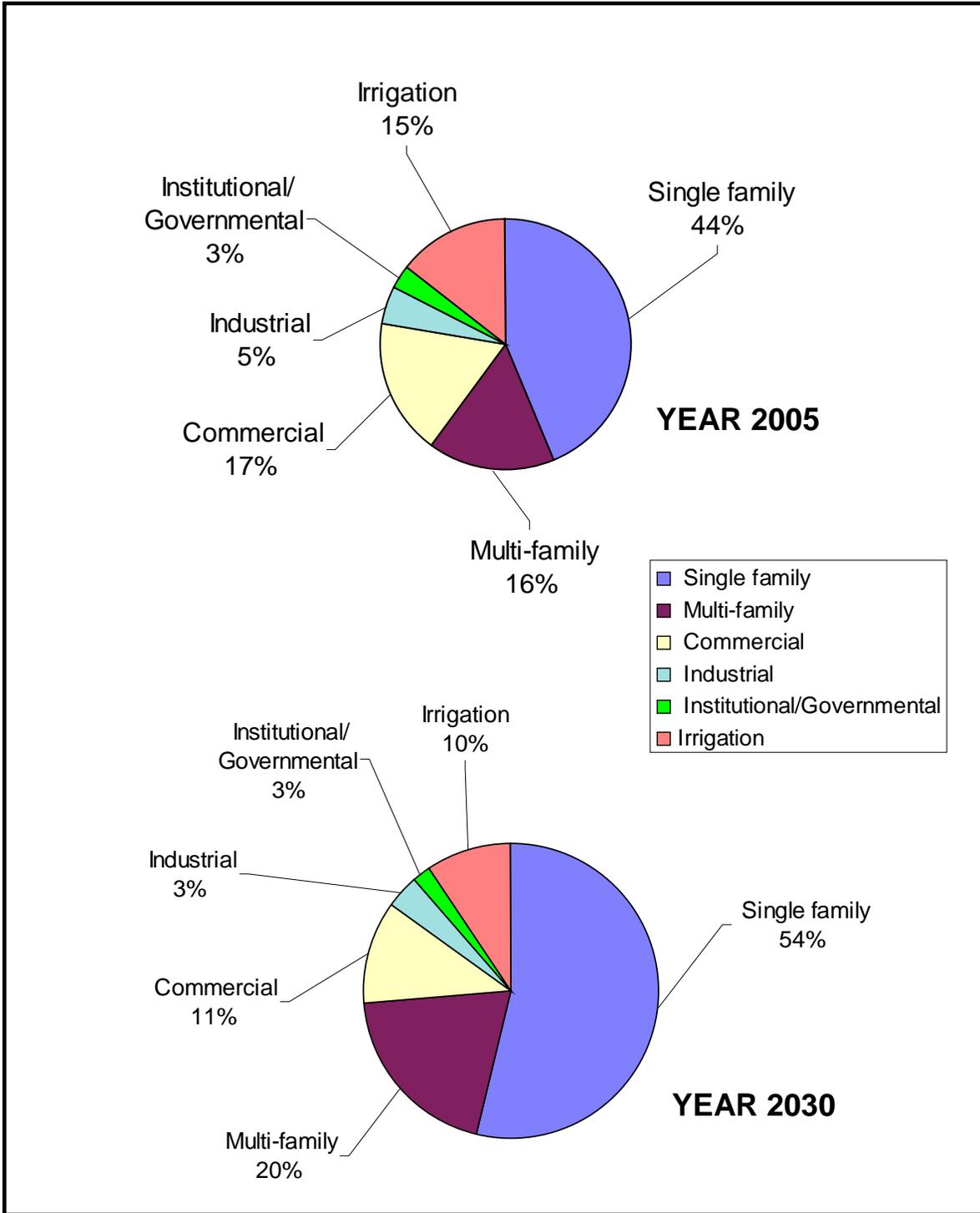
(2) Calculated by dividing the projected water deliveries by the average water delivery per account in year 2005 (projected 2005 demand/number of accounts as of August 2004).

(3) Projected water demands obtained from hydraulic model prepared for the Water and Recycled Water master Plan. SFR and MFR demands are distributed based on the ratio SFR/MFR in year 2004. Commercial, Industrial, Institutional and Irrigation demands are distributed based on the ratio COM/IND/INS/IRR in year 2004.

(4) Per Water Statistics submitted to the DWR: specified as Re. Code 7/9

(5) Total consumption; excludes 8% water loss. Demand = Consumption + Water loss.

Figure 2-4  
Water Use Distribution by Land Use Category



## Section 2 – Population and Water Use

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The projected demand data for year 2005 and the actual number of account as of August 2004 is used to calculate the average water delivery per account for each billing classification as listed in **Table 2-4**. These averages were used to estimate the number of future accounts for the years 2005 through 2030.

As shown in **Table 2-4**, the total water deliveries are projected to increase from about 43,000 AFY to approximately 72,000 AFY in 2030. This equates to a water demand increase of 67 percent. This increase in demand is lower than the population increase of 81 percent considering a lower per capita use for the added population as the NMC does not include water usage associated with industrial land use and minimal commercial water demands. The number of accounts is estimated to increase from about 32,000 in year 2000 to 68,000 in year 2030.

It should be noted that the listed demands and account numbers per billing classification are based on the potable water demand projections presented in the WMP Update (MWH, 2005a), which are based on 2003 billing data and land use types. Because the billing classifications do not exactly match the land use type categories, the projected demands had to be re-distributed amongst the billing classifications as described in footnote 3 of **Table 2-4**. Due to the lower demand of the 2003 billing data compared to 2000 and the re-distribution process, certain billing classifications show an initial decrease in demand.

### 2.3.2 Projected Recycled Water Demand

The existing recycled water demand within the City is about 2,129 AFY, which includes 500 AFY of recycled water that is currently used for groundwater recharge at the Ely Basins by IEUA. It should be noted that Ely Basin is not an Ontario customer, but a customer of IEUA. All existing recycled water customers that are located in the City are currently served by IEUA, rather than by the City. The comparison of the projected and actual recycled water demand projected for 2005 in the 2000 UWMP (IEUA, 2000) is presented in **Table 2-5**. This table shows that recycled water usage in Ontario has not expanded as rapidly as projected in 2000.

**Table 2-5**  
**Comparison of 2000 Recycled Water Projection and Actual Usage**

Projection for 2005 <sup>(1)</sup> (AFY)	Actual Use 2005 <sup>(2)</sup> (AFY)
6,000	1,829

This table corresponds to DWR Table 37.

(1) Table 5-6 from IEUA 2000 UWMP (IEUA, 2000)

(2) Water and Recycled Water Master Plan (MWH,2005)

The City has taken measures to encourage the use of recycled water including 1) reduced recycled water rates that provide recycled water at lower cost than potable water to customers, 2) developer's agreements for new OMC and NMC developments that mandate the installation of recycled water mains to all common irrigation areas, parks, and schools, or 3) the development and approval of a mandatory ordinance.

## Section 2 – Population and Water Use

The existing and projected recycled water demand in the City is summarized in **Table 2-6** in AFY. As shown in this table, the recycled water demand in the City is projected to increase from 1,829 AFY to 14,492 AFY, which equates to an increase of almost 700 percent. It should be noted that these projections are contingent upon the development of the NMC.

**Table 2-6  
Recycled Water Demand Projection**

Year	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Old Model Colony	1,229	2,198	2,903	5,471	5,512	5,554
New Model Colony	600	5,728	5,913	6,290	6,923	8,938
<b>Total</b>	<b>1,829</b>	<b>7,926</b>	<b>8,816</b>	<b>11,761</b>	<b>12,435</b>	<b>14,492</b>

This table corresponds to DWR Table 14.

The potential recycled water demands by user type and category are summarized in **Table 2-7**, while the projected recycled water demands are summarized in **Table 2-8**. The only difference between the potential and projected demand is the projected demand of the future landscape users in the OMC. A feasibility study was conducted for this user category as part of the latest WMP Update (MWH, 2005a). This study eliminated some of the potential recycled water users based on the cost, resulting in a lower projected than potential demand for this category. The recycled water demand projection for the NMC is based on assumptions that reflect extensive use of recycled water. Hence, the potential and projected recycled water demands for the NMC listed in **Table 2-7** and **Table 2-8** are the same. A detailed breakdown of the various categories listed in these tables are discussed below.

**Table 2-7  
Potential Recycled Water Demand by User Type**

User type	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Landscape in the OMC (existing users)	1,229	1,229	1,229	1,229	1,229	1,229
Agriculture use in NMC (temporary)	600	3,295	3,019	1,381	0	0
Landscape in the OMC (future users)	0	356	1,719	3,080	4,442	5,803
Industrial in the OMC (future user)	0	1,005	1,005	1,005	1,005	1,005
Landscape in NMC	0	2,433	2,894	4,909	6,923	8,938
Wildlife Habitat	n/a	n/a	n/a	n/a	n/a	n/a
Wetlands	n/a	n/a	n/a	n/a	n/a	n/a
Groundwater Recharge	0	0	0	0	0	0
<b>Total</b>	<b>1,829</b>	<b>8,318</b>	<b>9,866</b>	<b>11,604</b>	<b>13,599</b>	<b>16,975</b>

This table corresponds to DWR Table 35.

Note: IEUA wholesales disinfected tertiary recycled water to the City

## Section 2 – Population and Water Use

**Table 2-8**  
**Projected Recycled Water Demand by User Type**

User Type	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Landscape in the OMC (existing users)	1,229	1,229	1,229	1,229	1,229	1,229
Agriculture use in NMC (temporary)	600	3,295	3,019	1,381	0	0
Landscape in the OMC (future users)	0	0	669	3,237	3,278	3,320
Industrial in the OMC (future user)	0	969	1,005	1,005	1,005	1,005
Landscape in NMC	0	2,433	2,894	4,909	6,923	8,938
Wildlife Habitat	n/a	n/a	n/a	n/a	n/a	n/a
Wetlands	n/a	n/a	n/a	n/a	n/a	n/a
Groundwater Recharge	n/a	n/a	n/a	n/a	n/a	n/a
<b>Total</b>	<b>1,829</b>	<b>7,926</b>	<b>8,816</b>	<b>11,761</b>	<b>12,435</b>	<b>14,492</b>

This table corresponds to DWR Table 36.

### Major Existing Recycled Water Customers

Some of the existing recycled water customers located in the City are currently served directly by IEUA. The existing recycled water customers are listed in **Table 2-8**.

**Table 2-9**  
**Existing Recycled Water Customers**

User Type	Existing Demand (AFY)	Ultimate Demand (AFY)
Whispering Lakes Golf Course	1,036	1,036
Murai Farms	600	0
Westwind Park	80	80
Two Caltrans connections	100	100
Median on Archibald Avenue	13	13
<b>Total</b>	<b>1,829</b>	<b>1,229</b>

This table corresponds to DWR Table 36.

These customers are currently served by IEUA directly, rather than through the City. With the expansion of the regional recycled water system, it is assumed that all recycled water demands within the City will be served by the City directly in the future. The recycled demand of these existing users that will be served by the City under ultimate conditions is about 1,229 AFY (1,829 AFY minus 600 AFY for Murai Farms as discussed below).

### Temporary Agricultural Users

In the near-term, the City could serve recycled water to (non-dairy) agricultural customers with irrigation in the NMC by accelerating the construction of some of the recycled water pipelines that are planned for the NMC under build out conditions. One example is Murai Farms, which is

## Section 2 – Population and Water Use

currently served with recycled water directly by IEUA with a demand of about 600 AFY. In addition to Murai Farms, the total area identified with agricultural users that can be temporarily served with recycled water is 802 acres. The estimated recycled water demand of this area is 2,695 AFY, resulting in a total recycled water demand for temporary agricultural users of 3,295 AFY or 2.9 mgd. Due to the development of the NMC, this demand is reduced to zero by year 2025, but is replaced by a combination of potable and recycled water demand.

### Future Customers in the OMC

The projected recycled water demands in the OMC are based on the conversion of existing potable water users and the use of recycled water on newly developed parcels (infill) where possible. The potential recycled water demand is estimated to be about 6,627 AFY including one large industrial user with a potential demand of 1,005 AFY. As part of the WMP Update (MWH, 2005a), a feasibility study was conducted to select those user groups that are most feasible based on the relative unit cost (\$/acre-ft). The projected recycled water demand in the OMC based on this feasibility study is 4,230 AFY or 3.8 mgd.

### Future Customers in the NMC

The projected recycled water demand for the entire NMC at build out conditions is about 8,938 AFY or 8.0 mgd under average day demand (ADD) conditions. As shown in this table, the recycled water demand of temporary agricultural users is assumed to be zero in year 2025, when the NMC is anticipated to get close to being build out.

### Future Customers in the entire City

The projected recycled water demands are summarized in **Table 2-6**. As shown in this table, the recycled water demand in the City is projected to increase from 1,816 AFY to 14,384 AFY, which equates to almost 700 percent increase. The NMC contributes approximately 500 percent to this increase.

### 2.3.3 Sales to Other Agencies

The City also serves water to Sunkist as part of the Chino Basin overlying (non-agricultural) assessment adjustment. In exchange for water delivery, the City obtains the groundwater pumping rights in the amount equal to the amount of water served. The historical and projected water deliveries to Sunkist are shown in **Table 2-10**.

**Table 2-10**  
**Sales to Other Agencies**

Water Distributed	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Sunkist <sup>(1)</sup>	1,449	1,470	1,470	1,470	1,470	1,470

This table corresponds to DWR Table 13.

(1) It should be noted that Sunkist is not a water agency, but a customer located within the City boundaries.

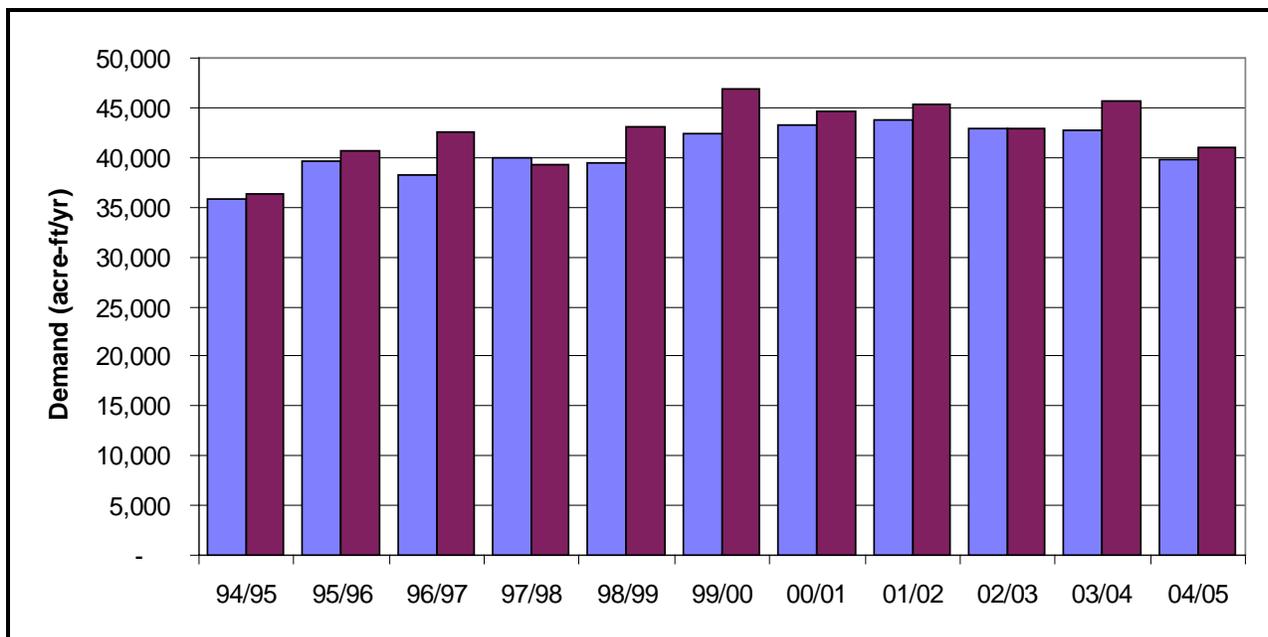
## Section 2 – Population and Water Use

The projected water delivery for years 2005 through 2030 is assumed to be constant and is based on the average water delivery of the last six years (1998 through 2003). No other adjustments to water rights assessment or special deliveries are identified.

### 2.3.4 Water Losses

The difference between the volume of water delivered to the distribution system (water production) and the metered sales (water consumption) is often referred to as “unaccounted-for water” or water loss. The historical water production and consumption is presented on **Figure 2-5**.

**Figure 2-5**  
**Historical Water Consumption and Production**



As shown on this figure, the water loss varies from year to year. The average water loss in the period 1994 through 2004 was 4 percent. As some years have shown water loss as high as 10 percent, the water loss used for system planning purposes in the WMP Update is 8 percent. To be consistent with the WMP Update, the projected water loss as shown in **Table 2-11** is calculated as 8 percent of the projected water demand listed in **Table 2-4**. The value listed for year 2000 is the actual recorded water loss.

**Table 2-11  
Historical and Projected Water Loss**

<b>Water Loss</b>	<b>2000 (AFY)</b>	<b>2005 (AFY)</b>	<b>2010 (AFY)</b>	<b>2015 (AFY)</b>	<b>2020 (AFY)</b>	<b>2025 (AFY)</b>	<b>2030 (AFY)</b>
Production (AFY)	46,100	42,583	51,938	56,297	63,354	70,411	77,468
Consumption (AFY)	43,028	39,428	48,091	52,127	58,661	65,195	71,730
Water Loss (AFY)	3,072	3,155	3,847	4,170	4,693	5,215	5,738
Water Loss (%)	7%	8%	8%	8%	8%	8%	8%

This table corresponds to DWR Table 14.

The water loss of year 2000 is based on historical records (7%), while the projected water loss for years 2005 through 2030 is estimated using 8% of the projected water consumption as defined in the 2005 WMP Update (MWH, 2005a).

### 2.3.5 Total Water Use

The total historical and projected water use through year 2030 is presented in **Table 2-12**. The total water use is the summation of the potable water used by user categories (Table 2-4), projected recycled water demands, sales to other agencies (Table 2-10), and water loss (Table 2-11). It should be noted that the City does not have any additional water uses such as saline barriers protection, groundwater recharge, conjunctive use, or demands associated with raw water projects.

**Table 2-12  
Total Water Use – Without Water Conservation**

<b>Water Use</b>	<b>2000 (AFY)</b>	<b>2005 (AFY)</b>	<b>2010 (AFY)</b>	<b>2015 (AFY)</b>	<b>2020 (AFY)</b>	<b>2025 (AFY)</b>	<b>2030 (AFY)</b>
Consumption <sup>(1)</sup>	43,028	39,428	48,091	52,127	58,661	65,195	71,730
Recycled Water	0	1,829	7,926	8,816	11,761	12,435	14,492
Sunkist	1,449	1,470	1,470	1,470	1,470	1,470	1,470
Water Loss	3,072	3,154	3,847	4,170	4,693	5,216	5,738
Saline barriers	n/a						
Groundwater Recharge	n/a						
Conjunctive Use	n/a						
Raw Water	n/a						
<b>Total</b>	<b>47,549</b>	<b>45,881</b>	<b>61,334</b>	<b>66,583</b>	<b>76,585</b>	<b>84,316</b>	<b>93,430</b>

This table corresponds to DWR Table 14.

(1) Consumption plus 8% water loss is equal to the production numbers listed in **Table 2-11**.

The total water use projected through year 2030 that incorporates water conservation is summarized in **Table 2-13**. As shown, the total water use is estimated to be 7,747 AFY lower than presented in **Table 2-12**, which equates to a demand reduction of 8percent. Details regarding water conservation are discussed in **Section 3**.

**Section 2 – Population and Water Use**

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**Table 2-13  
Total Water Use – With Water Conservation**

<b>Water Use</b>	<b>2000 (AFY)</b>	<b>2005 (AFY)</b>	<b>2010 (AFY)</b>	<b>2015 (AFY)</b>	<b>2020 (AFY)</b>	<b>2025 (AFY)</b>	<b>2030 (AFY)</b>
Total Water Use	47,549	45,881	61,334	66,583	76,585	84,316	93,430
Water Conservation	0	-840	-2,635	-3,994	-4,900	-6,149	-7,747
Water Use with Conservation	<b>47,549</b>	<b>45,041</b>	<b>58,699</b>	<b>62,589</b>	<b>71,685</b>	<b>78,167</b>	<b>85,683</b>

This table corresponds to DWR Table 15.

# Section 3

## Water Conservation

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### 3.1 INTRODUCTION

Water conservation is an important component of water resource management, not only for the City of Ontario (City) but also for the entire Inland Empire Region and Southern California. For a variety of reasons, the Inland Empire Region remains one of the top growth areas in the country, with the City being a major contributor to the projected growth. This growth in population and industry puts pressure on the local retail agencies to meet the anticipated water demand over the next 25 years and beyond. Implementation of conservation programs helps reduce the expected increase in water demand.

The City's water conservation policies are primarily driven by two factors, the water conservation goals defined in IEUA's *Review Draft Urban Water Management Plan* (IEUA, 2005d) and the California Urban Water Conservation Council (CUWCC) *Memorandum of Understanding regarding urban water conservation in California* (MOU) of September 1991 and last amended in March 2004 (CUWCC, 2004). As a signatory to the MOU, the City has pledged to implement a prescribed set of urban water conservation Best Management Practices (BMPs). In the California Water Code Section 10631, the BMPs are referred to as Demand Management Measures (DMMs). BMPs and DMMs are functionally equivalent. In this report the term BMP is used. The 14 BMPs are listed in **Table 3-1**.

**Table 3-1**  
**Best Management Practices**

BMP No.	Best Management Practices
1	Water Survey Programs for Single-Family and Multi-Family Residential Customers
2	Residential Plumbing Retrofit
3	System Water Audits, Leak Detection and Repair
4	Metering with Commodity Rates for all New Connections and Retrofit of Existing
5	Large Landscape Conservation Programs and Incentives
6	High-Efficiency Washing Machine Rebate Programs
7	Public Information Programs
8	School Education Programs
9	Conservation Programs for Commercial, Industrial and Institutional (CII) Accounts
10	Wholesale agency programs
11	Conservation Pricing
12	Water Conservation Coordinator
13	Water Waste Prohibition
14	Residential Ultra-Low-Flush Toilet Replacement Program

As a signatory to the MOU, the City is a member of the CUWCC and is required to provide BMP Activity Reports every two years. These reports provide specific details of the agency's efforts to implement each BMP. The Act requires that agencies describe the implementation

## **Section 3 – Water Conservation**

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status and cost-effectiveness of each BMPs in their UWMP unless the agency is signatory to the MOU and provides the annual BMP Activity Reports. California Water Code Section 10613 (i) allows an agency to provide the BMP Activity Reports in-lieu of describing each of the BMPs. The City has submitted the Activity Reports for 2003 and 2004 to the CUWCC since the City signed the MOU in 2002. These reports are included in **Appendix C**.

### **3.2 WATER CONSERVATION STRATEGY OF IEUA**

Over the past five years, IEUA and their member agencies have developed a strong partnership and an aggressive approach to BMPs that reduce water at the source. Water conservation is an important component of water resource management. Conservation has multiple benefits such as a reduction on the dependence of imported water supplies. Water conservation helps solve the water quality issues in the California Bay Delta and improves water supply reliability. Water conservation is also beneficial for the region's water rate payers, as water conservation is one of the least expensive new sources of water. IEUA projects regional savings of more than \$200 million over the next 20 years by utilizing water conservation measures to reduce imported water purchases (IEUA, 2005e).

IEUA and the local retail agencies have been implementing water conservation programs for the region since 1991. Through year 2000, the source of the majority of water savings has been the distribution of ultra low flush (ULF) toilets. Beginning in 2001, the conservation programs have become much more diversified with the introduction of high efficiency clothes washer (HECW) rebates, commercial and industrial rebates, landscape water efficiency programs, public education, school programs, hiring of water conservation coordinators and water waste prohibition ordinances.

#### **3.2.1 2000-2005 Water Conservation**

The IEUA regional water conservation goal for year 2005 as defined in the 2000 UWMP (IEUA, 2000) was 11,600 acre-feet per year (AFY). The actual amount of water conservation achieved is estimated as 5,100 AFY. Over the past five years, IEUA has introduced a variety of new and innovative incentive programs to help achieve this goal. The water conservation programs that IEUA has implemented in the 5-year period from 2000 to 2005 to encourage participation by its retail agencies are:

- **Large Landscape:** As part of BMP No. 5, IEUA has participated in a number of initiatives to reduce the amount of water used for irrigation. These programs include regional and local classes for businesses on landscaping efficiencies, the "California Friendly Model Program", and the weather sensitive irrigation controller program.
- **Residential HECW Rebates:** As part of BMP No. 6, about 4,800 HECW have been installed, contributing to about 220 AFY of water savings.
- **School Education:** As part of BMP No. 8, IEUA and local agencies expanded water conservation education programs by conducting three presentations: (1) a magic show entitled "Think Earth; It's Magic" that reached 22,000 elementary school students, (2) a stage show entitled "The Water Pirates of Neverland" that was seen by 21,000 students, and (3) the thematic school garden demonstration projects entitled "A Garden in Every School".

## Section 3 – Water Conservation

- Commercial, Industrial, and Institutional (CII) rebate program. As part of BMP No. 9, rebates were provided for ULF toilets, waterless urinals, HECW, cooling tower conductivity controllers, x-ray film processor re-circulation units, pressurized water brooms, pre-rinse spray nozzles, and weather sensitive irrigation controllers.
- Agency Support: As part of BMP No. 10, IEUA provided annual grants of \$2,000 per agency for BMP related programs or projects. The City of Ontario prefers to participate in programs sponsored by IEUA, which provide greater benefits for the City than small-scale water conservation programs.
- Residential ULF Active Programs: As part of BMP No. 14, about 35,000 ULF toilets have been installed since 1991, contributing to about 1,800 AFY of water savings.
- Residential ULF Passive Programs: As part of BMP No. 14, about 153,000 ULF toilets have been installed since 1993, contributing to about 6,000 AFY of water savings.

The combined active and passive water conservation achieved from these programs for the region between 1993 and 2000 is about 5,110 AFY. Additional water savings from 2001 through 2004 are expected to bring the total water saved to over 8,600 AFY, which is IEUA’s water conservation goal for year 2005 as listed in the 2005 UWMP (IEUA, 2005d). It should be noted that the water conservation goal for year 2005 was set at 11,600 AFY in the 2000 IEUA UWMP. To achieve new water conservation savings each year, IEUA and the retail agencies will have to invest more into existing conservation programs.

### 3.2.2 2005-2010 Water Conservation

The water conservation goals established in IEUA’s Review Draft UWMP (IEUA, 2005d) are summarized in **Table 3-2**. Although all agencies participate in water conservation programs, each agency has a different service area size, population, land use, and water use mix. The water conservation goals for the period 2010 through 2030 are set 10 percent of the projected water demands, while the water conservation goal for 2005 is about 3.6 percent of the combined projected water demand of all member agencies.

**Table 3-2  
IEUA’s Water Conservation Goals (Active and Passive)**

Water Purveyor	2005 <sup>(1)</sup> (AFY)	2010 <sup>(2)</sup> (AFY)	2015 <sup>(2)</sup> (AFY)	2020 <sup>(2)</sup> (AFY)	2025 <sup>(2)</sup> (AFY)
City of Chino	745	2,459	2,750	2,983	3,183
City of Chino Hills	690	2,019	2,080	2,142	2,206
<b>City of Ontario</b>	<b>1,825</b>	<b>5,695</b>	<b>6,315</b>	<b>6,925</b>	<b>7,596</b>
City of Upland	699	2,164	2,194	2,194	2,194
Cucamonga Valley Water District	2,047	7,283	8,133	8,733	9,514
Fontana Water Company	2,024	7,000	7,180	7,240	7,320
Monte Vista Water District	447	1,310	1,373	1,437	1,500
San Antonio Water Company	123	351	331	339	348
<b>Total</b>	<b>8,600</b>	<b>28,281</b>	<b>30,356</b>	<b>31,993</b>	<b>33,861</b>
<b>Total (rounded)<sup>(3)</sup></b>	<b>8,600</b>	<b>28,500</b>	<b>30,000</b>	<b>32,000</b>	<b>34,000</b>

(1) Calculated by multiplying the projected demands from Table2-8 of the 2005 UWMP (IEUA, 2005d) with 3.6%

(2) Calculated by multiplying the projected demands from Table2-8 of the 2005 UWMP (IEUA, 2005d) with 10%

(3) Water conservation goal as listed in Table2-8 of the 2005 UWMP (IEUA, 2005d)

## Section 3 – Water Conservation

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It should be noted that the water conservation goals presented in **Table 3-2** include both active and passive water conservation, resulting in higher water conservation goals than presented in IEUA’s Draft UWMP (IEUA, 2005), which include active water conservation measures only.

Passive water conservation refers can be defined as the water conservation resulting from changes in the (plumbing) code and will happen automatically due to changes in the available appliances. Passive conservation is also referred to as “Code Based water conservation”. Active water conservation can be defined as water conservation resulting from special activities and (financial) incentives that encourage reduction in water usage.

The active and passive water conservation goals for the City are listed in **Table 3-3**.

**Table 3-3**  
**IEUA’s Water Conservation Goals (Active and Passive)**

<b>Water Conservation Goal</b>	<b>2005<sup>(1)</sup> (AFY)</b>	<b>2010<sup>(2)</sup> (AFY)</b>	<b>2015<sup>(2)</sup> (AFY)</b>	<b>2020<sup>(2)</sup> (AFY)</b>	<b>2025<sup>(2)</sup> (AFY)</b>	<b>2030<sup>(3)</sup> (AFY)</b>
Active Water Conservation <sup>(1)</sup>	840	1,800	2,630	2,980	3,640	3,712
Passive Water Conservation <sup>(2)</sup>	985	3,895	3,685	3,945	3,956	4,035
<b>Total</b>	<b>1,825</b>	<b>5,695</b>	<b>6,315</b>	<b>6,925</b>	<b>7,596</b>	<b>7,747</b>

(1) Water conservation goal as listed in Table2-10 of the 2005 UWMP (IEUA, 2005)

(2) Water conservation goal as listed in Table2-8 of the 2005 UWMP (IEUA, 2005d)

(3) Total calculated as 10 percent of the projected demands; 2025-2030 increase distributed evenly between active and passive water conservation.

To achieve the water conservation goals listed in **Table 3-2**, IEUA has included an annual BMP implementation schedule in its UWMP for the years 2005 through 2010. The estimated cost of implementing these BMPs is \$1,536,500. These programs are estimated to generate 1,020 acre-ft of new water savings per year for the period 2005-2010. This corresponds to a unit cost of approximately \$300 per acre-ft (1,020 AFY x \$1,536,500/5 years) (IEUA, 2005).

### 3.2.3 2010 and Beyond

Water conservation is a constantly evolving process due to changes and improvements in technologies, saturation of water saving devices, and consumer trends. By the year 2010, many programs are expected to be fully implemented, and some of the incentive programs may not be needed anymore due to market transformations.

For the period 2010 and beyond, IEUA and the retail agencies will modify the water conservation program and focus on those areas where the greatest water conservation potential will exist. Programs that may be part of the water conservation strategy in this period are:

- Replacement of water inefficient toilets, clothes washers, dishwashers, showerheads, and irrigation systems in existing homes
- Aggressive water conservation measures in new homes, similar to a large scale implementation of the pilot program “California Friendly Model Home”
- Incentives such as “Turf Buyback program” where homeowners receive a rebate (e.g. \$1.00 per square foot) of turf removed.

## Section 3 – Water Conservation

- Expansion of the CII rebate program “Save Water, Save A Buck”
- Implementation of an extensive recycled water system throughout IEUA’s service area.
- Legislative approaches such as the “Retrofit upon Resale” ordinance that requires plumbing upgrades prior to selling a property.
- Adjustment of rate structures that reward conservation minded customers with lower rates.
- Continuation of education programs for teachers and students.

### 3.3 WATER CONSERVATION STRATEGY OF ONTARIO

The City signed the MOU on December 11, 2002 (Ontario, 2002). The MOU sets goals for implementing each of the BMPs. Since 2003, the City has submitted the annual BMP Activity Report to the CUWCC. The BMP reports for 2003 and 2004 are included in **Appendix C**, and the status of the City’s water conservation efforts are summarized in **Table 3-4**.

**Table 3-4  
BMP Implementation Status - City of Ontario**

Best Management Practices		Status Details <sup>(1)</sup>
1	Water Survey Programs for Single-Family and Multi-Family Residential Customers	Surveys began in 2005. Several hundreds of surveys completed.
2	Residential Plumbing Retrofit	City distributed over 1,000 low-flow showerheads along with other conservation items to customers that completed surveys
3	System Water Audits, Leak Detection and Repair	Pre-Screening Completed
4	Metering with Commodity Rates for all New Connections and Retrofit of Existing	All accounts are metered
5	Large Landscape Conservation Programs and Incentives	Ontario, in conjunction with IEUA, conducted 3 audits in 2005
6	High-Efficiency Washing Machine Rebate Programs (HECW)	51 rebates awarded in 2004. Funded by IEUA (through MWD)
7	Public Information Programs	32 activities reported to date in BMP reports
8	School Education Programs	70 presentations to 1595 students to date in the BMP reports
9	Conservation Programs for CII Accounts	18 CII Surveys, 211 rebates, 6 AFY of Performance Savings, and 20.5 AFY of Conservation Program Savings. This BMP is also covered by IEUA’s “Save Water Save a Buck” program
10	Wholesale agency programs	N/A (Ontario is a retail agency)
11	Conservation Pricing	Increasing block pricing structure
12	Water Conservation Coordinator	Position staffed in 2001
13	Water Waste Prohibition	A general water waste prohibition is incorporated into the Emergency Water Conservation section of the City Ordinances (OMC, Section 6, Chapter 8A.)
14	Residential ULFT Replacement Program	1,756 rebates reported in BMP reports

(1) Reflect cumulative totals to date (September 2005)

## Section 3 – Water Conservation

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Examples of the existing water conservation programs implemented by the City (Ontario, 2005a) are:

- ULF Toilet Exchange Program: The City promotes water conservation through distribution of ULF toilets that have a flushing volume of 1.6 gallons, compared to 3.5 gallons/flush of older models. Single family home customers that reside in homes built prior to 1992 are eligible to participate in this program. . The City hosts at least two large-scale toilet distribution events each year.
- ULF Toilet Rebate Program: Customers that are not able to participate in the exchange program may purchase toilets from a local retailer and apply for a \$50.00 rebate per toilet.
- HECW Rebates: Customers may purchase a HECW and apply for a rebate up to \$100.00.
- Water Education Water Awareness Committee (WEWAC): The City is an active member of WEWAC, a committee that is comprised of local agencies. WEWAC co-sponsors several education programs for teachers and students regarding conservation and the environment. WEWAC also provides public education grants.
- Home and Garden Show: The annual home and garden show held at the Ontario Convention Center provides water resource information and conservation materials through WEWAC.
- Low Flow Shower Heads: Customers can obtain new low flow showerheads free of charge in exchange for their less water efficient showerheads from the City’s Utilities Department. The City also provides faucet aerators and low-flow hose nozzles.
- Cooling Tower Rebate: Commercial customers can receive a \$500.00 rebate by installing a Cooling Tower Conductivity Controller, which can save up to 800,000 gallons annually.

Based on the 2004 Activity Reports submitted to CUWCC, the active water conservation amount achieved by the end of the fiscal year (FY) 2005 is estimated to be around 177 AFY. It should be noted that this does not include passive or “code based” water conservation. Hence, the total amount of water conservation is higher. The estimate breakdown is presented in **Table 3-5**. Details of calculations to estimate the water conservation savings are included in **Appendix D**. The estimated (active) water conservation (177 AFY) is significantly less than the IEUA’s water conservation goal for 2005 as defined in the 2000 UWMP (3,000 AFY). It should be noted that the goal for 2005 was lowered from 3,000 AFY to 840 AFY in the 2005 UWMP (IEUA, 2005). Based on the estimate of 177 AFY it is evident that the City needs to ramp up the implementation of the BMPs. The strategy to increase water conservation and meet the goal set for year 2010 is discussed in Section 3.3.1.

It should be noted that the water conservation estimates only include active water conservation measures, and do not account for passive water conservation such as the direct purchase of ULF toilets, showerheads, or high-efficiency washers by residents in the City that do not apply for a rebate. The estimates also excludes the water conservation achieved by behavioral changes as a result of education programs and increased awareness of the limited water resources in California.

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**Table 3-5  
Water Conservation Estimate by the End of FY 2004/2005 (Active Programs)**

Best Management Practices (BMP's)	Total Number of BMP's	Estimated Savings <sup>(1)</sup> (AFY)
(1) Water Survey Programs for Single-Family and Multi-Family Residential Customers	0	0.0
(2) Residential Plumbing Retrofit - single family dwelling units	1,500	14.4
(2) Residential Plumbing Retrofit - multi family dwelling units	500	4.8
(3) System Water Audits	on-going	0.0
(4) Metering with Commodity Rates	on-going	0.0
(5) Large Landscape Programs	on-going	0.0
(6) HECW machine Rebate Programs (washers)	689	31.4
Pool Cover Rebates <sup>(2)</sup>	87	4.5
(7) Public Information Programs	32	0.0
(8) School Education Programs	1,595	0.0
(9) Conservation Programs for CII accounts	211	-
CII ULF Toilet rebates	187	11.2
unknown CII Rebates	3	0.0
CII Surveys	18	0.0
HECW rebates	69	8.3
Cooling Tower Conductivity Controllers (CTCC)	9	20.2
Waterbrooms <sup>(3)</sup>	17	2.6
Performance Target savings	0	6.0
Conservation Program Targets	0	19.5
(10) Wholesale pricing	N/A	N/A
(11) Conservation Pricing	complete	0.0
(12) Conservation Coordinator	complete	0.0
(13) Water Waste Prohibition	complete	0.0
(14) Residential ULFT rebates	1,756	54.4
<b>Total Estimated Savings</b>	<b>n/a</b>	<b>177.0</b>

Note: Details of calculations to estimate the water conservation savings are included in **Appendix D**.

(1) Includes active water conservation estimates only, does not include passive (or Code Based) water conservation.

(2) This program has been discontinued by IEUA.

(3) This program has been discontinued by the City.

In addition, the water conservation estimates are highly dependent upon the assumptions made to calculate the actual water conservation achieved by certain BMPs. The assumptions used for the water conservation estimates presented in this section are listed below.

- **Showerhead Savings (BMP 2):** The MOU states that pre-retrofit showerheads correspond with an estimated water use of 7.2 gpd/cap, while low flow showerheads have an average water usage of 2.9 gpd/cap. Therefore, the water savings are about 4.3 gpd/cap. With an average density of 4 people per household and 2 showerheads per homes, this equates to 8.6 gpd/showerhead or 0.010 AFY per showerhead.

## Section 3 – Water Conservation

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- Large Landscape Meters (BMP 5): The MOU states that landscaping retrofits result in 15 percent water savings. With 1,000 large landscaping meters (2004 BMP report) and a total irrigation demand of 6,402 AFY, the average landscaping water usage in the City is 6.4 AFY. Hence, 15 percent savings equates to about 0.96 AFY per meter.
- Residential HECW Rebate Program (BMP 6): The potential water savings of a residential HECW machine is estimated to be up to 14,720 gallons per year or 0.046 AFY (IEUA, 2005a). These savings can be achieved when a 40 gallon per load washer is replaced with a 20 gallon per load washer and the clothes washer is used 400 times a year. Pool Cover rebates , grouped with residential HECW for this report, have a savings of 0.052 AFY (IEUA, 2005b).
- CII Rebates (BMP 9): The MWD CII Annual Report (MWD, 2004) lists the water savings of various CII water devices. The devices that are part of the City’s rebate program under this BMP and the associated water savings are: 0.06 AFY for ULFT, 0.12 AFY for commercial HECW, 2.24 AFY for CTCC, and 0.15 AFY for water brooms. It should be noted that these unit savings in the CII sector are higher for residential BMP’s due to more intensive use.
- ULF Toilets (BMP 14): The water conservation estimate of residential ULFT’s is based on the savings reported in the IEUA Regional ULF Toilet Rebate Program Status Report (IEUA, 2005c). This report states that 308 active toilet replacements resulted in an average saving of 9.7 AFY, or 0.03 AFY/toilet.

The water conservation as a result of other BMP’s are not included in **Table 3-5** as water savings for many BMPs are difficult to quantify. In addition, measurable water savings from ULFT distribution occurring prior to 2003 is not included in the table. Therefore, it is expected that the actual water savings are higher than 177 AFY.

### 3.3.2 2006-2010

As listed in **Table 3-2**, the water conservation goal for the City in year 2010 is 1,800 AFY (IEUA, 2005). This goal reflects active water conservation measures only, and does not include passive water conservation as a result of plumbing retrofits etc. To achieve this goal and to be in compliance with the goals defined in the MOU, a water conservation implementation plan has been developed as part of this UWMP. This plan defines the number of BMP’s that need to be implemented each year to achieve the 2010 water conservation goal. **Table 3-6** presents the number of BMPs that needs to be realized on an annual basis from FY 2005-2006 through FY 2009-2010 to achieve the water conservation goals. **Appendix D** contains BMP activity reports for 2003 and 2004 and additional details regarding existing and project water conservation projections.



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As shown in **Appendix D**, the BMPs are divided into three categories; 1) Pre- FY 04-05, 2) MOU Requirements, and 3) Additional BMP Activities. The measures currently in place are referred to as “Pre-FY 04-05”, and are estimated to conserve about 177 AFY (see **Table 3-5**). The BMPs listed in the MOU requirements would result in an additional 936 AFY, increasing the water conservation amount to 1,113 AFY. Hence, additional BMP activities have been identified to meet the goal of 1,800 AFY. These additional activities are:

- Increasing the number of distributed showerheads give-aways (BMP 2) by 1,000 for SFR customers and 1,000 for MFR customers for the next five years.
- Implementing water conservation measures at 50 large landscaping customers in FY 2008-2009 and FY 2009-2010.
- Providing rebates for 200 residential HECW’s per year (BMP 6) for each year in 2006 through 2010.
- Distributing ULF toilets in the CII sector (BMP 9), starting with 450 units in FY 2006-2007 and increase by 50 toilets per year to 650 toilets in 2010.
- Providing rebates for 10 commercial HECW for the next 3 FY’s, then increase by 5 each FY until FY 2009-2010 for a total of 20 HECW per year.
- Distributing 5 CTCC per year.
- ULF toilets in the residential sector (BMP 14), starting with 1,000 units in FY 2006-07 and increase by 500 toilets per year to 2,500 toilets in FY 2009 -2010.

These activities and the MOU requirements will bring the water conservation in line with the IEUA goal. The comparison of the active water conservation goals and estimated water conservation is listed in **Table 3-7** and is graphically shown on **Figure 3-1**. This figure also presents the combined active and passive water conservation goal as presented in the Review Draft UMWP (IEUA, 2005d). As shown in the figure, passive water conservation is expected to contribute significantly to the total water conservation, ranging from about 55-70 percent of the total water conservation.

**Table 3-7**  
**Comparison of Water Conservation Estimates and Goals for 2006-2010**

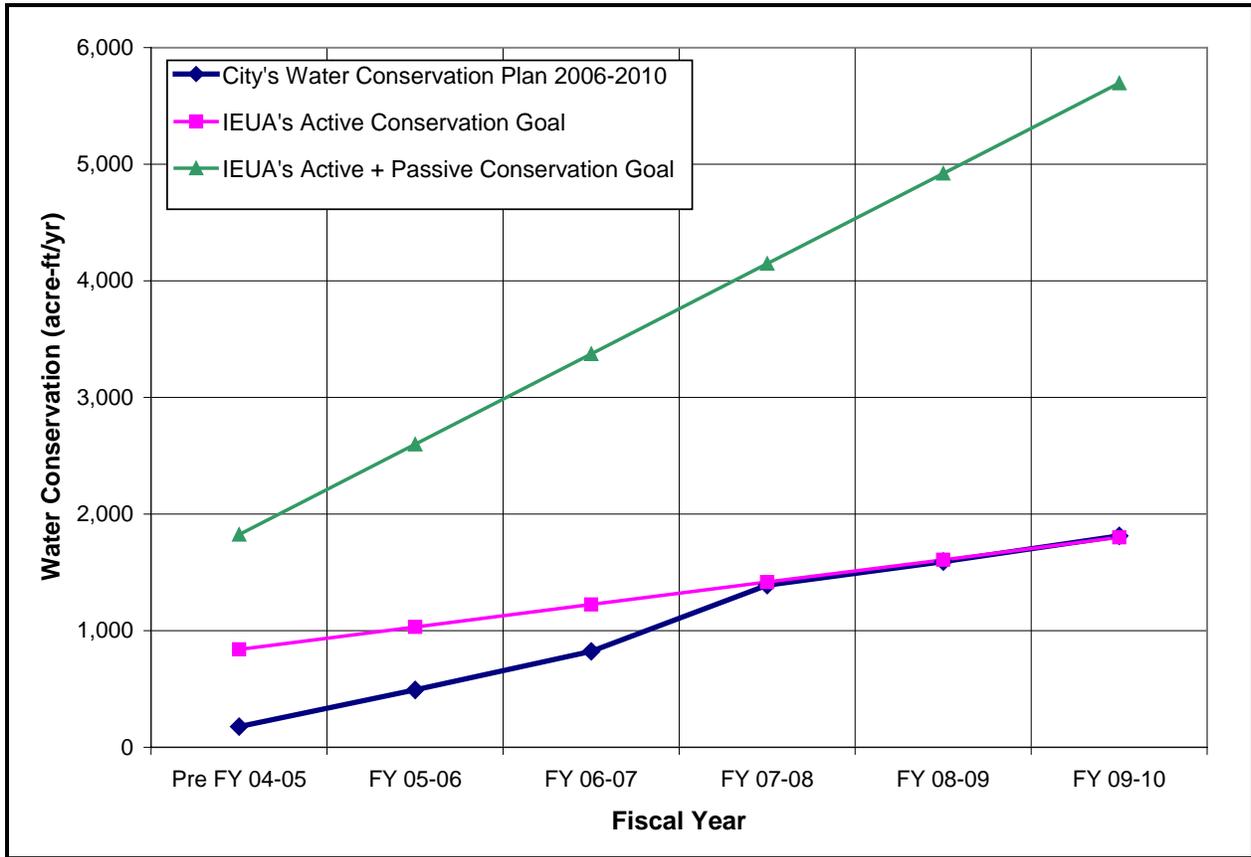
Water Conservation Plan	Pre FY 04-05 (AFY)	FY 05-06 (AFY)	FY 06-07 (AFY)	FY 07-08 (AFY)	FY 08-09 (AFY)	FY 09-10 (AFY)
City’s Water Conservation Plan <sup>(1)</sup>	177	491	823	1,390	1,592	1,813
IEUA’s Active Water Conservation Goal <sup>(2)</sup>	840	1,032	1,224	1,416	1,608	1,800
Difference (AFY)	-663	-541	-401	-26	-16	13
Difference (%)	-79%	-52%	-33%	-2%	-1%	1%
City’s Water Conservation Plan <sup>(1)</sup>	177	491	823	1,390	1,592	1,813
IEUA’s Active and Passive Water Conservation Goal <sup>(3)</sup>	1,825	2,599	3,373	4,147	4,921	5,695
Difference (AFY)	-1,648	-2,108	-2,550	-2,757	-3,329	-3,882
Difference (%)	-90%	-81%	-76%	-66%	-68%	-68%

(1) The estimated savings of the City’s water conservation plan reflect active conservation measures only.

(2) Active water conservation goals per IEUA’s Draft UWMP Table 2-10 (IEUA, 2005).

(3) Active and passive water conservation goals per IEUA’s Review Draft UWMP Table 2-8 (IEUA, 2005d) and **Table 3-2**.

**Figure 3-1  
Comparison of Water Conservation Estimates and Goals for 2006-2010**



As shown in **Figure 3-1**, the proposed implementation plan will result in a rapid increase of water conservation in the period FY 06/07 to FY 07/08, primarily as a result of the large landscaping metering program. In the following years, the MOU requirements and additional BMP activities will increase the water conservation at the same rate as the linear increase in water conservation goals set by IEUA.

### 3.3.3 2010 and Beyond

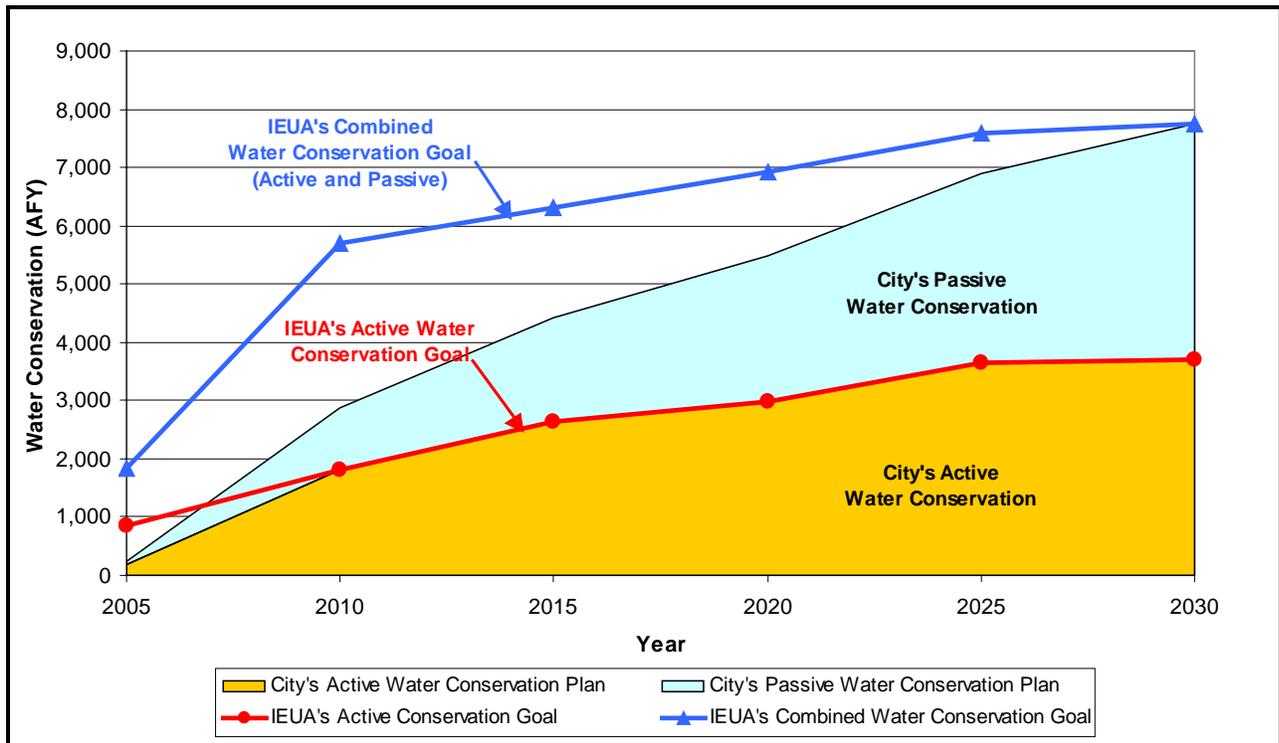
In addition to the active water conservation measures defined in **Table 3-6**, passive water conservation will take place as new homes in the NMC will be constructed according to current plumbing codes and toilet and fixtures will be replaced in homes in the OMC. It is the City's goal to reach IEUA's combined (passive and active) water conservation goal in year 2030 when the NMC is anticipated to reach build out conditions. The estimated water conservation increase compared to the goals of IEUA defined in the Draft and Review Draft Urban Water Management Plan Reports is presented in **Figure 3-2**. This estimate is based the following assumptions:

- 100 percent of the homes in the NMC will be in compliance with the current plumbing code by installation of water conserving toilets, showerheads and fixtures;

## Section 3 – Water Conservation

- 25 percent of the homes in the OMC will be in compliance with the current plumbing code in year 2030 through passive replacement of toilets, showerheads and fixtures;
- Implementation of passive water conservation measures would save approximately 15 gallons of water per person per day.

**Figure 3-2  
Comparison of Water Conservation Estimates and Goals for 2005-2030**



Water conservation measures that need to be taken beyond year 2010 should be defined in detail in the 2010 UWMP Update. The actual water conservation achieved by year 2009 should be estimated and compared with the goals set by IEUA. Additional water conservation measures should be considered in the future because market saturation of certain BMPs, such as ULF toilets, is anticipated to occur in the future. A number of water conservation alternatives are discussed under the water conservation strategy of IEUA for the period 2010 and beyond.

# Section 4

## Water Supplies

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### 4.1 INTRODUCTION

About one third of the water used in Southern California comes from local sources such as groundwater and treated runoff water, while two thirds of the water supplies are imported into the region from the Colorado River (via the Colorado River Aqueduct), the Sacramento-San Joaquin River Delta (via the State Water Project (SWP) aqueduct and the Owens Valley and Mono Basin (via the Los Angeles Aqueducts).

Increased environmental regulations and competition for water from outside the region have resulted in projected decreases in reliability of imported water supplies. At the same time, the Colorado River basin is experiencing a drought that is unprecedented in recorded history, while water demands continue to rise within the region because of population and economic growth.

To address the regional water supply challenges, Metropolitan Water District of Southern California (MWD) completed a landmark evaluation of the future water supplies in Southern California in 1996. This evaluation is known as the Integrated Resources Plan (IRP). The purposed of this plan was to provide a realistic means of achieving a reliable and affordable water supply to meet Southern California's water needs until year 2020. This plan developed a Preferred Resource Mix which consisted of a diverse mix of resources to meet a goal of 100 percent reliability for full-service demands through 2020 through the attainment of regional targets set for conservation, local supplies, SWP supplies, Colorado River supplies, groundwater banking, and water transfers.

The IRP was updated in May 2004 to incorporate achievements to date, identify changed conditions, and to extend the planning horizon to year 2025. The results of the IRP Update show that the most significant change was the increased participation of local agencies in developing local water supplies and promoting water conservation. The contribution of the City of Ontario (City) to develop new local water supplies are discussed in this section. The existing and projected water supplies presented herein are based on the water supply plan presented in the Water Master Plan (WMP) Update (MWH, 2005).

### 4.2 HISTORICAL WATER SUPPLY

Currently, the City obtains potable water from the following four principal sources:

- Chino Basin groundwater wells owned and operated by the City
- Chino Basin Groundwater from San Antonio Water Company (SAWC)
- Imported water from the Water Facilities Authority (WFA)
- Imported recycled water from the Inland Empire Utilities Agency (IEUA)

The historical water supply mix for the period 1990-2003 is listed in acre-feet per year (AFY) in **Table 4-1** and is graphically presented in **Figure 4-1**.

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**Table 4-1  
Historical Water Supply Mix**

Year	WFA (AFY)	SAWC <sup>(1)</sup> (AFY)	Wells (AFY)	IEUA <sup>(2)</sup> (AFY)	Total (AFY)
1990	16,637	574	20,639	0	37,850
1991	8,607	1,632	24,900	0	35,140
1992	8,825	1,084	24,935	0	34,844
1993	14,645	1,040	19,474	0	35,159
1994	7,695	476	28,555	0	36,725
1995	6,810	0	30,994	0	37,804
1996	8,759	0	32,006	0	40,765
1997	7,590	0	35,526	0	43,115
1998	4,582	0	35,489	0	40,071
1999	8,116	0	37,029	0	45,144
2000	9,258	0	36,842	0	46,100
2001	8,907	0	35,105	0	44,011
2002	9,325	0	35,444	0	44,769
2003	13,207	0	30,240	630	43,447
2004	15,143	0	27,824	1,058	42,967
<b>Average</b>	<b>9,874</b>	<b>320</b>	<b>30,333</b>	<b>113</b>	<b>40,527</b>

(1) Per the agreement between City and SAWC, the City pumps SAWC's entitlement from its own wells to avoiding the water quality problems associated with SAWC's well.

(2) Historical recycled water sales to customers within the City of Ontario.

As shown in **Table 4-1** and **Figure 4-1**, the City has not imported Chino Basin groundwater from SAWC since 1994 due to high nitrate in their well water. In the past, the City took at a maximum 1,632 AFY of water and an average of 961 AFY of water over the years 1990 to 1994. Since 2001, the City has pumped water from its own wells on behalf of SAWC to obtain its entitlement. As discussed in Section 2.3.3, the City obtains water rights from SAWC in exchange for water deliveries through the City's distribution system.

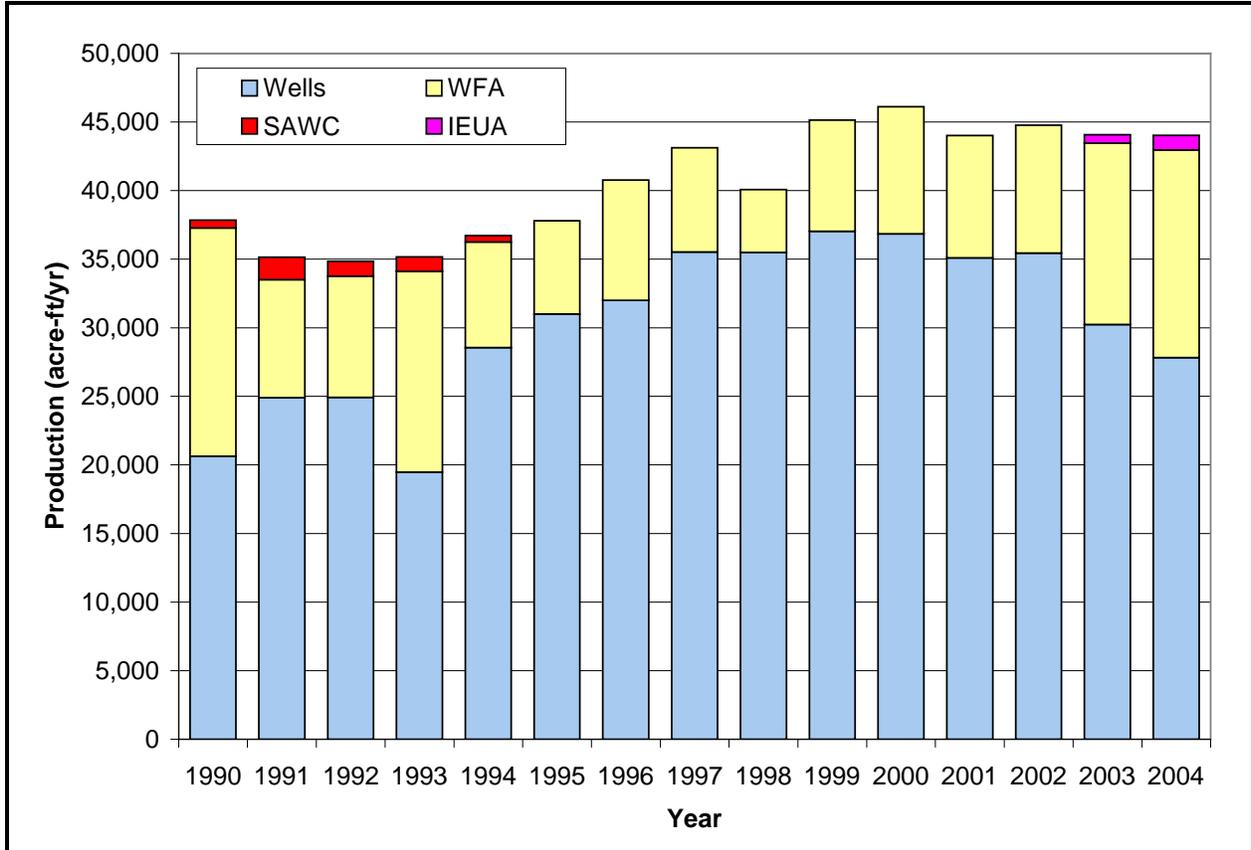
Recycled water recharge of the Chino Basin is not shown as a separate supply source, as this supply is represented in the historical amount of groundwater pumped with City wells. However, the amount groundwater recharged with recycled water is important as it reduces the amount of groundwater overpumping, which is subject to a replenishment fee. The amount of overpumping is calculated as the difference of the total amount of groundwater pumped minus the groundwater rights minus the City's share (24.34 percent) of the total groundwater recharged with recycled water by IEUA.

### 4.3 EXISTING AND FUTURE WATER SUPPLY SOURCES

In addition to the existing water supplies from the City's groundwater wells, the SAWC groundwater wells, imported water from WFA, recycled water recharge and recycled water from IEUA, the City will have additional potable water supply source in the near future. In January 2006, the City will receive treated Chino Basin groundwater from the Chino Basin Desalter Authority (CDA).

The existing and future supply sources shown in **Figure 4-1** are discussed below.

**Figure 4-1  
Historical Water Supply Mix**



**4.3.1 Chino Basin Groundwater from City Wells**

The Chino Basin covers an area of about 235 square miles. The basin contains about 5 million acre-ft of water in storage and has an unused storage capacity of about 1 million acre-ft. The Chino Basin is the largest groundwater basin in the Upper Santa Ana River watershed. The basin is bounded on the north by the Red Hill fault and Cucamonga fault zone, on the northwest by the San Jose fault, on the southwest by the Chino Hills, on the northeast by the Rialto-Colton fault, on the east by the Jurupa and Pedley Hills and on the south by the Santa Ana River. The basin is an alluvial valley that was formed when eroded sediments from the surrounding San Gabriel Mountains, the Chino Hills, the Puente Hills and the San Bernardino Mountains filled a geological depression

The groundwater quality in Chino Basin is of better quality in the north than in the south, as that is the direction of water flow through the basin. With recharge in the northern portion, salinity measured as total dissolved solids (TDS) and nitrate concentrations increase in the southern portion of Chino Basin. Generally, the TDS exceeds 500 mg/L and nitrate exceeds 50 mg/L south of Riverside Drive. TDS and nitrate generally originate from non-point sources such as land application of wastes and fertilizer from previous and current agricultural activities. In

## Section 4 – Water Supplies

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addition, several point sources of contamination exist in the basin that affects groundwater quality in localized areas.

### Water Rights

Groundwater rights are defined by the 1978 judgment in the case *Chino Basin MWD v. City of Chino, et al.* The judgment is administered by a watermaster and is subject to the on-going court jurisdiction. The original watermaster, the Chino Basin Municipal Water District (now known as IEUA), was replaced in 1998 by a nine-member board made up of representatives of the basin pumpers, designated the Chino Basin Watermaster (CBWM). The judgment defined the safe yield of the basin to be 140,000 AFY.

The water rights of the Chino Basin are allotted to three pools: the Overlying (Agricultural) Pool, the Overlying (Non-agricultural) Pool, and the Appropriative Pool. The Overlying (Agricultural) Pool consists of private property owners with land being used for agricultural activities and the State of California detention centers. The Overlying (Non-Agricultural) Pool consists of businesses and industries, and the Appropriative Pool consists of cities and water agencies that supply water to their customers. Water rights are divided for the City between the three pools as follows:

Overlying (Agricultural) Pool:	82,800 AFY
Overlying (Non-Agricultural) Pool:	7,366 AFY
<u>Appropriative Pool:</u>	<u>49,834 AFY</u>
Total Water Rights:	140,000 AFY

The City has water rights based on 20.742 percent of the Initial Operating Safe Yield (OSY), permanent conversion of agricultural land, temporary transfers of unpumped water from the Overlying (Agricultural) Pool, and the safe yield reallocation of the Agricultural Pool. The cities groundwater rights are summarized in **Table 4-2**.

For Fiscal Year (FY) 2003-2004, the City had a total right to pump 28,539 AFY. This amount consists of 11,374 AFY of the Initial OSY, 11,110 AFY of Appropriative Pool transactions and new yield, 5,827 acre-ft from Agricultural Pool transfers and a one-time storage adjustment of 229 AFY. The Appropriative Pool transactions included 8,600 acre-ft of water rights that were leased from the City of Chino and Jurupa Community Services District (JCSD).

The historical and projected amount of groundwater pumped by City wells are listed in **Table 4-3** and **Table 4-4**, respectively. Historical records show that groundwater has contributed to approximately 70-80 percent of the City's water supply mix. Although the City is planning to drill more groundwater wells to serve new customers, the projected amount of groundwater decreases to about 41-48 percent of the City's water supply, which means that the City will become more reliant on imported water from WFA. These tables also show that the actual amount of groundwater pumped and projected to be pumped exceeds the City's water rights as listed in **Table 4-2**. The City needs to pay IEUA a replenishment fee of \$213/acre-ft pumped in excess of its water rights to cover IEUA's cost to replenish the groundwater basin with recycled water. As mentioned in paragraph 4.2, the amount of overpumping that is subject to the replenishment fee is reduced by the City's share of the amount of groundwater recharged with

## Section 4 – Water Supplies

recycled water, which is calculated as 24.34 percent of the total amount of groundwater recharged with recycled water by IEUA. The projected recycled water recharge and the City’s share are presented in **Table 4-5**.

**Table 4-2  
Groundwater Pumping Rights**

<b>Chino Basin</b>	<b>2005 (AFY)</b>	<b>2010 (AFY)</b>	<b>2015 (AFY)</b>	<b>2020 (AFY)</b>	<b>2025 (AFY)</b>	<b>2030 (AFY)</b>
Initial Safe Yield	11,374	11,374	11,374	10,337	10,337	10,337
New Yield	2,489	2,489	2,489	2,489	2,489	2,489
NMC Ag and Land Use Conversions	0	3,625	5,712	8,813	11,917	15,021
OMC Ag Conversions	97	207	317	426	536	646
Prior Land Use Conversions	895	895	895	895	895	895
Annual Early Transfers	6,803	6,803	6,803	6,803	6,803	6,803
Adjustment to Total Available <sup>(1)</sup>	(708)	(910)	(1,111)	(1,313)	(1,514)	(1,716)
<b>Total Share of Initial OSY</b>	<b>20,950</b>	<b>24,483</b>	<b>26,478</b>	<b>28,451</b>	<b>31,463</b>	<b>34,475</b>
SAWC Shares	765	765	765	765	765	765
Sunkist (service agreement)	1,470	1,470	1,470	1,470	1,470	1,470
<b>Total Groundwater Rights</b>	<b>23,185</b>	<b>26,718</b>	<b>28,713</b>	<b>30,686</b>	<b>33,698</b>	<b>36,710</b>

This table corresponds to DWR Table 5.

(1) Adjustment is based on the City’s share of the projected early transfers and land use conversions. The adjustments of 708 AFY (year 2005) and the 1,716 AFY (year 2030) are obtained from the Chino Basin Water Master (Post land use conversions – 2025). As the NMC is projected to reach build out conditions in year 2030 (2005 Water Master Plan Update), the year 2025 numbers are used for 2030. Intermediate years are calculated with linear interpolation.

**Table 4-3  
Historical Amount of Groundwater Pumped**

<b>Chino Basin</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
City Wells in Chino Basin (AFY)	36,842	35,105	35,444	30,240	27,824
Percent of Total Water Supply to City	80%	80%	79%	70%	65%

This table corresponds to DWR Table 6.

**Table 4-4  
Projected Amount of Groundwater Pumped**

<b>Chino Basin</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>
City Wells in Chino Basin (AFY)	25,248	27,453	33,554	39,312	44,721
Percent of Total Water Supply to City	41%	41%	44%	47%	48%

This table corresponds to DWR Table 7.

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**Table 4-5  
City's Share of Groundwater Recharge**

Recycled Water Recharge	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Total Recharge by IEUA <sup>(1)</sup>	22,000	25,000	28,000	35,000	35,000
City's Share of Total Recharge <sup>(2)</sup>	5,355	6,085	6,815	8,519	8,519

(1) Source: IEUA's Review Draft UWMP (IEUA, 2005d)

(2) Calculated as 24.34% of total groundwater recharge by IEUA.

### 4.3.2 Chino Basin Groundwater from SAWC

The City is a shareholder of the SAWC. Currently, the City owns 295 shares, which currently entitles the City to approximately 765 AFY. This value was recently reduced from 2.9 to about 2.59 AFY per share. Historically, the water from SAWC is delivered through a Chino Basin well that is owned and operated by SAWC. However, this well is currently closed due to nitrates over 100 mg/L, which is above the State Primary Maximum Contaminant Level of 45 mg/L.

In October 2001, the City and SAWC executed a license agreement whereby the City pumps its SAWC entitlement from its own Wells 31, 37 and 38. This agreement allows the City to access its SAWC entitlement while avoiding the water quality problems associated with SAWC's well.

In the past, the City took at a maximum 1,630 AFY of water and an average of 961 AFY of water over the years 1990 to 1994. Since 2001, the City has pumped water from its own wells on behalf of SAWC to obtain its entitlement.

### 4.3.3 Imported Water from WFA

The WFA operates the Aqua de Lejos Water Treatment Plant located in the City of Upland. The plant obtains raw imported SWP water from MWD through the Rialto Reach of the Foothill Feeder. At the time of its construction in 1988, the plant had an initial capacity of 68 million gallons per day (mgd). The plant is a conventional water treatment plant featuring coagulation, flocculation, sedimentation, filtration and chloramine disinfection. The plant has been re-rated several times and has a current capacity of 81 mgd. The City owns 31.4 percent of the plant capacity or 25 mgd. The City of Ontario purchases imported water from the WFA. There are two connections designated Ontario #1 (15 mgd capacity), and Ontario #2 (10 mgd capacity) serving the City's water system.

Based on historical records for 1990 through 2003, the average annual WFA supply has been 8,947 AFY, while the maximum annual purchase was 16,637 AFY in 1990. The peak monthly flow averaged 20.2 mgd. For the period 1999-2002, the City obtained about 20 percent of its annual supply from the WFA. In 2003, this amount was increased to about 30 percent.

The quality of water from the WFA has low TDS and nitrate levels at 280 and 4 mg/L, respectively. Data from MWD (1979-2005) indicates the TDS of water from the East Branch of the SWP has ranged from 84 to 455 mg/L with an average of 266 mg/L (MWD, 2005).

#### **4.3.4 Recycled Water from IEUA**

Recycled water is provided by the IEUA, which treats its collected wastewater at four regional wastewater reclamation plants; Carbon Canyon Wastewater Reclamation Facility (CCWRF), Regional Plant No. 1 (RP-1), RP-4, and RP-5. The City of Ontario can currently obtain recycled water from RP-1 and RP-4 through the existing recycled water distribution system of IEUA. As described in the IEUA's *Recycled Water Implementation Plan* (MWH, 2005b), IEUA has planned to expand the existing recycled water distribution system significantly to serve its entire service area. With the expansion, more regional recycled water pipelines will be constructed within the City that allow substantial increase of recycled water use in the future. It is anticipated that the current recycled water supply of 1,829 AFY will increase to 14,492 AFY by year 2030.

#### **4.3.5 Chino Basin Groundwater from CDA**

The City of Ontario is a member of the CDA, a joint powers agency created on September 25, 2001, between JCSD, Santa Ana River Water Company (SAWRC), IEUA and the cities of Chino, Chino Hills, Norco, and Ontario. The CDA currently operates and maintains a treatment facility, Chino Desalter I (CDA-I), and is currently in the construction phase of the Chino Desalter I Expansion and Chino Desalter II (CDA-II).

##### **CDA-I**

CDA-I treats brackish groundwater high in nitrates and TDS from the southern portion of Chino Basin and treats the water using a reverse osmosis (RO) system for domestic purposes. The CDA-I has a treated water quality goal of 350 mg/L for TDS and 25 mg/L for nitrate with a target of 20 mg/l (Chino, 2002). This quality reflects the blended product water from the plant. The existing capacity of CDA-I is 9.2 mgd, while the expansion of the CDA-I from 9.2 mgd (10,3200 AFY) to 14.2 mgd (15,900 AFY) is scheduled to be completed by January 2006. The City will take 1,500 AFY into the 1,010 Zone from a connection near the intersection of Archibald and Schaeffer Avenues after the plant is expanded.

##### **CDA-II**

In addition to the expansion of CDA-I, a second facility, CDA-II, is under construction and is expected to be completed in January 2006. The CDA-II was initiated by the CDA to provide 10,400 acre-ft/ yr of water deliveries to JCSD, the cities of Ontario, Norco and the SARWC. The City will receive 3,500 AFY of water from the CDA-II facility. This plant will deliver water to the City at two connections, one near the intersection of Philadelphia Street and Milliken Avenue and one near the intersection of Galena Street and Milliken Avenue.

##### **CDA-III**

As part of the Optimum Basin Management Plan (OBMP) investigations, the CBWM has conducted groundwater modeling studies to determine how best to establish hydraulic control of groundwater, salts and nitrates in the southern Chino Basin. Hydraulic control is necessary to ensure that groundwater, heavily contaminated with nitrate, TDS and other constituents of

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concern, does not discharge to the Santa Ana River and impact water users in Orange County. Hydraulic control is also needed for maintaining the safe yield of the Chino Basin. As the agricultural preserve area develops, it will be important that production be continued to prevent increased losses of water to the Santa Ana River. Groundwater production by the Agricultural Pool is currently about 40,000 AFY and is projected to decline to about 10,000 AFY. Production by the CDA desalters will be about 24,600 AFY. CBWM studies indicate that an additional 20,000 AFY of extraction will be needed to achieve hydraulic control of the basin.

CDA-III (or further expansion of CDA-I or CDA-II) is a possible facility that could be located in the southern portion of the Chino Basin, to collect and reduce the loss of water to Orange County. At this time, no capacities or locations have been identified for such a facility.

### 4.3.6 Dry Year Yield Program

The Dry Year Yield (DYY) Storage Program is a cooperative conjunctive use program involving MWD, IEUA, CBWM, Three Valleys Municipal Water District (TVMWD) and the Chino Basin groundwater producers. The DYY Program allows MWD to store up to 100,000 acre-ft of water in the Chino Basin when surplus water is available during wet years and produce 33,000 AFY in dry, drought or emergency periods. The DYY Program is partially funded by a State grant from Proposition 13 Bond funds. A combination of grant and MWD funding will be provided to local agencies to build water production and treatment facilities in support of the DYY. The funds received by each participating local water agency are consistent with each agency's commitment to use delivered MWD water during normal years and use groundwater from the MWD's storage account during dry years.

On April 15, 2003, the City authorized execution of an agreement with IEUA to participate in the DYY program. To participate in the DYY program, an agency agrees to reduce its use of imported water compared to the prior year by a fixed amount, known as the agency's "shift obligation". Thus, water that the City would normally import from WFA in a dry year would be offset by groundwater. The City's shift obligation is 8,076 AFY, and its share of the funding is \$5,674,168. During years when MWD calls for extraction, the City's WFA production would be reduced by 8,076 AFY compared to the previous year and it would extract this amount of water from the designated DYY wells.

The funds will be used to build three new groundwater wells (designated and a wellhead treatment facility to remove nitrates from one existing well and one future well. Each well has an estimated yield of 2,500 gpm (about 3,000 AFY when operated 75 percent of the year). Upon call by MWD for stored water delivery, the City will operate these facilities, combined with the existing infrastructure to meet its shift obligation. MWD would pay for the cost of operations and the City would pay MWD (through IEUA) the full service water rate. The City can use the DYY facilities to meet its normal water demands during other periods but is responsible for the O&M costs when they use the facilities. Because of this program, the City is less reliant on imported water supply in dry years and improves its groundwater capacity during wet weather cycles.

**4.4 SUMMARY OF WATER SUPPLIES**

The existing and projected water supplies under normal year and dry year conditions are summarized in **Table 4-6** and **Table 4-7**, respectively. Under the Dry Year Scenario, the amount of imported water from WFA is reduced by the shift obligation amount of 8,076 AFY. This amount is pumped from the DYY wells.

The projected imported water supplies from WFA are based on the assumption that 30 percent of the water demands are met with water from WFA up to a total supply of 20,000 AFY, which is 8,000 AFY less than the City’s allotment in the treatment plant capacity. The maximum capacity is not reached by year 2030. This shift obligation amount is subtracted under the Dry Year Scenario.

**Table 4-6  
Current and Planned Water Supplies – Normal Year Scenario**

Water Supply Sources	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
<b>Wholesale Water Provider</b>						
WFA Connection I & II <sup>(1)</sup>	19,750	19,800	19,850	19,900	19,950	20,000
<b>Groundwater Produced</b>						
Operating Safe Yield <sup>(2)</sup>	20,950	24,483	26,478	28,451	31,460	34,475
SAWC <sup>(3)</sup>	765	765	765	765	765	765
Recycled Water Recharge <sup>(4)</sup>	243	1,890	4,203	6,815	8,519	8,519
Leases and Transfers <sup>(5)</sup>	874	0	0	2,423	4,716	8,709
DYY <sup>(6)</sup>	0	0	0	0	0	0
Sunkist <sup>(7)</sup>	1,470	1,470	1,470	1,470	1,470	1,470
<b>Local Surface Water Supplies</b>	n/a	n/a	n/a	n/a	n/a	n/a
<b>Recycled Water<sup>(9)</sup></b>	1,829	7,926	8,816	11,761	12,435	14,492
<b>Desalinated Water</b>	0	5,000	5,000	5,000	5,000	5,000
<b>Total without Water Conservation</b>	<b>45,881</b>	<b>61,334</b>	<b>66,583</b>	<b>76,585</b>	<b>84,316</b>	<b>93,430</b>
Water Conservation	-840	-2,635	-3,994	-4,900	-6,149	-7,747
<b>Total with Water Conservation</b>	<b>45,041</b>	<b>58,699</b>	<b>62,589</b>	<b>71,685</b>	<b>78,167</b>	<b>85,683</b>

This table corresponds to DWR Table 4

(1) The max capacity that WFA can deliver is 25 mgd (28,000 AFY). WFA is set at 30% of demand except for years where this would result in a supply surplus.

(2) Obtained from Table 4-2.

(3) SAWC well is closed due to high nitrates. The water rights are transferred to the City which pumps the water from its own wells (Wells 31, 37, and 38). Assessment package from the years 2003 - 2004 for the years 2004 - 2005 budget. (CBWM, 2004).

(4) The first amount of overpumping (if applicable) is assigned to recycled water recharge up to the amount listed in Table 4-5.

(5) The remaining amount of overpumping (if applicable) is assigned to leases and transfers that are subject to a replenishment fee.

(6) Shift Obligation per the “Local Agency Agreement” between IEUA and the City of Ontario (IEUA, 2003).

(7) Supply from Sunkist is set equal to the projected demand, thus it does not impact the available water supply for growth.

(8) Combined Water Conservation (active + passive) is counted as a supply source. Values obtained from Table 3-3.

(9) Obtained from Table 2-6 (supply is equal to demand).

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**Table 4-7  
Current and Planned Water Supplies – Dry Year Scenario**

Water Supply Sources	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
<b>Wholesale Water Provider</b>						
WFA Connection I & II <sup>(1)</sup>	19,750	11,724	11,774	11,824	11,874	11,924
<b>Groundwater Produced</b>						
Operating Safe Yield <sup>(2)</sup>	20,950	24,483	26,478	28,451	31,460	34,475
SAWC <sup>(3)</sup>	765	765	765	765	765	765
Recycled Water Recharge <sup>(4)</sup>	243	5,355	6,085	6,815	8,519	8,519
Leases and Transfers <sup>(5)</sup>	874	742	2,678	7,554	10,420	14,984
DYY <sup>(6)</sup>	0	8,076	8,076	8,076	8,076	8,076
Sunkist <sup>(7)</sup>	1,470	1,470	1,470	1,470	1,470	1,470
<b>Local Surface Water Supplies</b>	n/a	n/a	n/a	n/a	n/a	n/a
<b>Recycled Water<sup>(9)</sup></b>	1,829	7,926	8,816	11,761	12,435	14,492
<b>Desalinated Water</b>	0	5,000	5,000	5,000	5,000	5,000
<b>Total without Water Conservation</b>	<b>45,881</b>	<b>65,541</b>	<b>71,143</b>	<b>81,716</b>	<b>90,019</b>	<b>99,704</b>
Water Conservation <sup>(8)</sup>	-840	-2,635	-3,994	-4,900	-6,149	-7,747
<b>Total with Water Conservation</b>	<b>45,041</b>	<b>62,906</b>	<b>67,149</b>	<b>76,816</b>	<b>83,870</b>	<b>91,957</b>

This table corresponds to DWR Table 4

(1) The max capacity that WFA can deliver is 25 mgd (28,000 AFY). WFA is set at 30% of demand except for years where this would result in a supply surplus.

(2) Obtained from Table 4-2.

(3) SAWC well is closed due to high nitrates. The water rights are transferred to the City which pumps the water from its own wells (Wells 31, 37, and 38). Assessment package from the years 2003 - 2004 for the years 2004 - 2005 budget. (CBWM, 2004).

(4) The first amount of overpumping (if applicable) is assigned to recycled water recharge up to the amount listed in Table 4-5.

(5) The remaining amount of overpumping (if applicable) is assigned to leases and transfers that are subject to a replenishment fee.

(6) Shift Obligation per the "Local Agency Agreement" between IEUA and the City of Ontario (IEUA, 2003).

(7) Supply from Sunkist is set equal to the projected demand, thus it does not impact the available water supply for growth.

(8) Combined Water Conservation (active + passive) is counted as a supply source. Values obtained from Table 3-3.

(9) Obtained from Table 2-6 (supply is equal to demand).

The OSY is calculated as the sum of:

- The City's share of the Initial OSY (20.742 percent of 54,834 or 11,373 AFY till 2017 and 10,337 AFY from 2018 and beyond due to a reduction of 5,000 AFY in OSY)
- The City's share of new yield (2,489 AFY from 2004 and beyond).
- The Ag Pool Reallocation varies over time due to increasing land use conversions and the variable conversion rates (1.3 AFY/acre prior to the Peace Agreement and 2.0 AFY/acre post Peace Agreement). The total re-allocation amount of 15,668 AFY that was estimated for year 2025 by the Chino Basin watermaster is used for year 2030, when the NMC is projected to reach build out conditions.
- The City's share of the early transfers (20.742 percent of 32,800 or 6,804 AFY)
- The City's share of overpumping (28.15 percent of 6,097 or 1,716 AFY). The percentage is based on the portion of the City's potential for reallocation (annual early transfers plus land use conversions) which is 23,366 AFY of 83,006 AFY total.

The amount of water obtained from SAWC is based on a water rights transfer as the SAWC well has high nitrates. The City will obtain water through pumping its own wells.

The amount of overpumping is calculated by subtracting all available potable water supplies (groundwater wells, WFA, SAWC, CDA-I, CDA-II, and water conservation) from the projected

average potable water demand. The first amount of overpumping is assigned to “Recycled Water Recharge” up to the amounts listed in **Table 4-5**. This amount is zero if the City has a supply surplus. For years where the City needs to overpump more than the City’s share of recycled water recharge, the City would need to lease or transfer additional groundwater supplies.

The DYY amount is zero under normal conditions, and equal to the shift obligation under Dry Year Scenario.

The demand of Sunkist is assumed to remain constant.

The amount of recycled water supplies are based on the recycled water demand projections presented in **Section 3**. Although the actual available recycled water supplies from IEUA may be higher than the projected demands, the recycled water supply is set equal to the recycled water demand, to avoid counting recycled water supplies towards meeting potable water demands. Therefore, the remaining supplies listed in **Table 4-6** and **Table 4-7** should be sufficient to meet the projected potable water demands listed in **Table 2-8**.

Desalinated groundwater from CDA-I and CDA-II will become available in 2007 and is a constant supply delivery.

The Water Conservation amounts are based on the projections presented in IEUA’s Review Draft UWMP (IEUA, 2005d). Details on how to achieve these water savings are presented in **Section 3**.

The comparison of supplies and demands and the supply reliability under various weather conditions are discussed in **Section 5**.

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# Section 5

## Supply Reliability

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### 5.1 WATER SERVICE RELIABILITY

Water Code section 10635 (a) defines that every urban water supplier shall include an assessment of the reliability of its water service to its customers during normal, dry year, and multiple dry years in its Urban Water Management Plan (UWMP). This water supply and demand assessment shall compare the total water supply sources available to the water suppliers with the total projected water use over the next 20 years, in 5-year increments, for normal water year, a single dry water year, and multiple dry years.

This section provides the comparison of the available water supplies under various demand conditions through year 2030. The following assumptions are made to calculate the numbers presented in **Tables 5-2** through **5-29**. The projected demands per year from 2005 through 2030 under the evaluated demand scenarios are summarized in **Appendix E**.

- The projected water demand in a “Normal Water Year” are based on the average annual water demand projections presented in **Table 7-1** of the 2005 Water and Recycled Water Master Plan (MWH, 2005).
- The projected water demand in a “Single Dry Year” and “Multiple Dry Year” are based on the high annual water demand projections presented in **Table 7-1** of the 2005 Water and Recycled Water Master Plan (MWH, 2005) and adjusted for water conservation.
- The projected recycled water demands as presented in **Table 2-4** are added to all of the 2005 Water and Recycled Water Master Plan (MWH, 2005) demands under normal year, single dry year, and multiple dry years.
- The water conservation amount as presented in **Table 3-2** of this UWMP is deducted from the projected water demands. This is referred to as the “base water conservation amount”
- Multiple dry year periods consist of three consecutive years, rather than 4 years, as the City’s only requires to meet its shift obligation for three years as defined in the Dry Year Yield (DYY) Program.
- For each multiple dry year period, the first and last year of each 5-year period (ending in 0 and 5) are considered normal years, while the second through fourth year are selected as the dry years. This rule does not apply to the period 2005-2010, as the DYY Program does not become effective until 2008. Years 2009 and 2010 are selected as the multiple dry years in this period. This approach is consistent with the IEUA UWMP (IEUA, 2005).
- In the second and third year of a multiple dry year period, additional water conservation equal to 10 percent of the projected high annual demand is deducted from the projected water demand minus the Active Conservation. Additional water conservation is not applied to the first year of a 3-year multiple dry year period as it is unknown in the first year if a drought sustains. It is assumed that when a drought sustains, public notifications will be used effectively to reduce water consumption.
- All years are considered normal years for the normal year evaluations.

## Section 5 – Water Supply Reliability

- Every year of each 5-year period is considered as a dry years for the single dry year evaluations, because each year is evaluated separately. Additional water conservation as used for multiple dry years is not applied.
- In dry years and multiple dry years, the amount of imported water from WFA is reduced by the City's DYY shift obligation of 8,076 acre-ft/yr. This reduction in supply is compensated by increased groundwater production of 8,076 acre-ft/yr. This amount is added to the Chino Basin groundwater leases and replenishment, which is groundwater pumped in excess of the City's water rights.

With these assumptions, the contribution of each supply source to the total supply mix under the various demand conditions is determined. This contribution expressed in percentage of normal year conditions is also referred to as supply reliability. The supply reliability of groundwater leases and replenishment varies over time, as the amount of groundwater used will increase in the future to meet the increasing demands. The supply reliability of the City's supply sources are summarized in **Table 5-1**. The upper end of each range represents the first dry year in the period 2005-2030 when the shift obligation is relatively high, while the lower end of each range represents the last dry year in the period 2005-2030 when the shift obligation becomes a smaller percentage due to an increase in groundwater production.

**Table 5-1**  
**Supply Reliability per Source**

Supply Source	Average / Normal Water Year	Single Dry Water Year	Multiple Dry Water Years <sup>(1)</sup>			
			Year 1	Year 2	Year 3	Year 4 <sup>(2)</sup>
Groundwater Rights	100%	100%	100%	100%	100%	100%
Recycled Water	100%	100%	100%	105%	110%	100%
CDA I & II	100%	100%	100%	100%	100%	100%
Imported Water	100%	62%	60%	59%	59%	100%

This table corresponds to DWR Table 8.

Source: (IEUA,2005) pg. 169

- (1) Chino Basin Dry-Year Yield (DYY) Program facilities provide for 100,000 AF of storage and 33,000 AFY of additional groundwater production for use in-lieu of Imported Water during dry years. The DYY Program is in effect during dry years between 2008 and 2025. Percentages reflect decrease in imported water and associated increase in groundwater production. From Report on Metropolitan's Water Supplies "A Blueprint for Water Reliability" (MWD, 2003), Metropolitan has documented the capability to reliably meet 100 percent of projected supplemental water demands through 2030. Per the Fiscal Year 2004/2005 Chino Basin Watermaster Assessment Package, agencies have approximately 150,000 AF in storage.
- (2) Metropolitan's Report on Metropolitan's Water Supplies, A Blueprint for Water Reliability, March 25, 2003, provides information for three consecutive dry years

### 5.2 PROJECTED DEMAND AND SUPPLIES – NORMAL WATER YEAR

The City's water supplies, which are separated into the following five categories, are summarized in **Table 5-2**:

- Groundwater – The City's water rights consistent with the operating safe yield (OSY) of the Chino Basin and City's water rights through the San Antonio Water Company (SAWC) shares. As discussed in detail in **Section 4**, the City's water rights will increase in time due to

## Section 5 – Water Supply Reliability

land use conversions and other factors from 25,660 acre-ft/yr in 2005 to 33,063 acre-ft/yr in 2030.

- CDA – The City’s 5,000 acre-ft/yr allotment of Chino Desalter I and II starting in 2006.
- Chino Basin Leases and Replenishment – The amount of groundwater pumped in excess of the City’s water rights that are subject to replenishment fees. This amount increases over time to accommodate the growth in water demand.
- Imported Water – The projected amount of water purchased from WFA and increases to 20,000 acre-ft/yr in year 2030 under normal year conditions. This amount is adjusted with the shift obligation of 8,076 acre-ft/yr for single and multiple dry years.
- Recycled Water – The recycled water supply is set equal to the projected recycled water demand and increases from gradually to 14,492 acre-ft/yr in 2030.

**Table 5-2  
Projected Normal Water Supply**

Supply Sources	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Groundwater Rights <sup>(1)</sup>	26,718	28,713	30,686	33,695	36,710
CDA-I and II	0	209	4,338	7,086	9,481
Additional Groundwater Pumping <sup>(2)</sup>	5,000	5,000	5,000	5,000	5,000
Imported Water <sup>(3)</sup>	19,055	19,850	19,900	19,950	20,000
Recycled Water	7,926	8,816	11,761	12,435	14,492
Base Conservation	2,635	3,994	4,900	6,149	7,747
<b>Total Supply</b>	<b>61,334</b>	<b>66,583</b>	<b>76,585</b>	<b>84,316</b>	<b>93,430</b>

This table corresponds to DWR Table 40.

(1) Groundwater rights includes the Total share of Initial OSY, the SAWC shares, and the water rights from Sunkist.

(2) Additional groundwater pumping includes recycled water recharge, leases and transfers.

(3) The City of Ontario owns a total capacity of 25 MGD (28,000 AF) in the WFA Plant.

The projected normal demand consist of the combination of potable and recycled water demands and is adjusted for the base water conservation as discussed in **Section 3**. The projected normal year demands are summarized in **Table 5-3**.

**Table 5-3  
Projected Normal Year Water Demand**

Demand	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Potable Water	53,408	57,767	64,824	71,881	78,938
Recycled Water	7,926	8,816	11,761	12,435	14,492
<b>Total Demand</b>	<b>61,334</b>	<b>66,583</b>	<b>76,585</b>	<b>84,316</b>	<b>93,430</b>
% of year 2005	136%	148%	170%	187%	207%
Active Conservation	(2,635)	(3,994)	(4,900)	(6,149)	(7,747)
<b>Total Demand with Conservation</b>	<b>58,699</b>	<b>62,589</b>	<b>71,685</b>	<b>78,167</b>	<b>85,683</b>

This table corresponds to DWR Table 41

The comparison between the available water supplies and projected demands for normal year conditions is presented in **Table 5-4**. As shown in this table, the available supplies are equal to the projected demand.

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**Table 5-4  
Normal Year Supply and Demand Comparison**

Supply and Demand	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Supply totals	61,334	66,583	76,585	84,316	93,430
Demand totals	61,334	66,583	76,585	84,316	93,430
<b>Difference</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

This table corresponds to DWR Table 42

The supply strategy shown in **Table 5-4** is based on maximizing groundwater and CDA supplies as these are the cheapest sources of supply. The amount of imported water is such that the City maintains sufficient supplies when it needs to meet its shift obligation in dry years. The recycled water supplies are set equal to the recycled water demand. Hence, the only variable in the water supply mix is the amount of Chino Basins groundwater leases and replenishment. This amount is adjusted such that the total water supply equals the projected demands. Therefore, there is no supply surplus shown in **Table 5-4**. However, the City has the ability to pump more water if needed as the City's groundwater pumping capacity is greater than needed to meet the annual demands, as additional wells are used to meet the maximum day demand. The groundwater supply surplus based on continues groundwater pumping of all wells is shown in **Table 5-5**.

**Table 5-5  
Groundwater Pumping Surplus in Normal Year Conditions**

Groundwater Supply	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Groundwater Rights	26,718	28,713	30,686	33,695	36,710
Additional Groundwater Pumping <sup>(1)</sup>	0	209	4,338	7,086	9,481
<b>Total Projected GW Supply</b>	<b>26,718</b>	<b>28,923</b>	<b>35,024</b>	<b>40,782</b>	<b>46,191</b>
Available GW Pumping Capacity	78,877	78,877	78,877	83,715	93,391
<b>GW Pumping Surplus</b>	<b>52,159</b>	<b>49,954</b>	<b>43,853</b>	<b>42,933</b>	<b>47,200</b>

(1) Additional groundwater pumping includes recycled water recharge, leases and transfers.

### 5.3 PROJECTED DEMAND AND SUPPLIES – SINGLE DRY YEAR

The City has the same water supply sources available in a single dry year as in a normal dry year, however the available amount of some of the sources are adjusted. As discussed in **Section 4**, the City will participate in a cooperative conjunctive use program with Metropolitan Water District of Southern California (MWD) and other agencies. This program will become effective in year 2008. Under this program, the City will receive less imported water from MWD through WFA in years designated as a dry year based on the regional water supply situation. To compensate the reduced imported water supply, also referred to as the City's shift obligation, the City will pump additional groundwater with wells that are drilled and financed through the DYY Program. The City's shift obligation is 8,076 acre-ft/yr. The water supply mix under dry year

## Section 5 – Water Supply Reliability

conditions is presented in **Table 5-5**. As shown in this table, the imported supplies are reduced by 8,076 acre-ft/yr, while the chino basin replenishment supplies are increased by this amount.

**Table 5-6  
Projected Single Dry Year Water Supply**

Supply Sources	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Groundwater Rights <sup>(1)</sup>	26,718	28,713	30,686	33,695	36,710
Additional GW Pumping <sup>(2)</sup>	5,000	5,000	5,000	5,000	5,000
CDA-I and II	11,538	12,845	17,546	20,866	23,832
Imported Water	11,724	11,774	11,824	11,874	11,924
Recycled Water	9,449	10,511	14,022	14,825	17,278
Base Conservation	2,635	3,994	4,900	6,149	7,747
<b>Total Supply</b>	<b>67,064</b>	<b>72,837</b>	<b>83,977</b>	<b>92,409</b>	<b>102,490</b>
Groundwater Rights	100%	100%	100%	100%	100%
Additional Groundwater <sup>(2)</sup>	100%	100%	100%	100%	100%
CDA	n/a	6135%	404%	294%	251%
Imported Water	62%	59%	59%	60%	60%
Recycled Water	119%	119%	119%	119%	119%
<b>% of projected normal</b>	<b>105%</b>	<b>104%</b>	<b>103%</b>	<b>102%</b>	<b>102%</b>

This table corresponds to DWR Table 43

- (1) Groundwater rights includes the Total share of Initial OSY, the SAWC shares, and the water rights from Sunkist.  
 (2) Additional groundwater includes groundwater pumping for the DYY shift obligation, recycled water recharge, and Chino Basin Leases and Replenishment.

Based on historical production data for the period 1990-2003, the dry year demands are about 8.1 higher than the annual average demands. The dry year demands are also referred to as the High Year Demand in the 2005 Water Master Plan (MWH, 2005). The demands used for the single dry year are based on the high year demands. The demand of Sunkist is assumed to remain unchanged at 1,470 acre-ft/yr. The difference between the dry year demands shown in **Table 5-7** and the annual average demands listed in **Table 5-3** are not exactly 8.1 percent, because the potable demands include both the City's and Sunkist's demands.

The recycled water demands are increased with 19 percent under dry year conditions to compensate the decrease in rainfall. With an average ET of 55.1 inches and average rainfall of 15.3 inches, irrigation should be about 39.8 inches per year. Assuming that rainfall in a dry year is about 50 percent of normal rainfall, irrigation increases to about 47.5 inches, which is 19 percent higher than 39.8 inches.

The projected demands under single dry year conditions are shown in **Table 5-7**.

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**Table 5-7  
Projected Single Dry Year Water Demand**

Demand	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Potable High Demand 1	57,615	62,327	69,955	77,584	85,212
Recycled Water	9,449	10,511	14,022	14,825	17,278
<b>Total Demand without Conservation</b>	<b>67,064</b>	<b>72,837</b>	<b>83,977</b>	<b>92,409</b>	<b>102,490</b>
Base Conservation	(2,635)	(3,994)	(4,900)	(6,149)	(7,747)
<b>Total Demand with Conservation</b>	<b>64,429</b>	<b>68,843</b>	<b>79,077</b>	<b>86,260</b>	<b>94,743</b>
% of projected normal	108%	106%	105%	104%	103%

This table corresponds to DWR Table 44

The comparison between the available water supplies and projected demands for single dry year conditions is presented in **Table 5-8**. As shown in this table, the available supplies are equal to the projected demand, which means that the City has sufficient supply to meet the demands under single dry year conditions. Similarly to the supply strategy under normal year conditions, the City has the ability to pump more water if needed by using additional wells. The groundwater supply surplus under single dry year conditions based on continues groundwater pumping of all wells is shown in **Table 5-9**.

**Table 5-8  
Single Dry Year Supply and Demand Comparison**

	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Supply totals	67,064	72,837	83,977	92,409	102,490
Demand totals	67,064	72,837	83,977	92,409	102,490
<b>Difference</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

This table corresponds to DWR Table 45

**Table 5-9  
Groundwater Pumping Surplus in Single Dry Year Conditions**

Groundwater Supply	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Groundwater Rights	26,718	28,713	30,686	33,695	36,710
Additional Groundwater Pumping <sup>(1)</sup>	11,538	12,845	17,546	20,866	23,832
<b>Total Projected GW Supply</b>	<b>38,256</b>	<b>41,559</b>	<b>48,231</b>	<b>54,561</b>	<b>60,541</b>
Available GW Pumping Capacity	78,877	78,877	78,877	83,715	93,391
<b>GW Pumping Surplus</b>	<b>40,621</b>	<b>37,318</b>	<b>30,646</b>	<b>29,154</b>	<b>32,849</b>

(1) Additional groundwater pumping includes recycled water recharge, leases and transfers.

**5.4 PROJECTED DEMAND AND SUPPLIES – MULTIPLE DRY YEAR**

The water demands and supplies are also analyzed for the next 25 years in the event of a multiple dry year period. Multiple dry year periods consist of 3 consecutive years, rather than 4 years, as the City is only required to meet its shift obligation for 3 years as defined in the DYY Program.

The results are presented in per year for 5-year periods, compared to the 5-year intervals shown for the normal and single dry year conditions to demonstrate the effect of multiple dry years on water demands, conservation, and supplies. For each multiple dry year period, the first and last year of each 5-year period (ending in 0 and 5) are considered normal years, while the second through fourth year are selected as the dry years. An exception is the period 2005-2010, where years 2009 and 2010 are selected as the 2-year multiple dry year period, because full implementation of the DYY Program does not become effective until 2008. The water demand in the first year of a multiple dry year period is the same as a single dry year, while the demand in the second and third year are lowered with additional water conservation, corresponding to multiple dry year demand in **Appendix E**.

The City has the same water supply sources and supply amounts available in a multiple dry year as in a single dry year. The water supply mix under multiple dry year conditions for the period 2006-2010 is presented in **Table 5-10**. As shown in this table, the imported supplies in 2009 and 2010 are reduced by 8,076 acre-ft/yr, while the chino basin replenishment supplies are increased by this amount for these years.

**Table 5-10  
Projected Supply for a Multiple Dry Year Period ending in 2010**

<b>Supply Sources</b>	<b>2006 (AFY)</b>	<b>2007 (AFY)</b>	<b>2008 (AFY)</b>	<b>2009 (AFY)</b>	<b>2010 (AFY)</b>
<b>Climate Condition</b>	<b>Normal</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>
Groundwater <sup>(1)</sup>	23,892	24,598	25,305	26,012	26,718
CDA-I and II	5,000	5,000	5,000	5,000	5,000
Additional Groundwater Pumping <sup>(2)</sup>	0	0	8,743	4,626	5,776
Imported Water	14,167	15,389	11,704	11,714	11,724
Recycled Water	3,042	4,268	6,551	8,013	9,449
Active Conservation	1,199	1,558	1,917	2,276	2,635
Additional Conservation	0	0	0	5,514	5,761
<b>Total Supply</b>	<b>47,299</b>	<b>50,813</b>	<b>59,220</b>	<b>63,154</b>	<b>67,064</b>
Groundwater	100%	100%	100%	100%	100%
CDA-I and II	100%	100%	100%	100%	100%
Additional Groundwater Pumping	100%	100%	100%	100%	100%
Imported Water	80%	81%	70%	66%	62%
Recycled Water	100%	100%	119%	119%	119%
<b>% of projected normal</b>	<b>103%</b>	<b>103%</b>	<b>116%</b>	<b>117%</b>	<b>117%</b>

This table corresponds to DWR Table 46

(1) Groundwater rights includes the Total share of Initial OSY, the SAWC shares, and the water rights from Sunkist.

(2) Additional groundwater includes groundwater pumping for the DYY shift obligation, recycled water recharge, and Chino Basin Leases and Replenishment.

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Similarly to the single dry year conditions, the potable water demands for multiple dry years are increased with 8.1 percent (with the exception of Sunkist) to represent high annual demands, while recycled water demands are increased by 19 percent compared to normal year conditions. In addition to the “base water conservation” used for normal and single dry year conditions, additional water conservation equal to 10 percent of the projected high annual demand is deducted from the projected water demand in the second and third year of each multiple dry year period. The 10 percent additional water conservation is not applied to the first year of a 3-year multiple dry year period because it is unknown in the first year if a drought sustains. It is assumed that when a drought sustains, public notifications will be used effectively to reduce water consumption.

The projected demands under the period 2006-2010 with multiple dry years in 2009 and 2010 are shown in **Table 5-11**.

**Table 5-11  
Projected Demand for a Multiple Dry Year Period ending in 2010**

Demand	2006 (AFY)	2007 (AFY)	2008 (AFY)	2009 (AFY)	2010 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>
Potable High Demand	0	0	52,669	55,142	57,615
Potable Normal Demand	44,257	46,545	0	0	0
Recycled Water	3,042	4,268	6,551	8,013	9,449
<b>Total Demand without Conservation</b>	<b>47,299</b>	<b>50,813</b>	<b>59,220</b>	<b>63,154</b>	<b>67,064</b>
Base Conservation	(1,199)	(1,558)	(1,917)	(2,276)	(2,635)
Additional Conservation	0	0	0	(5,514)	(5,761)
<b>Total Demand with Conservation</b>	<b>46,100</b>	<b>49,255</b>	<b>57,303</b>	<b>55,364</b>	<b>58,668</b>
% of projected normal	<b>100%</b>	<b>100%</b>	<b>109%</b>	<b>100%</b>	<b>100%</b>

This table corresponds to DWR Table 47

The comparison between the available water supplies and projected demands for multiple dry years in the period 2006-2010 is presented in **Table 5-12**.

**Table 5-12  
Supply and Demand Comparison for a Multiple Dry Year Period ending in 2010**

Supply and Demand	2006 (AFY)	2007 (AFY)	2008 (AFY)	2009 (AFY)	2010 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>
Supply totals	47,299	50,813	59,220	63,154	67,064
Demand totals	47,299	50,813	59,220	63,154	67,064
Difference	2,276	1,972	0	0	0
Difference as % of Supply	4.7%	3.8%	0.0%	0.0%	0.0%
Difference as % of Demand	4.9%	4.0%	0.0%	0.0%	0.0%

This table corresponds to DWR Table 48

## Section 5 – Water Supply Reliability

As shown in this table, the available supplies are equal to the projected demand, which means that the City has sufficient supply to meet the demands under single dry year conditions. Similarly to the supply strategy under normal and single dry year conditions, the City has the ability to pump more water if needed by using additional wells. The groundwater supply surplus under multiple dry year conditions based on continues groundwater pumping of all wells is shown in **Table 5-13**.

**Table 5-13  
Groundwater Pumping Surplus in Multiple Dry Year Conditions ending in 2010**

<b>Groundwater Supply</b>	<b>2006 (AFY)</b>	<b>2007 (AFY)</b>	<b>2008 (AFY)</b>	<b>2009 (AFY)</b>	<b>2010 (AFY)</b>
<b>Climate Condition</b>	<b>Normal</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>
Groundwater Rights	23,892	24,598	25,305	26,012	26,718
Additional Groundwater Pumping <sup>(1)</sup>	0	0	8,743	4,626	5,776
<b>Total Projected GW Supply</b>	<b>23,892</b>	<b>24,598</b>	<b>34,048</b>	<b>30,638</b>	<b>32,494</b>
Available GW Pumping Capacity	49,204	78,877	78,877	78,877	83,715
<b>GW Pumping Surplus</b>	<b>25,313</b>	<b>54,279</b>	<b>44,829</b>	<b>48,239</b>	<b>51,221</b>

(1) Additional groundwater pumping includes recycled water recharge, leases and transfers.

The projected supply, demands, and the comparison of supply and demand, and the groundwater pumping surplus for the period 2011-2015 are presented in **Table 5-14**, **Table 5-15**, **Table 5-16**, and **Table 5-17**, respectively. Years 2011 and 2015 represent normal year conditions, while years 2012 through 2014 represent the multiple dry year period. As shown in **Table 5-16**, the City has sufficient water supplies to meet the projected demands and has excess groundwater pumping capacity as shown in **Table 5-17**.

**Table 5-14  
Projected Supply for a Multiple Dry Year Period ending in 2015**

<b>Supply Sources</b>	<b>2011 (AFY)</b>	<b>2012 (AFY)</b>	<b>2013 (AFY)</b>	<b>2014 (AFY)</b>	<b>2015 (AFY)</b>
<b>Climate Condition</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>	<b>Normal</b>
Groundwater <sup>(1)</sup>	27,117	27,516	27,915	28,314	28,713
CDA-I and II	5,000	5,000	5,000	5,000	5,000
Additional Groundwater Pumping <sup>(2)</sup>	0	12,061	6,451	6,445	209
Imported Water	19,256	11,744	11,581	11,764	19,850
Recycled Water	8,378	10,501	11,015	11,528	8,816
Active Conservation	2,907	3,179	3,450	3,722	3,994
Additional Conservation	0	0	6,044	6,138	0
<b>Total Supply</b>	<b>62,657</b>	<b>70,001</b>	<b>71,457</b>	<b>72,912</b>	<b>66,583</b>
Groundwater	100%	100%	100%	100%	100%
CDA-I and II	100%	100%	100%	100%	100%
Additional Groundwater Pumping	100%	100%	100%	34983%	100%
Imported Water	100%	60%	59%	59%	100%
Recycled Water	100%	119%	119%	119%	100%
<b>% of projected normal</b>	<b>105%</b>	<b>118%</b>	<b>118%</b>	<b>119%</b>	<b>106%</b>

This table corresponds to DWR Table 49.; (1) Groundwater rights includes the Total share of Initial OSY, the SAWC shares, and the water rights from Sunkist. (2) Additional groundwater includes groundwater pumping for the DYY shift obligation, recycled water recharge, and Chino Basin Leases and Replenishment.

## Section 5 – Water Supply Reliability

**Table 5-15**  
**Projected Demand for a Multiple Dry Year Period ending in 2015**

Demand	2011 (AFY)	2012 (AFY)	2013 (AFY)	2014 (AFY)	2015 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>	<b>Normal</b>
Potable High Demand	0	59,500	60,442	61,384	0
Potable Normal Demand	54,280	0	0	0	57,767
Recycled Water	8,378	10,501	11,015	11,528	8,816
<b>Total Demand without Conservation</b>	<b>62,657</b>	<b>70,001</b>	<b>71,457</b>	<b>72,912</b>	<b>66,583</b>
Base Conservation	(2,907)	(3,179)	(3,450)	(3,722)	(3,994)
Additional Conservation	0	0	(6,044)	(6,138)	0
<b>Total Demand with Conservation</b>	<b>59,750</b>	<b>66,822</b>	<b>61,962</b>	<b>63,052</b>	<b>62,589</b>
% of projected normal	<b>100.0%</b>	<b>109.9%</b>	<b>100.2%</b>	<b>100.3%</b>	<b>100.0%</b>

This table corresponds to DWR Table 50.

**Table 5-16**  
**Supply and Demand Comparison for a Multiple Dry Year Period ending in 2015**

Supply and Demand	2011 (AFY)	2012 (AFY)	2013 (AFY)	2014 (AFY)	2015 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>	<b>Normal</b>
Supply totals	62,657	70,001	71,457	72,912	66,583
Demand totals	62,657	70,001	71,457	72,912	66,583
<b>Difference</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

This table corresponds to DWR Table 51.

**Table 5-17**  
**Groundwater Pumping Surplus in Multiple Dry Year Conditions ending in 2015**

Groundwater Supply	2011 (AFY)	2012 (AFY)	2013 (AFY)	2014 (AFY)	2015 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>	<b>Normal</b>
Groundwater Rights	27,117	27,516	27,915	28,314	28,713
Additional Groundwater Pumping <sup>(1)</sup>	0	12,061	6,451	6,445	209
<b>Total Projected GW Supply</b>	<b>27,117</b>	<b>39,577</b>	<b>34,366</b>	<b>34,760</b>	<b>28,923</b>
Available GW Pumping Capacity	49,204	78,877	78,877	78,877	83,715
<b>GW Pumping Surplus</b>	<b>22,087</b>	<b>39,300</b>	<b>44,511</b>	<b>44,117</b>	<b>54,792</b>

(1) Additional groundwater pumping includes recycled water recharge, leases and transfers.

The projected supply, demands, and the comparison of supply and demand, and the groundwater pumping surplus for the period 2016-2020 are presented in **Table 5-18**, **Table 5-19**, **Table 5-20**, and **Table 5-21**, respectively. Years 2016 and 2020 represent normal year conditions, while years 2017 through 2019 represent the multiple dry year period. As shown in **Table 5-20**, the City has sufficient water supplies to meet the projected demands and has excess groundwater pumping capacity as shown in **Table 5-21**.

## Section 5 – Water Supply Reliability

**Table 5-18  
Projected Supply for a Multiple Dry Year Period ending in 2020**

Supply Sources	2016 (AFY)	2017 (AFY)	2018 (AFY)	2019 (AFY)	2020 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>	<b>Normal</b>
Groundwater <sup>(1)</sup>	29,108	29,502	29,897	30,291	30,686
CDA-I and II	5,000	5,000	5,000	5,000	5,000
Additional Groundwater Pumping <sup>(2)</sup>	1,035	14,725	8,975	9,763	4,338
Imported Water	19,860	11,794	11,804	11,814	19,900
Recycled Water	10,259	12,420	12,609	12,798	11,761
Active Conservation	4,175	4,356	4,538	4,719	4,900
Additional Conservation	0	0	6,690	6,843	0
<b>Total Supply</b>	<b>69,437</b>	<b>77,798</b>	<b>79,513</b>	<b>81,227</b>	<b>76,585</b>
Groundwater	100%	100%	100%	100%	100%
CDA-I and II	100%	100%	100%	100%	100%
Additional Groundwater Pumping	100%	791%	334%	278%	100%
Imported Water	100%	59%	59%	59%	100%
Recycled Water	100%	119%	119%	119%	100%
<b>% of projected normal</b>	<b>106%</b>	<b>119%</b>	<b>119%</b>	<b>120%</b>	<b>107%</b>

This table corresponds to DWR Table 52

- (1) Groundwater rights includes the Total share of Initial OSY, the SAWC shares, and the water rights from Sunkist.  
(2) Additional groundwater includes groundwater pumping for the DYY shift obligation, recycled water recharge, and Chino Basin Leases and Replenishment.

**Table 5-19  
Projected Demand for a Multiple Dry Year Period ending in 2020**

Demand	2016 (AFY)	2017 (AFY)	2018 (AFY)	2019 (AFY)	2020 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>	<b>Normal</b>
Potable High Demand	0	65,378	66,904	68,430	0
Potable Normal Demand	59,178	0	0	0	64,824
Recycled Water	10,259	12,420	12,609	12,798	11,761
<b>Total Demand without Conservation</b>	<b>69,437</b>	<b>77,798</b>	<b>79,513</b>	<b>81,227</b>	<b>76,585</b>
Base Conservation	(4,175)	(4,356)	(4,538)	(4,719)	(4,900)
Additional Conservation	0	0	(6,690)	(6,843)	0
<b>Total Demand with Conservation</b>	<b>65,262</b>	<b>73,441</b>	<b>68,285</b>	<b>69,666</b>	<b>71,685</b>
<b>% of projected normal</b>	<b>100.0%</b>	<b>110.2%</b>	<b>100.4%</b>	<b>100.3%</b>	<b>100.0%</b>

This table corresponds to DWR Table 53

## Section 5 – Water Supply Reliability

**Table 5-20  
Supply and Demand Comparison for a Multiple Dry Year Period ending in 2020**

Supply and Demand	2016 (AFY)	2017 (AFY)	2018 (AFY)	2019 (AFY)	2020 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>	<b>Normal</b>
Supply totals	69,437	77,798	79,513	81,227	76,585
Demand totals	69,437	77,798	79,513	81,227	76,585
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

This table corresponds to DWR Table 54

**Table 5-21  
Groundwater Pumping Surplus in Multiple Dry Year Conditions ending in 2020**

Groundwater Supply	2016 (AFY)	2017 (AFY)	2018 (AFY)	2019 (AFY)	2020 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>	<b>Normal</b>
Groundwater Rights	29,108	29,502	29,897	30,291	30,686
Additional Groundwater Pumping <sup>(1)</sup>	1,035	14,725	8,975	9,763	4,338
<b>Total Projected GW Supply</b>	<b>30,143</b>	<b>44,228</b>	<b>38,872</b>	<b>40,054</b>	<b>35,024</b>
Available GW Pumping Capacity	49,204	78,877	78,877	78,877	83,715
<b>GW Pumping Surplus</b>	<b>19,061</b>	<b>34,649</b>	<b>40,005</b>	<b>38,823</b>	<b>48,691</b>

(1) Additional groundwater pumping includes recycled water recharge, leases and transfers.

The projected supply, demands, and the comparison of supply and demand, and the groundwater pumping surplus for the period 2021-2025 are presented in **Table 5-22**, **Table 5-23**, **Table 5-24** and **Table 5-25**, respectively. Years 2021 and 2025 represent normal year conditions, while years 2022 through 2024 represent the multiple dry year period. As shown in **Table 5-24**, the City has sufficient water supplies to meet the projected demands and has excess groundwater pumping capacity as shown in **Table 5-25**.

**Table 5-22  
Projected Supply for a Multiple Dry Year Period ending in 2025**

Supply Sources	2021 (AFY)	2022 (AFY)	2023 (AFY)	2024 (AFY)	2025 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>	<b>Normal</b>
Groundwater <sup>(1)</sup>	31,288	31,890	32,492	33,093	33,695
CDA-I and II	5,000	5,000	5,000	5,000	5,000
Additional Groundwater Pumping <sup>(2)</sup>	4,888	18,874	12,084	12,596	7,086
Imported Water	19,910	11,844	11,854	11,864	19,950
Recycled Water	11,103	13,487	13,736	13,986	12,435
Active Conservation	5,150	5,400	5,649	5,899	6,149
Additional Conservation	0	0	7,453	7,606	0
<b>Total Supply</b>	<b>77,338</b>	<b>86,493</b>	<b>88,269</b>	<b>90,045</b>	<b>84,316</b>

## Section 5 – Water Supply Reliability

**Table 5-22 (continued)  
Projected Supply for a Multiple Dry Year Period ending in 2025**

Supply Sources	2021 (AFY)	2022 (AFY)	2023 (AFY)	2024 (AFY)	2025 (AFY)
Groundwater	100%	100%	100%	100%	100%
CDA-I and II	100%	100%	100%	100%	100%
Additional Groundwater Pumping	100%	347%	202%	193%	100%
Imported Water	100%	59%	59%	59%	100%
Recycled Water	100%	119%	119%	119%	100%
% of projected normal	<b>107%</b>	<b>120%</b>	<b>120%</b>	<b>120%</b>	<b>108%</b>

This table corresponds to DWR Table 55.

- (1) Groundwater rights includes the Total share of Initial OSY, the SAWC shares, and the water rights from Sunkist.
- (2) Additional groundwater includes groundwater pumping for the DYY shift obligation, recycled water recharge, and Chino Basin Leases and Replenishment.

**Table 5-23  
Projected Demand for a Multiple Dry Year Period ending in 2025**

Demand	2021 (AFY)	2022 (AFY)	2023 (AFY)	2024 (AFY)	2025 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>	<b>Normal</b>
Potable High Demand	0	73,007	74,533	76,058	0
Potable Normal Demand	66,235	0	0	0	71,881
Recycled Water	11,103	13,487	13,736	13,986	12,435
<b>Total Demand without Conservation</b>	<b>77,338</b>	<b>86,493</b>	<b>88,269</b>	<b>90,045</b>	<b>84,316</b>
Base Conservation	(5,150)	(5,400)	(5,649)	(5,899)	(6,149)
Additional Conservation	0	0	(7,453)	(7,606)	0
<b>Total Demand with Conservation</b>	<b>72,188</b>	<b>81,094</b>	<b>75,166</b>	<b>76,540</b>	<b>78,167</b>
% of projected normal	<b>100.0%</b>	<b>110.2%</b>	<b>100.3%</b>	<b>100.3%</b>	<b>100.0%</b>

This table corresponds to DWR Table 56

**Table 5-24  
Supply and Demand Comparison for a Multiple Dry Year Period ending in 2025**

Supply and Demand	2021 (AFY)	2022 (AFY)	2023 (AFY)	2024 (AFY)	2025 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>	<b>Normal</b>
Supply totals	77,338	86,493	88,269	90,045	84,316
Demand totals	77,338	86,493	88,269	90,045	84,316
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

This table corresponds to DWR Table 57

## Section 5 – Water Supply Reliability

**Table 5-25  
Groundwater Pumping Surplus in Multiple Dry Year Conditions ending in 2025**

Groundwater Supply	2021 (AFY)	2022 (AFY)	2023 (AFY)	2024 (AFY)	2025 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>	<b>Normal</b>
Groundwater Rights	31,288	31,890	32,492	33,093	33,695
Additional Groundwater Pumping <sup>(1)</sup>	4,888	18,874	12,084	12,596	7,086
<b>Total Projected GW Supply</b>	<b>36,175</b>	<b>50,763</b>	<b>44,576</b>	<b>45,689</b>	<b>40,782</b>
Available GW Pumping Capacity	49,204	78,877	78,877	78,877	83,715
<b>GW Pumping Surplus</b>	<b>13,029</b>	<b>28,114</b>	<b>34,301</b>	<b>33,188</b>	<b>42,933</b>

(1) Additional groundwater pumping includes recycled water recharge, leases and transfers.

The projected supply, demands, and the comparison of supply and demand, and the groundwater pumping surplus for the period 2026-2030 are presented in **Table 5-26**, **Table 5-27**, **Table 5-28**, and **Table 5-29**, respectively. Years 2026 and 2030 represent normal year conditions, while years 2027 through 2029 represent the multiple dry year period. As shown in **Table 5-28** the City has sufficient water supplies to meet the projected demands and has excess groundwater pumping capacity as shown in **Table 5-29**.

**Table 5-26  
Projected Supply for a Multiple Dry Year Period ending in 2030**

Supply Sources	2026 (AFY)	2027 (AFY)	2028 (AFY)	2029 (AFY)	2030 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>	<b>Normal</b>
Groundwater <sup>(1)</sup>	34,298	34,901	35,504	36,107	36,710
CDA-I and II	5,000	5,000	5,000	5,000	5,000
Additional Groundwater Pumping <sup>(2)</sup>	7,565	22,052	14,429	14,870	9,481
Imported Water	19,960	11,894	11,904	11,914	20,000
Recycled Water	12,430	15,401	15,984	16,566	14,492
Active Conservation	6,469	6,788	7,108	7,427	7,747
Additional Conservation	<b>0</b>	<b>0</b>	<b>8,216</b>	<b>8,369</b>	<b>0</b>
<b>Total Supply</b>	<b>85,722</b>	<b>96,037</b>	<b>98,145</b>	<b>100,253</b>	<b>93,430</b>
Groundwater	100%	100%	100%	100%	100%
CDA-I and II	100%	100%	100%	100%	100%
Additional Groundwater Pumping	100%	274%	169%	165%	100%
Imported Water	100%	60%	60%	60%	100%
Recycled Water	100%	119%	119%	119%	100%
<b>% of projected normal</b>	<b>108%</b>	<b>121%</b>	<b>121%</b>	<b>121%</b>	<b>109%</b>

(1) Groundwater rights includes the Total share of Initial OSY, the SAWC shares, and the water rights from Sunkist.

(1) Additional groundwater includes groundwater pumping for the DYY shift obligation, recycled water recharge, and Chino Basin Leases and Replenishment.

## Section 5 – Water Supply Reliability

**Table 5-27**  
**Projected Demand for a Multiple Dry Year Period ending in 2030**

Demand	2026 (AFY)	2027 (AFY)	2028 (AFY)	2029 (AFY)	2030 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>	<b>Normal</b>
Potable High Demand	0	80,635	82,161	83,687	0
Potable Normal Demand	73,292	0	0	0	78,938
Recycled Water	12,430	15,401	15,984	16,566	14,492
<b>Total Demand without Conservation</b>	<b>85,722</b>	<b>96,037</b>	<b>98,145</b>	<b>100,253</b>	<b>93,430</b>
Base Conservation	(6,469)	(6,788)	(7,108)	(7,427)	(7,747)
Additional Conservation	0	0	(8,216)	(8,369)	0
<b>Total Demand with Conservation</b>	<b>79,253</b>	<b>89,248</b>	<b>82,821</b>	<b>84,457</b>	<b>85,683</b>
% of projected normal	<b>100.0%</b>	<b>110.4%</b>	<b>100.5%</b>	<b>100.6%</b>	<b>100.0%</b>

**Table 5-28**  
**Supply and Demand Comparison for a Multiple Dry Year Period ending in 2030**

Supply and Demand	2026 (AFY)	2027 (AFY)	2028 (AFY)	2029 (AFY)	2030 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>	<b>Normal</b>
Supply totals	85,722	96,037	98,145	100,253	93,430
Demand totals	85,722	96,037	98,145	100,253	93,430
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

**Table 5-29**  
**Groundwater Pumping Surplus in Multiple Dry Year Conditions ending in 2030**

Groundwater Supply	2026 (AFY)	2027 (AFY)	2028 (AFY)	2029 (AFY)	2030 (AFY)
<b>Climate Condition</b>	<b>Normal</b>	<b>Dry</b>	<b>Dry</b>	<b>Dry</b>	<b>Normal</b>
Groundwater Rights	34,298	34,901	35,504	36,107	36,710
Additional Groundwater Pumping <sup>(1)</sup>	7,565	22,052	14,429	14,870	9,481
<b>Total Projected GW Supply</b>	<b>41,863</b>	<b>56,953</b>	<b>49,933</b>	<b>50,977</b>	<b>46,191</b>
Available GW Pumping Capacity	49,204	78,877	78,877	78,877	83,715
<b>GW Pumping Surplus</b>	<b>7,341</b>	<b>21,924</b>	<b>28,944</b>	<b>27,900</b>	<b>37,524</b>

(1) Additional groundwater pumping includes recycled water recharge, leases and transfers.

### 5.5 INTER-AGENCY CONNECTIONS

The City's water system is connected with neighboring cities and water utilities through five inter-agency connections. Only one of the five inter-agency connections can provide water supply to the City of Ontario, while four locations can provide water from Ontario to the adjacent water agencies. In 2006, the City will obtain water from CDA through three additional connections which will provide water to the City at a continuous rate. The 2005 Water Master Plan (MWH, 2005) includes recommendations for five additional inter-agency connections that would be used in emergencies only. These connections will increase the City's supply reliability and are summarized in **Table 5-30**.

## Section 5 – Water Supply Reliability

**Table 5-30  
Existing and Proposed Inter-Agency Connections**

ID	General Location	From		To	
		Agency	Zone	Agency	Zone
<b>Existing Connections</b>					
WFA	Benson Ave. & 18 <sup>th</sup> St.	WFA	1618'	Ontario	1348' and
CVWD-1	Sixth St. & Corona Ave.	Ontario	1348'	CVWD	1190' or
CVWD-2	Sixth St. & Vineyard Ave.	Ontario	1348'	CVWD	1190'
CVWD-3	Milliken Ave. & 6 <sup>th</sup> St.	CVWD	1310'	Ontario	1212'
Chino-1	Benson Avenue/State St.	Ontario <sup>(3)</sup>	1212'	Chino	980'
Upland-1	Campus Ave./Richland St.	Ontario	1348'	Upland	unknown
<b>Future Connections</b>					
CDA-1	Archibald & Schaefer Ave.	CDA-1	Unknown	Ontario	1212'
JCSD-1/ CDA2-1	Milliken Ave. and Philadelphia St.	JCSD/CDA-2	1110'	Ontario	1212'
JCSD-2/ CDA2-2	Milliken Ave. & Galena St.	JCSD/CDA-2	1110'	Ontario	925'
JCSD-3	Along Bellgrave Ave.	Ontario	925'	JSCD	870'
Chino-2	Euclid Ave & Chino Ave.	Chino	980'	Ontario	925'
MVWC-1	Benson Ave & San Bernardino Ave.	Ontario	1212'	MVWD	1207'
		MVWD	1355'	Ontario	1348'
Upland-2	Reservoir 1348' (1-3)	Upland	Unknown	Ontario	1348'
FWC-1	Etiwanda Ave. & Airport Dr.	Fontana	1280'	Ontario	1212'

# Section 6

## Water Shortage Contingency Plan

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The City of Ontario (City) has prepared and adopted a number of plans that address water shortages including the Emergency Response Plan (Boyle, 2003) and the Emergency Water Conservation Chapter of the Municipal Code (Ontario, 1999). This section provides a summary of these plans and presents actions to be undertaken to respond to water shortages in compliance with the Urban Water Management Plan (UWMP) Act (CC 10610). The Act requires every urban water supplier to file a plan, because of the worsening 1986-1992 drought. The Act is included in **Appendix B** and summarized below.

### 6.1 URBAN WATER MANAGEMENT PLAN ACT

In summary, Section 10632 of the UWMP Act requires that each urban water supplier provides an urban water shortage contingency analysis that includes each of the following elements, where applicable:

- A definition of stages of water supply conditions and the associated actions to be undertaken during each stage, including up to a 50 percent reduction in water supply. 10632 (a).
- Estimates the minimum water supply available at the end of 1, 2 and 3 years. 10632 (b)
- Actions to be undertaken to prepare for, and implement during, a catastrophic interruption of water supplies. 10632 (c)
- Mandatory prohibitions against specific water use during water shortages. 10632 (d)
- Consumption reductions to achieve up to a 50 percent reduction in water supply. 10632 (e)
- Penalties or charges for excessive use. 10632 (f)
- An analysis of the impacts on revenues and expenditures of each of the actions and conditions described in subdivisions (a) to (f)., 10632 (g)
- A draft water shortage contingency resolution or ordinance. 10632 (h)
- A mechanism for determining actual reductions in water use. 10632 (i)

### 6.2 MINIMUM SUPPLY AND DEMANDS DURING WATER SHORTAGES

Section 10632 (b) defines the minimum water supply as the supply available during each of the next three water years based on the driest three-year historic sequence for the City's water supply. The lowest 3-year supply occurred in the period 1991 through 1993, which partially overlaps with the 1986-1992 drought. However, the supply in this period is not driven by supply availability but by water demands. The City could have pumped more groundwater or imported more water from WFA in these years if needed. Therefore, the minimum supply in this UWMP is not based on historical data but on the assumption that the City's imported water supply would be cut back by 50 percent. The three-year minimum water supplies are compared with the normal year demands for the period 2005 through 2008 in **Table 6-1**

## Section 6 – Water Shortage Contingency Plan

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**Table 6-1**  
**Three-Year Minimum Water Supply**

Year	Minimum Supply (acre-ft/yr)	Normal Year Demand (acre-ft/yr)	Supply Deficit <sup>(1)</sup> (acre-ft/yr)	Additional GW Pumping Capacity (acre-ft/yr)	Supply Surplus <sup>(2)</sup> (acre-ft/yr)
Year 1 (2005)	29,629	43,572	13,943	27,366	13,423
Year 2 (2006)	34,564	44,797	10,233	57,103	46,870
Year 3 (2007)	37,764	48,119	10,356	55,130	44,775

This table corresponds to DWR Table 24.

(1) Without groundwater pumping limited to the City's water rights.

(2) With additional groundwater pumping beyond City's water rights (limited by available firm groundwater pumping capacity).

The minimum supplies and demands listed in **Table 6-1** are based on the following assumptions:

- Imported water is reduced to 50 percent (4,749 acre-ft/yr) of the historical purchases in the period 1990-2003 (9,494 acre-ft/yr).
- Groundwater supply is limited to the City's water rights and transfer water rights from San Antonio Water Company (SAWC) and Sunkist.
- Leases and replenishment of groundwater are not included.
- Water from the Chino Basin Desalter Authority (CDA) is included for 2006 and 2007.
- Recycled water supplies are assumed to be equal to the projected recycled water demands.
- The base amount of water conservation per the goals set forth in Inland Empire Utilities Agency (IEUA) 2005 UWMP are included. Additional water conservation, as used for multiple dry year scenarios discussed in **Section 5**, are not included.

As shown in **Table 6-1**, the City needs to purchase additional groundwater beyond its water rights to meet its demands. As the Chino Basin judgement does not limit the City's groundwater supplies to its water rights, the City can pump additional groundwater in exchange for a groundwater replenishment fee to the Chino Basin Watermaster. The only limitation to the supply is the available groundwater pumping capacity, which is demonstrated to be sufficient in **Table 6-1** and under all scenarios presented in **Section 5**.

### 6.3 WATER SHORTAGE STAGES

On March 19<sup>th</sup> of 1999, the City adopted Ordinance No. 2500, adding Chapter 8A "*Emergency Water Conservation*" to Title 6 of the Ontario Municipal Code (Ontario, 1999). This ordinance established a phased approach to water conservation enforcement that consists of three mandatory water shortage phases, Phase 1 through Phase 3 that increase in severity of water shortage. These water supply shortage stages and the associated conditions are summarized in **Table 6-2**.

As shown in **Table 6-2**, a voluntary stage, Phase 0, has been added. The benefit of a voluntary stage is that the City can maintain its normal operations and it gives customers a chance to voluntarily conserve water compliance to comply to mandatory regulations is enforced. Based on the customers response to Phase 0, City Council can determine that it is necessary to implement Phase 1 to protect the public welfare and safety. Prior to the implementation of each mandatory phase, the City Council shall hold a public hearing for the purpose of determining

## Section 6 – Water Shortage Contingency Plan

whether a shortage exists and which measures should be implemented. The public shall be informed of the public hearing at least 10 days prior before the hearing, and City Council shall notify the public of its determination by public proclamations.

**Table 6-2  
Water Supply Shortage Stages and Conditions**

Stage No.	Water Supply Conditions	Shortage (percent)
0	Voluntary	0-10 %
1	Mandatory	0-10 %
2	Mandatory	11-20%
3	Mandatory	20-50%

This table corresponds to DWR Table 23.

### 6.3.1 Water Use Restrictions

The water use restrictions for each Phase are listed in **Table 6-3**. The voluntary water use restrictions selected of Phase 0 are the same as the mandatory water use restrictions of Phase 1.

**Table 6-3  
Mandatory Prohibitions and Stage**

Examples of Prohibitions	Phase			
	0	1	2	3
Hose washing of outdoor paved surfaces, except for sanitary purposes	X	X	X	X
Washing of vehicles or mobile equipment, except at a commercial car wash or with reclaimed water.	X	X	X	X
Filling of decorative fountains, ponds or lakes.	X	X	X	X
Supply of water at a commercial venue unless requested by customer.	X	X	X	X
Not repairing leaks promptly.	X	X	X	X
Allowing water to leave a customer's property by drainage onto adjacent property due to excessive irrigation.	X	X	X	X
Lawn watering or irrigation during daylight.			X	X
Use of hand-held hose without automatic shut-off nozzle			X	X
Use of potable water for commercial street cleaning			X	X
Residential car washing			X	X
No residential outdoor watering at any time except by bucket.				X

In addition to the water use restrictions listed in **Table 6-3**, the Emergency Water Conservation Chapter (Ontario, 1999) defines that no water customer of the City shall make, cause, use or permit the use of water from the City for any purpose in an amount in excess of 85 percent for Phase 2 and 80 percent for Phase 3 of the amount used on the customer's premises during the corresponding billing period during the prior calendar year.

## Section 6 – Water Shortage Contingency Plan

Failure to comply with the mandatory phases 1-3 can lead to the fines as listed in **Table 6-4**.

**Table 6-4  
Penalties and Charges**

Violation description	Violation number <sup>(1)</sup>	Penalty
Conservation Actions	First violation	The City issues a written notice of a first violation to the water customer.
	Second violations	The City imposes a surcharge in an amount of fifty dollars (\$50.00) added to the water customer's water bill.
	Third violation	The City imposes a surcharge in an amount of one hundred dollars (\$100.00) added to the water customer's water bill.
	Fourth violation	The City imposes a surcharge in an amount of one hundred fifty dollars (\$150.00) added to the customer's water bill. And Install a flow restrictive device and charge the customer for the installation and disassembly.
Conservation Quantity		Pay a surcharge in an amount equal to one hundred percent (100%) of the portions of the water bill that exceeds the respective percentages set in those two subsections.

(1) Violations within one water shortage emergency

In addition to the water use restrictions listed in **Table 6-3**, the City could also add additional consumption reduction methods. Examples are presented in **Table 6-5**.

### 6.4 CATASTROPHE

Section 10632 (c) of the UWMP requires the definition of actions to be undertaken to prepare for, and implement during, a catastrophic interruption of water supplies. Catastrophic events include non-drought events such as earthquakes. With three of Southern California's imported water supplies (State Water Project, Colorado River Aqueduct, and the Los Angeles Aqueduct) all crossing the San Andreas Fault, it is likely that one or more of these supplies will be disrupted in the event of a major earthquake. It is estimated that restoring service to any of these facilities following a catastrophic outage could take up to six months, which could reduce annual imported water deliveries by roughly 50 percent.

Planning for catastrophes has been addressed in multiple documents that can be differentiated based on the level of detail specifically related to the City. These levels are:

- Southern California Region – MWD's Water Surplus and Drought Management Plan
- Inland Empire Region – IEUA's Emergency Response Plan
- City of Ontario – Ontario's Emergency Response Plan

## Section 6 – Water Shortage Contingency Plan

**Table 6-5  
Other Consumption Reduction Methods**

Consumption Reduction Method	Phase When Method Takes Effect	Projected Reduction (percent)
Coordinate with other agencies to issue press notification to the media	0	Unknown
Notify customers of need for additional conservation	0	
Ask large irrigation customers to reduce water usage	0	
Ask customers to reduce irrigation	0	
Reduce or suspend deliveries to neighboring water agencies	1	Unknown
Establish reduction targets for commercial landscape accounts	1	
Enforce water conservation and use restrictions	1	
Consider reassigning personnel to enforce water use regulations	2	Unknown
Require Agricultural Water Program customers to reduce usage up to 30 %	2	
Mandating water budgets for large landscape accounts	2	
Consider mandating water budgets for all customers	2	
Suspend all water use from temporary meters.	2	
Restrict filling of swimming pools, ponds or lakes	3	
Suspend all water use from temporary meters.	3	Unknown

MWD has developed a Water Surplus and Drought Management Plan (WSDM) to address water surplus and shortage scenarios and achieve the reliability goals of the Integrated Resources Plan (IRP). Substantial investments are made in emergency storage projects and water conservation measures to adapt to water supply catastrophes. And the unplanned 7-day shutdown of the Rialto Feeder in June 2004 demonstrated that customers respond well to the request to reduce water use. For example, the customers of Cucamonga Valley Water District (CVWD) reduced their overall water use by 60 percent during the week of repairs. Based on the ongoing projects, detailed analysis, and successful customers response during previous imported water supply interruptions, MWD expects to be 100 percent reliable for all non-discounted non-interruptible demands throughout the next ten years (MWD, 2005).

The IEUA updated its 1996 Emergency Response Plan in 2000. According to this plan, IEUA expects to meet emergency demands within the region through extraordinary water conservation and groundwater pumping measures. Multiple sources of power exist within the region, making any electrical shortages a temporary disruption (IEUA, 2005).

The City's Department of Public Works has prepared an Emergency Response Plan (Boyle, 2003) that defines disaster events and the actions to be taken by City staff to respond to these. The water supply related disasters are:

- Threat or actual intentional contamination of the water system
  - Threat of contamination at a major event
  - Notification from Health Department Officials of potential water contamination
  - Intrusion through the Supervisory Control and Data Acquisition system
  - Significant structural damage resulting from an intentional act
- A model response to any of these events is described in the City's ERP including, but not limited to, details of the organization and responsibilities, contact phone numbers, training requirements,

## Section 6 – Water Shortage Contingency Plan

and public notification samples. It should be noted that many of these disasters are water quality related. Hence, the ERP list the water quality constituents that are monitored.

In addition to the City's ERP, the impact of a number of catastrophic events on the City's ability to meet its water demands has been evaluated in the Water and Recycled Water Master Plan (MWH, 2005). The water supply balance per pressure zone under various emergency scenarios through year 2030 are presented and the necessary system improvements are included in the proposed Capital Improvement Program.

Actions that are included in the City's ERP are listed in **Table 6-6**. Overall it can be concluded that the City has prepared the appropriate documentation and planning documents to be prepared for a catastrophe. It is recommended that the City defines the different water shortage stages in terms of total supply available to provide a quantitative measure for declaring a certain water shortage stage and implement the associated water use restrictions.

**Table 6-6**  
**Preparation Actions for a Catastrophe**

Actions	Included in ERP <sup>(1)</sup>
Quantify the definition of each phase of water shortage.	no
Stretch existing water storage.	yes
Obtain additional water supplies.	yes
Develop alternative water supplies.	yes
Determine where the funding will come from.	no
Contact and coordinate with other agencies.	yes
Create and Emergency Response Team /Coordinator.	yes
Create a catastrophe preparedness plan.	yes
Put employees/contractors on-call.	yes
Develop methods to communicate with the public.	yes
Develop methods to prepare for water quality interruptions.	yes
Reassess the Emergency Response Plan each year.	yes

(1) ERP = Emergency Response Plan (Boyle, 2003)

## Section 6 – Water Shortage Contingency Plan

### 6.5 REVENUES AND EXPENDITURES

The impact of each of the phases of water reduction on the City’s revenue and cost are estimated and presented in **Table 6-7**.

**Table 6-7**  
**Estimated Revenue Impacts at Various Demand Reduction Levels**

Description	Baseline Year 2005	Phase 1 (10 percent reduction)	Phase 2 (20 percent reduction)	Phase 3 (50 percent reduction)
Projected Demand (acre-ft/yr)	42,583	38,325	34,066	21,291
<b>Revenue from Sales</b>	<b>\$22,258,897</b>	<b>\$20,033,007</b>	<b>\$17,807,117</b>	<b>\$11,129,448</b>
Groundwater	\$3,462,605	\$3,462,605	\$3,462,605	\$3,199,910
Groundwater L&R	\$845,346	\$2,771,783	\$3,004,680	\$0
Imported Water	\$9,104,750	\$4,552,375	\$2,276,188	\$1,138,094
<b>Water Supply Cost</b>	<b>\$13,412,701</b>	<b>\$10,786,763</b>	<b>\$8,743,473</b>	<b>\$4,338,004</b>
Revenue minus Supply Cost	\$8,846,196	\$9,246,244	\$9,063,645	\$6,791,445
<b>Difference Compared to Baseline</b>	<b>\$0</b>	<b>\$400,048</b>	<b>\$217,449</b>	<b>-\$2,054,751</b>
Difference with Baseline Revenue		2%	1%	-9%

The following assumptions have been made for these estimates listed in **Table 6-7**:

- The revenue estimates are based on the average potable water volume community charge of the baseline charge (0-15 hundred cubic feet) of \$1.14/HCF and the second tier charge (> 15 HCF) of \$1.26/HCF. The average volume community charge is \$1.20/HCF.
- The first reduction in supply is based on a 50 percent cutback of WFA water
- The reduction of supply is compensated with additional groundwater pumping above the City’s water rights
- For the 50 percent supply scenario, groundwater pumping is reduced such that the demands are met with 50 percent imported water supplies and groundwater pumping within the City’s water rights.
- The unit cost of WFA water is \$461/acre-ft.
- The unit cost of groundwater leases and replenishment is \$343/acre-ft.
- The unit cost of groundwater within the City’s water rights is \$170/acre-ft.
- No reduction in operations and maintenance cost, as payroll for operational staff during a temporary catastrophe is expected to remain the same.
- The duration of the shortage is based on the average over one year.

As shown in **Table 6-7**, the reduction in water revenue is slightly less than the reduction in water supply cost for Phase 1 and 2 due to an increased use of lower cost water supply sources (groundwater). This results in a positive financial impact of approximately \$200,000-\$400,000, if the shortage would sustain for a full year. In Phase 3, the only source of supply is groundwater, which is the City’s lowest cost source. However, due to the drastic demand reduction, the revenue is reduced more than the water supply cost, resulting in the need for additional funds of about \$2 million.

## Section 6 – Water Shortage Contingency Plan

Although it can be concluded that the net impact on revenue and expenditures is relatively small (two to nine percent of the normal demand year revenues) several measures could be taken to generate additional funds to absorb the negative financial impact of a severe water shortage. Examples of such measures are listed in **Table 6-8**.

**Table 6-8**  
**Proposed Measures to Overcome Revenue and Expenditure Impacts**

Proposed Measure	Summary of Impacts
Rate Adjustment	<ul style="list-style-type: none"> <li>• Increased savings to General Fund</li> <li>• In normal years, the City would receive more money that required for normal operations (increased profit).</li> <li>• Water customers resistance</li> </ul>
Development of Reserves	<ul style="list-style-type: none"> <li>• Increased savings to General Fund</li> <li>• Decreased availability for O&amp;M or Capital Fund</li> </ul>
Decrease Capital Expenditure	<ul style="list-style-type: none"> <li>• Increased savings to General Fund</li> <li>• Delay of system rehabilitation</li> <li>• Decrease in quality of future system facilities</li> </ul>
Decrease of O&M Expenditure	<ul style="list-style-type: none"> <li>• Increased savings to General Fund</li> <li>• Less staff available to respond to emergencies</li> <li>• Reduced maintenance frequency of system facilities</li> </ul>

This table corresponds with DWR Tables 29 and 30

### 6.6 WATER USE MONITORING MECHANISMS

The water use monitoring mechanisms that the City has implemented to date are summarized in **Table 6-9**.

**Table 6-9**  
**Water Use Monitoring Mechanisms**

Mechanisms to Determine Water Use Reductions	Benefits
Water Meter Readings	Monthly records can help detect leaking service laterals
Remote Metering Program	Increased efficiency in meter readings and detection of leaking service laterals
Residential Meter Replacement Program (every 15 years)	Accurate readings and revenue collection
Large Meter Replacement Program (every 5-10 years)	Accurate readings and revenue collection
Inter-Agency Connection readings	Accurate readings and revenue collection
Water Quality Reports	Detect standing water
Valve Exercising Program	Avoid leaking valves
Daily Production Recording (Groundwater wells, WFA, CDA, and inter-agency connections)	Determine monthly or annual system losses on a when compared with billing records.

This table corresponds with DWR Tables 31

# Section 7

## Implementation Plan

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The process for adopting this 2005 Urban Water Management Plan (UWMP) and submitting it to the California Department of Water Resources (DWR) is outlined in the California Water Code Sections 10640 through 10645. The City of Ontario (City) is required to review any amendments to the conservation and water recycling plans that were adopted as part of the Inland Empire Utilities Agency (IEUA) 2000 UWMP (IEUA, 2000).

### 7.1 ADOPTION PROCESS

This UWMP is prepared in accordance with the State of California Water Code Section 10610 through 10657 and has followed DWR's *Guideline to Assist Water Suppliers in the Preparation of a 2005 Urban Water Management Plan* (DWR, 2005). The Draft UWMP was submitted for review by the City's in October 2005. Comments were incorporated in a Final Draft UWMP.

According to Water Code 10620 (d), 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. The city is a member agency of the IEUA, Water Facilities Authority (WFA), Chino Desalter Authority (CDA), and the Chino Basin Watermaster (CBWM). The City coordinated the preparation of this Plan with these four regional agencies. In addition, the City has seven neighboring water retail agencies, City of Chino, City of Upland, Fontana Water Company (FWC), Jurupa Community Services District (JCS), Monte Vista Water District (MVWD), Cucamonga Valley Water District (CVWD) and San Antonio Water Company (SAWC). The actions the City has taken to coordinate the preparation of this UWMP with these agencies is summarized in **Table 1-1**. The Final Draft UWMP was submitted to the City's neighboring water agencies, and wholesale agencies listed in this table were contacted per telephone or by e-mail during the preparation of the Draft UWMP. The UWMP reports prepared by the wholesale agencies were used, where available.

A public hearing process was announced to all water agencies and the general public through newspaper advertisement and City's homepage (Ontario, 2005b). The public hearing on December 20 was preceded by a 14-day review period. The review of the Review Draft UMWP by neighboring water agencies coincides with the public hearing period. No comments were received.

The 2005 UWMP was formally adopted on December 20, 2005 and submitted to the DWR on December 29, 2005, accordance with State Law. The adoption resolution is included in **Appendix F**.

## Section 7 – Implementation Plan

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### 7.2 IMPLEMENTATION PLAN

As presented in section 2.1, the population of the City is projected to increase from 168,950 (year 2004) to about 305,500 residents in year 2030. This population increase, which will primarily occur in the newly annexed area south of the City, the New Model Colony (NMC), will result in a substantial increase in water demand. The projected water demands for the period 2005 through 2030 in five year increments are listed in **Table 7-1** and is graphically presented in **Figure 7-1**. The total water use is the summation of the projected potable water demands, projected recycled water demands, sales to other agencies, water loss, and water conservation.

It should be noted that these projected water demands are based on an aggressive approach for both water conservation and recycled water use. The implementation of these plans is required to minimize the increase of potable water demands and the associated need for and dependence of imported water supplies

**Table 7-1**  
**Projected Water Use through 2030**

Water Use	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Consumption	48,091	52,127	58,661	65,195	71,730
Recycled Water	7,926	8,816	11,761	12,435	14,492
Sunkist	1,470	1,470	1,470	1,470	1,470
Water Loss	3,847	4,170	4,693	5,216	5,738
<b>Total w/o Conservation</b>	<b>61,334</b>	<b>66,583</b>	<b>76,585</b>	<b>84,316</b>	<b>93,430</b>
Water Conservation	-2,635	-3,994	-4,900	-6,149	-7,747
<b>Total with Conservation</b>	<b>58,699</b>	<b>62,589</b>	<b>71,685</b>	<b>78,167</b>	<b>85,683</b>

This table corresponds to DWR Table 14.

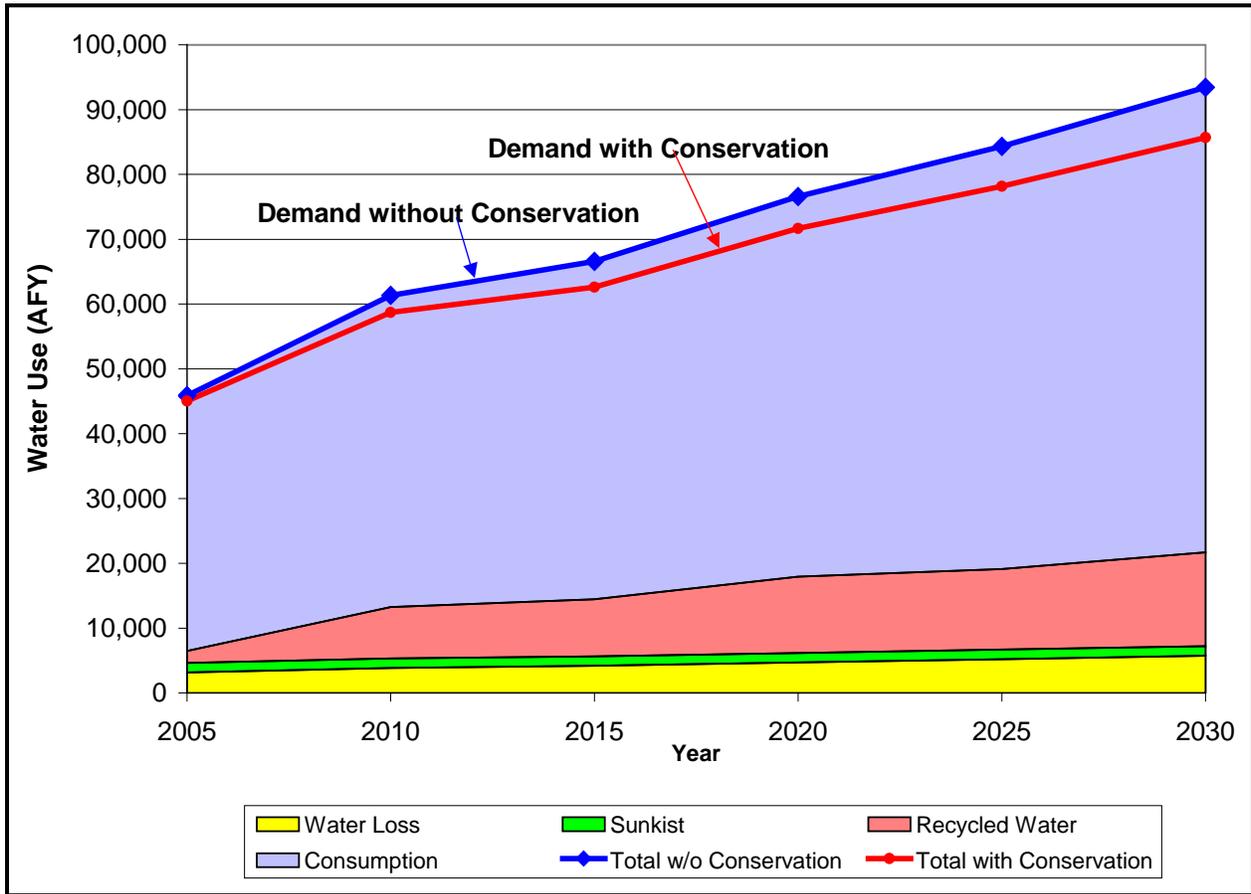
#### 7.2.1 Water Conservation Plan

The primary focus of the City's water conservation efforts in the implementation of the Best Management Practices (BMPs) as discussed in detail in **Section 3**. As a signatory to the *Memorandum of Understanding regarding water conservation in California* (MOU), the City is a member of the California Urban Water Conservation Council (CUWCC). The City has provided the CUWCC with bi-annual reports to update its progress on the implementation of BMPs since fiscal year (FY) 2002/2003. These reports are included in **Appendix C**.

Based on the 2004 Activity Reports submitted to CUWCC, the water conservation amount achieved through active programs by the end of the fiscal year (FY) 2005 is estimated to be around 177 acre-feet per year (AFY). This is significantly less than the 2005 water conservation goals of 3,000 and 840 AFY set for the City in the 2000 UWMP (IEUA, 2000) and 2005 UWMP (IEUA, 2005), respectively.

To get the City back on track to meet the active water conservation goal of 1,800 AFY by 2010, a detailed BMP implementation schedule for the period 2005-2010 is prepared as part of this UWMP.

Figure 7-1  
Projected Water Use through 2030



This schedule (see **Table 3-5**) will increase the City’s active water conservation from an estimated 177 AFY to 1,800 AFY in year 2010 as shown on **Figure 3-1**. The main increase in water conservation will be achieved by implementation large landscaping metering programs (BMP 5). Other BMPs include plumbing retrofits of residential homes (BMP 2), rebates for residential High Efficiency Clothes Washers (HECW) and swimming pool covers (BMP 6), and Ultra Low Flush (ULF) toilets (BMP 9 and 14).

In addition to active water conservation programs, passive water conservation will happen automatically due to changes in the plumbing code and the available appliances. Passive conservation is also referred to as “Code Based water conservation”. By year 2010, passive water conservation is estimated to account for nearly 3,900 AFY, which is about 68 percent of the combined water conservation goal for year 2010 (1,800 + 3,900 = 5,700 AFY).

### 7.2.2 Recycled Water Plan

The City has recently prepared a *Water and Recycled Water Master Plan* (WMP) (MWH, 2005) that identifies the City’s potential to serve recycled water to existing and future customers. This WMP includes an aggressive approach to increase the use of recycled water in the City.

## Section 7 – Implementation Plan

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The recycled water system expansion of recycled water system in the Old Model Colony (OMC) includes 32 miles of new recycled water pipelines will connect to existing and proposed regional recycled water pipeline of IEUA. The recycled water demand served through these extensions is estimated to be about 4,325 AFY, which will increase the existing recycled water demand in the NMC of 1,229 AFY to about 5,554 AFY (350 percent increase).

In addition, the water system of the New Model Colony (NMC) is based on intensive use of recycled water with an estimated recycled water demand of 8,938 AFY, which is about 20 percent of the total NMC demand. The backbone recycled water system for the NMC is 52 miles, which does not include the mains for the small service streets.

The City also plans to temporarily serve about 3,300 AFY of recycled water to the existing agricultural customers in the NMC until development occurs by accelerating certain future planned recycled water pipelines.

### 7.2.3 Water Supply Strategy

The existing and proposed water supply sources of the City are:

- Chino Basin groundwater wells owned and operated by the City
- Chino Basin Groundwater from San Antonio Water Company (SAWC)
- Imported water from the Water Facilities Authority (WFA)
- Recycled water form the IEUA
- Treated Chino Basin groundwater from the Chino Basin Desalter Authority (CDA).
- Chino Basin groundwater wells that are part of the Dry Year Yield (DYY) Program

These sources are described in detail in **Section 4**. All sources are used under normal year, single dry year, and multiple dry year conditions. However, the amount of imported and leased groundwater water used from each source varies depending on the demand conditions. Leased groundwater is water pumped from the Chino Basin beyond the City's water rights (including transfers), which is subject to a replenishment fee. Supplies that are the same under all scenarios are:

- Groundwater pumping is maximized for all scenarios up to the City's water rights, as this is the cheapest source of supply. This groundwater amount will be increased over time as the groundwater rights gradually increase from 19,603 AFY in 2005 to 30,828 AFY in 2030 due to land use conversion.
- Starting in 2006, the City will obtain a constant delivery of 5,000 AFY from CDA under all demand scenarios.
- The recycled water supply is set equal to the projected demands, as IEUA has sufficient recycled water available to meet the projected demands (MWH, 2005a).

Under normal year conditions, about 30 percent of the water demands are met with imported water from WFA with a total supply of 20,000 AFY, which is 8,000 AFY less than the City's allotment in the treatment plant capacity. Under the single dry year and multiple dry year scenarios, the amount of imported water from WFA is reduced by the shift obligation amount of

8,076 AFY to be in compliance with the DYY agreement. This amount is pumped from the DYY wells. The amount of leased groundwater is adjusted to meet the demands. The water supply mix and reliability is evaluated for all three scenarios for the period 2005-2030 in **Section 5**. It can be concluded that the City has sufficient water supply to meet its demand through year 2030, provided that the City can pump the projected amounts from the Chino Basin. As the Chino Basin Judgment does not limit the pumping and the City obtain pumping capacity beyond its water rights in exchange for a replenishment fee.

The comparison between the available water supplies and projected demands for multiple dry years in the period 2006-2010 is presented in **Table 5-10**. As shown in this table, the available supplies are equal to the projected demand, which means that the City has sufficient supply to meet the demands under normal, single dry year and multiple dry conditions. The City's groundwater supply is only limited by its pumping capacity, rather than by its water rights, as the Chino Basin judgement not limit pumping in excess to the assigned water rights because IEUA can recharge the basin through spreading basins in exchange for a replenishment fee. As shown in **Section 5**, the City has sufficient groundwater pumping capacity to provide a reliable water supply for the City through year 2030.

### 7.2.4 Water Shortage Contingency Plan

On March 19<sup>th</sup> of 1999, the City adopted Ordinance No. 2500, adding Chapter 8A “*Emergency Water Conservation*” to Title 6 of the Ontario Municipal Code (Ontario, 1999). This ordinance established a phased approach to water conservation enforcement that consists of three mandatory water shortage phases, Phase 1 through Phase 3 that increase in severity of water shortage. This UWMP introduced a “Phase 0”, which consists of the same water use prohibitions, with the exception that these are voluntary under Phase 0 and mandatory under Phase 1. The water use restrictions for each Phase are listed in **Table 6-3**, while the associated penalties and charges are listed in **Table 6-4**.

Section 6 also includes a discussion on the actions to be undertaken to prepare for, and implement during, a catastrophic interruption of water supplies. Catastrophic events include non-drought events such as earthquakes. Planning for catastrophes has been addressed in multiple documents that can be differentiated based on the level of detail specifically related to the City. These levels are:

- Southern California Region – MWD’s Water Surplus and Drought Management Plan
- Inland Empire Region – IEUA’s Emergency Response Plan (ERP)
- City of Ontario – Ontario’s ERP

Actions that are included in the City’s ERP are listed in **Table 6-6**. Overall it can be concluded that the City has prepared the appropriate documentation and planning documents to be prepared for a catastrophe. It is recommended that the City defines the different water shortage stages in terms of total supply available to provide a quantitative measure for declaring a certain water shortage stage and implement the associated water use restrictions.

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### **7.3 CONCLUSION**

This UWMP is based upon an aggressive water conservation approach to meet the 2010 water conservation goals and include significant extensions of a recycled water in the next five years to increase the use of recycled water to reduce the use of limited potable water supplies where possible. The City has sufficient water supplies to meet its projected demands under normal, dry year, and multiple dry year scenarios with a combination of imported water and Chino Basin groundwater. This UWMP should be updated before December 2010 to be in compliance with the UMWP Act.

# Appendix A

## References

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The following is a bibliography list of sources used in developing this report:

- (Boyle, 2003) Boyle Engineering, *Emergency Response Plan* – Prepared for the City of Ontario, September 2003.
- (CBWM, 2004) Chino Basin Water Master, *Annual Assessment Package*, 2004.
- (CC 10610) California Water Code, *Sections 10610-10656, Urban Water Management Planning Act*, July 2005.
- (CIMIS, 2005) California Irrigation Management Information System Department of Water Resources Office of Water Use Efficiency.  
<http://www.cimis.water.ca.gov/cimis/frontStationDetailInfo.do?stationId=82&src=info> Goto Eto Zone Maps. Zone 9. 10/11/2005
- (CEE, 2005) Consortium for Energy Efficiency, *Residential Clothes Washers – Factsheet*, <http://www.cee1.org/resrc/facts/rwsh-fx.php3>, 2005.
- (CUWCC, 2004) California Urban Water Conservation Council (CUWCC), *Memorandum of Understanding regarding water conservation in California*. Dated September 1991; last amendment March 10, 2004.
- (DWR, 2005) California Department of Water Resources, *Guidebook to Assist Water Suppliers in the Preparation of a 2005 Urban Water Management Plan*, January 18, 2005.
- (IEUA, 2000) IEUA, *Urban Water Management Plan – Year 2000 Update*, 2000.
- (IEUA, 2005) IEUA, *Draft 2005 Urban Water Management Plan*, June 2005.
- (IEUA, 2005a) IEUA, *High Efficiency Clothes Washer Rebate Program Water Conservation Savings*. – Listed per Water Purveyor Agency for Fiscal Years 2002-2003, 2004-2004, and 2004-2005. Updated as of August 31, 2005.
- (IEUA, 2005b) IEUA, *Pool Cover Rebate Program Water Conservation Savings* – Listed per Water Purveyor Agency for Fiscal Years 2002-2003, 2004-2004, and 2004-2005. Updated as of August 5, 2005.

## Appendix A- References

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- (IEUA, 2005c) IEUA, *Regional ULF Toilet Rebate Program Status Report* – Listed per Water Purveyor Agency for Fiscal Years 2002-2003, 2004-2004, and 2004-2005. Updated as of August 31, 2005.
- (IEUA, 2005d) IEUA, Review Draft 2005 *Urban Water Management Plan*, October 2005.
- (IEUA, 2005e) IEUA, Written comments on Draft Section 3 of the Ontario 2005 Urban Water Management Plan by David Hill, October, 2005.
- (IEUA, 2003) “Local Agency Agreement” by and among Inland Empire Utilities Agency and the City of Ontario. April 15, 2003.
- (JSCD, 2005) <http://www.jcsd.us/history.asp>
- (MWD, 2005) Metropolitan Water District of Southern California, *Regional Urban Water Management Plan – Draft Report*, May 2005.
- (MWD,2004) MWD CII Annual Report for the Save Water- Save a Buck Program
- (MWH, 2005) MWH, *Water and Recycled Water Master Plan Update* – Final Draft Report prepared for the City of Ontario, September 2005.
- (MWH, 2005a) MWH, *Recycled Water Implementation Plan* – Final Draft Report prepared for Inland Empire Utilities Agency, May 2005.
- (Ontario, 1999) Ontario Municipal Code, *Chapter 8A. Emergency Water Conservation*. Ordinance No. 2500. Adopted March 19, 1999.
- (Ontario, 2000) City of Ontario, *Public Water System Statistics for Calendar Year 2000* (DWR Statistics 2000.xls) – Submitted to the California Department of Water Resources, 2000.
- (Ontario, 2001) Ontario, *Consent Calendar Agenda Report November 20, 2001 – Adoption of a Resolution for the Year 2000 Regional Urban Water Management Plan*, November 2001.
- (Ontario, 2001a) City of Ontario, *Public Water System Statistics for Calendar Year 2001* (DWR Statistics 2001.xls) – Submitted to the California Department of Water Resources, 2001.
- (Ontario, 2002) Ontario, <http://bmp.cuwcc.org/bmp/summaries/public/signatories.lasso>, 2002.
- (Ontario, 2002a) City of Ontario, *Public Water System Statistics for Calendar Year 2002* (DWR Statistics 2002.xls) – Submitted to the California Department of Water Resources, 2002.

- (Ontario, 2003) City of Ontario, *Public Water System Statistics for Calendar Year 2003* (DWR Statistics 2003.xls) – Submitted to the California Department of Water Resources, 2003.
- (Ontario, 2004) City of Ontario, *Public Water System Statistics for Calendar Year 2004* (DWR Statistics 2004.xls) – Submitted to the California Department of Water Resources, 2004.
- (Ontario, 2005) Ontario, *Water Consumption for 10 fiscal years.xls*, 2005, August 2005.
- (Ontario, 2005a) City Ontario website, *Water Smart – Come Rain or Shine*, <http://www.ieua.org/docs/conserves/city%20of%20Ontario.pdf>, 2005.
- (Ontario, 2005b) Ontario, <http://www.ci.ontario.ca.us/>, November 2005.
- (SAWC, 2005) San Antonio Water Company, *Phone Interview* conducted on August 30, 2005.
- (WRCC,2005) Western Regional Climate Center, Fontana Kaiser, CA (043120) <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?cafont> 10/11/2005

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# Appendix B

## Urban Water Management Plan Act

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**Established:** AB 797, Klehs, 1983

**Amended:** AB 2661, Klehs, 1990

AB 11X, Filante, 1991

AB 1869, Speier, 1991

AB 892, Frazee, 1993

SB 1017, McCorquodale, 1994

AB 2853, Cortese, 1994

AB 1845, Cortese, 1995

SB 1011, Polanco, 1995

AB 2552, Bates, 2000

SB 553, Kelley, 2000

SB 610, Costa, 2001

AB 901, Daucher, 2001

SB 672, Machado, 2001

SB 1348, Brulte, 2002

SB 1384, Costa, 2002

SB 1518, Torlakson, 2002

AB 105, Wiggins, 2004

SB 318, Alpert, 2004

## **CALIFORNIA WATER CODE DIVISION 6 PART 2.6. URBAN WATER MANAGEMENT PLANNING**

### **CHAPTER 1. GENERAL DECLARATION AND POLICY**

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.

## **CHAPTER 2. DEFINITIONS**

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.

### **CHAPTER 3. URBAN WATER MANAGEMENT PLANS**

#### **Article 1. General Provisions**

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 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).

## **Article 2. Contents of Plans**

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 and 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) 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:
    - (1) An average water year.
    - (2) A single dry water year.
    - (3) Multiple dry water years.

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) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council

in accordance with the “Memorandum of Understanding Regarding Urban Water Conservation in California,” dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).

- (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), including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

10631.5. The department shall take into consideration whether the urban water supplier is implementing or scheduled for implementation, the water demand management activities that the urban water supplier identified in its urban water management plan, pursuant to Section 10631, in evaluating applications for grants and loans made available pursuant to Section 79163. 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.

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

- (a) 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 which are applicable to each stage.
- (b) 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.
- (c) 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.

- (d) 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.
- (e) 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.
- (f) Penalties or charges for excessive use, where applicable.
- (g) 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.
- (h) A draft water shortage contingency resolution or ordinance.
- (i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

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, 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.

### **Article 2.5 Water Service Reliability**

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.

### **Articl 3. Adoption and Implementation of Plans**

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 file with the department 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 filed with the department 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 outstanding elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has filed its plan with 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.

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.

#### **CHAPTER 4. MISCELLANEOUS PROVISIONS**

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.

10657.

- (a) The department shall take into consideration whether the urban water supplier has submitted an updated urban water management plan that is consistent with Section 10631, as amended by the act that adds this section, in determining whether the urban water supplier is eligible for funds made available pursuant to any program administered by the department.
- (b) This section shall remain in effect only until January 1, 2006, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2006, deletes or extends that date.

# Appendix C

## BMP Activity Report

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This Appendix includes the following information:

- Water Supply and Reuse Summary 2004
- Water Account and Use Summary 2004
- BMP Activity Reports 2004
- Water Supply and Reuse Summary 2003
- Water Account and Use Summary 2003
- BMP Activity Reports 2003
- CUWCC Coverage Reports as of October 2005

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## Water Supply & Reuse

Reporting Unit:

**City of Ontario**

Year:

**2003**

### Water Supply Source Information

Supply Source Name	Quantity (AF) Supplied	Supply Type
Well No.3	896.19	Groundwater
Well No.9	133.14	Groundwater
Well No. 11	1777.46	Groundwater
Well No. 15	1837.91	Groundwater
Well No. 16	982.81	Groundwater
Well No.17	2077.4	Groundwater
Well No.20	693.45	Groundwater
Well No.24	2758.84	Groundwater
Well No.25	2087.05	Groundwater
Well No.26	335.86	Groundwater
Well No.27	903.2	Groundwater
Well No.29	3152.54	Groundwater
Well No.30	536.8	Groundwater
Well No.31	2847.3	Groundwater
Well No.34	2761.72	Groundwater
Well No.35	1838.98	Groundwater
Well No.36	1127.72	Groundwater
Well No.37	3835.16	Groundwater
Well No.38	1407.06	Groundwater
Well No.39	2639.69	Groundwater
State Proj/MWD	8255.08	Imported

**Total AF: 42885.36**

Reported as of 10/12/05

## Accounts & Water Use

Reporting Unit Name:  
City of Ontario

Submitted to  
CUWCC  
11/22/2004

Year:  
2003

### A. Service Area Population Information:

1. Total service area population 165678

### B. Number of Accounts and Water Deliveries (AF)

Type	Metered		Unmetered	
	No. of Accounts	Water Deliveries (AF)	No. of Accounts	Water Deliveries (AF)
1. Single-Family	25830	17038	0	0
2. Multi-Family	1977	6484	0	0
3. Commercial	2615	10423	0	0
4. Industrial	344	2473	0	0
5. Institutional	293	1171	0	0
6. Dedicated Irrigation	958	5052	0	0
7. Recycled Water	2	87	0	0
8. Other	0	0	0	0
9. Unaccounted	NA	5	NA	0
<b>Total</b>	32019	42733	0	0

**Metered**

**Unmetered**

Reported as of 10/12/05

## BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit:

**City of Ontario**

BMP Form Status:

**100% Complete**

Year:

**2003**

### A. Implementation

- |   |            |
|---|------------|
| 1. Based on your signed MOU date, 12/11/2002, your Agency STRATEGY DUE DATE is:   | 12/10/2004 |
| 2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys? | no         |
| a. If YES, when was it implemented?   |            |
| 3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys?  | no         |
| a. If YES, when was it implemented?   |            |

### B. Water Survey Data

<b>Survey Counts:</b>	<b>Single Family Accounts</b>	<b>Multi-Family Units</b>
1. Number of surveys offered:	0	0
2. Number of surveys completed:	0	0

### Indoor Survey:

- |   |    |    |
|---|----|----|
| 3. Check for leaks, including toilets, faucets and meter checks   | no | no |
| 4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary   | no | no |
| 5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary | no | no |

### Outdoor Survey:

- |   |    |      |
|---|----|------|
| 6. Check irrigation system and timers   | no | no   |
| 7. Review or develop customer irrigation schedule   | no | no   |
| 8. Measure landscaped area (Recommended but not required for surveys)                     | no | no   |
| 9. Measure total irrigable area (Recommended but not required for surveys)                | no | no   |
| 10. Which measurement method is typically used (Recommended but not required for surveys) |    | None |
| 11. Were customers provided with  | no | no   |

information packets that included evaluation results and water savings recommendations?

12. Have the number of surveys offered and completed, survey results, and survey costs been tracked? no                      no

- a. If yes, in what form are surveys tracked?
- b. Describe how your agency tracks this information.

**C. Water Survey Program Expenditures**

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

**D. "At Least As Effective As"**

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? yes

- a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

Leaks are checked at the meter during customer service work, in response to a customer complain, during meter exchanges and when the meter is read. The coverage % would be 100% coverage several times throughout the year. Additionally, during various in-home customer service visits, leaks are noticed to customers. Customers are also offered swimming pool rebates to reduce evaporation.

**E. Comments**

Reported as of 10/12/05

## BMP 02: Residential Plumbing Retrofit

Reporting Unit:

BMP Form Status:

Year:

City of Ontario

100% Complete

2003

### A. Implementation

1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts? no
  - a. If YES, list local jurisdictions in your service area and code or ordinance in each:
  
2. Has your agency satisfied the 75% saturation requirement for single-family housing units? no
3. Estimated percent of single-family households with low-flow showerheads: 1.4%
4. Has your agency satisfied the 75% saturation requirement for multi-family housing units? no
5. Estimated percent of multi-family households with low-flow showerheads: 5.8%
6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.

### B. Low-Flow Device Distribution Information

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? yes
  - a. If YES, when did your agency begin implementing this strategy? 1/1/2002
  - b. Describe your targeting/ marketing strategy.

Low flow showerheads are distributed at water quality/water conservation fair booths, during in-home water quality site visits and by customer service staff conducting routine fieldwork.

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	375	125
3. Number of toilet-displacement devices distributed:	0	0
4. Number of toilet flappers distributed:	0	0
5. Number of faucet aerators distributed:	0	0
6. Does your agency track the distribution and cost of low-flow devices? <span style="float: right;">no</span>		
a. If YES, in what format are low-flow devices tracked?		

b. If yes, describe your tracking and distribution system :

### C. Low-Flow Device Distribution Expenditures

	<b>This Year</b>	<b>Next Year</b>
1. Budgeted Expenditures	2000	2000
2. Actual Expenditures	2290	

### D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

### E. Comments

500 Low flow hoze nozzles were also distributed this year with the showerhead giveaways.

Reported as of 10/12/05

## BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit:  
**City of Ontario**

BMP Form Status:  
**100% Complete**

Year:  
**2003**

### A. Implementation

1. Has your agency completed a pre-screening system audit for this reporting year? yes
2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:
  - a. Determine metered sales (AF) 42733
  - b. Determine other system verifiable uses (AF) 86.5
  - c. Determine total supply into the system (AF) 42885.36
  - d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. 1.00
3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production? yes
4. Did your agency complete a full-scale audit during this report year? no
5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit? yes
6. Does your agency operate a system leak detection program? yes

a. If yes, describe the leak detection program:

Leaks are reported by Ontario Utilities employees and other Public Works employees working in the field who may observe leaks while reading meters, working on services lines or conducting misc. work within the City. Leaks are also reported directly by the customer. In addition, field crews investigate below ground leaks.

### B. Survey Data

1. Total number of miles of distribution system line. 498
2. Number of miles of distribution system line surveyed. 0

### C. System Audit / Leak Detection Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	20000	20000
2. Actual Expenditures	13000	

### D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to

be "at least as effective as."

**E. Comments**

Reported as of 10/12/05

## BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit:  
**City of Ontario**

BMP Form Status:  
**100% Complete**

Year:  
**2003**

### A. Implementation

1. Does your agency require meters for all new connections and bill by volume-of-use? yes
2. Does your agency have a program for retrofitting existing unmetered connections and bill by volume-of-use? no
  - a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed?
  - b. Describe the program:  
  
Not needed, all services are metered.
3. Number of previously unmetered accounts fitted with meters during report year. 0

### B. Feasibility Study

1. 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? no
  - a. If YES, when was the feasibility study conducted? (mm/dd/yy)
  - b. Describe the feasibility study:
2. Number of CII accounts with mixed-use meters. 0
3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period. 0

### C. Meter Retrofit Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

### D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
  - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

### E. Comments

The number of CII accounts with mix-used meters is unknown at this time. The zero number reported above may not be an accurate reflection of the zero number reported above.

Reported as of 10/12/05



## BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit: **City of Ontario**      BMP Form Status: **100% Complete**      Year: **2003**

### A. Water Use Budgets

- |  |     |
|--|-----|
| 1. Number of Dedicated Irrigation Meter Accounts:  | 890 |
| 2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:                       | 0   |
| 3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF):                     | 0   |
| 4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF):                       | 0   |
| 5. Does your agency provide water use notices to accounts with budgets each billing cycle? | no  |

### B. Landscape Surveys

- |  |    |
|--|----|
| 1. Has your agency developed a marketing / targeting strategy for landscape surveys? | no |
| a. If YES, when did your agency begin implementing this strategy?                    |    |
| b. Description of marketing / targeting strategy:                                    |    |
| 2. Number of Surveys Offered.  | 0  |
| 3. Number of Surveys Completed.  | 0  |
| 4. Indicate which of the following Landscape Elements are part of your survey:       |    |
| a. Irrigation System Check   | no |
| b. Distribution Uniformity Analysis  | no |
| c. Review / Develop Irrigation Schedules   | no |
| d. Measure Landscape Area  | no |
| e. Measure Total Irrigable Area  | no |
| f. Provide Customer Report / Information   | no |
| 5. Do you track survey offers and results?   | no |
| 6. Does your agency provide follow-up surveys for previously completed surveys?      | no |
| a. If YES, describe below:   |    |

### C. Other BMP 5 Actions

- |  |    |
|--|----|
| 1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program.<br>Does your agency provide mixed-use accounts with landscape budgets? | no |
| 2. Number of CII mixed-use accounts with landscape budgets.  | 0  |

- 3. Do you offer landscape irrigation training? yes
- 4. Does your agency offer financial incentives to improve landscape water use efficiency? no

Type of Financial Incentive:	Budget (Dollars/Year)	Number Awarded to Customers	Total Amount Awarded
a. Rebates	0	0	0
b. Loans	0	0	0
c. Grants	0	0	0

5. Do you provide landscape water use efficiency information to new customers and customers changing services? No

a. If YES, describe below:

6. Do you have irrigated landscaping at your facilities? yes

a. If yes, is it water-efficient? no

b. If yes, does it have dedicated irrigation metering? yes

7. Do you provide customer notices at the start of the irrigation season? no

8. Do you provide customer notices at the end of the irrigation season? no

**D. Landscape Conservation Program Expenditures**

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

**E. "At Least As Effective As"**

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

**F. Comments**

Reported as of 10/12/05

## BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:  
**City of Ontario**

BMP Form Status:  
**100% Complete**

Year:  
**2003**

### A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers? yes

a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.

Rebates are available through Inland Empire Utilities Agency in coordination with the Metropolitan Water District. The rebate is \$100. The City does not offer a rebate in addition to the IEUA/MWD rebate.

2. Does your agency offer rebates for high-efficiency washers? no

3. What is the level of the rebate? 0

4. Number of rebates awarded. 0

### B. Rebate Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

### D. Comments

Budgeted and actual expenditures may be reflected through IEUA regional program expenditures for this program. This City pays into this program and monies and programs and administered regionally.

Reported as of 10/12/05

## BMP 07: Public Information Programs

Reporting Unit:

BMP Form Status:

Year:

**City of Ontario****100% Complete****2003**

### A. Implementation

1. Does your agency maintain an active public information program to promote and educate customers about water conservation? yes

a. If YES, describe the program and how it's organized.

Conservation information is distributed in a variety of ways. Conservation information is found prominently in our water quality reports and our quarterly newsletter. Conservation topics are discussed with residents and businesses on an individual and group level. Various literature is targeted and distributed to various age levels.

2. Indicate which and how many of the following activities are included in your public information program.

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	yes	3
b. Public Service Announcement	no	
c. Bill Inserts / Newsletters / Brochures	yes	2
d. Bill showing water usage in comparison to previous year's usage	no	
e. Demonstration Gardens	yes	2
f. Special Events, Media Events	yes	2
g. Speaker's Bureau	yes	2
h. Program to coordinate with other government agencies, industry and public interest groups and media	yes	

### B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	5000	5000
2. Actual Expenditures	4925	

### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

### D. Comments

A budgeted amount of \$1500 shown is paid to a regional conservation group called the Water Education and Water Awareness Committee whose purpose is to conduct public

education on water conservation. Additionally, budgeted expenditures reflect Ontario staff time to implement these programs.

Reported as of 10/12/05

## BMP 08: School Education Programs

Reporting Unit:

BMP Form Status:

Year:

**City of Ontario**

**100% Complete**

**2003**

### A. Implementation

1. Has your agency implemented a school information program to promote water conservation? yes

2. Please provide information on your school programs (by grade level):

Grade	Are grade-appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	yes	0	0	0
Grades 4th-6th	yes	31	799	0
Grades 7th-8th	yes	0	0	0
High School	yes	0	0	0

3. Did your Agency's materials meet state education framework requirements? yes

4. When did your Agency begin implementing this program? 01/01/2003

### B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

### D. Comments

Budgeted and actual expenditures will be reflected on the wholesale agency report.

Reported as of 10/12/05

## BMP 09: Conservation Programs for CII Accounts

Reporting Unit:  
**City of Ontario**

BMP Form Status:  
**100% Complete**

Year:  
**2003**

### A. Implementation

1. Has your agency identified and ranked COMMERCIAL customers according to use? no
2. Has your agency identified and ranked INDUSTRIAL customers according to use? yes
3. Has your agency identified and ranked INSTITUTIONAL customers according to use? yes

### Option A: CII Water Use Survey and Customer Incentives Program

4. Is your agency operating a CII water use survey and customer incentives program for the purpose of complying with BMP 9 under this option? yes

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered	0	0	0
b. Number of New Surveys Completed	0	0	0
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	0	0	0
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	0	0	0

CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit	no	no	no
f. Evaluation of all water-using apparatus and processes	no	no	no
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	no	no	no

Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
h. Rebates	0	14	2100

i. Loans	0	0	0
j. Grants	0	0	0
k. Others	0	0	0

**Option B: CII Conservation Program Targets**

5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option?	yes
6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?	yes
7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991.	.65
8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991.	5.82

**B. Conservation Program Expenditures for CII Accounts**

	<b>This Year</b>	<b>Next Year</b>
1. Budgeted Expenditures	0	0
2. Actual Expenditures	2515.5	

**C. "At Least As Effective As"**

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	No
---	----

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

**D. Comments**

Budgeted expenditures should be reflected on the wholesale agency report.

Reported as of 10/12/05

**BMP 09a: CII ULFT Water Savings**

Reporting Unit:

BMP Form Status:

Year:

**City of Ontario****100% Complete****2003**

1. Did your agency implement a CII ULFT replacement program in the reporting year? Yes  
 If No, please explain why on Line B.10.

**A. Targeting and Marketing**

1. What basis does your agency use to target customers for participation in this program? Check all that apply. CII Sector or subsector  
CII ULFT Study subsector targeting

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

We found CII sectors and sub sectors most effective because we were able to version our marketing efforts appropriately.

2. How does your agency advertise this program? Check all that apply.

Direct letter  
 Web page  
 Bill insert  
 Newsletter  
 Newspapers  
 Trade publications  
 Other print media  
 Trade shows and events  
 Telemarketing

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

For the purposes of this program, Trade Allies have proven to be the most effective overall marketing tool, as well as the most effective per dollar expended. Trade Allies include plumbers, distributors, retail home improvement stores and product manufacturers.

**B. Implementation**

1. Does your agency keep and maintain customer participant information? (Read the Help information for a complete list of all the information for this BMP.) Yes
2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency? Yes
3. What is the total number of customer accounts participating in the program during the last year ? 0

CII Subsector	Number of Toilets Replaced			
	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount
4.				
a. Offices	0	0	0	0
b. Retail / Wholesale	0	0	0	0
c. Hotels	0	0	0	0
d. Health	0	0	0	0
e. Industrial	0	0	0	0
f. Schools: K to 12	0	0	0	0
g. Eating	0	0	0	0
h. Government	0	0	0	0
i. Churches	0	0	0	0
j. Other	0	0	0	0

5. Program design. Rebate or voucher

6. Does your agency use outside services to implement this program? Yes

a. If yes, check all that apply. Consultant

7. Participant tracking and follow-up. Telephone Site Visit

8. Based on your program experience, please rank on a scale of 1 to 5, with 1 being the least frequent cause and 5 being the most frequent cause, the following reasons why customers refused to participate in the program.

a. Disruption to business 1

b. Inadequate payback 3

c. Inadequate ULFT performance 2

d. Lack of funding 5

e. American's with Disabilities Act 0

f. Permitting 0

g. Other. Please describe in B. 9.

9. Please describe general program acceptance/resistance by customers, obstacles to implementation, and other issues affecting program implementation or effectiveness.

Customers are generally more willing to participate in the program if the cost of the retrofit is in balance with the amount of the rebate, and the projected water savings is significant. Resistance occurs if the out-of-pocket expense for the retrofit is too costly and the

rebate amount is too low.

10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and budgeting?

Either Metropolitan or its Agencies to provide this response.

### C. Conservation Program Expenditures for CII ULFT

#### 1. CII ULFT Program: Annual Budget & Expenditure Data

	<b>Budgeted</b>	<b>Actual Expenditure</b>
a. Labor	0	0
b. Materials	0	0
c. Marketing & Advertising	0	0
d. Administration & Overhead	0	0
e. Outside Services	0	0
f. Total	0	0

#### 2. CII ULFT Program: Annual Cost Sharing

a. Wholesale agency contribution	0
b. State agency contribution	0
c. Federal agency contribution	0
d. Other contribution	0
e. Total	0

### D. Comments

The # of toilets is an estimate.

Reported as of 10/12/05

**BMP 11: Conservation Pricing**

Reporting Unit:	BMP Form	Year:
<b>City of Ontario</b>	Status:	<b>2003</b>
	<b>100%</b>	
	<b>Complete</b>	

**A. Implementation****Rate Structure Data Volumetric Rates for Water Service by Customer Class****1. Residential**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Increasing Block
c. Total Revenue from Volumetric Rates	\$14221989
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$14221989

**2. Commercial**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Increasing Block
c. Total Revenue from Volumetric Rates	\$8580852
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$8580852

**3. Industrial**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Increasing Block
c. Total Revenue from Volumetric Rates	\$1381299
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$1381299

**4. Institutional / Government**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Increasing Block
c. Total Revenue from Volumetric Rates	\$709610
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$709610

**5. Irrigation**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$0
d. Total Revenue from Non-	

Volumetric Charges, Fees and other Revenue Sources \$0

**6. Other**

- a. Water Rate Structure Decreasing Block
- b. Sewer Rate Structure Service Not Provided
- c. Total Revenue from Volumetric Rates \$0
- d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources \$0

**B. Conservation Pricing Program Expenditures**

	<b>This Year</b>	<b>Next Year</b>
1. Budgeted Expenditures	70000	0
2. Actual Expenditures	60000	

**C. "At Least As Effective As"**

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

**D. Comments**

Revenue for irrigation and recycled water is lumped into other revenue accounts and is not tracked separately. In addition, readiness-to-serve charges are also lumped into total revenue and cannot be broken out at this time. Conservation pricing expenditures covered a full-scale rate study.

Reported as of 10/12/05

**BMP 12: Conservation Coordinator**

Reporting Unit:

BMP Form Status:

Year:

**City of Ontario****100% Complete****2003****A. Implementation**

1. Does your Agency have a conservation coordinator? yes
2. Is this a full-time position? no
3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ? yes
4. Partner agency's name: Inland Empire Utilities Agency
5. If your agency supplies the conservation coordinator:
  - a. What percent is this conservation coordinator's position? 30%
  - b. Coordinator's Name Rosemarie Chora
  - c. Coordinator's Title Water Quality Specialist
  - d. Coordinator's Experience and Number of Years Water quality and supply/4 years
  - e. Date Coordinator's position was created (mm/dd/yyyy) 01/01/2000
6. Number of conservation staff, including Conservation Coordinator. 3

**B. Conservation Staff Program Expenditures**

	<b>This Year</b>	<b>Next Year</b>
1. Budgeted Expenditures	32000	35000
2. Actual Expenditures	31235	

**C. "At Least As Effective As"**

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? yes
  - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

Conservation activities are managed by the Environmental Programs Manager with primary responsibility to implement by the Water Quality Specialist. These positions are additionally supported by many other in-house and wholesaler staff members in order to implement the BMPs. The City is also an active participant in 2 regional conservation groups which pool resources to implement conservation programs. these groups are WEWAC and the IEUA Conservation Committee.

**D. Comments**

Reported as of 10/12/05



**BMP 13: Water Waste Prohibition**

Reporting Unit: **City of Ontario**      BMP Form Status: **100% Complete**      Year: **2003**

**A. Requirements for Documenting BMP Implementation**

1. Is a water waste prohibition ordinance in effect in your service area? no

a. If YES, describe the ordinance:

2. Is a copy of the most current ordinance(s) on file with CUWCC? no

a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

City of Ontario none at this time

**B. Implementation**

1. Indicate which of the water uses listed below are prohibited by your agency or service area.

a. Gutter flooding no

b. Single-pass cooling systems for new connections no

c. Non-recirculating systems in all new conveyor or car wash systems no

d. Non-recirculating systems in all new commercial laundry systems no

e. Non-recirculating systems in all new decorative fountains no

f. Other, please name no

2. Describe measures that prohibit water uses listed above:

none at this time

**Water Softeners:**

3. Indicate which of the following measures your agency has supported in developing state law:

a. Allow the sale of more efficient, demand-initiated regenerating DIR models. no

b. Develop minimum appliance efficiency standards that:

i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used. no

ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced. no

c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the yes

agency governing board that there is an adverse effect on the reclaimed water or groundwater supply.

4. Does your agency include water softener checks in home water audit programs? no

5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models? no

**C. Water Waste Prohibition Program Expenditures**

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

**D. "At Least As Effective As"**

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

**E. Comments**

Water treatment devices (softeners) are limited to one cubic foot in size. Comm/Ind. users needing unit larger than this are prohibited from installation and must use and exchange service. Ontario is an active partner in the Inland Empire Utilities Agency salinity study which is looking at salinity from residential. If acceptable, this report will be used to move forward prohibition of "time controlled" regenerable softeners.

Reported as of 10/12/05



2. Actual Expenditures 17920

**C. "At Least As Effective As"**

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

**D. Comments**

Actual costs associated with the toilets should be reflected in reporting from the wholesale agency. Costs reported above reflect staff time to distribute and accept returned toilets. Toilet numbers reported above include toilets distributed at regional events and also through rebate programs.

Reported as of 10/12/05

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## Water Supply & Reuse

Reporting Unit:

**City of Ontario**

Year:

**2004**

### Water Supply Source Information

Supply Source Name	Quantity (AF) Supplied	Supply Type
Well No.3	734.69	Groundwater
Well No.4	13.31	Groundwater
Well No.9	31.05	Groundwater
Well No.11	2116.59	Groundwater
Well No.15	0	Groundwater
Well No.16	714.66	Groundwater
Well No.17	1839.15	Groundwater
Well No.24	1047.31	Groundwater
Well No.25	1289.23	Groundwater
Well No.26	158.22	Groundwater
Well No.27	1073.83	Groundwater
Well No.29	3320.32	Groundwater
Well No.30	0	Groundwater
Well No.31	4009.64	Groundwater
Well No.34	2216.4	Groundwater
Well No.35	1263.48	Groundwater
Well No.36	1846.46	Groundwater
Well No.37	2516.79	Groundwater
Well No.38	1390.12	Groundwater
Well No.39	3293.8	Groundwater
State Proj/MWD	15938.05	Imported
Well No. 40	0	Groundwater
Well No. 41	0	Groundwater
Well No. 20	338.89	Groundwater

**Total AF: 45151.99**

Reported as of 10/12/05

## Accounts & Water Use

Reporting Unit Name:  
City of Ontario

Submitted to  
CUWCC  
12/10/2004

Year:  
2004

### A. Service Area Population Information:

1. Total service area population 167000

### B. Number of Accounts and Water Deliveries (AF)

Type	Metered		Unmetered	
	No. of Accounts	Water Deliveries (AF)	No. of Accounts	Water Deliveries (AF)
1. Single-Family	25648	17875	0	0
2. Multi-Family	2042	6621	0	0
3. Commercial	2758	8262	0	0
4. Industrial	345	2234	0	0
5. Institutional	333	1353	0	0
6. Dedicated Irrigation	1000	6402	0	0
7. Recycled Water	2	69	0	0
8. Other	0	0	0	0
9. Unaccounted	NA	5	NA	0
<b>Total</b>	32128	42821	0	0

**Metered**

**Unmetered**

Reported as of 10/12/05

## BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit:	BMP Form	Year:
<b>City of Ontario</b>	Status:	<b>2004</b>
	<b>100% Complete</b>	

### A. Implementation

- |   |            |
|---|------------|
| 1. Based on your signed MOU date, 12/11/2002, your Agency STRATEGY DUE DATE is:   | 12/10/2004 |
| 2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys? | no         |
| a. If YES, when was it implemented?   |            |
| 3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys?  | no         |
| a. If YES, when was it implemented?   |            |

### B. Water Survey Data

<b>Survey Counts:</b>	<b>Single Family Accounts</b>	<b>Multi-Family Units</b>
1. Number of surveys offered:	0	0
2. Number of surveys completed:	0	0

#### Indoor Survey:

- |   |    |    |
|---|----|----|
| 3. Check for leaks, including toilets, faucets and meter checks   | no | no |
| 4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary   | no | no |
| 5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary | no | no |

#### Outdoor Survey:

- |   |    |      |
|---|----|------|
| 6. Check irrigation system and timers   | no | no   |
| 7. Review or develop customer irrigation schedule   | no | no   |
| 8. Measure landscaped area (Recommended but not required for surveys)                     | no | no   |
| 9. Measure total irrigable area (Recommended but not required for surveys)                | no | no   |
| 10. Which measurement method is typically used (Recommended but not required for surveys) |    | None |
| 11. Were customers provided with  | no | no   |

information packets that included evaluation results and water savings recommendations?

12. Have the number of surveys offered and completed, survey results, and survey costs been tracked? no                      no

a. If yes, in what form are surveys tracked? None

b. Describe how your agency tracks this information.

### C. Water Survey Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

### D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

### E. Comments

Reported as of 10/12/05

## BMP 02: Residential Plumbing Retrofit

Reporting Unit: **City of Ontario**      BMP Form Status: **100% Complete**      Year: **2004**

### A. Implementation

1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts? no
  - a. If YES, list local jurisdictions in your service area and code or ordinance in each:
  
2. Has your agency satisfied the 75% saturation requirement for single-family housing units? no
3. Estimated percent of single-family households with low-flow showerheads: 2.7%
4. Has your agency satisfied the 75% saturation requirement for multi-family housing units? no
5. Estimated percent of multi-family households with low-flow showerheads: 11.6%
6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.

### B. Low-Flow Device Distribution Information

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? yes
  - a. If YES, when did your agency begin implementing this strategy? 1/1/2002
  - b. Describe your targeting/ marketing strategy.

Low flow showerheads are distributed at water quality/water conservation fair booths, during in-home water quality site visits and by customer service staff conducting routine fieldwork.

<b>Low-Flow Devices Distributed/ Installed</b>	<b>SF Accounts</b>	<b>MF Units</b>
2. Number of low-flow showerheads distributed:	375	125
3. Number of toilet-displacement devices distributed:	0	0
4. Number of toilet flappers distributed:	0	0
5. Number of faucet aerators distributed:	375	125
6. Does your agency track the distribution and cost of low-flow devices? <span style="float: right;">no</span>		
a. If YES, in what format are low-flow devices tracked?		

b. If yes, describe your tracking and distribution system :

### C. Low-Flow Device Distribution Expenditures

	<b>This Year</b>	<b>Next Year</b>
1. Budgeted Expenditures	2000	4000
2. Actual Expenditures	2395	

### D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

### E. Comments

We will begin to track where these devices are being distributed in an effort to comply better with this BMP.

Reported as of 10/12/05

## BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit:  
**City of Ontario**

BMP Form Status:  
**100% Complete**

Year:  
**2004**

### A. Implementation

1. Has your agency completed a pre-screening system audit for this reporting year? yes
2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:
  - a. Determine metered sales (AF) 42821
  - b. Determine other system verifiable uses (AF) 25
  - c. Determine total supply into the system (AF) 45151.99
  - d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. 0.95
3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production? yes
4. Did your agency complete a full-scale audit during this report year? no
5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit? yes
6. Does your agency operate a system leak detection program? yes

a. If yes, describe the leak detection program:

Leaks are reported by Ontario Utilities employees and other Public Works employees working in the field who may observe leaks while reading meters, working on service lines or conducting misc. work within the City. Leaks are also reported directly by the customer. In addition, field crews investigate below ground leaks. Based on the leak percentage this year, we will slowly begin an active leak program.

### B. Survey Data

1. Total number of miles of distribution system line. 531
2. Number of miles of distribution system line surveyed. 0

### C. System Audit / Leak Detection Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	20000	20000
2. Actual Expenditures	13000	

### D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

**E. Comments**

Reported as of 10/12/05

## BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit:  
**City of Ontario**

BMP Form Status:  
**100% Complete**

Year:  
**2004**

### A. Implementation

1. Does your agency require meters for all new connections and bill by volume-of-use? yes
2. Does your agency have a program for retrofitting existing unmetered connections and bill by volume-of-use? no
  - a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed?
  - b. Describe the program:  
  
Not needed, all services are metered.
3. Number of previously unmetered accounts fitted with meters during report year. 0

### B. Feasibility Study

1. 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? no
  - a. If YES, when was the feasibility study conducted? (mm/dd/yy)
  - b. Describe the feasibility study:
2. Number of CII accounts with mixed-use meters. 0
3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period. 0

### C. Meter Retrofit Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

### D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
  - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

### E. Comments

The number of CII accounts with mix-used meters is unknown at this time. The zero number reported above may not be an accurate reflection of the zero number reported above.

Reported as of 10/12/05



## BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit: **City of Ontario**      BMP Form Status: **100% Complete**      Year: **2004**

### A. Water Use Budgets

- |  |     |
|--|-----|
| 1. Number of Dedicated Irrigation Meter Accounts:  | 890 |
| 2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:                       | 0   |
| 3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF):                     | 0   |
| 4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF):                       | 0   |
| 5. Does your agency provide water use notices to accounts with budgets each billing cycle? | no  |

### B. Landscape Surveys

- |  |    |
|--|----|
| 1. Has your agency developed a marketing / targeting strategy for landscape surveys? | no |
| a. If YES, when did your agency begin implementing this strategy?                    |    |
| b. Description of marketing / targeting strategy:                                    |    |
| 2. Number of Surveys Offered.  | 0  |
| 3. Number of Surveys Completed.  | 0  |
| 4. Indicate which of the following Landscape Elements are part of your survey:       |    |
| a. Irrigation System Check   | no |
| b. Distribution Uniformity Analysis  | no |
| c. Review / Develop Irrigation Schedules   | no |
| d. Measure Landscape Area  | no |
| e. Measure Total Irrigable Area  | no |
| f. Provide Customer Report / Information   | no |
| 5. Do you track survey offers and results?   | no |
| 6. Does your agency provide follow-up surveys for previously completed surveys?      | no |
| a. If YES, describe below:   |    |

### C. Other BMP 5 Actions

- |  |    |
|--|----|
| 1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program.<br>Does your agency provide mixed-use accounts with landscape budgets? | no |
| 2. Number of CII mixed-use accounts with landscape budgets.  | 0  |

3. Do you offer landscape irrigation training? yes

4. Does your agency offer financial incentives to improve landscape water use efficiency? no

Type of Financial Incentive:	Budget (Dollars/Year)	Number Awarded to Customers	Total Amount Awarded
a. Rebates	0	0	0
b. Loans	0	0	0
c. Grants	0	0	0

5. Do you provide landscape water use efficiency information to new customers and customers changing services? No

a. If YES, describe below:

6. Do you have irrigated landscaping at your facilities? yes

a. If yes, is it water-efficient? no

b. If yes, does it have dedicated irrigation metering? yes

7. Do you provide customer notices at the start of the irrigation season? no

8. Do you provide customer notices at the end of the irrigation season? no

**D. Landscape Conservation Program Expenditures**

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

**E. "At Least As Effective As"**

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

**F. Comments**

We began a pilot program in FY 04/05 which fulfills this BMP. If the pilot proves to be successful, a large full-scale program will be implemented. Though no budget is reflected, this program is funded through monies contributed by the City of Ontario to the Inland Empire Utilites Agency (our wholesaler) as a surcharge on imported water purchases. Monies are distributed among regional agencies.

Reported as of 10/12/05

## BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit: **City of Ontario**      BMP Form Status: **100% Complete**      Year: **2004**

### A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers? yes

a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.

Rebates are available through Inland Empire Utilities Agency in coordination with the Metropolitan Water District. The rebate is \$100. The City does not offer a rebate in addition to the IEUA/MWD rebate.

2. Does your agency offer rebates for high-efficiency washers? no

3. What is the level of the rebate? 0

4. Number of rebates awarded. 51

### B. Rebate Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

### D. Comments

Budgeted and actual expenditures may be reflected through IEUA regional program expenditures for this program. This City pays into this program and monies and programs and administered regionally. \$282,500 is budgeted regionally for this program

Reported as of 10/12/05

## BMP 07: Public Information Programs

Reporting Unit: **City of Ontario**      BMP Form Status: **100% Complete**      Year: **2004**

### A. Implementation

1. Does your agency maintain an active public information program to promote and educate customers about water conservation? yes

a. If YES, describe the program and how it's organized.

Conservation information is distributed in a variety of ways. Conservation information is found prominently in our water quality reports and quarterly newsletter. Conservation topics are discussed with residents on an individual and group level. Various literature is targeted to various age levels.

2. Indicate which and how many of the following activities are included in your public information program.

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	yes	3
b. Public Service Announcement	yes	2
c. Bill Inserts / Newsletters / Brochures	yes	2
d. Bill showing water usage in comparison to previous year's usage	no	
e. Demonstration Gardens	yes	2
f. Special Events, Media Events	yes	2
g. Speaker's Bureau	yes	10
h. Program to coordinate with other government agencies, industry and public interest groups and media	yes	

### B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	5000	5000
2. Actual Expenditures	5023	

### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

### D. Comments

A budgeted amount of \$1500 shown is paid to a regional conservation group called the Water Education and Water Awareness Committee whose purpose is to conduct public education on water conservation. Additionally, budgeted

expenditures reflect Ontario staff time to implement the WEWAC awareness programs.

Reported as of 10/12/05

**BMP 08: School Education Programs**

Reporting Unit:

BMP Form Status:

Year:

**City of Ontario****100% Complete****2004****A. Implementation**

1. Has your agency implemented a school information program to promote water conservation? yes

2. Please provide information on your school programs (by grade level):

Grade	Are grade-appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	yes	0	0	0
Grades 4th-6th	yes	39	796	0
Grades 7th-8th	yes	0	0	0
High School	yes	0	0	0

3. Did your Agency's materials meet state education framework requirements? yes

4. When did your Agency begin implementing this program? 01/01/2003

**B. School Education Program Expenditures**

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

**C. "At Least As Effective As"**

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

**D. Comments**

Budgeted expenditures will be reflected on the wholesale agency report

Reported as of 10/12/05

## BMP 09: Conservation Programs for CII Accounts

Reporting Unit:  
**City of Ontario**

BMP Form Status:  
**100% Complete**

Year:  
**2004**

### A. Implementation

1. Has your agency identified and ranked COMMERCIAL customers according to use? no
2. Has your agency identified and ranked INDUSTRIAL customers according to use? yes
3. Has your agency identified and ranked INSTITUTIONAL customers according to use? yes

### Option A: CII Water Use Survey and Customer Incentives Program

4. Is your agency operating a CII water use survey and customer incentives program for the purpose of complying with BMP 9 under this option? yes

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered	0	0	0
b. Number of New Surveys Completed	0	0	0
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	0	0	0
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	0	0	0
CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit	no	no	no
f. Evaluation of all water-using apparatus and processes	no	no	no
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	no	no	no
Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
h. Rebates	0	197	22220

i. Loans	0	0	0
j. Grants	0	0	0
k. Others	0	0	0

**Option B: CII Conservation Program Targets**

5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option?	yes
6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?	yes
7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991.	1.3
8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991.	11.7

**B. Conservation Program Expenditures for CII Accounts**

	<b>This Year</b>	<b>Next Year</b>
1. Budgeted Expenditures	0	0
2. Actual Expenditures	27262.5	

**C. "At Least As Effective As"**

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
  - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

**D. Comments**

Budgeted expenditures should be reflected on the wholesale agency report.

Reported as of 10/12/05

**BMP 09a: CII ULFT Water Savings**

Reporting Unit:

BMP Form Status:

Year:

**City of Ontario****100% Complete****2004**

1. Did your agency implement a CII ULFT replacement program in the reporting year? Yes  
 If No, please explain why on Line B.10.

**A. Targeting and Marketing**

1. What basis does your agency use to target customers for participation in this program? Check all that apply. CII Sector or subsector  
CII ULFT Study subsector targeting

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

We found CII sectors and sub sectors most effective because we were able to version our marketing efforts appropriately.

2. How does your agency advertise this program? Check all that apply.

Direct letter  
Web page  
Newsletter  
Bill insert  
Newspapers  
Trade publications  
Other print media  
Trade shows and events  
Telemarketing

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

For the purposes of this program, Trade Allies have proven to be the most effective overall marketing tool, as well as the most effective per dollar expended. Trade Allies include plumbers, distributors, retail home improvement stores and product manufacturers.

**B. Implementation**

1. Does your agency keep and maintain customer participant information? (Read the Help information for a complete list of all the information for this BMP.) Yes
2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency? Yes
3. What is the total number of customer accounts participating in the program during the last year ? 2

CII Subsector	Number of Toilets Replaced			
	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount
4.				
a. Offices	0	0	0	0
b. Retail / Wholesale	0	0	0	0
c. Hotels	137	0	0	0
d. Health	0	0	0	0
e. Industrial	0	0	0	0
f. Schools: K to 12	0	0	0	0
g. Eating	0	0	0	0
h. Government	0	0	0	0
i. Churches	0	0	0	0
j. Other	0	0	0	0

5. Program design. Rebate or voucher

6. Does your agency use outside services to implement this program? Yes

a. If yes, check all that apply. Consultant

7. Participant tracking and follow-up. Telephone Site Visit

8. Based on your program experience, please rank on a scale of 1 to 5, with 1 being the least frequent cause and 5 being the most frequent cause, the following reasons why customers refused to participate in the program.

- a. Disruption to business 1
- b. Inadequate payback 3
- c. Inadequate ULFT performance 2
- d. Lack of funding 5
- e. American's with Disabilities Act 0
- f. Permitting 0

g. Other. Please describe in B. 9.

9. Please describe general program acceptance/resistance by customers, obstacles to implementation, and other issues affecting program implementation or effectiveness.

Customers are generally more willing to participate in the program if the cost of the retrofit is in balance with the amount of the rebate, and the projected water savings is significant. Resistance occurs if the out-of-pocket expense for the retrofit is too costly and the

rebate amount is too low.

10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and budgeting?

Either Metropolitan or its Agencies to provide this response.

### C. Conservation Program Expenditures for CII ULFT

#### 1. CII ULFT Program: Annual Budget & Expenditure Data

	<b>Budgeted</b>	<b>Actual Expenditure</b>
a. Labor	0	0
b. Materials	0	0
c. Marketing & Advertising	0	0
d. Administration & Overhead	0	0
e. Outside Services	0	0
f. Total	0	0

#### 2. CII ULFT Program: Annual Cost Sharing

a. Wholesale agency contribution	8220
b. State agency contribution	0
c. Federal agency contribution	0
d. Other contribution	0
e. Total	8220

### D. Comments

Reported as of 10/12/05

**BMP 11: Conservation Pricing**

Reporting Unit:	BMP Form	Year:
<b>City of Ontario</b>	Status:	<b>2004</b>
	<b>100%</b>	
	<b>Complete</b>	

**A. Implementation****Rate Structure Data Volumetric Rates for Water Service by Customer Class****1. Residential**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Increasing Block
c. Total Revenue from Volumetric Rates	\$14266962
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$14266962

**2. Commercial**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Increasing Block
c. Total Revenue from Volumetric Rates	\$9652163
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$9652163

**3. Industrial**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Increasing Block
c. Total Revenue from Volumetric Rates	\$1454459
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$1454459

**4. Institutional / Government**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Increasing Block
c. Total Revenue from Volumetric Rates	\$750286
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$750286

**5. Irrigation**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$0
d. Total Revenue from Non-	

Volumetric Charges, Fees and other Revenue Sources \$0

**6. Other**

- a. Water Rate Structure Decreasing Block
- b. Sewer Rate Structure Service Not Provided
- c. Total Revenue from Volumetric Rates \$0
- d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources \$0

**B. Conservation Pricing Program Expenditures**

	<b>This Year</b>	<b>Next Year</b>
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

**C. "At Least As Effective As"**

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

**D. Comments**

See note from previous year for revenue explanations.  
#6-other reflects recycled water.

Reported as of 10/12/05

**BMP 12: Conservation Coordinator**

Reporting Unit:

**City of Ontario**

BMP Form Status:

**100% Complete**

Year:

**2004****A. Implementation**

1. Does your Agency have a conservation coordinator? yes
2. Is this a full-time position? no
3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ? yes
4. Partner agency's name: Inland Empire Utilities Agency
5. If your agency supplies the conservation coordinator:
  - a. What percent is this conservation coordinator's position? 30%
  - b. Coordinator's Name Rosemarie Chora
  - c. Coordinator's Title Water Quality Specialist
  - d. Coordinator's Experience and Number of Years Water quality and supply/5 years
  - e. Date Coordinator's position was created (mm/dd/yyyy) 01/01/2000
6. Number of conservation staff, including Conservation Coordinator. 3

**B. Conservation Staff Program Expenditures**

	<b>This Year</b>	<b>Next Year</b>
1. Budgeted Expenditures	35000	35000
2. Actual Expenditures	32059	

**C. "At Least As Effective As"**

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? yes
  - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

Conservation activities are managed by the Environmental Programs Manager with primary responsibility to implement by the Water Quality Specialist. These positions are additionally supported by many other in-house and wholesaler staff members in order to implement the BMPs. The City is also an active participant in 2 regional conservation groups which pool resources to implement conservation programs. these groups are WEWAC and the IEUA Conservation Committee.

**D. Comments**

Reported as of 10/12/05



**BMP 13: Water Waste Prohibition**

Reporting Unit: **City of Ontario**      BMP Form Status: **100% Complete**      Year: **2004**

**A. Requirements for Documenting BMP Implementation**

1. Is a water waste prohibition ordinance in effect in your service area? no

a. If YES, describe the ordinance:

2. Is a copy of the most current ordinance(s) on file with CUWCC? no

a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

City of Ontario none at this time

**B. Implementation**

1. Indicate which of the water uses listed below are prohibited by your agency or service area.

a. Gutter flooding no

b. Single-pass cooling systems for new connections no

c. Non-recirculating systems in all new conveyor or car wash systems no

d. Non-recirculating systems in all new commercial laundry systems no

e. Non-recirculating systems in all new decorative fountains no

f. Other, please name no

2. Describe measures that prohibit water uses listed above:

none at this time

**Water Softeners:**

3. Indicate which of the following measures your agency has supported in developing state law:

a. Allow the sale of more efficient, demand-initiated regenerating DIR models. no

b. Develop minimum appliance efficiency standards that:

i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used. no

ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced. no

c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the yes

agency governing board that there is an adverse effect on the reclaimed water or groundwater supply.

4. Does your agency include water softener checks in home water audit programs? no

5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models? no

**C. Water Waste Prohibition Program Expenditures**

	This Year	Next Year
1. Budgeted Expenditures	0	5000
2. Actual Expenditures	0	

**D. "At Least As Effective As"**

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

**E. Comments**

Water treatment devices (softeners) are limited to one cubic foot in size for commercial and industrial use. Comm/ind. users that need larger units are prohibited by ordinance from installation and must use an off-site exchange and regeneration service. Ontario is continuing to be an active partner in the Inland Empire Utilities Agency salinity study which is looking at salinity generation from residential sources. If acceptable, this report will be used to move forward with prohibiting "time controlled" regenerable softeners.

Reported as of 10/12/05



effective as" variant of this BMP?

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

**D. Comments**

See note for 02/03

Reported as of 10/12/05

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# Appendix D

## Water Conservation Details

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This Appendix includes the following information:

- Estimated Water Conservation Savings 2004/2005
- Water Conservation Strategy 2006 - 2010

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Estimated Water Conservation Savings by end of FY 2004/2005 (Existing BMPs)

Best Management Practices	Pre 2002 - 2003		FY 02 - 03		Number of BMPs Total by the end of 2004		BMP Savings	
	2003	2004	2003	2004	2004	Unit	acre-ft/year per unit	Total (acre-ft/year)
(1) Water Survey Programs for Single-Family and Multi-Family Residential Customers	0	0	0	0	0	residential surveys		
(2) Residential Plumbing Retrofit - Single Family Residential	0	750	750	750	1,500	showerheads	0.01	14
(2) Residential Plumbing Retrofit - Multi Family Residential		250	250	250	500	showerheads	0.01	5
(3) System Water Audits, Leak Detection and Repair	yes	yes	yes	yes	0	audit <sup>(1)</sup>		
(4) Metering with Commodity Rates for all New Connections and Retrofit of Existing	none	none	none	none	0	unmetered accounts		
(5) Large Landscape Conservation Programs and Incentives	none	none	none	none	0	landscape meters surveyed	0.96	
(6) High-Efficiency Washing Clothes Machine (HECW) Rebate Programs	189	274	226	274	689	washing machine rebates	0.05	31
Pool Covers	29	30	28	30	87	pool cover rebates	0.05	5
(7) Public Information Programs	0	11	11	21	32	events		
(8) School Education Programs	0	799	799	796	1,595	students		
(9) Conservation Programs for CII accounts	0	14	14	197	211	CII rebates		
CII ULF Toilets	50	0	0	137	187	toilet rebates	0.06	11
unaccounted CII Rebates	0	2	2	1	3	Other rebates	unknown	
CII Surveys	0	18	0	18	18	surveys		
High Efficiency Clothes Washers (HECW)	18	51	18	51	69	Washer rebates	0.12	8
Cooling Tower Conductivity Controllers (CTCC)	6	1	2	9	9	Cooling Tower Rebates	2.24	20
Waterbrooms	0	7	10	7	17	Waterbroom rebates	0.15	3
Performance Target savings	0	2	2	4	6	acre-ft/year	unknown	6
Conservation Program Targets	0	13	6.5	13	20	acre-ft/year	unknown	20
(10) Wholesale pricing	N/A	N/A	N/A	N/A	0	wholesale pricing		
(11) Conservation Pricing	yes	yes	yes	yes	0	increasing price block		
(12) Conservation Coordinator	1	0	0	0	1	coordinator		
(13) Water Waste Prohibition	0	0	0	0	0	water waste ordinance		
(14) Residential ULFT Replacement Program	0	1136	1136	620	1,756	residential ULFT rebates <sup>(2)</sup>	0.03	54
<b>Total Estimated Savings</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>6,700</b>	<b>n/a</b>	<b>n/a</b>	<b>177</b>

Note: Savings of BMPs with grey cells are assumed to be zero, as the impact of these can not be quantified.

(1) Audit determined that waterloss is less than 10 percent no further actions required.

(2) For 2003 year 652 SFR rebates and 284 MFR rebates and for 2004 year 465 SFR rebates and 155 MFR rebates.

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Water Conservation Strategy 2006-2010

Best Management Practice	Historical		BMP Requirements per MOU					Additional BMP Activities					Units		Estimated Savings (acre-ft/year)					
	Pre FY 04-05		FY 05-06	FY 06-07	FY 07-08	FY 08-09	FY 09-10	FY 05-06	FY 06-07	FY 07-08	FY 08-09	FY 09-10	Unit	Savings (AFY/unit)	Pre FY 04-05	FY 05-06	FY 06-07	FY 07-08	FY 08-09	FY 09-10
(1) Water Survey Programs			408	490	571	648	724						Surveys	0						
SFR Customers			31	37	43	49	55						Surveys	0						
MFR Customers			-	-	-	-	-							0						
(2) Residential Plumbing Retrofit - single family			1,386	1,386	1,386	1,386	1,386	1,000	1,000	1,000	1,000	1,000	showersheads	0.01	14	37	60	83	106	129
SFR Customers	1,500		108	108	108	108	108	1,000	1,000	1,000	1,000	1,000	showersheads	0.01	5	15	26	37	47	58
MFR Customers	500												audits <sup>(1)</sup>	0						
(3) System Water Audits, Leak Detection and Repair			225	225	450								unmetered accounts	0						
(4) Metering with Commodity Rates for all New Connections and Retrofit of Existing Customers													landscaper meters surveyed	0.96		216	432	864	912	960
(5) Large Landscape Conservation Programs and Incentives													HECW rebates	0.046	31	41	59	68	77	77
(6) High-Efficiency Washing Machine Rebate Programs			689					200	200	200	200	200	pool cover rebates	0.052	5	5	5	5	5	5
Pool Cover Rebates	87												events	0						
(7) Public Information Programs	32												students	0						
(8) School Education Programs	1,595												CII conservation	0						
(9) Conservation Programs for CII accounts													Surveys	0						
Commercial surveys per account	11		28	47	67	92	117						Surveys	0						
Industrial surveys per account	3		4	7	10	14	17						Surveys	0						
Institutional surveys per account	4		3	6	8	11	14						Surveys	0						
Number of CII ULFT rebates	187							450	500	550	600	650	CII ULFT rebates	0.06	11	38	68	101	137	176
unknown rebates	3												unknown CII rebates	0						
High Efficiency Clothes Washers (HECW)	69							10	10	10	15	20	CII HECW rebate	0.12	8	9	11	12	14	16
Cooling Tower Conductivity Controllers (CTCC)	9							5	5	5	5	5	CTCC rebate	2.24	20	31	43	54	65	76
Waterbrooms	17												Waterbroom rebates	0.15	3	3	3	3	3	3
Performance Target savings	6												acre-ft/year	0	6	6	6	6	6	6
Conservation Program Targets	20												acre-ft/year	0	20	20	20	20	20	20
(11) Conservation Pricing													increasing price block	0						
(12) Conservation Coordinator													coordinator	0						
(13) Water Waste Prohibition													water waste ordinance	0						
(14) Residential ULFT Replacement Program	1,756							500	1,000	1,500	2,000	2,500	ULFT rebates	0.03	54	70	101	147	209	287
Residential ULFT rebates	137												residential ULFT rebates <sup>(2)</sup>	0						
CBO Distribution	483												CBO distribution	0						
<b>Total</b>	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<b>Total</b>		<b>177</b>	<b>491</b>	<b>823</b>	<b>1,390</b>	<b>1,592</b>	<b>1,813</b>

Note: Savings of BMPs with grey cells are assumed to be zero, as the impact of these can not be quantified.  
 (1) Audit determined that waterloss is less than 10 percent no further actions required.  
 (2) For 2003 year 862 SFR rebates and 284 MFR rebates and for 2004 year 465 SFR rebates and 155 MFR rebates.



# Appendix E

## Water Demand Projections by Year

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## Water Demand Projections by Year

Demand Summary	2005	2006	2007	2008	2009	2010
1) Average Annual Demand	42,582	42,786	45,074	47,362	49,649	51,938
2) High Annual Demand	46,031	46,252	48,725	51,198	53,671	56,145
3) Sunkist Demand	1,470	1,470	1,470	1,470	1,470	1,470
4) Potable Normal Demand (1+3)	44,052	44,256	46,544	48,832	51,119	53,408
5) Potable High Demand (2+3)	47,501	47,722	50,195	52,668	55,141	57,615
6) Normal Year Recycled Water Demand	1,829	3,042	4,268	5,495	6,721	7,926
7) Dry Year Recycled Water Demand	2,181	3,627	5,089	6,551	8,013	9,449
8) Base Conservation*	-840	-1,199	-1,558	-1,917	-2,276	-2,635
9) Additional Conservation**	-4,750	-4,772	-5,019	-5,267	-5,514	-5,761
<b>Normal Year Demand (1+3+6+8)</b>	<b>45,041</b>	<b>46,099</b>	<b>49,254</b>	<b>52,409</b>	<b>55,564</b>	<b>58,699</b>
<b>Single Dry Year Demand (2+3+7+8)</b>	<b>48,842</b>	<b>50,150</b>	<b>53,726</b>	<b>57,302</b>	<b>60,877</b>	<b>64,429</b>
<b>Multiple Dry Year Demand (2+3+7+8+9)</b>	<b>44,091</b>	<b>45,378</b>	<b>48,706</b>	<b>52,035</b>	<b>55,363</b>	<b>58,668</b>

\* Base Conservation includes passive and active conservation

\*\* Additiona Conservation is 10 % \* (2 + 3)

Demand Summary	2011	2012	2013	2014	2015
1) Average Annual Demand	52,810	53,681	54,553	55,425	56,297
2) High Annual Demand	57,087	58,030	58,972	59,914	60,857
3) Sunkist Demand	1,470	1,470	1,470	1,470	1,470
4) Potable Normal Demand (1+3)	54,280	55,151	56,023	56,895	57,767
5) Potable High Demand (2+3)	58,557	59,500	60,442	61,384	62,327
6) Normal Year Recycled Water	8,378	8,808	9,239	9,669	8,816
7) Dry Year Recycled Water	9,988	10,501	11,015	11,528	10,511
8) Base Conservation*	-2,907	-3,179	-3,450	-3,722	-3,994
9) Additional Conservation**	-5,856	-5,950	-6,044	-6,138	-6,233
<b>Normal Year Demand (1+3+6+8)</b>	<b>59,750</b>	<b>60,781</b>	<b>61,812</b>	<b>62,842</b>	<b>62,589</b>
<b>Single Dry Year Demand (2+3+7+8)</b>	<b>65,638</b>	<b>66,822</b>	<b>68,006</b>	<b>69,190</b>	<b>68,843</b>
<b>Multiple Dry Year Demand (2+3+7+8+9)</b>	<b>59,783</b>	<b>60,872</b>	<b>61,962</b>	<b>63,052</b>	<b>62,611</b>

\* Base Conservation includes passive and active conservation

\*\* Additiona Conservation is 10 % \* (2 + 3)

Demand Summary	2016	2017	2018	2019	2020
1) Average Annual Demand	57,708	59,120	60,531	61,942	63,354
2) High Annual Demand	62,383	63,908	65,434	66,960	68,485
3) Sunkist Demand	1,470	1,470	1,470	1,470	1,470
4) Potable Normal Demand (1+3)	59,178	60,590	62,001	63,412	64,824
5) Potable High Demand (2+3)	63,853	65,378	66,904	68,430	69,955
6) Normal Year Recycled Water	10,259	10,417	10,576	10,734	11,761
7) Dry Year Recycled Water	12,230	12,420	12,609	12,798	14,022
8) Base Conservation*	-4,175	-4,356	-4,538	-4,719	-4,900
9) Additional Conservation**	-6,385	-6,538	-6,690	-6,843	-6,996
<b>Normal Year Demand (1+3+6+8)</b>	<b>65,262</b>	<b>66,650</b>	<b>68,039</b>	<b>69,428</b>	<b>71,685</b>
<b>Single Dry Year Demand (2+3+7+8)</b>	<b>71,908</b>	<b>73,441</b>	<b>74,975</b>	<b>76,509</b>	<b>79,077</b>
<b>Multiple Dry Year Demand (2+3+7+8+9)</b>	<b>65,523</b>	<b>66,904</b>	<b>68,285</b>	<b>69,666</b>	<b>72,081</b>

\* Base Conservation includes passive and active conservation

\*\* Additiona Conservation is 10 % \* (2 + 3)

Demand Summary	2021	2022	2023	2024	2025
1) Average Annual Demand	64,765	66,177	67,588	68,999	70,411
2) High Annual Demand	70,011	71,537	73,063	74,588	76,114
3) Sunkist Demand	1,470	1,470	1,470	1,470	1,470
4) Potable Normal Demand (1+3)	66,235	67,647	69,058	70,469	71,881
5) Potable High Demand (2+3)	71,481	73,007	74,533	76,058	77,584
6) Normal Year Recycled Water	11,103	11,312	11,522	11,731	12,435
7) Dry Year Recycled Water	13,237	13,487	13,736	13,986	14,825
8) Base Conservation*	-5,150	-5,400	-5,649	-5,899	-6,149
9) Additional Conservation**	-7,148	-7,301	-7,453	-7,606	-7,758
<b>Normal Year Demand (1+3+6+8)</b>	<b>72,188</b>	<b>73,559</b>	<b>74,930</b>	<b>76,301</b>	<b>78,167</b>
<b>Single Dry Year Demand (2+3+7+8)</b>	<b>79,568</b>	<b>81,094</b>	<b>82,620</b>	<b>84,145</b>	<b>86,260</b>
<b>Multiple Dry Year Demand (2+3+7+8+9)</b>	<b>72,420</b>	<b>73,793</b>	<b>75,166</b>	<b>76,540</b>	<b>78,502</b>

\* Base Conservation includes passive and active conservation

\*\* Additiona Conservation is 10 % \* (2 + 3)

Demand Summary	2026	2027	2028	2029	2030
1) Average Annual Demand	71,822	73,233	74,645	76,056	77,468
2) High Annual Demand	77,640	79,165	80,691	82,217	83,742
3) Sunkist Demand	1,470	1,470	1,470	1,470	1,470
4) Potable Normal Demand (1+3)	73,292	74,703	76,115	77,526	78,938
5) Potable High Demand (2+3)	79,110	80,635	82,161	83,687	85,212
6) Normal Year Recycled Water	12,430	12,918	13,407	13,895	14,492
7) Dry Year Recycled Water	14,819	15,401	15,984	16,566	17,278
8) Base Conservation*	-6,469	-6,788	-7,108	-7,427	-7,747
9) Additional Conservation**	-7,911	-8,064	-8,216	-8,369	-8,521
<b>Normal Year Demand (1+3+6+8)</b>	<b>79,253</b>	<b>80,833</b>	<b>82,414</b>	<b>83,994</b>	<b>85,683</b>
<b>Single Dry Year Demand (2+3+7+8)</b>	<b>87,460</b>	<b>89,248</b>	<b>91,037</b>	<b>92,826</b>	<b>94,743</b>
<b>Multiple Dry Year Demand (2+3+7+8+9)</b>	<b>79,549</b>	<b>81,185</b>	<b>82,821</b>	<b>84,457</b>	<b>86,222</b>

\* Base Conservation includes passive and active conservation

\*\* Additiona Conservation is 10 % \* (2 + 3)

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# Appendix F Adoption Resolution

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**RESOLUTION NO. 2005-126**

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY  
OF ONTARIO, CALIFORNIA ADOPTING THE 2005  
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 1983-1984 Regular Session, and as amended subsequently, which mandates 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; and

**WHEREAS**, the City of Ontario is a water supplier of more than 3,000 acre-feet annually; and

**WHEREAS**, the Plan is periodically reviewed at least once every five years; and

**WHEREAS**, the City of Ontario contracted with expert consultants, MWH Americas, to assist staff in completing the draft 2005 Urban Water Management Plan; and

**WHEREAS**, a public hearing was held by the City of Ontario City Council on December 20, 2005 to respond to public comments regarding on the draft Urban Water Management Plan .

**NOW, THEREFORE, IT IS HEREBY RESOLVED** as follows:

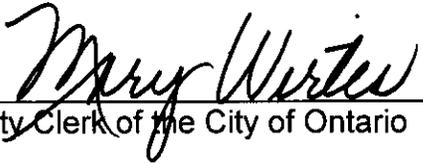
**SECTION 1.** The 2005 Urban Water Management Plan for the City of Ontario is hereby adopted.

**SECTION 2.** The Public Works/Community Services Director is hereby authorized to file three copies of the Plan with the State Department of Water Resources.

**SECTION 3.** The City Manager is hereby authorized and directed to implement the Water Programs as detailed in the adopted 2005 Urban Water Management Plan, including recommendations to the City Council regarding necessary procedures, rules, and regulations in an effort to carry out effective and equitable water programs.

**SECTION 4.** This Resolution shall take effect upon adoption.

**I HEREBY CERTIFY**, that the foregoing resolution was duly and regularly passed and adopted by the City Council of the City of Ontario, California, at a regular meeting thereof held on the 20<sup>th</sup> day of December, 2005.

  
\_\_\_\_\_  
City Clerk of the City of Ontario