

City of Escondido
2010 Urban Water
Management Plan

July 2011

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Project No. 139583



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Table of Contents

List of Figures	iv
List of Tables	v
List of Abbreviations	vi
1. Introduction.....	1-1
1.1 Urban Water Management Planning Act	1-1
1.2 Agency Coordination	1-1
1.3 Public Participation and Plan Adoption	1-2
1.4 Resource Maximization and Import Minimization	1-3
1.5 Plan Implementation.....	1-3
1.6 Plan Organization.....	1-3
2. Description of Existing Water System	2-1
2.1 Description of Service Area	2-1
2.2 Climate.....	2-3
2.3 Water System Background	2-3
3. Historical and Projected Water Use.....	3-1
3.1 Population, Employment, and Housing.....	3-1
3.2 Historical Water Use	3-2
3.3 Projected Water Demands	3-2
3.3.1 Residential Water Use	3-5
3.3.2 Commercial/Industrial/Institutional Water Use.....	3-5
3.3.3 Agricultural Water Use	3-5
3.3.4 Irrigation Sector.....	3-5
3.3.5 Water Sold to Other Agencies and Additional Water Uses and Losses	3-6
3.3.6 Projected Total Water Use and Demand Projection Provided to Wholesaler.....	3-6
3.3.7 Water Demands for Lower Income Households	3-7
3.4 Per Capita Water Use Target	3-8
4. Water Supplies	4-1
4.1 Wholesale Water	4-1
4.1.1 MWD	4-1
4.1.2 San Diego County Water Authority.....	4-1
4.2 Local Surface Water.....	4-2
4.3 Groundwater.....	4-2
4.4 Seawater Desalination.....	4-2
4.5 Water Supply Projects.....	4-2
4.6 Transfer and Exchange Opportunities	4-3
4.7 Projected Water Supplies	4-3
4.8 Water Supply Reliability	4-4

4.9	Factors Resulting in Inconsistency of Supply	4-5
4.10	Water Quality	4-6
5.	Recycled Water	5-1
5.1	Wastewater Quantity and Disposal	5-1
5.2	Recycled Water Use	5-3
5.3	City's Commitment to Recycled Water Use	5-6
6.	Water Conservation	6-1
6.1	Additional Issues	6-3
7.	Water Supply to Demand Comparison	7-1
7.1	Normal Year Water Supply to Demand Comparison	7-1
7.2	Single Dry Year Water Supply to Demand Comparison	7-1
7.3	Multiple Dry Year Water Supply to Demand Comparison	7-2
7.4	Water Shortage Expectations	7-3
7.5	The City's Water Shortage Contingency Plan	7-3
7.5.1	Stages of Action	7-3
7.5.2	Three-Year Minimum Water Supply	7-3
7.5.3	Prohibitions, Consumption Reduction Methods, and Penalties	7-4
7.5.4	Analysis of Revenue Impacts of Reduced Sales During Shortages	7-5
7.5.5	Reduction Measuring Mechanisms	7-6
	References	REF-1
	Appendix A	A
	Notice of Public Hearing and Published Comments	A
	Appendix B	B
	Adopted Resolution	B
	Appendix C	C
	BMP Activity Reports	C
	Appendix D	D
	Water Shortage Contingency Plan/Escondido Municipal Code Chapter 31 Article 5	D
	Appendix E	E
	UWMP Checklist	E

List of Figures

Figure 2-1. The City's Service Area Boundary Map.....	2-2
Figure 5-1. City of Escondido Sewer Service Area	5-4
Figure 5-2. Existing City Recycled Water System	5-5

List of Tables

Table 1-1. Coordination with Appropriate Agencies.....	1-2
Table 2-1. Precipitation and Temperature Records, 1999-2010.....	2-3
Table 3-1. Population-Current and Projected.....	3-1
Table 3-2. Potable Water Deliveries, Actual 2005.....	3-2
Table 3-3. Potable Water Deliveries, Actual 2010.....	3-3
Table 3-4. Potable Water Deliveries, Projected 2015	3-3
Table 3-5. Potable Water Deliveries, Projected 2020	3-4
Table 3-6. Potable Water Deliveries, Projected 2025 and 2030	3-4
Table 3-7. Potable Water Sales to Other Water Agencies, ac-ft/yr.....	3-6
Table 3-8. Additional Water Uses and Losses, ac-ft/yr.....	3-6
Table 3-9. Total Water Use, ac-ft/yr.....	3-7
Table 3-10. City Demand Projections Provided to Wholesale Suppliers, ac-ft/yr.....	3-7
Table 3-11. Low-Income Projected Water Demands, ac-ft/yr	3-7
Table 3-12. Base Period Ranges.....	3-8
Table 3-13. Base Daily per Capita Water Use – 10- to 15-year Range	3-9
Table 3-14. Base Daily per Capita Water Use - 5-year Range.....	3-9
Table 4-1. Wholesale Supplies-Existing and Planned Sources of Water (ac-ft/yr)	4-2
Table 4-2. Future Water Supply Projects.....	4-3
Table 4-3. Transfer and Exchange Opportunities (ac-ft/yr).....	4-3
Table 4-4. Water Supplies-Current and Projected (ac-ft/yr).....	4-3
Table 4-5. Basis of Water Year Data.....	4-4
Table 4-6. Supply Reliability – Historic Conditions (ac-ft/yr).....	4-4
Table 4-7. Water Supply Reliability – Current Water Sources (ac-ft/yr)	4-5
Table 4-8. Factors Resulting in Inconsistency of Supply	4-5
Table 4-9. Water Quality – Current and Projected Water Supply Impacts (ac-ft/yr).....	4-6
Table 5-1. Recycled Water-Wastewater Collection And Treatment (ac-ft/yr).....	5-2
Table 5-2. Recycled Water-Non-Recycled Wastewater Disposal (ac-ft/yr).....	5-2
Table 5-3. Recycled Water-2005 UWMP Use Projection Compared with 2010 Actual (ac-ft/yr)	5-6
Table 5-4. Recycled Water-Potential Future Use (ac-ft/yr).....	5-6
Table 5-5. Methods to Encourage Recycled Water Use (ac-ft/yr).....	5-7
Table 6-1. Water Conservation Best Management Practices Listed in MOU	6-2
Table 7-1. Supply and Demand Comparison-Normal Year (ac-ft/yr)	7-1
Table 7-2. Supply and Demand Comparison-Single Dry Year (ac-ft/yr).....	7-2
Table 7-3. Supply and Demand Comparison -Multiple Dry Year Events (ac-ft/yr)	7-2
Table 7-4. Water Shortage Contingency Plan Stages	7-3
Table 7-5. Mandatory Prohibitions.....	7-4
Table 7-6. Consumption Reduction Methods.....	7-5
Table 7-7. Penalties and Charges.....	7-5

List of Abbreviations

ac-ft	acre-feet	UAW	unaccounted-for water use
ac-ft/yr	acre-feet per year	UWMP	Urban Water Management Plan
Act	Urban Water Management Planning Act		
		VID	Vista Irrigation District
BMP	Best Management Practice		
CII	commercial, industrial, and institutional		
City	City of Escondido (Utilities Department)		
County	County of San Diego		
CUWCC	California Urban Water Conservation Council		
DWR	California Department of Water Resources		
gpcd	gallons per capita per day		
HARRF	Hale Avenue Resource Recovery Facility		
IPR	Indirect Potable Reuse		
JPA	Joint Powers Authority		
kgal	thousand gallons		
MOU	Memorandum of Understanding		
mgd	million gallons per day		
MWD	Metropolitan Water District of Southern California		
Plan	Urban Water Management Plan		
Rincon	Rincon Del Diablo Municipal Water District		
SANDAG	San Diego Association of Governments		
SB	Senate Bill		
SDCWA	San Diego County Water Authority		
TDS	total dissolved solids		

Section 1

Introduction

This 2010 Urban Water Management Plan (UMWP or “Plan”) addresses the City of Escondido (City) water supply sources including recycled water, groundwater, surface water, water conservation activities, and projected water demands. The Plan presents a comparison of projected water supplies to water demands during normal, single-dry, and multiple-dry years.

This chapter provides an overview of the Urban Water Management Planning Act (Act) and descriptions of agency coordination, public participation, Plan adoption, resource maximization and import minimization, and Plan organization. Sections directly pertaining to the California Department of Water Resources (DWR) UWMP Guidebook checklist include the checklist item in italics.

1.1 Urban Water Management Planning Act

The Act became part of the California Water Code with the passage of Assembly Bill 797 during the 1983–1984 regular session of the California legislature. Subsequently, assembly bills between 1990 and 2009 amended the Act. Most recently, the Act was amended in November 2009 by Senate Bill (SB) X7-7. The Act requires 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 to adopt and submit an Urban Water Management Plan every five years to the California DWR. The Act states that these urban water suppliers should make every effort to assure the level of reliability in their water service is sufficient to meet the needs of their various categories of customers during normal, dry, and multiple dry years. The Act describes the contents of the Plan as well as how urban water suppliers should adopt and implement the Plan. The applicable DWR UWMP Guidebook checklist items are shown in italics in this Plan. The most significant revision to the Act as a result of SBX7-7 is the requirement for establishing per capita water use targets and an option to delay 2010 Plan adoption to July 1, 2011.

1.2 Agency Coordination

#6. Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that 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 (10621(b)).

#54. 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 (10635(b)).

#56. 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 the 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 own service area (10642).

The Act requires the City to 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. While preparing the Plan, the City actively participated with the San Diego County Water Authority (SDCWA), the City's wholesale water supplier, to discuss the requirements of the Act. SDCWA's 2010 UWMP should be consulted for details regarding the City's wholesale water supplies. Table 1-1 provides a summary of the City's coordination with the appropriate agencies.

In addition, in preparing the recycled water elements of this Plan, the City consulted with adjacent agencies responsible for the existing and potential sources of recycled water.

Table 1-1. Coordination with Appropriate Agencies							
Coordinating Agencies	SDCWA	DWR	Utilities Staff	Valley Center Municipal Water District	Rincon Municipal Water District	Vallecitos Water District	Vista Irrigation District
Participated in developing the Plan	X		X	X	X	X	X
Provided opportunity for comment	X		X	X	X	X	X
Commented on the draft Plan			X				
Attended public meetings			X				
Was contacted for assistance	X	X	X				
Was sent a copy of the Plan	X	X	X	X	X	X	X
Was sent a notice of intention to adopt	X			X	X	X	X

DWR Table 1

1.3 Public Participation and Plan Adoption

#4. 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 (10620(d)(2)).

#55. 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 its plan (10642).

The City has encouraged community participation and public involvement in its urban water management planning efforts. A public hearing was held in council chambers, 201 North Broadway in Escondido, on July 13, 2011, at 4:30 p.m. Notices of public meetings were posted on the City's webpage at www.escondido.org. Legal public notices for the meeting were published in the local newspaper.

The City prepared an update of its Plan during the first half of 2011. This Plan includes all information necessary to meet the requirements of California Water Code Division 6, Part 2.6 (Urban Water Management Planning). The updated Plan was adopted by City Council by Resolution 2011-93 on July

13, 2011, and submitted to DWR within 30 days of Council approval. The adopted resolution is included as Appendix B.

1.4 Resource Maximization and Import Minimization

#5. 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 (10620(f)).

Active water efficiency improvements and additional water supply will be necessary to meet the City's projected water demand. The City will continue to examine supply enhancement options, including additional water recycling, water transfers, and additional imported water supplies. Additionally, the Metropolitan Water District (MWD) has completed construction of Diamond Valley Lake, increasing storage opportunity for member agencies and San Diego County (County). Diamond Valley Lake will be a supply source for Southern California in the event of disaster or drought.

The SDCWA has initiated an emergency storage project, which is a network of reservoirs and other methods of distribution that will allow member agencies to work together in storing and sharing water in the event of a natural disaster. Facilities are located county wide and constructed in several phases. The recent completion of the Olivenhain Dam and Reservoir was an important step in this project. The emergency storage project is expected to enhance the County's water supply in case of an outage.

1.5 Plan Implementation

#7. Provide supporting documentation that the UWMP or any amendments to, or changes in, have been adopted as described in Section 10640 et seq. (10621(c)).

#57. Provide supporting documentation that the plan has been adopted as prepared or modified (10642).

#58. Provide supporting documentation as to how the water supplier plans to implement its plan (10643).

#59. Provide supporting documentation that, in addition to submittal to DWR, the urban water supplier has submitted this UWMP to the California State Library and any city or county within which the supplier provides water no later than 30 days after adoption. This also includes amendments or changes (10644(a)).

#60. Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the urban water supplier has or will make the plan available for public review during normal business hours (10645).

This Plan brings together policies and projects being reviewed and undertaken by the various divisions of the Utilities department. The intent is to move forward with the best practices outlined here.

1.6 Plan Organization

Below is a summary of the sections in this Plan:

- Section 2 provides a description of the service area, climate, water supply facilities, distribution system, and historical and projected population.
- Section 3 presents historical and projected water use.
- Section 4 describes the water supplies.
- Section 5 describes recycled water.
- Section 6 addresses water conservation and best management practices.

- Section 7 provides a comparison of future water supply to demand.
- Section 8 provides a list of references.
- Appendices A through E provide relevant supporting documents.

DWR has provided a checklist of the items that must be addressed in each Plan based upon the Act. This checklist makes it simple to identify exactly where in the Plan each item has been addressed. The checklist is completed for this Plan and provided in Appendix E. It references the sections and page numbers where specific items can be found. The required DWR tables are identified in this Plan with their applicable DWR table number in the table footnotes.

Section 2

Description of Existing Water System

This chapter describes the City's service area and water system. It contains descriptions of the service area, climate, and water system.

2.1 Description of Service Area

#8. Describe the service area of the supplier (10631(a)).

The City is located in a long valley in the coastal mountains of southern California. The City provides a thriving urban environment in the midst of gentle rolling hills, and avocado and citrus groves. The City lies about 18 miles inland and 30 miles northeast of the City of San Diego.

The City received a city charter from the State Legislature in 1888. It covers an area of about 33.42 square miles. In recent years, the City has experienced the transformation from a rural agricultural town into the hub of north county economic activity and a vibrant urbanized community with continued growth in population and housing.

The City is a member of the SDCWA and a part of MWD. As a member of the SDCWA, it has the right to purchase and distribute water throughout its service area. The City, in conjunction with the Vista Irrigation District (VID), also operates facilities supplying local water from the San Luis Rey River watershed. The area around the City lies within the boundaries of the Rincon Del Diablo Municipal Water District (Rincon). Rincon was formed in 1954 in order to purchase and distribute water from the SDCWA to areas outside the City boundaries.

The City's water service area of approximately 20,000 acres, which is not aligned with the City's incorporated boundary, is comprised of a variety of land uses including residential, commercial, industrial, agricultural, open space, and orchards. Adjacent to the City's water service area are VID and Vallecitos Water District to the west, Rincon and the City of San Diego to the south, and Valley Center Municipal Water District to the north and east. The location of the City's water service area boundary is shown in Figure 2-1.

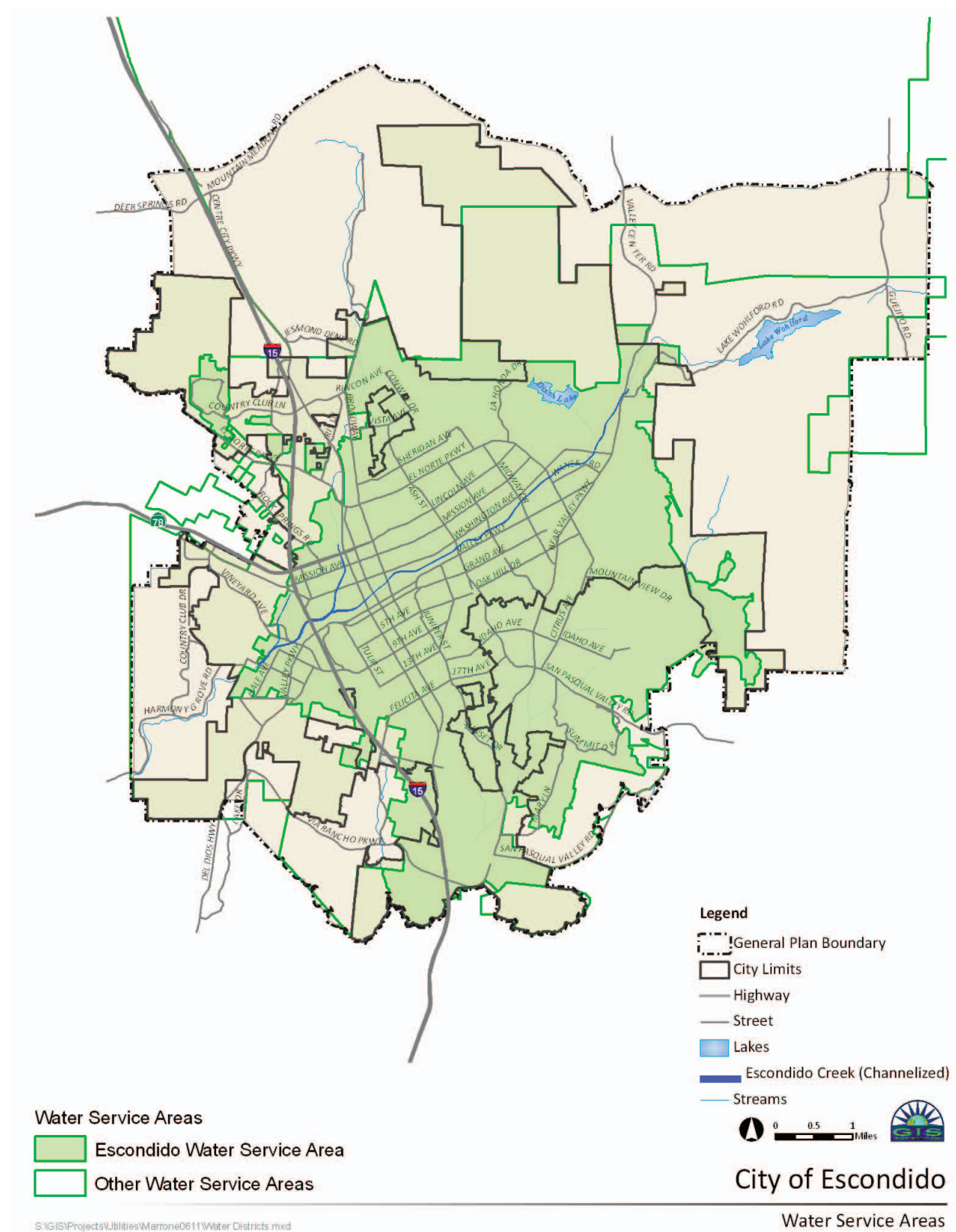


Figure 2-1. The City's Service Area Boundary Map

Source: City

2.2 Climate

#9. (Describe the service area) climate (10631(a)).

The City's climate is characterized by mild temperatures year round. Most of the rainfall occurs between November and March. Over the last 12 years, the City has experienced an annual average temperature of 62.4 degrees and an average annual rainfall of 8.83 inches. Table 2-1 shows the variation of the annual temperature, precipitation, and evapotranspiration (ETo) over the last 12 years as reported from a weather station located in Escondido, California, and compiled by the Western Region Climate Center. ETo data was obtained from the CIMIS website.

Table 2-1. Precipitation and Temperature Records, 1999-2010			
Year	Average Temperature (degrees Fahrenheit) ¹	Total Rainfall (inches) ²	Average ETo ¹
2010	61.46	14.04	5.09
2009	60.32	5.94	4.37
2008	61.78	4.22	4.68
2007	60.32	4.32	4.72
2006	60.78	3.54	4.53
2005	66.23	17.42	4.58
2004	60.48	14.49	4.69
2003	62.82	13.00	4.47
2002	63.84	5.83	4.63
2001	65.11	11.68	4.32
2000	65.99	4.81	4.32
1999	63.75	6.62	4.73

¹ Based on the Escondido, California Station, CIMIS.

² Based on the Escondido 2, California (COOP) Station, Western Region Climate Center.

2.3 Water System Background

The water supply to the City originates from two sources: local and imported water. Local water from the San Luis Rey River watershed is stored on a seasonal basis in Lake Henshaw and Lake Wohlford reservoirs. This water is delivered to the City via the Escondido Canal and associated pipelines. This local water is shared with VID and supplies approximately 18 percent of the City's average water demand. Imported water is brought into San Diego County by the SDCWA aqueducts. The City has two connections to the aqueduct system. Imported water via SDCWA supplies approximately 82 percent of the City's average water demand. The principal water storage and conveyance facilities serving the City include the Warner Basin aquifer, Lake Henshaw, the Warner Ranch Well Field, the Escondido Canal, Lake Wohlford, Dixon Lake, Bear Valley Pipeline, and Escondido/Vista Water Treatment Plant. A portion of the San Luis Rey River is also used for conveyance.

Section 3

Historical and Projected Water Use

Water use and production records, combined with projections of population, employment, and urban development, provide the basis for estimating future water supply requirements. This chapter presents the City's current and projected population, customer connections, and water use, as well as the lower income household water use and per capita demand target.

3.1 Population, Employment, and Housing

#10. (Describe the service area) current and projected population...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...(population projections) shall be in 5-year increments to 20 years or as far as data is available (10631(a)).

#11. (Population Projections) shall be in five-year increments to 20 years or as far as data is available (10631 (a)).

#12. Describe...other demographics factors affecting the supplier's water management planning (10631 (a)).

In order to be able to estimate the City's future water demands and water use characteristics, it is important to have reasonable estimates of future population totals and future regional trends. The population projections presented in Table 3-1 were developed from the City's planning and community development department, and the San Diego Association of Governments (SANDAG) cities/county forecast. Water use in the City is closely linked to the local economy, population, and weather. Over the last half century, a prosperous local economy has stimulated population growth, which in turn produced a relatively steady increase in water demand. However, fluctuating economic and weather conditions in the 1990s and lingering effects from the 1987-1992 drought resulted in deviations from historic demand patterns. By 1999, a new combination of natural population increases and job creation surfaced as the primary drivers of water consumption increases. The recession that started in 2008 brought an increase in unemployment and decrease in housing prices that has dampened population growth and water use. In addition, the City adopted a residential tiered water rate in July 2009 which further dampened demand by the residential population.

Table 3-1. Population-Current and Projected					
Year	2010	2015	2020	2025	2030
Service Area Population	132,255	133,672	138,747	146,394	151,335

DWR Table 2

Source: SANDAG data provided by the City.

3.2 Historical Water Use

#25. Quantify, to the extent records are available, past and current water use, and projected water use (over the same five-year increments described in subdivision (a)), 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 (10631(e)(1) and (2)).

3.3 Projected Water Demands

#33. Urban water suppliers that rely upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c) (10631(k)).

Water use consists of water used by the City, water sold to others, and additional water uses and losses. Tables 3-2 to 3-6 present the current and projected potable water sales and number of connections by customer sector for calendar years 2010, 2015, 2020, 2025, and 2030. The City anticipates a shift for some accounts, such as landscape irrigation and agriculture, to recycled water. That non-potable demand is included in Table 3-8. The City's demand projections presented in this section meet the City's gallons per capita per day (gpcd) demand targets that are described in Section 3.4.

Table 3-2. Potable Water Deliveries, Actual 2005					
Potable Water Use Sector	2005				
	Metered		Unmetered		Total Volume (ac-ft/yr)
	# Accounts	Volume (ac-ft/yr)	# Accounts	Volume (ac-ft/yr)	
Single family	21,900	12,500	0	0	12,500
Multi-family	1,370	5,200	0	0	5,200
Commercial/Industrial	1,584	3,350	0	0	3,350
Institutional/Governmental	127	1,260	0	0	1,260
Landscape Irrigation	515	2,090	0	0	2,090
Agriculture	264	6,190	0	0	6,190
Industrial	10	5	0	0	5
Total	25,770	30,595	0	0	30,595

DWR Table 3

Source: City

Table 3-3. Potable Water Deliveries, Actual 2010

Potable Water Use Sector	2010				
	Metered		Unmetered		Total Volume (ac-ft/yr)
	# Accounts	Volume (ac-ft/yr)	# Accounts	Volume (ac-ft/yr)	
Single family	22,279	10,625	0	0	10,625
Multi-family	1,287	4,405	0	0	4,405
Commercial/Industrial	1,613	2,411	0	0	2,411
Institutional/Governmental	138	654	0	0	654
Landscape Irrigation	574	2,816	0	0	2,816
Agriculture	208	4,314	0	0	4,314
Industrial	6	353	0	0	353
Total	26,105	25,578	0	0	25,578

DWR Table 4

Source: City

Table 3-4. Potable Water Deliveries, Projected 2015

Water Use Sector	2015				
	Metered		Unmetered		Total Volume (ac-ft/yr)
	# Accounts	Volume (ac-ft/yr)	# Accounts	Volume (ac-ft/yr)	
Single family	23,553	10,808	0	0	10,808
Multi-family	1,361	4,260	0	0	4,260
Commercial/Industrial	1,705	2,652	0	0	2,652
Institutional/Governmental	146	719	0	0	719
Landscape Irrigation	607	3,098	0	0	3,098
Agriculture	187	3,883	0	0	3,883
Industrial	6	388	0	0	388
Total	27,396	25,808	0	0	25,808

DWR Table 5

Table 3-5. Potable Water Deliveries, Projected 2020

Water Use Sector	2020				
	Metered		Unmetered		Total Volume (ac-ft/yr)
	# Accounts	Volume (ac-ft/yr)	# Accounts	Volume (ac-ft/yr)	
Single family	24,495	10,642	0	0	10,642
Multi-family	1,415	4,292	0	0	4,292
Commercial/Industrial	1,773	2,785	0	0	2,785
Institutional/Governmental	152	755	0	0	755
Landscape Irrigation	631	3,253	0	0	3,253
Agriculture	171	3,495	0	0	3,513
Industrial	7	410	0	0	410
Total	28,644	26,532	0	0	26,532

DWR Table 6

Table 3-6. Potable Water Deliveries, Projected 2025 and 2030

Water Use Sector	2025		2030	
	Metered		Metered	
	# Accounts	Volume (ac-ft/yr)	# Accounts	Volume (ac-ft/yr)
Single family	25,475	12,352	26,494	13,061
Multi-family	1,472	5,264	1,530	5,562
Commercial/Industrial	1,844	2,924	1,918	3,070
Institutional/Governmental	158	793	164	833
Landscape irrigation	656	3,416	683	3,587
Agriculture	155	3,145	141	2,878
Industrial	7	430	7	452
Total	29,767	28,324	30,938	29,443

DWR Table 7

This section describes the categories of water use and presents the projected water demands by customer category, water sales to others, other water uses and losses, low income water use, and total water use.

3.3.1 Residential Water Use

Residential water use represents the largest water use category for the City and includes both single-family and multi-family categories. Residential water consumption is composed of both indoor and outdoor uses. Indoor water use includes sanitation, bathing, laundry, cooking, and drinking. Most outdoor water use is to meet landscaping irrigation requirements. Other minor outdoor uses include car washing, surface cleaning, and similar activities. In the City, outdoor residential water usage is driven by seasonal conditions. Recent figures indicate that both single family and multi-family units can be identified with total usage increases during summer months. Water conservation measures have a direct impact on the reduction of water demand per capita for the residential category, which comprises almost 60 percent of the total water demand.

3.3.2 Commercial/Industrial/Institutional Water Use

Commercial water demands consist, in part, of incidental uses necessary for the operation of a business or institution, such as drinking, sanitation and landscape irrigation. Other commercial water users include service industries such as restaurants, car washes, laundries, and hotels. Water use data indicate that approximately 10 percent of the City's water demand comes from the commercial sector.

Industrial water consumption consists of a wide range of uses, including product processing and small-scale equipment cooling, sanitation, and air conditioning. Water-intensive industrial uses in the City, such as light manufacturing, typically require smaller amounts of water when compared to other water-intensive industries found elsewhere in southern California, such as petroleum refineries, chemical processors, and canneries. The industrial sector accounts for a small percentage of the water demand.

Institutional water use consists primarily of schools and churches within the service area. Water use characteristics tend to be similar to commercial uses but based on average daily attendance. Outdoor use tends to be somewhat higher for landscaped areas and ball fields. Many of these areas tend to be metered separately and categorized as irrigation. This sector will keep pace with the growth of the City.

3.3.3 Agricultural Water Use

A large percentage of the City's agricultural water demand is among the large citrus and avocado growers with nurseries and livestock watering rounding out the agricultural uses. Agricultural water demand is projected to gradually decrease in the future. The City's General Plan reflects local citizen interest in open space, quality of life, environmental values, and jobs provided by local agriculture even though it is projected that more agricultural land will eventually be converted to urban uses. Agricultural users make up about 16 percent of water demand.

3.3.4 Irrigation Sector

Irrigation demands can be high and vary with the season. More efficient technologies are being promoted as a way to curb demand. Increased use of recycled water is being encouraged as a way to reduce the draw on potable water.

3.3.5 Water Sold to Other Agencies and Additional Water Uses and Losses

Table 3-7 provides the potable water sold to other agencies.

Table 3-7. Potable Water Sales to Other Water Agencies, ac-ft/yr						
Water Distributed	2005	2010	2015	2020	2025	2030
Rincon	556	500	637	681	728	779
Total	556	500	637	681	728	779

DWR Table 9

System losses, or unaccounted-for water use (UAW), is unmetered water use such as for fire protection and training, system and street flushing, sewer cleaning, system leaks, unauthorized connections, reservoir cleaning, and other municipal uses. UAW can also result from meter inaccuracies.

The actual and projected water demand for other uses including recycled water and system losses are shown in Table 3-8. Recycled water is used by Palomar Energy Center for their operations as well as by irrigation customers to water golf courses, median strips, and other landscaped areas. Overall, recycled water use represents approximately 14 percent of total water use within the City's service area. Demand for recycled water used for irrigation tends to drop during the cooler, damper winter months because of less irrigation demand for landscape.

Table 3-8. Additional Water Uses and Losses, ac-ft/yr						
Water Used	2005	2010	2015	2020	2025	2030
Saline barriers	0	0	0	0	0	0
Groundwater recharge	0	0	0	0	0	0
Conjunctive use	0	0	0	0	0	0
Raw water	0	0	0	0	0	0
Recycled water	89	3,692	4,800	5,250	5,250	5,250
System losses	1,375	1,426	1,505	1,530	1,565	1,605
Other (define)	0	0	0	0	0	0
Total	1,464	5,118	6,305	6,780	6,815	6,855

DWR Table 10

3.3.6 Projected Total Water Use and Demand Projection Provided to Wholesaler

Table 3-9 provides a summary of the total projected water use for the City including retail water deliveries and additional water uses and losses. These demands are projected for normal climate years. The SDCWA is projecting higher demands in dry years (SDCWA 2011). The City has not developed an in-depth projection of their water demands in dry years, but expects them to be similar in proportion to the SDCWA projection.

Table 3-9. Total Water Use, ac-ft/yr						
Water Use	2005	2010	2015	2020	2025	2030
Total water deliveries (from DWR Tables 3 to 7)	30,595	25,578	25,808	26,532	28,324	29,443
Sales to other water agencies (from DWR Table 9)	556	500	637	681	728	779
Additional water uses and losses (from DWR Table 10)	1,464	5,118	6,305	6,780	6,815	6,855
Total	32,615	31,196	32,750	33,993	35,867	37,077

DWR Table 11

The SDCWA, through the MWD, will continue to provide an important amount of future water supply for the City's service area. Their ability to accommodate projected demand is dependent on their future supply projects and programs, which are covered in its Plan. Table 3-10 presents the City's projected demand for wholesale water from SDCWA.

Table 3-10. City Demand Projections Provided to Wholesale Suppliers, ac-ft/yr						
Wholesaler	Contracted Volume	2010 (actual)	2015	2020	2025	2030
SDCWA	(a)	21,087	23,786	21,384	22,963	23,983

DWR Table 12

(a) The SDCWA does not define contract volumes.

3.3.7 Water Demands for Lower Income Households

#34. The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier (10631.1(a)).

Table 3-11 presents the projected low income water demands. The residential water demands presented in Tables 3-2 to 3-6 include the water demands of low income housing as required by Senate Bill (SB) 1087.

Table 3-11. Low-Income Projected Water Demands, ac-ft/yr				
Low Income Water Demands	2015	2020	2025	2030
Single-family	5,621	5,780	5,951	6,055
Multi-family residential	2,331	2,396	2,467	2,510
Total	7,952	8,176	8,419	8,565

DWR Table 8

Note: Based on projected number of households with less than 80% of median household income per SANDAG 2050 Regional Growth Forecast, February 2010.

3.4 Per Capita Water Use Target

#1. An urban retail water supplier shall include in its urban water management plan...due in 2010 the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the basis for determining those estimates, including references to supporting data (10608.20(e)).

The Water Conservation Act of 2009 was signed into law in November 2009 as part of a comprehensive water legislation package. Known as SBX7-7, the legislation sets a goal of achieving a 20 percent reduction in urban per capita water use statewide by 2020. DWR developed technical methodologies to guide the consistent development by urban water suppliers of their baseline per capita water use and targets.

SBX7-7 requires urban water suppliers to establish per capita water use targets by using one of four methods:

- **Method 1:** A per capita water use by 2020 that is eighty percent of the urban retail water supplier's baseline per capita daily water use using a 10-year average starting no earlier than 1995. Since the City's 2008 recycled water is greater than 10% of its retail water deliveries for that year, as shown in Table 3-12, a 10- to 15-year baseline period can be used that ends no later than December 31, 2004. A 10-year period from 1995 to 2004 provides a baseline of 228 gpcd, as shown in Table 3-13. The resulting per capita demand target for 2020 is 182 gpcd, with an interim 2015 target of 205 gpcd. No adjustment is required since the 10-year baseline target is less than 95 percent of the 5-year baseline, as shown in Table 3-14.
- **Method 2:** The per capita daily water use that is estimated using the sum of several defined performance standards. This method requires quantifying the landscaped area and the baseline commercial, industrial, and institutional (CII) use.
- **Method 3:** Ninety-five percent of the applicable state hydrologic region target, as set forth in the DWR Guidebook (DWR, 2011). The City, located in DWR's South Coast Hydrologic Region Number 4, has a year 2020 target of 95 percent of 149 gpcd, which is 142 gpcd.
- **Method 4:** A provisional method that was developed by DWR that develops the target based on indoor residential, commercial, industrial and institutional (CII), outdoor, and water loss components.

Table 3-12. Base Period Ranges

Base	Base Period Ranges		
	Parameter	Value	Units
10- to 15-year Base Period	Calendar year 2008 total water deliveries (including recycled water)	32,856	ac-ft/yr
	2008 total volume of delivered recycled water	3,517	ac-ft/yr
	2008 recycled water as a percent of total deliveries	11	percent
	Number of years in base period	10	
	Year beginning base period range	1995	
	Year ending base period range	2004	
5-year Base Period	Number of years in base period	5	
	Year beginning base period range	2003	
	Year ending base period range	2007	

DWR Table 13

Table 3-13. Base Daily per Capita Water Use – 10- to 15-year Range

Base Period Year		Distribution System Population	Daily System Gross Water Use (ac-ft/yr) ^(a)	Annual Daily Per Capita Water Use (gpcd)
Sequence Year	Fiscal Year Ending			
Year 1	1995	107,407	25,725	214
Year 2	1996	109,027	26,801	219
Year 3	1997	110,671	29,188	235
Year 4	1998	112,340	25,204	200
Year 5	1999	114,034	28,752	225
Year 6	2000	115,759	31,489	243
Year 7	2001	121,549	30,417	223
Year 8	2002	122,969	33,304	242
Year 9	2003	124,492	31,387	225
Year 10	2004	125,934	35,171	249
Year 11	2005	126,862	29,503	208
Year 12	2006	126,679	31,495	222
Year 13	2007	127,502	32,578	228
Year 14	2008	128,938	29,339	203
Year 15	2009	130,480	27,655	189
Year 16	2010	132,255	23,317	157
Base Daily Per Capita Water Use				10-yr 1995-2004: 228 gpcd 0.8 X 228=182 gpcd

DWR Table 14

(a)Numbers may be low due to meter inaccuracies. City is investigating.

Source: Gross water use from SDCWA billing analysis provided by City.

Table 3-14. Base Daily per Capita Water Use - 5-year Range

Base Period Year		Distribution System Population	Daily System Gross Water Use (ac-ft/yr)	Annual Daily Per Capita Water Use (gpcd)
Sequence Year	Fiscal Year Ending			
Year 1	2003	124,492	31,387	225
Year 2	2004	125,934	35,171	249
Year 3	2005	126,862	29,503	208
Year 4	2006	126,679	31,495	222
Year 5	2007	127,502	32,578	228
Base Daily Per Capita Water Use				226 226 X 0.95=215

DWR Table 15

An urban water supplier must select one of the methods to set their per capita water use target. Water suppliers may choose to change the selected method until 2015. The City has selected Method 1 for establishing the 2020 per capita water use target of 182 gpcd.

Since 2008, the City's per capita water use has been experiencing a decline partially due to increased retail water cost, dry, cool climate conditions, and poor economic conditions. As shown in Table 3-13, the City's per capita water use in 2010 was already below the Method 1 2020 target. However, this 2010 level of water use may be temporary and a partial rebound to prior per capita water use levels may occur. Recent decisions may increase demand. In April 2011 the Governor of California terminated the State's drought proclamation. This was followed by the MWD Board which terminated implementation of the 2010/11 Water Supply Allocation Plan Level 2 allocation and reaffirming Baseline Water Use Efficiency Condition for their region on April 12, 2011.

The City's approach to meeting the 2020 per capita water use target has several elements consisting of increased water use efficiencies, increased saturation into the customer base of low flow plumbing devices and fixtures, increased use of recycled water, water use reductions that occur with the increased costs of water, and increased public information and education. The City's water conservation efforts are described in Section 6.

Section 4

Water Supplies

#13. Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, and 2030 (10631(b)).

This chapter discusses the City's sources of water supply, the quality of the supply, new supply opportunities, exchanges and transfers of water, and water supply reliability.

4.1 Wholesale Water

The City imports between 70 to 90 percent of its water from the SDCWA. The imported water is conveyed into the area via MWD and SDCWA facilities. The City joined the SDCWA in order to acquire the right to purchase and distribute imported water throughout its service area. The SDCWA has 24 member agencies, including the City, and is the regional wholesaler of imported water in San Diego County.

4.1.1 MWD

The MWD was created in 1928 following the passage of the MWD Water District Act by the California Legislature to provide supplemental water for cities and communities on the south coastal plain of California. The MWD has 26 member agencies including the SDCWA, and covers an area which includes all, or portions, of Ventura, Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties.

The MWD serves as a water wholesaler, and provides water to its member agencies from both the Colorado River and the State Water Project. The MWD's water supplies and management programs are discussed in its 2010 Regional Urban Water Management Plan.

4.1.2 San Diego County Water Authority

The SDCWA was organized on June 9, 1944 under the County Water Authority Act for the express purpose of importing Colorado River Water into San Diego County. The SDCWA annexed to the MWD in 1946 and is now represented on the MWD Board by six directors as its largest customer. The SDCWA purchases water from the MWD and other sources for resale to its 24 member agencies.

The City is one of 24 member agencies of the SDCWA. Each member agency is autonomous and is represented on the Board of Directors, setting local policies and water pricing structures. The representatives on the Board of Directors are appointed by each member agency and the number of representatives for each agency is based on a ratio of each member's assessed valuation compared to the total of all member agencies.

Member agency status entitles the City to directly purchase water from SDCWA on a wholesale basis. The City also looks to the SDCWA to ensure, to the best of its ability, that adequate amounts of imported water will be available to satisfy future potable water requirements.

SDCWA's water supplies and management programs are discussed in its 2010 Urban Water Management Plan. Table 4-1 presents the wholesale water supplies that the City projects it will need.

Table 4-1. Wholesale Supplies-Existing and Planned Sources of Water (ac-ft/yr)						
Wholesaler sources	Contracted Volume	2010 (actual)	2015	2020	2025	2030
SDCWA	(a)	21,087	23,786	21,384	22,963	23,983

DWR Table 17

(a) The SDCWA does not define contract volumes.

4.2 Local Surface Water

The City, in conjunction with VID, also operates facilities supplying local water from the San Luis Rey River watershed. Local water is stored on a seasonal basis in Lake Henshaw and Lake Wohlford reservoirs. This water is delivered to the City via the Escondido Canal, the Bear Valley Hydroelectric plant, and associated pipelines. This local water is shared with VID and supplies approximately 18 percent of the City's average water demand. The amount can reach as high as 30 percent.

4.3 Groundwater

#14. (Is) groundwater...identified as an existing or planned source of water available to the supplier (10631(b)).

Minimal groundwater sources are found throughout the City's service area. These wells are privately owned and maintained. The City does not participate in any groundwater withdrawal, storage or replenishment programs.

4.4 Seawater Desalination

#31. Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply (10631(i)).

The City is not a direct participant in the development of desalinated water. The City is a member of the SDCWA, which is pursuing desalination development throughout the region. If desalinated water becomes available within the region, the City will review ways to purchase the additional local supplies it would provide.

4.5 Water Supply Projects

#30. (Describe) 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 water supply available to the urban water supplier in average, single-dry, and multiple dry 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 (10631(h)).

An average of 18 percent of the water used in the City is local water that comes from precipitation. The City's Water Master Plan outlines facilities necessary to meet projected growth in its service area. Development of new plans and improvements to existing infrastructure are incorporated in the City's Capital Improvement Program. Water system requirements for proposed development projects are consistent with the Master Plan. The City is currently considering a variety of projects that would enhance the local supply. The City is actively studying the requirements of developing local Indirect Potable Reuse (IPR) water supplies.

Table 4-2. Future Water Supply Projects

Project Name	Projected Start Date	Projected Completion Date	Potential Project Constraints	Normal-year supply (ac-ft)	Single-dry year supply (ac-ft)	Multiple-Dry-Year first year supply (ac-ft)	Multiple-Dry-Year second year supply (ac-ft)	Multiple-Dry-Year third year supply (ac-ft)
IPR	Current	2020 to 2030 for full supply	Cost; Regulations; Public Opinion	8,000	7,000	7,000	6,500	6,000
Lake Wohlford Dam Replacement	Current	2015	Cost	4,000	4,000	4,000	3,500	3,000

DWR Table 26

4.6 Transfer and Exchange Opportunities

#24. Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis (10631(d)).

The City has exchange agreements with two neighboring water agencies, Rincon and VID, in the event of an emergency. A third agreement is under consideration with the Vallecitos Water District.

Table 4-3. Transfer and Exchange Opportunities (ac-ft/yr)

Transfer agency	Transfer or exchange	Short term or Long Term	Proposed Volume (ac-ft/yr)
Rincon del Diablo MWD	Exchange	Long	Not identified
Vista Irrigation District	Exchange	Long	Not identified
Vallecitos Water District	Pending	Pending	Pending

DWR Table 20

4.7 Projected Water Supplies

Current and projected water supplies for City during a normal water year are presented in Table 4-4.

Table 4-4. Water Supplies-Current and Projected (ac-ft/yr)

Water Supply Sources	Wholesaler Supplied Volume (yes/no)	2010 (actual)	2015	2020	2025	2030
SDCWA	Yes	21,087	23,786	21,384	22,963	23,983
Local Supply	No	1,596	4,964	6,000	6,500	6,500
Supplier produced groundwater	No	0	0	0	0	0
IPR	No	0	0	2,500	4,500	8,000
Recycled water ^(a)	No	3,692	4,800	5,250	5,250	5,250
Total		26,375	33,550	35,134	39,213	43,733

DWR Table 16

(a) Recycled water totals include recycled water sales to Rincon Del Diablo Municipal Water District.

4.8 Water Supply Reliability

#23. For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable 10631(c)(2).

#22. Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following: (A) an average water year, (B) a single dry water year, (C) multiple dry water years (10631(c)(1)).

#36. Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply (10632(b)).

The water supply available to the City is defined based on three water supply condition scenarios: average/normal water year; single dry water year; and multiple dry water years.

The water supplies available to the City from the SDCWA during single and multiple dry years are based on the historical dry periods presented in Table 4-9 and are defined in the SDCWA 2010 Plan. Table 4-6 presents the actual water supply for the years identified in Table 4-5. Table 4-7 presents the current supply reliability for a normal climate year and a multiple dry year period for an unspecified future date. SDCWA projects providing greater supplies to its member agencies in dry years through the use of new regional reserves currently being developed, such as the San Vicente Dam Replacement project, Olivenhain Dam, and increased transfer infrastructure, as well as additional regional sources currently being developed, such as desalination.

Table 4-5. Basis of Water Year Data	
Water Year Type	Base Year(s)
Average Water Year	1960-2007
Single-Dry Water Year	1988
Multiple-Dry Water Years	1988-1991

DWR Table 27

Table 4-6. Supply Reliability – Historic Conditions (ac-ft/yr)						
	Average/ Normal Water Year (2007)	Single Dry Water Year (1988)	Multiple Dry Water Years			
			Year 1	Year 2	Year 3	Year 4
Wholesaler-SDCWA	26,310	19,948	19,948	21,284	25,677	22,958
Supplier produced groundwater	0	0	0	0	0	0
Local water	5,386	5,581	5,581	6,502	4,091	3,971
Recycled water	3,438	0	0	0	0	0
Total	35,134	25,529	25,529	27,786	29,768	26,929
Percent of Average/Normal Year		73	73	79	85	77

DWR Table 28

Table 4-7. Water Supply Reliability – Current Water Sources (ac-ft/yr)

Sources	Normal Water Year	Multiple Dry Water Year Supply		
		Year 1	Year 2	Year 3
Wholesaler-SDCWA	26,310	19,107	18,343	18,343
Supplier produced groundwater	0	0	0	0
Local water	5,386	5,000	4,000	4,000
Recycled water	3,438	4,000	4,000	4,000
Total	35,134	28,107	26,343	26,343
Percent of Normal		80	75	75

DWR Table 31

4.9 Factors Resulting in Inconsistency of Supply

The City's wholesale water supply is subject to some factors that could result in inconsistency of supply due to legal, environmental, water quality, or climatic factors, as presented in Table 4-8. The City has taken steps to ensure a more consistent water supply by expanding its use of recycled water including work on developing IPR, and encouraging the development of regional seawater desalination projects. With a successful conservation program already in place, the City effectively implements temporary water use reduction measures as defined in the Water Shortage Contingency Plan to assist in ensuring reliability.

Table 4-8. Factors Resulting in Inconsistency of Supply

Water Supply Sources	Specific Source Name	Limitation Quantification	Legal	Environmental	Water Quality	Climatic	Additional Information
San Diego County Water Authority ^(a)	Various		Current supply from Delta is occasionally inconsistent due to legal and environmental decisions. Future supply may not be consistent due to delays in construction, legal rulings, or environmental decisions. Legal decisions regarding the Quantification Settlement Agreement could reduce supplies from the Colorado River.		None	Drought and climate change could result in reductions of imported water supply. Colorado River supply may be reduced due to extended drought period.	
Local surface water	San Luis Rey Watershed		None	None	Increased development within the watershed	Drought	
Recycled water	N/A	9 mgd (current maximum allowed by permit)	None	None	None	None	
IPR	N/A		Regulations currently evolving	None	None	None	

DWR Table 29

^(a) See SDCWA's 2010 Urban Water Management Plan for details.

The SDCWA has been taking steps to diversify its water supply with alternative sources. The reduced availability of any one supply source would be buffered because of the diversity of the supplies: the region is not reliant on a single source. SDCWA is also constructing additional local storage and transfer infrastructure to better prepare the region in case of possible disruption to the supply line outside of the area. SDCWA's 2010 Plan should be consulted for details regarding their actions to ensure consistency of the wholesale water supply.

4.10 Water Quality

#52. 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 (10634).

This section describes the water quality of the existing water supply sources and the manner in which water quality affects water management strategies.

The Escondido-Vista Water Treatment Plant treats all raw water from wholesale and local sources before it is delivered to customers. The treatment of water includes coagulation, sedimentation, filtration, and disinfection to ensure destruction of pathogenic organisms. Water enters the plant through a 54-inch diameter pipe. Chemicals are then added to assist in the treatment process. After chemical treatment and removal of organic components and suspended materials, the water is filtered through beds of anthracite coal and sand supported by graded rock. Bacteriological, physical, and chemical tests are performed on water samples from the source during treatment and from the distribution system to assure safe water for customers with no compromises to public health. Process variables of pH, turbidity, and chlorine residual are monitored continuously. After treatment, water is distributed from the Escondido-Vista Water Treatment Plant to VID and throughout the City through a system of pipelines and reservoirs. Recycled water, and eventually IPR water, is or will be similarly treated for total dissolved solids, bacteria, contamination, and pollution, as required by law, and distributed throughout the service area. Treatment strategies may change over time. Monitoring of these potential challenges is ongoing. Water supply availability is not expected to be impacted by water quality issues.

Table 4-9. Water Quality – Current and Projected Water Supply Impacts (ac-ft/yr)						
Water Supply Sources	Description of condition	2010	2015	2020	2025	2030
San Diego County Water Authority	TDS	0	0	0	0	0
Local Water	Taste and odor	0	0	0	0	0
Groundwater	n/a	n/a	n/a	n/a	n/a	n/a
Recycled water	TDS	0	0	0	0	0
Indirect Potable Reuse	TDS	0	0	0	0	0
Total		0	0	0	0	0

DWR Table 30

Section 5

Recycled Water

Water recycling, defined as the treatment and disinfection of municipal wastewater to provide additional water supply, is an important component of southern California's water resources. Non-potable reuse is the term applied to recycled water used for non-drinking water purposes such as filling lakes, ponds, and ornamental fountains; irrigating parks, campgrounds, golf courses, freeway medians, community green belts, school athletic fields, crops, and nursery stock; controlling dust at construction sites; and recharging groundwater basins.

Recycled water can also be used in certain industrial processes and for flushing toilets and urinals in nonresidential buildings. However, current regulations allow only new buildings to be dual-plumbed for this specific use. Additional uses for recycled water are being identified and approved as local agencies, regulators, and customers become comfortable with its use.

In addition, wastewater can be treated by using advanced water purification technology to produce water that can be used to augment surface water reservoir supplies that consist of imported and local surface water. The blended reservoir water would be treated at a water treatment plant and then distributed as drinking water. This reservoir augmentation approach, also known as IPR, is incorporated in the City's future water supply plans. Plans are being prepared to study production and use of IPR water during the timeframe of this report.

The purpose of this chapter is to provide information on recycled water and its use as a water resource in the City. The City is currently in the process of preparing an updated Recycled Water Master Plan. This chapter presents the quantity of wastewater generated in the service area, a description of the collection, treatment, disposal, and reuse of that wastewater, and the projected amount of water recycling in the City's service area.

#44. 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 this plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area (10633).

5.1 Wastewater Quantity and Disposal

#45. (Describe) the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal (10633(a)).

#46. (Describe) the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project (10633(b)).

The City owns and operates its own treatment and disposal facility. The City's Hale Avenue Resource Recovery Facility (HARRF), a 18.0 million gallons per day (mgd) wastewater treatment facility, is located in the southwest section of the City, and includes conventional treatment facilities and associated operations and maintenance buildings. The HARRF treats influent from the City and the City of San Diego's Rancho Bernardo Community.

The City manages wastewater collection and treatment through a network of lift stations and sanitary sewer mains. Elevation differences require flows to be pumped to the HARRF. San Diego maintains the collection system from Rancho Bernardo to the plant. Also, through agreements with the City, the City of San Diego pays for usage of the land and ocean outfalls which are maintained by Escondido and the San Elijo Joint Powers Authority (JPA). Figure 5-1 depicts the City's sewer service area.

The HARRF currently produces 3 mgd of tertiary treated recycled water for landscape and industrial use. In the future, the City will continue to produce recycled water and utilize much of that water for distribution within the City's service area, which will help offset the need for additional potable water supplies. Additional product is sold to other agencies and provides a source of revenue to the City.

Table 5-1 shows the projected amounts of wastewater to be generated and collected in the City's sewer service area.

Table 5-1. Recycled Water-Wastewater Collection And Treatment (ac-ft/yr)					
Type of Wastewater	2010	2015	2020	2025	2030
Wastewater collected and treated in service area	14,090	14,900	15,688	16,250	16,800
Volume that meets non-potable recycled water standard	4,300	4,800	5,250	5,250	5,250
Volume that meets potable recycled water standard (IPR)	0	0	1,000	4,000	8,000

DWR Table 21

Source: Figure 5-1, pg. 5-7, City of Escondido Sewer Master Plan Update, January 2010. The 2010 flows are actual.

Projected wastewater disposal methods and quantities are presented in Table 5-2. The City currently utilizes a 14.2-mile-long land outfall for the disposal of secondary effluent and shares an ocean outfall with the JPA.

Table 5-2. Recycled Water-Non-Recycled Wastewater Disposal (ac-ft/yr)						
Method of Disposal	Treatment Level	2010	2015	2020	2025	2030
Ocean outfall	Secondary or better	10,473	10,100	9,438	7,000	3,550

DWR Table 22

5.2 Recycled Water Use

#47. (Describe) the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use (10633(c)).

#48. (Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses (10633(d)).

#49. (Describe) 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 (10633(e)).

The City has worked very closely with the SDCWA, the San Diego Regional Water Quality Control Board, and State and County Departments of Health Services in pursuing and developing the use of recycled water. The City began serving recycled water in 2004. Since 2004, the City has been constructing treatment facilities, pumping stations, reservoirs, and pipelines plus requiring, in certain circumstances, that developers install pipelines within their projects for distribution of recycled water.

Recycled water is presently supplied to the City from the HARRF. The HARRF treats influent from the City and the City of San Diego's Rancho Bernardo Community and currently produces 3 mgd of tertiary treated recycled water for landscape and industrial. In the future, the City will continue to produce recycled water and utilize much of that water for distribution within the City's service area, which will help offset the need for additional potable water supplies. There appears to be sufficient potential uses and customers for all tertiary water that can be produced. The plant and the distribution infrastructure are planned to expand incrementally to increase production as customer demand increases in future years.

The City has approximately 25 miles of recycled water distribution pipelines, as shown in Figure 5-2. As of July 1, 2010, this distribution system currently had 12 metered recycled water use sites. The largest user served by recycled water is Palomar Energy Center, a water customer of Rincon. Other recognized sites using recycled water for irrigation include local golf courses and schools. In addition, recycled water is also supplied to parks, median strips, shopping areas, the common areas of numerous homeowners associations, and industrial parks.

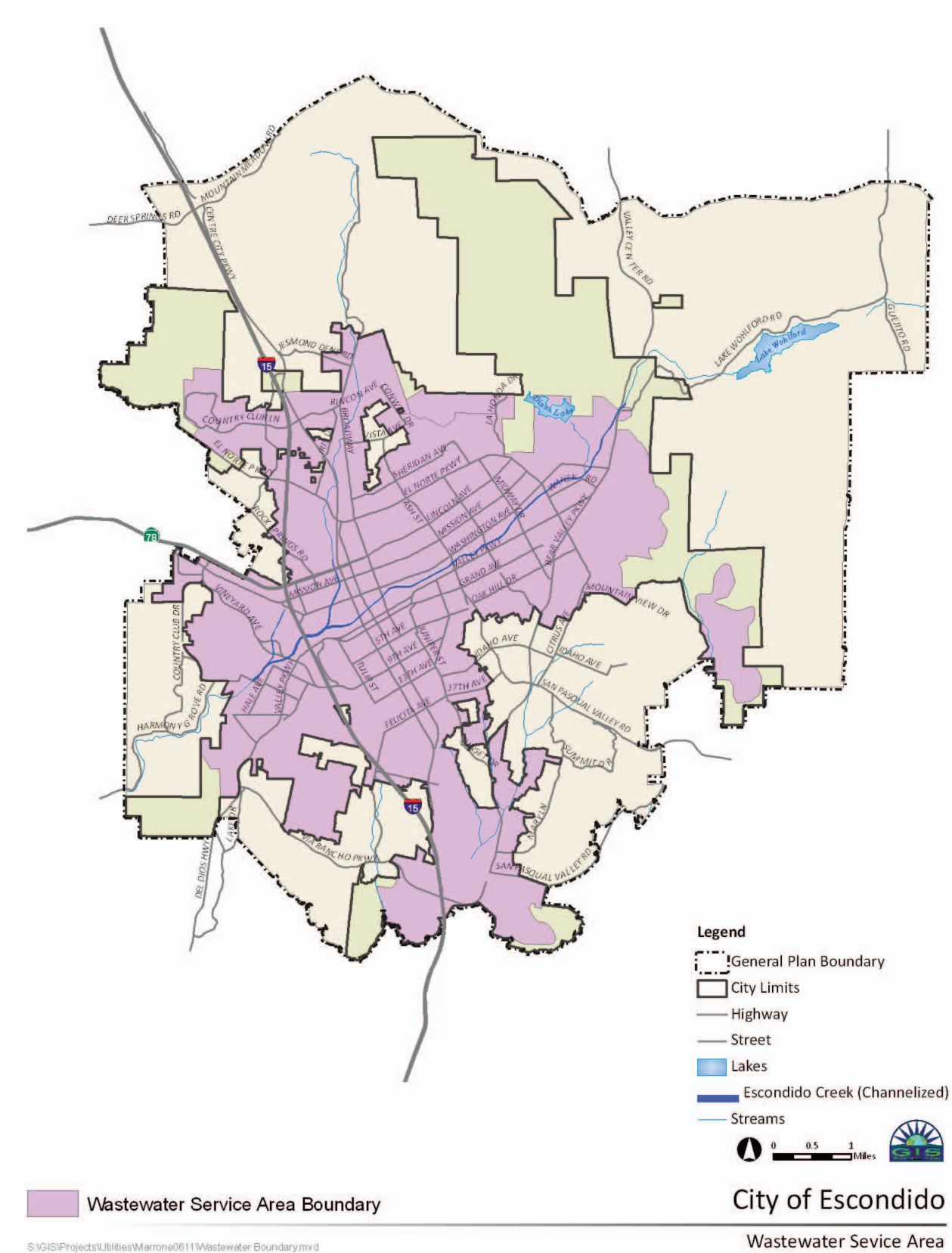


Figure 5-1. City of Escondido Sewer Service Area

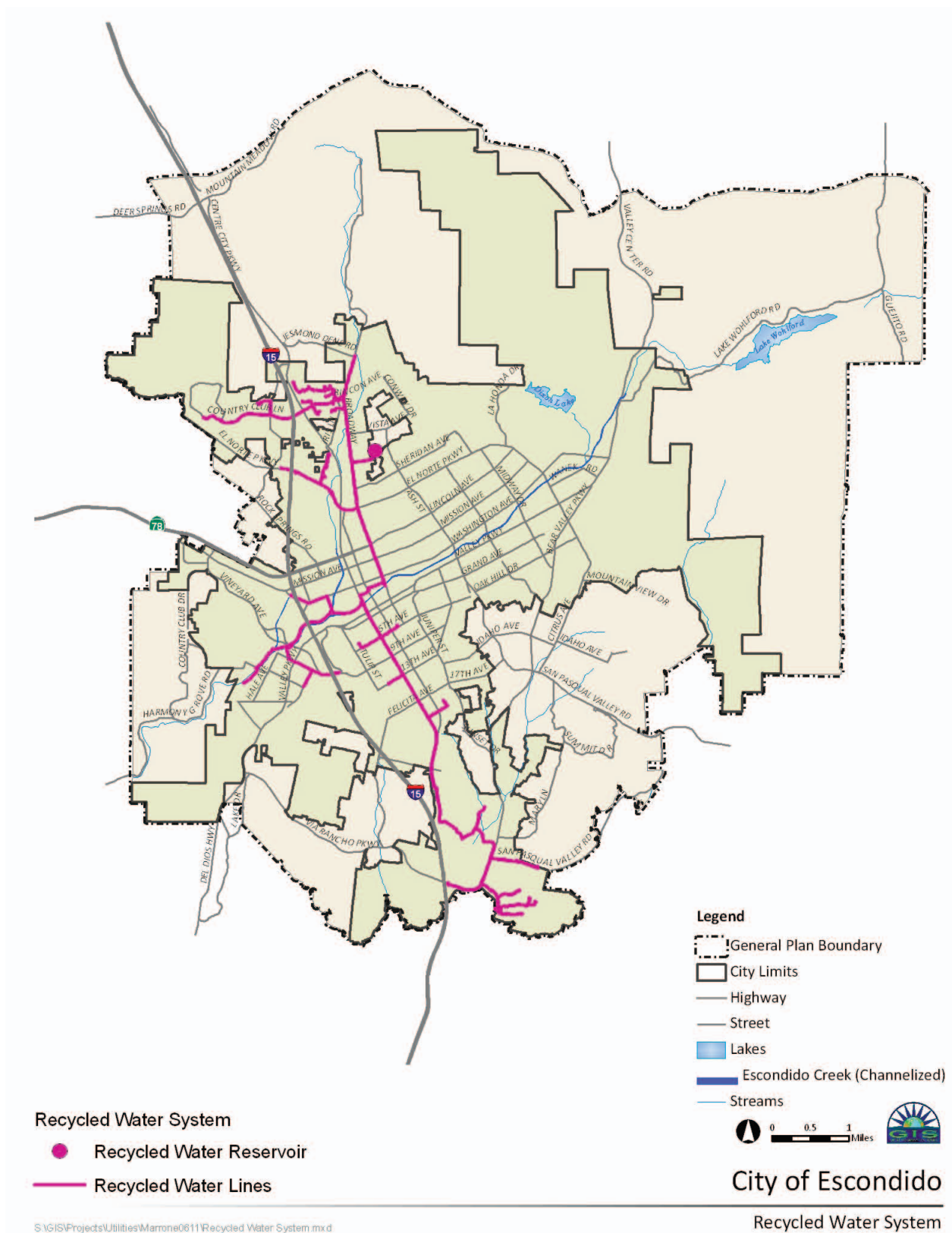


Figure 5-2. Existing City Recycled Water System

Table 5-3 presents the differences between the 2005 Plan projections for 2010 recycled water use and the actual 2010 recycled water use. The differences in actuals compared to projected numbers reflect the impact of a down economy on the infrastructure additions that had been planned, as well as the shift towards future planning for IPR water. The projected recycled water use is presented in Table 5-4. The industrial category includes the Palomar Energy Center, which is served potable water by Rincon.

Table 5-3. Recycled Water-2005 UWMP Use Projection Compared with 2010 Actual (ac-ft/yr)		
Use Type	2010 Actual Use	2005 Projection for 2010
Landscape irrigation	607	5,597
Industrial	3,085	4,479
Total	3,692	10,076

DWR Table 24

Source for projections: Table 6-1, pg. 31, District 2005 Urban Water Management Plan.

Table 5-4. Recycled Water-Potential Future Use (ac-ft/yr)					
User Type	Feasibility	2015	2020	2025	2030
Landscape irrigation	✓	1,825	2,000	2,000	2,000
Industrial	✓	1,150	1,250	1,250	1,250
Agriculture	✓	1,825	2,000	2,000	2,000
Indirect Potable Reuse	under evaluation	0	2,500	4,500	8,000
Total		4,800	7,750	9,750	13,250

DWR Table 23

5.3 City's Commitment to Recycled Water Use

#50. (Describe the) actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water use per year (10633(f)).

#51. (Provide a) plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use (10633(g)).

The City charges a rate of \$3.06 per thousand gallons (kgal) for recycled water based on a 2009 review of the recycled water financial program.

It is the policy of the City that recycled water shall be used within the jurisdiction wherever its use is economically justified, financially and technically feasible, and consistent with legal requirements, preservation of public health, safety and welfare, and the environment. This policy requires the City to prepare and adopt a Recycled Water Master Plan to define, encourage, and develop the use of recycled water, and to update this plan at a frequency of no less than once every five years.

The City policy, as established in 2009, requires that recycled water be used “after the department has provided to the customer an analysis showing that recycled water, if available, is a cost-effective alternative to potable water and the customer has had a reasonable amount of time, as determined by the director or the director’s designee, to make the conversion to recycled water.” (Escondido Municipal Code 31-230.a.7)

Each year, SDCWA hosts a one-day certified course designed to provide irrigation supervisors with a basic understanding of recycled water. Completion of the Recycled Water Site Supervisor Training fulfills the training requirement as mandated by regulatory authorities. The class provides information to supervisors on the water recycling process, recycled water quality and safety issues, the duties and responsibilities of the supervisor, landscape irrigation fundamentals, maintenance and management, and cross connection control shut-down tests and inspections. Understanding similarities and differences between recycled and potable water is important to the successful operation of a recycled water system.

Actions used by the City to encourage recycled water use are summarized in Table 5-5. Specific quantities of water savings for the following individual actions are not measurable.

Table 5-5. Methods to Encourage Recycled Water Use (ac-ft/yr)

Actions	Projected Results				
	2010	2015	2020	2025	2030
Financial Incentives ^(a)	unknown	pending	pending	pending	pending
Pay on-site retrofit costs for all Phase I customers	unknown	pending	pending	pending	pending
Provide on-going technical assistance to recycled water customers at no charge	unknown	pending	pending	pending	pending
Ensure recycled water supply reliability even during shortages (excluding disaster conditions)	unknown	pending	pending	pending	pending
Continue proactive public education campaign regarding safety and reliability of recycled water	unknown	pending	pending	pending	pending
Total					

DWR Table 25

(a) City’s current rate for recycled water \$3.06/kgal) is lower than the potable water rate for irrigation of \$4.43/kgal.

Section 6

Water Conservation

#26. (Describe and provide a schedule of implementation for) 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 (10631(f)(1) and (2)).

#27. 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 (10631(f)(3)).

#28. An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the saving on the supplier's ability to further reduce demand (10631(f)(4)).

#29. 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 costs; (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 share the cost of implementation (10631(g)).

#32. Include the annual reports submitted to meet the Section 6.2 requirements, if a member of the CUWCC and signer of the December 10, 2008 MOU (10631(j)).

Water conservation, or demand management, continues to be a significant part of regional water resource planning strategies in San Diego County. The City is committed to supporting these regional water conservation activities, and provides staffing and direct and indirect financial assistance. In addition, the City implements local water conservation management measures to augment and complement these regional programs.

The unpredictable water supply and ever-increasing demand on California's complex water resources have resulted in a coordinated effort by the DWR, water utilities, environmental organizations, and other interested groups to develop a list of urban best management practices (BMPs) for conserving water. This consensus-building effort resulted in a Memorandum of Understanding Regarding Urban Water Conservation in California (MOU), which formalizes an agreement to implement these BMPs and makes a cooperative effort to reduce the consumption of California's water resources.

The BMPs as defined by the MOU are presented in Table 6-1. The MOU is administered by the California Urban Water Conservation Council (CUWCC). City is currently an MOU signatory and, as such, is permitted to submit the most current BMP Activity Reports to comply with this section of the UWMP. BMPs are divided into Foundational and Programmatic. Foundational BMPs, including Operations and Education, are considered basic elements that any water supplier should adopt as standard, on-going practices. Programmatic BMPs, divided into Residential, CII, and Landscape, can be approached in one of three ways. City has chosen the CUWCC's gpcd option, which is based on the gallons per capita per day of water use within the service area. The CUWCC's gpcd approach differs from the gpcd approach used by DWR and as defined in SBX7-7 in terms of the baseline period and target year. Copies of the most recent BMP Activity Reports are included in Appendix C.

Table 6-1. Water Conservation Best Management Practices Listed in MOU

Revised (Current) CUWCC BMP Category		Former CUWCC BMP Name		Program	Implemented
Category	BMP Name	BMP No.	BMP Name		
Foundational BMPs	BMP 1 Utility Operations				
	BMP 1.1 Operations Practices				
	BMP 1.1.1 Conservation Coordinator	12	Conservation Coordinator	Full-time conservation coordinator	Yes
	BMP 1.1.2 Water Waste Prevention	13	Water Waste Prohibition	By ordinance	Yes
	BMP 1.1.3 Wholesale Agency Assistance	10	Wholesale Agency Assistance Programs	Work with SDCWA	Yes
	BMP 1.2 Water Loss Control	3	System Water Audits, Leak Detection, and Repair	AWWA worksheet; system to report/repair leaks & breaks	Yes
	BMP 1.3 Metering with Commodity Rates	4	Metering with Commodity Rates for all New Connections and Retrofit of Existing Connections	All accounts metered and billed regularly	Yes
	BMP 1.4 Retail Conservation Pricing	11	Conservation Pricing	By ordinance	Yes
	BMP 2 Educational				
	BMP 2.1 Public Information	7	Public Education Programs	Special events; Speakers' bureau; Website; Literature; Workshops	Yes
	BMP 2.2 School Education	8	School Education Programs	Grade-specific classroom presentations and materials; Special events; Poster contest	Yes

Table 6-1. Water Conservation Best Management Practices Listed in MOU

Revised (Current) CUWCC BMP Category		Former CUWCC BMP Name		Program	Implemented
Category	BMP Name	BMP No.	BMP Name		
Programmatic BMPs	BMP 3 Residential				
	BMP 3.1 Residential Assistance	1 & 2	Water Survey Programs for Single-Family and Multi-Family Residential Customer (Indoor) and Residential Plumbing Retrofit	Showerhead & faucet aerator distribution	gpcd compliance
	BMP 3.2 Landscape Water Survey	1	Water Survey Programs for Single-Family and Multi-Family Residential Customer (Outdoor)	Landscape surveys	gpcd compliance
	BMP 3.3 High-Efficiency Clothes Washers	6	High-Efficiency Washing Machine Rebate Programs	Regional rebate programs	gpcd compliance
	BMP 3.4 Water Sense Standard (WSS) Toilets	14	Residential ULFT Replacement Programs	N/A	gpcd compliance
	BMP 3.5 Water Sense Standard (WSS) for New Residential Development	(new)		Regional rebate programs	gpcd compliance
	BMP 4 Commercial, Industrial, Institutional (CII)	9	Conservation Programs for Commercial, Industrial, and Institutional Accounts	Regional rebate programs	gpcd compliance
	BMP 5 Landscape	5	Large Landscape Conservation Programs and Incentives	Landscape audits; Technical assistance to over-budget accounts; rebates for irrigation system products	gpcd compliance

6.1 Additional Issues

This section describes additional issues required to be addressed by the Act. Foundational BMPs are becoming incorporated into the operational practices of the city in order to comply in the most efficient and economical way possible. Programmatic BMPs are implemented after consideration of factors including environmental, social, health, customer impacts, and technology. The costs to customers are also considered with respect to the changes in monthly bills that customers see as a result of other projects such as infrastructure improvements and higher costs of inputs. The City will work with regional partners, when possible, to reduce costs of implementing BMPs. The City has the legal authority to implement the BMPs.

Section 7

Water Supply to Demand Comparison

#53. 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 (10635(a)).

This chapter provides a comparison of projected water supplies and demands for normal, single-dry, and multiple dry water years. The City's Water Shortage Contingency Plan and water shortage expectations are also outlined in this chapter. Appendix D presents the City's water conservation and water shortage response plan.

7.1 Normal Year Water Supply to Demand Comparison

The normal water year current and projected water supplies are compared to the current and projected demand for City in Table 7-1.

Table 7-1. Supply and Demand Comparison-Normal Year (ac-ft/yr)				
	2015	2020	2025	2030
Supply totals (a)	33,550	35,134	39,213	43,733
Demand totals(b)	32,750	33,993	35,867	37,077
Difference (supply minus demand)	800	1,141	3,346	6,656
Difference as a percent of supply	2.4	3.2	8.5	15.2
Difference as a percent of demand	2.4	3.4	9.3	18

DWR Table 32

^(a) From Table 4-8 (DWR Table 16).

^(b) From Table 3-9 (DWR Table 11).

7.2 Single Dry Year Water Supply to Demand Comparison

The current and projected water supplies are compared to the demands for a single dry year for the City in Table 7-2. SDCWA projects being able to provide additional supplies during dry years to meet higher demands during those dry years (SDCWA 2011). The City anticipates being able to meet the needs of a single dry year with recycled water, local water, increased conservation and, if needed, increased purchases of wholesaler water.

Table 7-2. Supply and Demand Comparison-Single Dry Year (ac-ft/yr)

	2015	2020	2025	2030
Supply totals	34,550	36,134	40,213	44,733
Demand totals	33,750	34,993	36,867	38,077
Difference (supply minus demand)	800	1,141	3,346	6,656
Difference as a percent of supply	2.4	3.2	8.5	15.2
Difference as a percent of demand	2.4	3.4	9.3	18

DWR Table 33

7.3 Multiple Dry Year Water Supply to Demand Comparison

The projected water supplies are compared to the demands for multiple dry years for the City in Table 7-3. The additional demands during dry years and the resulting increased supply from SDCWA have not been projected in detail by the City, but are expected to be of a similar magnitude that is projected by SDCWA for the region. The City will give priority to local water supplies during multiple dry years. Additional SDCWA water supplies will also be available.

Table 7-3. Supply and Demand Comparison -Multiple Dry Year Events (ac-ft/yr)

		Supply and Demand Comparison – Multiple Dry Year Events			
		2015	2020	2025	2030
Multiple-dry year First year supply	Supply totals	34,550	36,134	40,213	44,733
	Demand totals	33,750	34,993	36,867	38,077
	Difference	800	1,141	3,346	6,656
	Difference as percent of supply	2.4	3.2	8.5	15.2
	Difference as percent of demand	2.4	3.4	9.3	18
Multiple-dry year Second year supply	Supply totals	32,550	34,134	38,213	42,733
	Demand totals	31,750	32,993	34,867	36,077
	Difference	800	1,141	3,346	6,656
	Difference as percent of supply	2.4	3.2	8.5	15.2
	Difference as percent of demand	2.4	3.4	9.3	18
Multiple-dry year Third year supply	Supply totals	33,550	35,134	39,213	43,733
	Demand totals	32,750	33,993	35,867	37,077
	Difference	800	1,141	3,346	6,656
	Difference as percent of supply	2.4	3.2	8.5	15.2
	Difference as percent of demand	2.4	3.4	9.3	18

DWR Table 34

7.4 Water Shortage Expectations

The reliability of the City's water supply is vulnerable to shortages due to unexpected interruptions to the delivery system outside of and within the San Diego region, prolonged periods of drought that limit supply or a local catastrophe that could limit supply, treatment, and movement of water within the City. As discussed in this section and in Section 4, the City has taken several actions 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. The water supplied by SDCWA is an important source for Escondido. The SDCWA is undertaking projects to increase and protect local storage and diversify supplies to be better prepared to face shortages, as discussed in Section 1.4.

7.5 The City's Water Shortage Contingency Plan

#39. Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply (10632(e)).

7.5.1 Stages of Action

#35. 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 (10632(a)).

The City's Water Shortage Contingency Plan is based on four stages as defined in Table 7-4.

Table 7-4. Water Shortage Contingency Plan Stages		
Stage (Level)	Water Supply Conditions	Percent shortage
1	Water Shortage Watch	10
2	Water Shortage Alert	20
3	Water Shortage Critical	40
4	Water Shortage Emergency	maximum

DWR Table 35

7.5.2 Three-Year Minimum Water Supply

#38. An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply (10632 (h)).

The three-year minimum water supply is presented in Section 4 in Table 4-11 (DWR Table 31).

7.5.3 Prohibitions, Consumption Reduction Methods, and Penalties

#37. Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster (10632(c)).

#38. Additional mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning (10632(d)).

#40. Penalties or charges for excessive use, where applicable (10632(f)).

#42. (Provide) a draft water shortage contingency resolution or ordinance (10632(h)).

As a member of the SDCWA, the City relies on that agency to deliver and maintain regional supplies to the best of its ability. Improvements to the delivery and storage system within the region have been completed since the 2005 report, such as elements of the Emergency Storage Project that includes the San Vicente Dam replacement and east/west connections between aqueducts. At a local level, the City has storage and delivery systems of its own to continue to provide water to its customers for a limited time. To maximize the limited supply, the City can limit consumption through the methods discussed in the following sections.

Section 10632(d) of the Act states that an agency's urban water shortage contingency analysis shall include the following element: 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.

The City's Water Shortage Contingency Plan includes regulations to encourage and, at times require, customers to use water efficiently. Table 7-5 shows actions and systems that can save water. Though discouraged at all times, the prohibitions are in place at the level listed in the table. Table 7-6 includes additional actions that save water, when they are required, and the potential savings. Penalties are presented in Table 7-7. The City's Water Shortage Contingency Plan is presented in Appendix D and summarized below in Tables 7-5 through 7-7 to conform to the UWMP guidelines.

Table 7-5. Mandatory Prohibitions	
Prohibitions	Stage When Prohibition Becomes Mandatory
Landscape watering	Limits at all levels, restrictions increasing with increasing level
Single-pass cooling systems in new connections	All levels
Uncorrected plumbing leaks	All levels
Non-recirculating systems in all new conveyer car wash and commercial laundry systems	All levels
Non-recirculating fountains/water features	Level 1
Washing cars	Level 3
Filling or refilling ornamental lakes/ponds (to the extent needed to sustain aquatic life)	Level 3

DWR Table 36

Table 7-6. Consumption Reduction Methods

Examples of Consumption Reduction Methods	Stage When Method Takes Effect	Projected Reduction, %
Mandatory reduction – percentage of use	Possible at any level	Variable
Mandatory rationing	Possible at any level	Variable
Restaurants serve water on request only	All levels	20 or more
Hotel/motel offer guests the option of not laundering towels and linens daily	All levels	20 or more
Residential & commercial landscaping before 10am and after 6pm	All levels	20 or more
Public awareness/education program	All levels	10 or more
Voluntary rationing	All levels	10 or more
Irrigating landscapes with potable water no more than 3 days/week	Level 2	20 or more
Water shortage pricing	Level 4	Variable

DWR Table 37

Table 7-7. Penalties and Charges

Examples of Penalties and Charges	Stage When Penalty Takes Effect
Water Conservation Code Violation – Citation and/or penalty	Possible at all levels
Emergency Water Plan Violation – Citation and/or penalty	Level 4

DWR Table 38

7.5.4 Analysis of Revenue Impacts of Reduced Sales During Shortages

#41. An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments (10632(g)).

Water shortages of the types discussed above necessitate selling less water. Selling less water would result in lower revenue from sales. Rates were reviewed in a comprehensive 2009 rate study and set, most recently, in January 2011. A rate model tool was developed along with the study that could be used to help consider rate changes in a time of reduced sales due to water shortages. The various sources of water that City uses to treat and supply to its customers come with different costs for purchasing, transporting and treating. In the event of a water shortage, the amount of water pulled from each source could possibly be rebalanced to lower costs. This could include drawing more water from City's increased local storage at Lake Wohlford once the scheduled dam replacement project has been completed. The City (Utilities Department) maintains robust reserves that include consideration of emergency needs.

7.5.5 Reduction Measuring Mechanisms

#43. A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis (10632(i)).

The City will use a variety of methods to determine changes in the actual water use throughout its service area. One important tool will be gpcd calculations required by SBX7-7 and used in this report as well as the CUWCCs BMP reporting. To increase the accuracy of that reporting, the City is studying the options of replacing the meters at the Water Treatment Plant and for individual customers with meters containing newer technologies and increased efficiencies. Customer water budgets are also under consideration.

References

City of Escondido, *2005 Urban Water Management Plan*, December 2005.

California Department of Water Resources, *California's Groundwater, Bulletin 118 Update 2003*, October 2003.

California Department of Water Resources, *Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan*, March 2011.

CUWCC BMP Reports, July 2011.

San Diego County Water Authority, Member Agency Technical Review Draft of the 2010 Urban Water Management Plan, March 30, 2011.

San Diego County Water Authority, *2010 Urban Water Management Plan*, June 23, 2011.

Appendix A

Notice of Public Hearing and Published Comments



**CITY OF ESCONDIDO
OFFICE OF THE CITY CLERK
201 NORTH BROADWAY
ESCONDIDO, CA 92025-2798
(760) 839-4617**

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN on Wednesday, July 13 at 4:30 p.m., the Escondido City Council of the City of Escondido will hold a Public Hearing to consider the following item:

2010 Urban Water Management Plan

IF YOU CHALLENGE this item in court, you may be limited to raising only those issues you or someone else raised at the Public Hearing described in this notice, or in written correspondence delivered to the City Council, at or prior to the Public Hearing.

The City of Escondido recognizes its obligation to provide equal access to public services for those individuals with disabilities. Please contact the American Disabilities Act (A.D.A.) Coordinator (760) 839-4641 with any requests for reasonable accommodations, to include sign language interpreters, at least 24 hours prior to the meeting. The City of Escondido does not discriminate against any person with a handicapped status.

ALL INTERESTED PERSONS are invited to attend said Public Hearing to express their opinion in this matter. Said Public Hearing will be held in the Council Chambers, 201 N. Broadway, Escondido, California, 92025. A draft copy of the report can be found on the Utilities page of www.escondido.org and at the Engineering Counter at City Hall. **For additional information, please contact, Elisa Marrone, Utilities Department, 760-839-4075.**

MARSHA WHALEN, City Clerk
City of Escondido

Date: June 21, 2011

Appendix B

Adopted Resolution

RESOLUTION NO. 2011-93R

A RESOLUTION OF THE CITY COUNCIL OF
THE CITY OF ESCONDIDO, CALIFORNIA,
APPROVING AND ADOPTING THE 2010
URBAN WATER MANAGEMENT PLAN

WHEREAS, water is vital to public health, the health of the economy and the environment, as well as the future of a community; and

WHEREAS the proper, cost effective and efficient management of our water resources is essential to ensuring water supplies now and in the future; and

WHEREAS, the City of Escondido has completed an Urban Water Management Plan pursuant to the requirements of the California Water Code Section 10610 et seq.; and

WHEREAS, the Plan is a formal document to discuss past, current and projected water demands; water use efficiencies; existing and future water supply sources; and water management practices.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Escondido, California, as follows:

1. That the above recitations are true.
2. That the City Council hereby approves and adopts the 2010 Urban Water Management Plan.
3. That the Director of Utilities is authorized and directed to implement the measures included in the plan as the City of Escondido's part in the local and regional

water management efforts. A copy of the 2010 Urban Water Management Plan is attached as Exhibit "A" and incorporated by this reference.

PASSED, ADOPTED AND APPROVED by the City Council of the City of Escondido at a regular meeting thereof this 13th day of July, 2011 by the following vote to wit:

AYES : Councilmembers: DIAZ, GALLO, MORASCO, WALDRON, ABED

NOES : Councilmembers: NONE

ABSENT : Councilmembers: NONE

APPROVED:

A handwritten signature in black ink, appearing to read "Sam Abed", written in a cursive style.

SAM ABED, Mayor of the
City of Escondido, California

ATTEST:

A handwritten signature in black ink, appearing to read "Marsha Whalen", written in a cursive style.

MARSHA WHALEN, City Clerk of the
City of Escondido, California

RESOLUTION NO. 2011-93R

Appendix C

BMP Activity Reports

The Coverage Report has not yet been provided by CUWCC. The City anticipates they are on track with CUWCC guidelines.

The fields in red are required.



Agency name: City of Escondido

Reporting unit name
(District name)

City of Escondido

Reporting unit number:

56

Primary contact:

First name:

Elisa

Last name:

Marrone

Email:

emarrone@escondido.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

[Link to FAQs](#)

[See the complete MOU:](#)

[View MOU](#)

[See the coverage requirements for this BMP:](#)

Conservation Coordinator

Conservation Coordinator ☒ Yes ☐ No

Contact Information

First Name

Elisa

Last Name

Marrone

Title

Assistant Planner II

Phone

760-839-4075

Email

emarrone@escondido.org

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

- Enact and enforce an ordinance or establish terms of service that prohibit water waste
- Enact and enforce an ordinance or establish terms of service for water efficient design in new development
- Support legislation or regulations that prohibit water waste
- Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
- Support local ordinances that prohibit water waste
- Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

- A description of, or electronic link to, any ordinances or terms of service
- A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
- A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
- description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list

<http://qcode.us/codes/escondido/> See Chapter 31 Article 5 Water Conservation Plan

Enter a description:

Additional water waste prevention regulations can be found in
Chapter 33 Article 62: Water Efficient Landscape
Chapter 6 Article 7 Plumbing Code Amendments

2009

BMP 1.1 Operations Practices

Comments:

The fields in red are required.



Agency name:	City of Escondido	Primary contact:	First name:	Elisa
Reporting unit name (District name)	City of Escondido		Last name:	Marrone
Reporting unit number:	56		Email:	emarrone@escondido.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

[Link to FAQs](#)

[View MOU](#)

2009 BMP 1.2 Water Loss Control

Did your agency complete a pre-screening system audit in 2009? Yes ☐ No ☒

If yes, answer the following:

Determine metered sales in AF:

Definition: other accountable uses not included in metered sales, such as unbilled water use, fire suppression, etc.

→ Determine system verifiable uses AF:

Determine total supply into the system in AF:

Does your agency keep necessary data on file to verify the answers above? Yes ☐ No ☒

Did your agency complete a full-scale system water audit during 2009? Yes ☐ No ☒

Does your agency maintain in-house records of audit results or the completed AWWA worksheet for the completed audit which could be forwarded to CUWCC? Yes ☐ No ☒

Did your agency operate a system leak detection program? Yes ☐ No ☒

Comments:

Staffing and budget issues have precluded the City of Escondido Utilities Department from conducting full system water audits. Our intention is to conduct these audits as required in the near future.

The fields in red are required.

Primary contact:

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Agency name: City of Escondido

First name: Elisa

Reporting unit name
(District name) City of Escondido

Last name: Marrone

Reporting unit number: 56

Email: emarrone@escondido.org



BMP 1.3 Metering with Commodity

[Link to FAQs](#)

[See the complete MOU: View MOU](#)

[See the coverage requirements for this BMP:](#)

Implementation

Does your agency have any unmetered service connections?

☐ Yes ☒ No

If YES, has your agency completed a meter retrofit plan?

☐ Yes ☐ No

Enter the number of previously unmetered accounts fitted with meters during reporting year:

Are all new service connections being metered?

☒ Yes ☐ No

Are all new service connections being billed volumetrically?

☒ Yes ☐ No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters?

☐ Yes ☒ No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# of estimated bills/yr
Single-Family	22,181	22,181	22,181	Monthly	0
Multi-Family	1,291	1,291	1,291	Monthly	0
Commercial	1,607	1,607	1,607	Monthly	0
Industrial	6	6	6	Monthly	0
Institutional	138	138	138	Monthly	0
Agricultural	208	208	208	Monthly	0
Dedicated Irrigatic	567	567	567	Monthly	0
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters 228

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period 5

Feasibility Study

Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? ☐ Yes ☒ No

If YES, please fill in the following information:

A. When was the Feasibility Study conducted

B. Email or provide a link to the feasibility study (or description of):

File name(s): Email files to natalie@cuwcc.org Enter the file name here e.g. WaterWastePreventionOrdinance

Web address(s) URL: comma-separated list Enter the URL to your documentation.

General Comments about BMP 1.3:

Incentive to switch currently exists in pricing differential between mixed & dedicated

The fields in red are required.

Primary contact:

Agency name: City of Escondido

First name: Elisa

Reporting unit name

(District name) City of Escondido

Last name: Marrone

Reporting unit number: 56

Email: emarrone@escondido.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.



2009

BMP 1.4 Retail Conservation Pricing

[Link to FAQs](#)

[View MOU](#)

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue	Commodity Charges	Total Revenue	Customer Meter/Service (Fixed Charges)
Increasing Block	Single-Family	12,215,960.00		5,470,525.00	
Increasing Block	Multi-Family	4,492,268.00		1,149,273.00	
Uniform	Commercial	1,890,231.00		828,342.00	
Uniform	Industrial	394,934.00		8,994.00	
Uniform	Institutional	313,694.00		74,378.00	
Uniform	Agricultural	3,086,469.00		188,168.00	
Uniform	Dedicated Irrigation	2,618,073.00		407,308.00	

Implementation Option (Conservation Pricing Option)

- ☒ Use Annual Revenue As Reported
☐ Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service

☒ Yes ☐ No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue	Commodity Charges	Total Revenue	Customer Meter/Service (Fixed Charges)
Non-Volumetric Fla	Single-Family			10,822,422.00	
Non-Volumetric Fla	Multi-Family			6,151,577.00	
Uniform	Commercial			3,352,608.00	
Uniform	Industrial			79,718.00	
Uniform	Institutional			57,331.00	
Uniform	Agricultural			4,188.00	
Uniform	Dedicated Irrigation			700.00	

Comments:

Waste water customers are billed a single amount, listed here in "fixed charges". C



The fields in red are required.

Agency name: Primary contact:
First name:
Reporting unit name (District name) Last name:
Reporting unit number: Email:

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.



[Link to FAQs](#)

[View MOU](#)

2009

BMP 2.1 Public Outreach - Retail Reporting

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP?

☒ Yes ☐ No

Enter the name(s) of the wholesale agency (comma delimited)

San Diego County Water Authority, Metropolitan Water District

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year? ☒

Number of Public Contacts	Public Information Programs
5	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
25	General water conservation information
12	Website
2	Landscape water conservation media campaigns
10	Newsletter articles on conservation

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP?

☒ Yes ☐ No

Enter the name(s) of the wholesale agency (comma delimited)

San Diego County Water Authority, Metropolitan Water District

OR Retail Agency (Contacts with the Media)

Did at least one contact take place during each quarter of the reporting year? ☒

Media Contacts List

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
2		News releases
2		Television contacts
		Select a type of media contact
		Select a type of media contact
		Select a type of media contact
		Select a type of media contact

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP?

☐ Yes ☒ No

Enter the name(s) of the wholesale agency (comma delimited)

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address):

www.escondido.org

Describe a minimum of four water conservation related updates to your agency's website that took place during the year:

Drought awareness information; adoption of drought ordinance; "Water is Life" poster contest winners; Landscape contest call for participants and results; workshop schedules; rebate information

Did at least one Website Update take place during each quarter of the reporting year?

☒ Yes ☐ No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or break the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments
Outreach	\$2,000		☐	number is approximate
			☐	
			☐	
			☐	
			☐	
			☐	
			☐	

Comments:

The fields in red are required.



Agency name: City of Escondido

Reporting unit name

(District name) City of Escondido

Reporting unit number:

56

Primary contact:

First name: Elisa

Last name: Marrone

Email: emarrone@escondido.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

[Link to FAQs](#)

[View MOU](#)

2009

BMP 2.1 Public Outreach Cont'd

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?	
Event administration	\$500	☐	If yes, check the check box.
Products	\$3,000	☐	
		☐	
		☐	

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts?

☒ Yes ☐ No

Public Outreach Additional Information

Public Information Programs	Importance	
Speakers Bureau	\$1	
Phone Hotline	\$2	
Slides on City's cable station	\$3	

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? ☒ Yes ☐ No

Describe the brand, theme or mascot.

Regional programs: WaterSmart; Better Way to Beautiful; EPA Watersense

Market Research

Have you sponsored or participated in market research to refine your message? ☐ Yes ☒ No

Market Research Topic

Brand Message

Brand Mission Statement

Community Committees

Do you have a community conservation committee?

☒ Yes ☐ No

Enter the names of the community committees:

North County Water Administrators (NCWA)

Training

Training Type	# of Trainings	# of Attendees	Description of Other
Landscape Workshop	\$4	\$200	design, soils & plants, irrigation, maintenance
New employees	\$2	\$40	importance of clean water & not wasting water, regulations

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name

Type of Program

☐ CLCA?

☐ Green Building Programs?

☒ Master Gardeners?

☐ Cooperative Extension?

☒ Local Colleges?

☐ Other

☒ Retail and wholesale outlet; name(s) and type(s) of programs:

SDCWA

landscape contest; literature

Partnering Programs - Newsletters

Number of newsletters per year

Number of customers per year

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities

Metropolitan Water District - rebates; brochures
San Diego Gas and Electric - Water Savings kits; rebates

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new

The Garden - regional demonstration garden; local, private residential and commercial landscapes are also provided as references

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency

Regional competition for residential landscape makeovers with local winners in each jurisdiction

Comments:

Acknowledge Drinking Water Week, other national events with mayoral proclamation & corresponding display in public lobby

The fields in red are required.



Agency name: City of Escondido

Reporting unit name

(District name) City of Escondido

Reporting unit number: 56

Primary contact:

First name: Elisa

Last name: Marrone

Email: emarrone@escondido.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

[Link to FAQs](#)

[View MOU](#)

BMP 2.2 School Education Programs, Retail Agencies

School Programs

Is your agency implementing school programs which can be counted to help another agency comply with this BMP?

☐ Yes ☒ No

Enter Wholesaler Names, separated by commas:

☒ Materials meet state education framework requirements?

Description of Materials

K-1st grade - Wabby; 2nd grade - Wtr Cycle; 3rd - Wtr Resources; 4th - Wtr Quality & Wtr is Life; 5th - Got Water?

☒ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students

Grade-appropriate worksheets: games, puzzles; physical models; interactive science station

Number of students reached

5,700

☒ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students

Water quality testing science kit

Number of Distribution

2

Annual budget for school education program

\$3,600.00

Description of all other water supplier education programs

"Splash van" mobile field trip - 5 trips to elementary schools, upper grades

School Program Activities

Classroom presentations:

Number of presentations

201

Number of attendees

5345

Large group assemblies:

Number of presentations

0

Number of attendees

NA

Children's water festivals or other events:

Number of presentations

1

Number of attendees

100

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Number of presentations

Number of attendees

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

Description	City Hall lobby displays with handouts of information and games	
Number distributed	3	
Staffing children's booths at events & festivals:		
Number of booths	1	Number of attendees 200
Water conservation contests such as poster and photo:		
Description	Water is Life 4th grade poster drawing contest presented to 778 students; calendars created with winning art	
Number distributed	2500	
Offer monetary awards/funding or scholarships to students:		
Number Offered	3	Total Funding 225
Teacher training workshops:		
Number of presentations	0	Number of attendees 0
Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:		
Number of tours or field trips	20	Number of participants 600
College internships in water conservation offered:		
Number of internships	1	Total funding 0
Career fairs/workshops:		
Number of presentations	0	Number of attendees 0
Additional program(s) supported by agency but not mentioned above:		
Description	Presentations to summer camps for elementary-aged students	
Number of events (if applicable)	10	Number of participants 276
Total reporting period budget expenditures for school education programs (include all agency costs):		3000

Comments

Youth are included in almost all public events by offering activities, games, handouts, etc.

The fields in red are required:



Agency name: City of Escondido

Reporting unit name
(District name) City of Escondido

Reporting unit number: 56

Primary contact:

First name: Elisa

Last name: Marrone

Email: emarrone@escondido.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Base Year Data

[Link to FAQs](#)

Reporting Unit Base Year

Base Year 2008

What is your reporting period?

Fiscal

BMP 1.3 Metering

Number of unmetered accounts in Base Year 0

BMP 3.1 & BMP 3.2 & BMP 3.3 Residential Programs

Number of Single Family Customers in Base Year 22,026

Number of Multi Family Units in Base Year 1,324

BMP 3.4 WaterSense Specification (WSS) Toilets

Number of Single Family Housing Units constructed prior to 1992 23,071

Number of Multi Family Units prior to 1992 20,399

Average number of toilets per single family household 1.7

Average number of toilets per multi family household 1.3

Five year average resale rate of single family households 10.7

Five-year average resale rate of multi family households 12.4

Average number of persons per single family household 3.37

Average number of persons per multi family household 3.1

BMP 4.0 & BMP 5.0 CII & Landscape

Total water use (in Acre Feet) by CII accounts

Number of accounts with dedicated irrigation meters

Number of CII accounts without meters or with Mixed Use Meters

Number of CII accounts

Comments:

Reporting using GPCD option

resale rate is based on 1 year rate. 5 year rate unavailable without purchasing data

Agency name:

First name:

City of Escondido

Elise

Division name
(Reporting unit)

City of Escondido

Last name:

Marrone

Reporting unit number:

56

Email:

emarrone@escondido.org



Water Uses 2009

[illegible][illegible]

[illegible]

[illegible]

The fields in red are required.

Agency name: City of Escondido

Primary contact:

First name: Elisa

Division name
(Reporting unit) City of Escondido

Last name: Marrone

Reporting unit number: 56

Email: emarrone@escondido.org



WATER SOURCES

Service Area Population: 130480

from San Diego Association of Governments

Potable Water

[illegible][illegible][illegible]

2009

The fields in red are required.



Agency name: City of Escondido

Reporting unit name
(District name) City of Escondido

Reporting unit number: 56

Primary contact:

First name: Elisa

Last name: Marrone

Email: emarrone@escondido.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

[Link to FAQs](#)

[See the complete MOU:](#) [View MOU](#)

[See the coverage requirements for this BMP:](#)

2010

BMP 1.1 Operations Practices

Comments:

Conservation Coordinator

Conservation Coordinator ☒ Yes ☐ No

Contact Information

First Name Elisa

Last Name Marrone

Title Assistant Planner II

Phone 760-839-4075

Email emarrone@escondido.org

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one of the following:

- Enact and enforce an ordinance or establish terms of service that prohibit water waste
- Enact and enforce an ordinance or establish terms of service for water efficient design in new development
- Support legislation or regulations that prohibit water waste
- Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
- Support local ordinances that prohibit water waste
- Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

- A description of, or electronic link to, any ordinances or terms of service
- A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
- A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
- description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list

<http://qcode.us/codes/escondido/> See Chapter 31 Article 5 Water Conservation Plan

Enter a description:

Additional water waste prevention regulations can be found in
Chapter 33 Article 62: Water Efficient Landscape
Chapter 6 Article 7 Plumbing Code Amendments

The fields in red are required.



Agency name: City of Escondido

Reporting unit name
(District name) City of Escondido

Reporting unit number: 56

Primary contact:

First name: Elisa

Last name: Marrone

Email: emarrone@escondido.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

[Link to FAQs](#)

2010

BMP 1.2 Water Loss Control

[View MOU](#)

AWWA Water Audit

Agency to complete a Water Audit & Balance Using The AWWA Software ☒ Yes ☐ No
Email to natalie@cuwcc.org - Worksheets (AWWA Water Audit). Enter the name of the file below:

COEscondido_56_AWWA Water Audit

Water Audit Validity Score
from AWWA spreadsheet

76

Agency Completed Training In The AWWA Water Audit Method ☒ Yes ☐ No

Agency Completed Training In The Component Analysis Process ☒ Yes ☐ No

Completed/Updated the Component Analysis (at least every 4 years)? ☐ Yes ☒ No

Component Analysis Completed/Updated Date

Water Loss Performance

Agency Repaired All Reported Leaks & Breaks To The Extent Cost Effective ☒ Yes ☐ No

Recording Keeping Requirements:

Date/Time Leak Reported

Leak Location

Type of Leaking Pipe Segment or Fitting

Leak Running Time From Report to Repair

Leak Volume Estimate

Cost of Repair

Agency Located and Repaired Unreported Leaks to the Extent Cost Effective ☒ Yes ☐ No

Type of Program Activities Used to Detect Unreported Leaks

Drive by hot spots, Abnormal usage, Blind luck, High Billing Reports, Meter Readers, Concerned Customers, Water Staff visual observations.

Annual Summary Information

Complete the following table with annual summary information (required for reporting years 2-5 only)

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)
620	\$1,894,983.00	\$324,452.00	0		\$433,187.00	

Comments:

Economic value of losses based on quantified loss from AWWA worksheet x cost of water (currently \$3.40/kgal). Reporting will be refined, along with master meters being recalibrated, over the next few years.

The fields in red are required.

Primary contact:

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Agency name: City of Escondido

First name: Elisa

Reporting unit name
(District name) City of Escondido

Last name: Marrone

Reporting unit number: 56

Email: emarrone@escondido.org



BMP 1.3 Metering with Commodity 2010

[Link to FAQs](#)

[See the complete MOU: View MOU](#)

[See the coverage requirements for this BMP:](#)

Implementation

Does your agency have any unmetered service connections?

☐ Yes ☒ No

If YES, has your agency completed a meter retrofit plan?

☐ Yes ☐ No

Enter the number of previously unmetered accounts fitted with meters during reporting year:

Are all new service connections being metered?

☒ Yes ☐ No

Are all new service connections being billed volumetrically?

☒ Yes ☐ No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters?

☐ Yes ☒ No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# of estimated bills/yr
Single-Family	22,279	22,279	22,279	Monthly	0
Multi-Family	1,287	1,287	1,287	Monthly	0
Commercial	1,607	1,607	1,607	Monthly	0
Industrial	6	6	6	Monthly	0
Institutional	138	138	138	Monthly	0
Agricultural	208	208	208	Monthly	0
Dedicated Irrigatic	574	574	574	Monthly	0
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period

Feasibility Study

Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? ☐ Yes ☒ No

If YES, please fill in the following information:

A. When was the Feasibility Study conducted

B. Describe, upload or provide an electronic link to the Feasibility Study Upload File

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list

Comments:

Incentive to switch from mixed to dedicated irrig. meters exists in pricing differential

The fields in red are required.

Primary contact:

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Agency name: City of Escondido

First name: Elisa

Reporting unit name

(District name) City of Escondido

Last name: Marrone

Reporting unit number: 56

Email: emarrone@escondido.org



2010

BMP 1.4 Retail Conservation Pricing

[Link to FAQs](#)

[View MOU](#)

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue	Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Increasing Block	Single-Family	12,525,819.00		6,275,429.00
Increasing Block	Multi-Family	5,056,941.00		1,176,000.00
Uniform	Commercial	2,413,087.00		920,024.00
Uniform	Industrial	760,369.00		88,359.00
Uniform	Institutional	697,799.00		164,477.00
Uniform	Agricultural	3,532,558.00		216,684.00
Uniform	Dedicated Irrigation	3,032,597.00		463,895.00

Implementation Option (Conservation Pricing Option)

- ☒ Use Annual Revenue As Reported
☐ Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service

☒ Yes ☐ No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue	Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Non-Volumetric Fla	Single-Family			12,186,823.00
Non-Volumetric Fla	Multi-Family			6,877,413.00
Uniform	Commercial			3,983,035.00
Uniform	Industrial			87,233.00
Uniform	Institutional			390,556.00
Uniform	Agricultural			4,676.26
Uniform	Dedicated Irrigation			823.00

Comments:

Waste water customers are billed a single amount, listed here in "fixed charges."



The fields in red are required.

Agency name: Primary contact:
First name:
Reporting unit name (District name): Last name:
Reporting unit number: Email:

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.



[Link to FAQs](#)

[View MOU](#)

2010

BMP 2.1 Public Outreach - Retail Reporting

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP?

☒ Yes ☐ No

Enter the name(s) of the wholesale agency (comma delimited)

San Diego County Water Authority, Metropolitan Water District

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year? ☒

Number of Public Contacts	Public Information Programs
4	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
27	General water conservation information
10	Website
1	Landscape water conservation media campaigns
8	Newsletter articles on conservation

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP?

☒ Yes ☐ No

Enter the name(s) of the wholesale agency (comma delimited)

San Diego County Water Authority, Metropolitan Water District

OR Retail Agency (Contacts with the Media)

Did at least one contact take place during each quarter of the reporting year? ☒

Media Contacts List

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
1		News releases
3		Television contacts
		Select a type of media contact
		Select a type of media contact
		Select a type of media contact
		Select a type of media contact

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP?

☐ Yes ☒ No

Enter the name(s) of the wholesale agency (comma delimited)

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address):

www.escondido.org

Describe a minimum of four water conservation related updates to your agency's website that took place during the year:

Drought awareness information; water waste restrictions; report of violations; "Water is Life" poster contest winners; events & workshops; rebate information

Did at least one Website Update take place during each quarter of the reporting year?

☐ Yes ☐ No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or break the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments
Outreach	\$2,000		☐	number is approximate
			☐	
			☐	
			☐	
			☐	
			☐	
			☐	

Comments:

The fields in red are required.



Agency name: City of Escondido

Reporting unit name

(District name) City of Escondido

Reporting unit number:

56

Primary contact:

First name: Elisa

Last name: Marrone

Email: emarrone@escondido.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

[Link to FAQs](#)

2010

BMP 2.1 Public Outreach Cont'd

[View MOU](#)

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?	
Event administration	\$500	☐	If yes, check the check box.
Products	\$3,000	☐	
		☐	
		☐	

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts?

☐ Yes ☐ No

Public Outreach Additional Information

Public Information Programs	Importance	
Speakers Bureau	\$1	
Phone Hotline	\$2	
Slides on City's cable station	\$3	

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? ☐ Yes ☐ No

Describe the brand, theme or mascot.

Regional programs: WaterSmart; Better Way to Beautiful; EPA Watersense

Market Research

Have you sponsored or participated in market research to refine your message? ☐ Yes ☒ No

Market Research Topic

Brand Message

Brand Mission Statement

Community Committees

Do you have a community conservation committee?

☒ Yes ☐ No

Enter the names of the community committees:

North County Water Administrators; Rate study stakeholders group

Training

Training Type	# of Trainings	# of Attendees	Description of Other
Landscape Workshop	\$2	\$85	design, soils & plants, irrigation, maintenance
New employees	\$2	\$40	importance of clean water & not wasting water; regulations

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name

Type of Program

☐ CLCA?

☐ Green Building Programs?

☒ Master Gardeners?

☐ Cooperative Extension?

☒ Local Colleges?

☐ Other

☒ Retail and wholesale outlet; name(s) and type(s) of programs:

SDCWA

Landscape retrofit pilot project; literature

Partnering Programs - Newsletters

Number of newsletters per year

Number of customers per year

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities

Metropolitan Water District - rebates; literature
San Diego Gas & Electric - Water savings kits; rebates on appliances

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new

The Garden - regional demonstration garden; local, private residential & commercial landscapes are also provided as references

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency

Comments:

Acknowledge Drinking Water Week, other national events with mayoral proclamation & corresponding display in public lobby

The fields in red are required.



Agency name: City of Escondido

Reporting unit name

(District name) City of Escondido

Reporting unit number: 56

Primary contact:

First name: Elisa

Last name: Marrone

Email: emarrone@escondido.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

[Link to FAQs](#)

[View MOU](#)

BMP 2.2 School Education Programs, Retail Agencies

School Programs

Is your agency implementing school programs which can be counted to help another agency comply with this BMP?

☐ Yes ☒ No

Enter Wholesaler Names, separated by commas:

☒ Materials meet state education framework requirements?

Description of Materials

K-1st grade - Wabby; 2nd grade - Wtr Cycle; 3rd - Wtr Resources; 4th - Wtr Quality & Wtr is Life; 5th - Got Water?

☐ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students

Grade-appropriate worksheets: games, puzzles; physical models; interactive science station

Number of students reached

☐ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students

Water quality testing science kit

Number of Distribution

2

Annual budget for school education program

\$3,600.00

Description of all other water supplier education programs

support local library summer reading program with game sheets and puzzle handouts and book donations; "Splash van" mobile field trip - 4 trips to elementary schools, upper grades

School Program Activities

Classroom presentations:

Number of presentations

200

Number of attendees

5128

Large group assemblies:

Number of presentations

0

Number of attendees

Children's water festivals or other events:

Number of presentations

Number of attendees

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Number of presentations

Number of attendees

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

Description	City Hall lobby displays with handouts of information and games		
Number distributed	3		
Staffing children's booths at events & festivals:			
Number of booths		Number of attendees	
Water conservation contests such as poster and photo:			
Description	Water is Life 4th grade poster drawing contest presented to 778 students; calendars created with winning art		
Number distributed	2700		
Offer monetary awards/funding or scholarships to students:			
Number Offered	3	Total Funding	225
Teacher training workshops:			
Number of presentations	1	Number of attendees	50
Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:			
Number of tours or field trips	20	Number of participants	600
College internships in water conservation offered:			
Number of internships	1	Total funding	0
Career fairs/workshops:			
Number of presentations	5	Number of attendees	67
Additional program(s) supported by agency but not mentioned above:			
Description	Presentations to summer camps for elementary-aged students		
Number of events (if applicable)	5	Number of participants	140
Total reporting period budget expenditures for school education programs (include all agency costs):			3000

Comments

Youth are included in almost all public events by offering activities, games, handouts, etc.

[illegible]

[illegible]

Agency name:

Primary contact:

First name:

Elisa

Division name
(Reporting unit)

Last name:

Marrone

Reporting unit number: 56

56

Email:

emarrone@escondido.org



Water Uses 2010

Potable Water Billed

Make sure to enter numbers in AF/Year.

[illegible]

Potable Water Un-Billed

[illegible]

re required.

Agency name:	City of Escondido	Primary contact:	
		First name:	Elisa
Division name (Reporting unit)	City of Escondido	Last name:	Marrone
Reporting unit number:	56	Email:	emarrone@escondido.org



WATER SOURCES

San Diego Association of Governments

[illegible][illegible][illegible]

2010

Appendix D

Water Shortage Contingency Plan/Escondido Municipal Code Chapter 31 Article 5

Appendix D

Article 5. Water Conservation Plan

Sec. 31-225. Scope.

There is hereby established a water conservation and water shortage response plan (the “plan”), pursuant to California Water Code Section 375 et seq. (Ord. No. 2008-30(R), § 2, 10-22-08)

Sec. 31-226. Objectives.

The objectives of the plan are:

- (a) To prevent water supply shortages through aggressive and effective water management programs such as water conservation, water education and use restrictions;
- (b) To minimize the impact of a water supply shortage on the city’s population and economy;
- (c) To provide first for public health and fire protection and other essential services, then to provide for the economic health of the city, and then to provide for other uses of water;
- (d) To ensure that water users who have implemented exemplary conservation practices during normal-year hydrology and wet-year hydrology are not disadvantaged by the plan during shortages, a “lifeline allowance” will be established to reflect the minimum amount necessary to sustain an average household. This allowance will be established periodically by resolution of the city council. (Ord. No. 2008-30(R), § 2, 10-22-08)

Sec. 31-227. Definitions.

The following words and phrases whenever used in this chapter shall have the meaning defined in this section.

- (a) “Baseline period” means the period of time during which a customer’s water use in prior years shall be used to compare to the same customers water use during a declared water shortage. The baseline period will be determined by the city council at the time the city council declares the appropriate water shortage response level, as outlined in section 31-232 of this article.
- (b) “City” means the City of Escondido.
- (c) “Customer” means any natural person, corporation, public or private entity, public or private association, public or private agency, government agency or institution, school district, college, or any other user of water provided by the city.
- (d) “Department” means the utilities department of the City of Escondido.
- (e) “Director” means the director of utilities of the City of Escondido,
- (f) “IAWP” means the Metropolitan Interim Agricultural Water Program.
- (g) “Metropolitan” means the Metropolitan Water District of Southern California.
- (h) “Water Authority” and “SDCWA” means the San Diego County Water Authority.
- (i) “Wholesale supplier” means the San Diego County Water Authority. (Ord. No. 2008-30(R), § 2, 10-22-08)

Sec. 31-228. Exemptions and applications.

The provisions of this article shall apply to all persons and property served water by the City of Escondido wherever situated, unless an exemption or variance clearly applies.

The provisions of this article do not apply to use of water from private wells or to recycled water.

Nothing in this chapter shall apply to use of water that is subject to a special supply program, such as the IAWP or the SDCWA special agricultural rate programs. Violations of the conditions of special supply programs are subject to the penalties established under such applicable program. A customer using water subject to a special supply program and water provided by the city is subject to this ordinance only with respect to the customer's use of water provided by the city. (Ord. No. 2008-30(R), § 2, 10-22-08)

Sec. 31-229. Authorization for exceptions.

The director or designated representative is authorized to make minor and limited exceptions to the provisions of this article to prevent undue hardship or unreasonable restrictions, provided that water shall not be wasted or used unreasonably, and that the purposes of this article can be accomplished. (Ord. No. 2008-30(R), § 2, 10-22-08)

Sec. 31-230. Water use restrictions and measures (at all times).

The following water use restrictions are in effect at all times:

(1) The loss or escape of water by means of breaks, leaks or other malfunctions in the water user's plumbing or distribution system must be repaired within five (5) days of notification by the utilities department, or within such other time as determined by the director of utilities or designee.

(2) Watering or irrigating lawns or landscape areas in a manner causing significant runoff is prohibited.

(3) Golf courses, parks, school grounds, landscapes, and recreational fields must only be watered between the hours of 6:00 p.m. and 10:00 a.m., except for very short periods of time for the express purpose of adjusting or repairing the irrigation system. Tees and greens may be watered at any time. New plantings including grass may be watered as needed until established.

(4) Operating a fountain or other water feature that does not recirculate water is prohibited.

(5) Washing any vehicle with a hose not having a water shut-off nozzle is prohibited. Allowing water to run continuously from a hose while washing any vehicle is also prohibited.

(6) Washing driveways, sidewalks, parking areas, patios or other hardscape areas with water from a pressurized source, such as a garden hose, except when necessary to alleviate safety or sanitation hazards, is prohibited.

(7) Recycled water must be used, after the department has provided to the customer an analysis showing that recycled water, if available, is a cost-effective alternative to potable water and the customer has had a reasonable amount of time, as determined by the director or the director's designee to make the conversion to recycled water.

(8) Using water (unnecessarily) for construction operations receiving water from a construction meter or water truck for any purpose other than those required by regulatory agencies is prohibited.

(9) A hotel or motel must provide guests the option of refusing daily laundering of towels and linens. The hotel or motel shall prominently display notice of this option in each bathroom and sleeping room using clear and easily understood language. The department shall make suitable displays available.

(10) Restaurants or other public places where food is served, sold, or offered for sale, will not serve drinking water to any customer unless expressly requested by the customer. The department shall make “table tents” available to restaurants and these types of other public places alerting customers to this restriction. (Ord. No. 2009-28, § 1, 1-6-10; Ord. No. 2008-30(R), § 2, 10-22-08; Ord. No. 2009-16, § 1, 6-3-09)

Sec. 31-231. Additional water use restrictions.

(a) Effective November 22, 2010, the following uses of water are prohibited at all times:

- (1) Installation of single pass cooling systems in buildings requesting new water connections;
- (2) Installation of non-recirculating systems in new or remodeled conveyor or automatic car wash systems; and
- (3) Installation of non-recirculating systems in new commercial laundry systems.

(b) Effective November 22, 2013, the following conservation practices shall be applicable at all times:

- (1) All conveyor or automatic car wash systems shall have installed operational water recycling systems, or shall have secured a waiver of this requirement from the director; and
- (2) All laundromats shall have converted at least seventy-five (75) percent of their washers to high efficiency models, as that term is defined by the Consortium for Energy Efficiency.
- (c) Effective November 22, 2015, all laundromats shall have converted one hundred (100) percent of their washers to high efficiency models, as determined by the Consortium for Energy Efficiency. (Ord. No. 2009-28, § 2, 1-6-10; Ord. No. 2008-30(R), § 2, 10-22-08; Ord. No. 2009-16, § 2, 6-3-09)

Sec. 31-232. Water shortage response levels.

(a) Response Level One—Water Shortage Watch Condition.

- (1) It is the intent of the response level one to achieve up to a ten (10) percent reduction in water use when measured against the baseline period.
- (2) Declaration. The city council shall declare a water shortage response level one—water shortage watch condition by resolution when the city council determines, in its sole discretion that a declaration will help to avoid or lessen the impact of an impending water supply shortage. The types of events which may prompt the city council to declare a water shortage response level one—water shortage watch condition may include, among other factors, a finding that the city’s wholesale supplier or metropolitan experiences shortages in their imported water supply, or must remove water from storage to meet normal demands.

(3) Public Awareness/Education. During a water shortage response level one—water shortage watch condition, the city will increase its public awareness and education efforts of water use restrictions and measures as outlined in this article.

(b) Response Level Two—Water Shortage Alert Condition.

- (1) It is the intent of response level two to achieve up to a twenty (20) percent reduction in water use when measured against the baseline period.
- (2) Declaration. The city council shall declare a water shortage response level two—water shortage alert condition by resolution when response level one actions have been taken, but the city council determines, in its sole discretion, that there are still insufficient supplies available to meet

anticipated demands. The city council may then determine that the actions outlined in this section are necessary.

(3) In addition to the water use restrictions and measures identified in subsection a, the following restrictions and measures shall be applicable:

(A) Irrigating landscape with potable water shall be limited to no more than three (3) days a week.

(B) Irrigating landscapes shall not exceed ten (10) minutes per station. This provision does not apply to irrigating landscapes using water efficient devices including, but not limited to, drip/micro-irrigation systems and stream rotor sprinklers.

(C) Operating irrigation systems that result in water not being applied to the landscaped area by virtue of any or all of the following: excessive over spray, misting, over pressurization, misaligned or tilted spray heads, or any other malfunction or out-of-adjustment condition, is prohibited.

(D) Water from a construction meter or water truck for irrigation purposes must be applied between the hours of 6:00 p.m. and 10:00 a.m. Note: if the city is notified in writing that initial landscape materials will be adversely affected by these restrictions, the city may establish a reasonable schedule for initial irrigation. The city has the right to inspect all construction sites using water from a city construction meter for the efficient use of water.

(c) Response Level Three—Water Shortage Critical Condition.

(1) It is the intent of response level three to achieve up to a forty (40) percent reduction in water use when measured against the baseline period.

(2) The city council shall declare a water shortage response level three—water shortage critical condition by resolution when response level two actions have been taken, but the city council determines, in its sole discretion, that there are still insufficient supplies available to meet anticipated demands. The city council may then determine that the actions outlined in this section are necessary.

(3) In addition to water use restrictions and measures identified in subsections a and b, the following requirements shall be applicable:

(A) Irrigating landscape with potable water shall be limited to two (2) days a week from June through October and one (1) day a week from November through May. Days will be assigned by city council through resolution. Water usage for the purpose of adjusting or repairing irrigation systems will be allowed for very short periods of time;

(B) Maintaining ornamental lakes, ponds, or fountains is prohibited, except to the extent needed to sustain aquatic life, provided that such aquatic life is of significant value and have been actively managed within the water feature prior to declaration of a water shortage response level under this policy;

(C) A pool or spa must be covered during non-use periods; and

(D) Vehicles must be washed at commercial car washes or by mobile high pressure/low volume commercial services that recycle water.

(4) Moratorium—Water Shortage Response Level Three. Upon the declaration of a level three water shortage critical condition by resolution of the city council:

(A) No new potable water service shall be provided, no new temporary meters or permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service (such as, “will serve” letters, certificates, or letters of availability) shall be issued, except under the following circumstances:

(i) A valid, unexpired building permit has been issued prior to the level three declaration for the project; or

(ii) The project is necessary to protect the public's health, safety and welfare.

(B) Annexations to the city's water service area will be suspended.

(C) Other water uses may be prohibited, as determined by the director, after public notice to customers.

This subsection (c)(4) shall not be construed to preclude the resetting or turn on of meters to provide continuation of water service or to restore service that has been interrupted for up to a period of one (1) year.

(d) Response Level Four—Water Shortage Emergency Condition.

(1) Prohibited Uses of Water in a Water Shortage Response Level Four—Water Shortage Emergency Condition. This level will achieve the maximum possible percentage reduction in water use from the baseline period.

(2) Declaration. The city council shall declare a water shortage response level four—water shortage emergency condition by resolution when all response level three actions have been taken, but the city council determines, in its sole discretion, that there are still insufficient supplies available to meet anticipated demands. The city council may then determine that the actions outlined in this section are necessary.

(3) Restrictions and Rates. In addition to all prohibited uses of water identified in subsections a through c, the city council may, in its sole discretion, adopt a resolution to impose additional restrictions or prohibitions on the use of water to achieve reductions from the baseline period, or make additional adjustments to the water rates based on the city's increased costs to provide water to its customers. (Ord. No. 2009-28, § 3, 1-6-10; Ord. No. 2008-30(R), § 2, 10-22-08; Ord. No. 2009-16, § 3, 6-3-09)

Sec. 31-233. Sudden catastrophic water supply shortage.

In accordance with the department's emergency response plan and at the direction of the city manager, the director may determine that a sudden event has diminished, or threatens to significantly diminish, the reliability or quality of the city's water supply. The director may declare a catastrophic water supply shortage and impose whatever emergency water allocation or conservation actions are deemed necessary, in the director's professional judgment, to protect the reliability and quality of the city's water supply, until the emergency passes, or until the city council may be convened to adopt a resolution or declaration of emergency, or to take other action. (Ord. No. 2008-30(R), § 2, 10-22-08)

Sec. 31-234. Notification.

(a) When a water shortage response level one—water shortage watch condition, a water shortage response level two—water shortage alert condition, a water shortage response level three—water shortage critical condition, a water shortage response level four—water shortage emergency condition, or a sudden catastrophic water supply shortage is declared, the city shall: (1) prior to the declaration provide notice of a public hearing, pursuant to California Water Code Section 352; and (2) after the declaration, publish the water shortage level in a local newspaper of general circulation, including the implementation date of the declaration. All media will be notified by e-mail and/or fax. Notification will also be posted on the city's website, the water conservation hot line and on the customer's utility bills.

(b) The department will inform its customers of the effective date, of the prohibited uses of water associated with the relevant stage, and encourage its customers to take additional voluntary actions to conserve water.

(c) The department will inform and prepare its customers about possible restrictions on use of water and rate increases related to the higher levels of water conservation required by this plan. The department will continue to educate its customers for the duration of an impending and actual water supply shortage. (Ord. No. 2008-30(R), § 2, 10-22-08)

Sec. 31-235. Enforcement, civil and criminal penalties.

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

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

(c) Administrative fines may be levied for each violation of any provision of this article, pursuant to the procedures outlined in Chapter 1A of the Escondido Municipal Code, in the following amounts:

(1) One hundred dollars (\$100.00) for a first violation;

(2) Two hundred dollars (\$200.00) for a second violation of any provision of this article during a level two—water shortage alert condition within one (1) year;

(3) Three hundred dollars (\$300.00) for a second violation of any provision of this article during a level three—water shortage critical condition within one (1) year;

(4) Four hundred dollars (\$400.00) for a second violation of any provision of this article during a level four—water shortage emergency condition within one (1) year;

(5) Five hundred dollars (\$500.00) for each additional violation of any provision of this article within one (1) year.

(d) Pursuant to California Water Code Section 377, any customer failure to implement any of the conservation measures outlined in sections 31-230 through 31-233 above may be prosecuted as a misdemeanor. Upon conviction thereof, such person may be punished by imprisonment in the county jail for not more than thirty (30) days, or by fine not exceeding one thousand (\$1,000.00) dollars, or both.

(e) Violation of any provision of this policy is subject to enforcement through installation of a flow-restricting device in the meter, pursuant to California Water Code Section 356.

(f) Willful violations of the mandatory conservation measures and water use restrictions set forth in section 31-232(d)(3) and applicable during a level four water shortage emergency condition may be enforced by discontinuing service to the property at which the violation occurs, as provided by California Water Code Section 356.

(g) All remedies provided for herein both civil and criminal shall be cumulative, and not exclusive. (Ord. No. 2008-30(R), § 2, 10-22-08)

Sec. 31-236. Surcharges; Additional charges.

The city council shall establish the additional charges by resolution as follows:

(a) A water rate penalty for excess water usage during a response level two—water shortage watch condition;

(b) A water rate penalty for excess water usage during a response level three—water shortage critical condition;

(c) A water rate penalty for excess water usage during a response level four—water shortage emergency condition; or

(d) A surcharge for excess water use that reflects the city's increased wholesale costs of purchasing water to provide to its customers. (Ord. No. 2008-30(R), § 2, 10-22-08)

Sec. 31-237. Variance for hardship or pending appeal.

(a) Hardship. The director or designee may grant a variance in cases of hardship for uses of water otherwise prohibited by the regulations. Water customers who feel they need an adjustment in the prohibitions must complete an application for a variance, stating the justification and circumstances. If the variance is not granted, the customer may ask for a review in writing. If the variance is granted, it shall be temporary, and last only as long as the hardship shall continue.

(b) Interim Measures. Pending receipt of a request for a hardship variance, or pending a hearing following the appeal of an administrative citation pursuant to Section 1A-9 of this code, the director, the director's designee, or enforcement officer may take appropriate steps to prevent the unauthorized use of water as appropriate to the nature and extent of the violation and the current declared water condition.

(c) Offsets. The city council shall establish by resolution a program to provide water use credits, new meter connections, or a variance from the prohibitions of this article where water customers can demonstrate that they will offset their water use with other conservation measures. (Ord. No. 2008-30(R), § 2, 10-22-08)

Secs. 31-238–31-249. Reserved.

Appendix E

UWMP Checklist

Appendix E

UWMP Checklist

Urban Water Management Plan Checklist, Organized by Legislation Number					
No.	UWMP requirement ^a	CA Water Code Reference	Subject ^b	Additional clarification	UWMP location
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)	System Demands		Section 3.3
2	<i>Wholesalers:</i> Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. <i>Retailers:</i> Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	System Demands		Section 1.3
3	Report progress in meeting urban water use targets using the standardized form.	10608.40	Not applicable	Standardized form not yet available	
4	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.	10620(d)(2)	Plan Preparation		Section 1.2
5	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.	10620(f)	Water Supply Reliability		Section 1.4
6	Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.	10621(b)	Plan Preparation		Section 1.3
7	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).	10621(c)	Plan Preparation		

Urban Water Management Plan Checklist, Organized by Legislation Number					
No.	UWMP requirement ^a	CA Water Code Reference	Subject ^b	Additional clarification	UWMP location
8	Describe the service area of the supplier	10631(a)	System Description		Section 2.1
9	(Describe the service area) climate	10631(a)	System Description		Section 2.2
10	(Describe the service area) current and projected population . . . 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 . . .	10631(a)	System Description		Section 3.1
11	. . . (population projections) shall be in five-year increments to 20 years or as far as data is available.	10631(a)	System Description		Section 3.1
12	Describe . . . other demographic factors affecting the supplier's water management planning	10631(a)	System Description		Section 3.1
13	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).	10631(b)	System Supplies	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	Section 4.3 – groundwater Section 4.2 – surface water Section 4.6 – Desalination Section 5 – recycled water
14	(Is) groundwater . . . identified as an existing or planned source of water available to the supplier . . .?	10631(b)	System Supplies	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	Section 4.3 Not applicable
15	(Provide 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. Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)	System Supplies		Not applicable
16	(Provide a) description of any groundwater basin or basins from which the urban water supplier pumps groundwater.	10631(b)(2)	System Supplies		Not applicable

Urban Water Management Plan Checklist, Organized by Legislation Number					
No.	UWMP requirement ^a	CA Water Code Reference	Subject ^b	Additional clarification	UWMP location
17	For those basins for which a court or the board has adjudicated the rights to pump groundwater, (provide) a copy of the order or decree adopted by the court or the board	10631(b)(2)	System Supplies		Not applicable
18	(Provide) a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.	10631(b)(2)	System Supplies		Not applicable
19	For basins that have not been adjudicated, (provide) 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.	10631(b)(2)	System Supplies		Not applicable
20	(Provide a) detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.	10631(b)(3)	System Supplies		Section 2.3
21	(Provide 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.	10631(b)(4)	System Supplies	Provide projections for 2015, 2020, 2025, and 2030.	Not applicable
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following: (A) An average water year, (B) A single dry water year, (C) Multiple dry water years.	10631(c)(1)	Water Supply Reliability . . .		Sections 4.8 and 4.9
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)	Water Supply Reliability . . .		Section 4.9
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)	System Supplies		Section 4.6

Urban Water Management Plan Checklist, Organized by Legislation Number					
No.	UWMP requirement ^a	CA Water Code Reference	Subject ^b	Additional clarification	UWMP location
25	Quantify, to the extent records are available, past and current water use, and projected water use (over the same five-year increments described in subdivision (a)), 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.	10631(e)(1)	System Demands	Consider “past” to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	Section 3.2
26	(Describe and provide a schedule of implementation for) 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.	10631(f)(1)	DMMs	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	Section 6 Appendix C (2009/2010 BMP reports)
27	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.	10631(f)(3)	DMMs		Appendix C (2009/2010 BMP reports)
28	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.	10631(f)(4)	DMMs		Appendix C (2009/2010 BMP reports)

Urban Water Management Plan Checklist, Organized by Legislation Number					
No.	UWMP requirement ^a	CA Water Code Reference	Subject ^b	Additional clarification	UWMP location
29	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.	10631(g)	DMMs	See 10631(g) for additional wording.	Appendix C (2009/2010 BMP reports)
30	(Describe) 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.	10631(h)	Water Supplies		Section 4.5
31	Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.	10631(i)	Water Supplies		Section 4.4
32	Include the annual reports submitted to meet the Section 6.2 requirement (of the MOU), if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	DMMs	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	Appendix C (2009/2010 BMP reports)

Urban Water Management Plan Checklist, Organized by Legislation Number

No.	UWMP requirement ^a	CA Water Code Reference	Subject ^b	Additional clarification	UWMP location
33	Urban water suppliers that rely upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).	10631(k)	System Demands	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	Section 4.8
34	The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)	System Demands		Section 3.2.8
35	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.	10632(a)	Water Supply Reliability . . .		Appendix D
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)	Water Supply Reliability . . .		Section 4.8
37	(Identify) actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.	10632(c)	Water Supply Reliability . . .		Section 4.9 and Appendix D
38	(Identify) additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)	Water Supply Reliability . . .		Appendix D
39	(Specify) consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)	Water Supply Reliability . . .		Appendix E

Urban Water Management Plan Checklist, Organized by Legislation Number					
No.	UWMP requirement ^a	CA Water Code Reference	Subject ^b	Additional clarification	UWMP location
40	(Indicated) penalties or charges for excessive use, where applicable.	10632(f)	Water Supply Reliability . . .		Appendix E
41	An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)	Water Supply Reliability . . .		Appendix E
42	(Provide) a draft water shortage contingency resolution or ordinance.	10632(h)	Water Supply Reliability . . .		Appendix D
43	(Indicate) a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)	Water Supply Reliability . . .		Appendix E
44	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	10633	System Supplies		Chapter 5
45	(Describe) the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)	System Supplies		Section 5.1
46	(Describe) the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)	System Supplies		Sections 5.1 and 5.2
47	(Describe) the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)	System Supplies		Section 5.2
48	(Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)	System Supplies		Section 5.2
49	(Describe) 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.	10633(e)	System Supplies		Section 5.2

Urban Water Management Plan Checklist, Organized by Legislation Number					
No.	UWMP requirement ^a	CA Water Code Reference	Subject ^b	Additional clarification	UWMP location
50	(Describe the) actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.	10633(f)	System Supplies		Section 5.3
51	(Provide a) plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)	System Supplies		Section 5.3
52	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.	10634	Water Supply Reliability . . .	For years 2010, 2015, 2020, 2025, and 2030	Section 4.10
53	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.	10635(a)	Water Supply Reliability . . .		Chapter 7 (Sections 7.1.1, 7.1.2, 7.1.3)
54	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.	10635(b)	Plan Preparation		Section 1.3
55	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.	10642	Plan Preparation		Section 1.3

Urban Water Management Plan Checklist, Organized by Legislation Number					
No.	UWMP requirement ^a	CA Water Code Reference	Subject ^b	Additional clarification	UWMP location
56	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.	10642	Plan Preparation		Section 1.3
57	After the hearing, the plan shall be adopted as prepared or as modified after the hearing.	10642	Plan Preparation		Section 1.3
58	An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.	10643	Plan Preparation		Section 1.3
59	An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.	10644(a)	Plan Preparation		Section 1.3
60	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.	10645	Plan Preparation		Section 1.3

^a The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

^b The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.