Brown AND Caldwell

Prepared for

Sacramento County Water Agency

DEPARTMENT OF WATER RESOURCES
SACRAMENTO COUNTY
WATER AGENCY

2010 Zone 41 Urban Water Management Plan

July 2011

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July 19, 2011

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Mr. Dave Zuccaro
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1017-140620

Subject: 2010 Zone 41 Urban Water Management Plan

Dear Mr. Zuccaro:

We are pleased to submit to you the draft 2010 Zone 41 Urban Water Management Plan (UWMP) for the Sacramento County Water Agency (SCWA). We have updated your 2005 UWMP to incorporate updated and more recent data and information as well as new requirements in the law and new requirements from the California Department of Water Resources (DWR). The new DWR requirements are based on the Final Guidebook to Assist Urban Water Suppliers to prepare a 2010 Urban Water Management Plan that was released in March, 2011.

Brown and Caldwell will submit the required hardcopy and electronic files to DWR and the California State Library. Please let me know if you have any comments or questions.

Very truly yours,

Brown and Caldwell,
a California Corporation

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Enclosure (1):

1. 2010 Urban Water Management Plan for Sacramento County Water Agency Zone 41

2010 Urban Water Management Plan

Prepared for

Sacramento County Water Agency
Zone 41

Sacramento, CA

July 2011

2010 Urban Water Management Plan

Prepared for

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List of Abbreviations

Act	Urban Water Management Planning Act
ac-ft	acre-feet
ac-ft/yr	acre-feet per year
AFB	Air Force Base
Agency Act	Sacramento County Water Agency Act
ALERT	Automated Local Evaluation in Real Time
AWWA	American Water Works Association
B/C	benefit/cost
bgs	below ground surface
BMO	basin management objective
BMPs	Best Management Practices
CABY	Cosumnes American Bear Yuba
Cal-Am	California American Water Company
CDEC	California Data Exchange Center
CDPH	California Department of Public Health
Central Basin	South American River Basin
CEQA	California Environmental Quality Act
CII	commercial, industrial, and institutional
CIMIS	California Irrigation Management Information System
CREEC	California Regional Environmental Education Community
CRS	Community Rating System
CSA	Central Service Area
CSD	Community Services District
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
DOF	Department of Finance
DPH	Department of Public Health
DMS	data management system
DMM	Demand Management Measure
DWR	California Department of Water Resources
EGWS	Elk Grove Water Service
EPA	U.S. Environmental Protection Agency
ETo	evapotranspiration
ft	feet/foot
FRWA	Freeport Regional Water Authority
FVWC	Fruitridge Vista Water Company
GMP	groundwater management plan
GPCD	gallons per capita per day
gpd	gallons per day
gpm	gallons per minute
GSWC	Golden State Water Company
HCF	hundred cubic feet
ICC	Incident Command Center
in	inch
IRWMP	Integrated Regional Water Management Plan
IWA	International Water Association
kW	kiloWatt
LHMP	Local Hazard Mitigation Plan Update
MCLs	Maximum Contaminant Levels
MG	million gallons
MGD	million gallons per day
mg/L	milligrams per liter
MIE	media in education
MOU	Memorandum of Understanding
MSL	mean sea level
MWC	municipal water company
NEPA	National Environmental Policy Act
North Basin	North American River Basin
NSA	North Service Area
NRW	non-revenue water

NWS	National Weather Service
°F	degrees Fahrenheit
PG&E	Pacific Gas and Electric Company
PCWA	Placer County Water Agency
Plan	Urban Water Management Plan
POU	Place of Use
PSA	Purveyor Specific Agreement
psi	pounds per square inch
RWA	Regional Water Authority
RWEP	Regional Water Efficiency Program
RWQCB	Regional Water Quality Control Board
SACOG	Sacramento Area Council of Governments
SAWWA	Sacramento Area Water Works Association
SB	Senate Bill
SCGA	Sacramento Central Groundwater Authority
SCWA	Sacramento County Water Agency
SGA	Sacramento Groundwater Authority
SRCSD	Sacramento Regional County Sanitation District
SRWTP	Sacramento River Water Treatment Plant
SSA	South Service Area
SSWD	Sacramento Suburban Water District
SWRCB	State Water Resources Control Board
SWTWMD	Southwest Tract Water Maintenance District
TAF	thousand acre feet
TAZ	transportation analysis zone
TDS	total dissolved solids
UAW	unaccounted-for water
µg/L	micrograms per liter
ULFTs	ultra low flush toilets
USEPA	United Stated Environmental Protection Agency
VSWTP	Vineyard Surface Water Treatment Plant
WDR	waste discharge requirements
WET	Water Education for Teachers
WFA	Water Forum Agreement
WPP	Well Protection Program
WRCC	Western Regional Climate Center
WRF	Water Recycling Facility
WROS	Water Recycling Opportunities Study
WRPP	Water Recycling Pilot Program
WSMP	Water Supply Master Plan
WTP	water treatment plant
WWTP	waste water treatment plant

Section 1

Introduction

This Urban Water Management Plan (Plan) was prepared for the Sacramento County Water Agency (SCWA) Zone 41 in cooperation with the SCWA staff. This Plan addresses the SCWA's water systems and includes a description of the water supply sources, magnitudes of historical and projected water use, and a comparison of water supply water demands during normal, single-dry, and multiple-dry years. Also described is SCWA's conservation program. This Plan is the year 2010 Plan as required by the Urban Water Management Planning Act (Act) (California Water Code Division 6, Part 2.6, Sections 10610 through 10657).

The remainder of this section provides an overview of the Act, public participation and adoption, agency coordination, Plan implementation, and Plan organization. Where applicable, portions of the Act are quoted in this Plan in italics at the beginning of the relevant sections.

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. The Act was most recently amended in November 2009 with the adoption of Senate Bill (SB) x7-7. The most significant revision is the requirement for establishing per capita water use targets and an option to delay Plan adoption to July 1, 2011.

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 (ac-ft) of water annually to adopt and submit an urban water management plan every five years to the California Department of Water Resources (DWR). The Act describes the contents of the Plan as well as how urban water suppliers should adopt and implement the Plan.

1.2 Public Participation and Plan Adoption

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

10635(b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which is provides water supplies no later than 60 days after the submission of its urban water management plan.

10642 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.

The Act requires the encouragement of public participation and a public hearing as part of the Plan development and approval process. As required by the Act, SCWA made the Plan available for public inspection and held a public hearing on June 21, 2011 prior to adopting this Plan. SCWA notified cities and counties within the service area 60 days before the public hearing. Appendix A provides documentation that the cities and counties within which SCWA provides water supplies were notified at least 60 days prior to the Plan public hearing. This hearing provided an opportunity for SCWA's customers including social, cultural, and economic community groups to learn about the water supply situation and the plans for providing a reliable, safe, high-quality water supply for the future. The SBx7-7 gallons per capita per day (GPCD) analysis and target was also discussed at the public hearing. The hearing was an opportunity for people to ask questions regarding the current situation and the viability of future plans.

Per the requirements of Government Code Section 6066 a Notice of Public Hearing was published twice in the Sacramento Bee 14 days prior to the hearing to notify all customers and local governments of the public hearing, and copies of the draft Plan were made available for public inspection at SCWA's administration building and on-line. A copy of the published Notice of Public Hearing is included in Appendix B. This Plan was adopted by SCWA's Board of Directors on June 21, 2011. A copy of the adopted resolution is provided in Appendix C. The adopted Plan will be provided to DWR, the State library, and the appropriate cities and counties within 30 days of adoption. The adopted Plan will also be available for public review during normal business hours at the SCWA administration building and on-line at www.msa2.saccounty.net/dwr/scwa.

1.3 Agency Coordination

10620(d)(2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies to the extent practicable.

10642 Each urban water suppler 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.

The Act requires SCWA 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. SCWA sent a copy of this Plan to the agencies listed in Table 1-1. Table 1-1 provides a summary of the Plan coordination with the appropriate agencies.

Table 1-1. (DWR Table 1) Coordination with Appropriate Agencies

Coordinating Agencies	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft Plan	Was sent 60-day notification
Golden State Water Company				X	
California American Water Company				X	
Delta Estates Home Owners Association				X	
City of Elk Grove				X	X

Table 1-1. (DWR Table 1) Coordination with Appropriate Agencies					
Coordinating Agencies	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft Plan	Was sent 60-day notification
East Bay Municipal Utility District				X	
Elk Grove Water Service				X	X
City of Folsom				X	
Fruitridge Vista Water Company				X	
Locke Water Works				X	
Natomas Mutual Water Company				X	
Omochumne-Hartnell Water District				X	
City of Rancho Cordova				X	X
Regional Water Authority/Sacramento Groundwater Authority				X	
City of Sacramento				X	
Sacramento Suburban Water District				X	
Sacramento Central Groundwater Authority				X	
Sacramento Area Council of Governments				X	
Sacramento Municipal Utility District				X	
Sacramento Regional County Sanitation District			X	X	
United States Bureau of Reclamation				X	

SCWA coordinates with other water agencies in the region through its participation and membership in the Regional Water Authority (RWA). RWA is a joint powers authority that serves and represents the interests of member water providers in the greater Sacramento, Placer and El Dorado County region. The RWA's primary mission is to help its members protect and enhance the reliability, availability, affordability and quality of water resources. Two of RWA's regional programs in which SCWA participates are a water efficiency program designed to help local purveyors implement best management practices on a regional basis and implementation of the American River Basin Regional Conjunctive Use Program, utilizing a $22 million grant from DWR.

RWA developed a regional water master plan that reviewed concepts on how the region could utilize groundwater and surface water conjunctively to meet the objectives set forth in the Water Forum

process. In June 2006 RWA developed an Integrated Regional Water Management Plan (IRWMP) that identifies specific projects and implementation programs and agreements between different affected agencies to identify projects to put conjunctive use in place. An intended purpose of this IRWMP is to provide and encourage regional opportunities for water resources planning and project development. A comprehensive update is underway and is expected to be completed in 2013.

1.4 Plan Implementation

10643 An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

SCWA will implement this 2010 Plan by taking steps to meet the SBx7-7 GPCD target. SCWA will continue implementation of their water conservation program. SCWA implemented the 2005 Plan in close accordance with the information that was provided in that Plan.

1.5 Plan Organization

This section provides 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 (BMPs) implementation.
- Section 7 provides a comparison of future water supply to demand.
- Section 8 describes SCWA's water shortage contingency plan.
- References provides a list of references.
- Appendices A through J 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 was completed for this Plan and provided in Appendix D. It references the sections in the Plan where specific DWR checklist items are addressed.

Section 2

Description of Existing Water Systems

This section describes SCWA's water systems. It contains a description of the service areas and local climate. Also provided is a general description of each water system within Zone 41 and the historical and projected population within Zone 41.

2.1 Description of Service Area

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

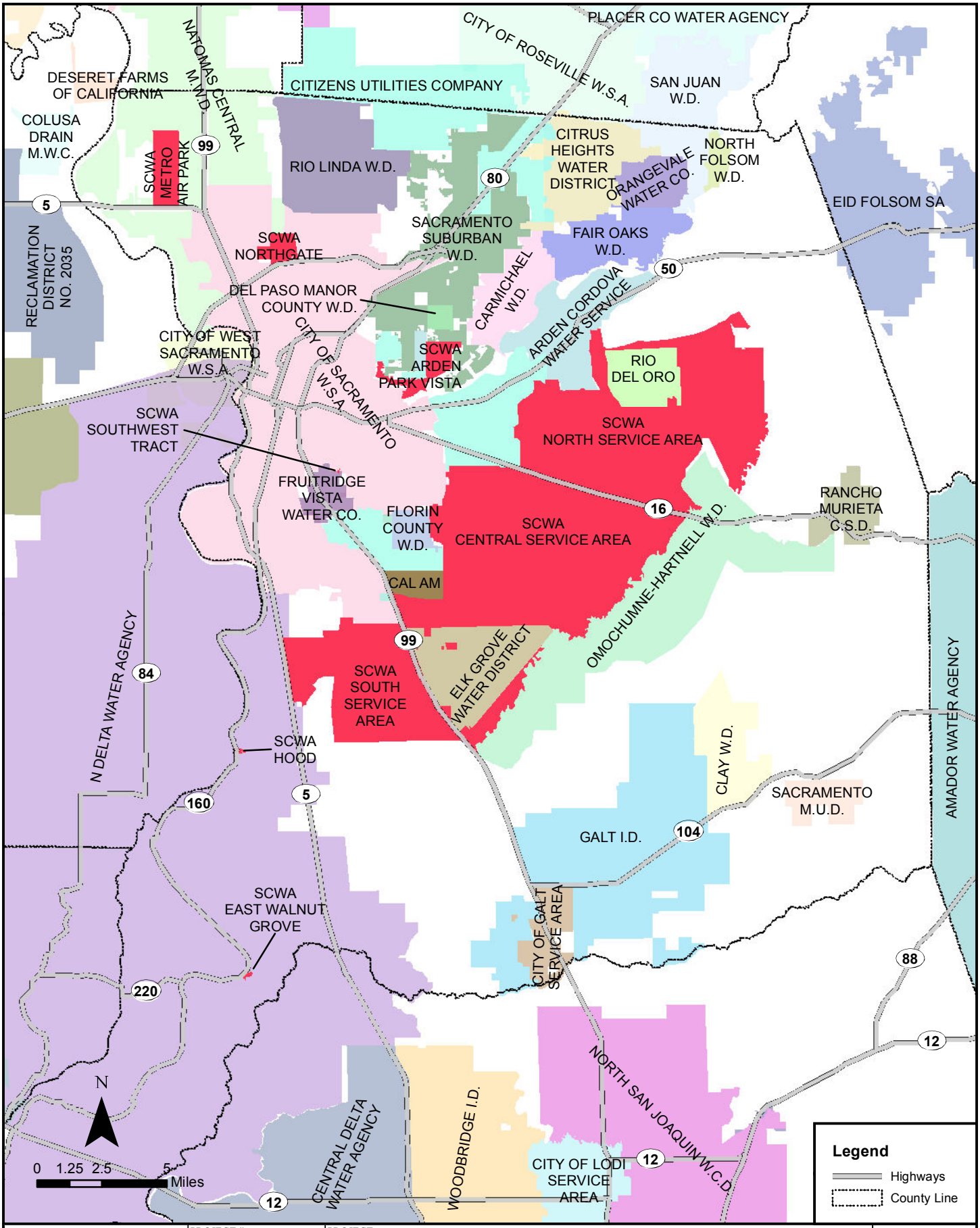
SCWA serves a population of approximately 155,000 in Sacramento County. SCWA was formed in 1952 by a special legislative act of the State of California (the Sacramento County Water Agency Act (Agency Act). SCWA's purposes include, but are not limited to, the following:

- Making water available for any beneficial use of lands and inhabitants, and
- Producing, storing, transmitting, and distributing groundwater.

SCWA is governed by a Board of Directors (ex officio, the Sacramento County Board of Directors). Under the Agency Act, the Board may contract with the federal government under reclamation laws with the same powers as irrigation districts, and with the State of California and federal government with respect to the purchase, sale, and acquisition of water. SCWA may also construct and operate any required capital facilities. Zone 41 is the retail supplier that operates and maintains all of the service areas located within SCWA. The service areas are listed as follows:

- North Service Area (NSA)
- Central Service Area (CSA)
- South Service Area (SSA)
- Metro Air Park
- Arden Park Vista
- East Walnut Grove
- Hood
- Northgate 880
- Southwest Track

Figure 2-1 illustrates the location of SCWA and the neighboring water agencies. The water system service areas within Zone 41 are shown on Figure 2-2.



BROWN AND CALDWELL	PROJECT # 140620	PROJECT Urban Water Management Plan	Figure 2-1
	DATE 4-1-2011	TITLE Sacramento County Water Agency and Neighboring Water Purveyors	

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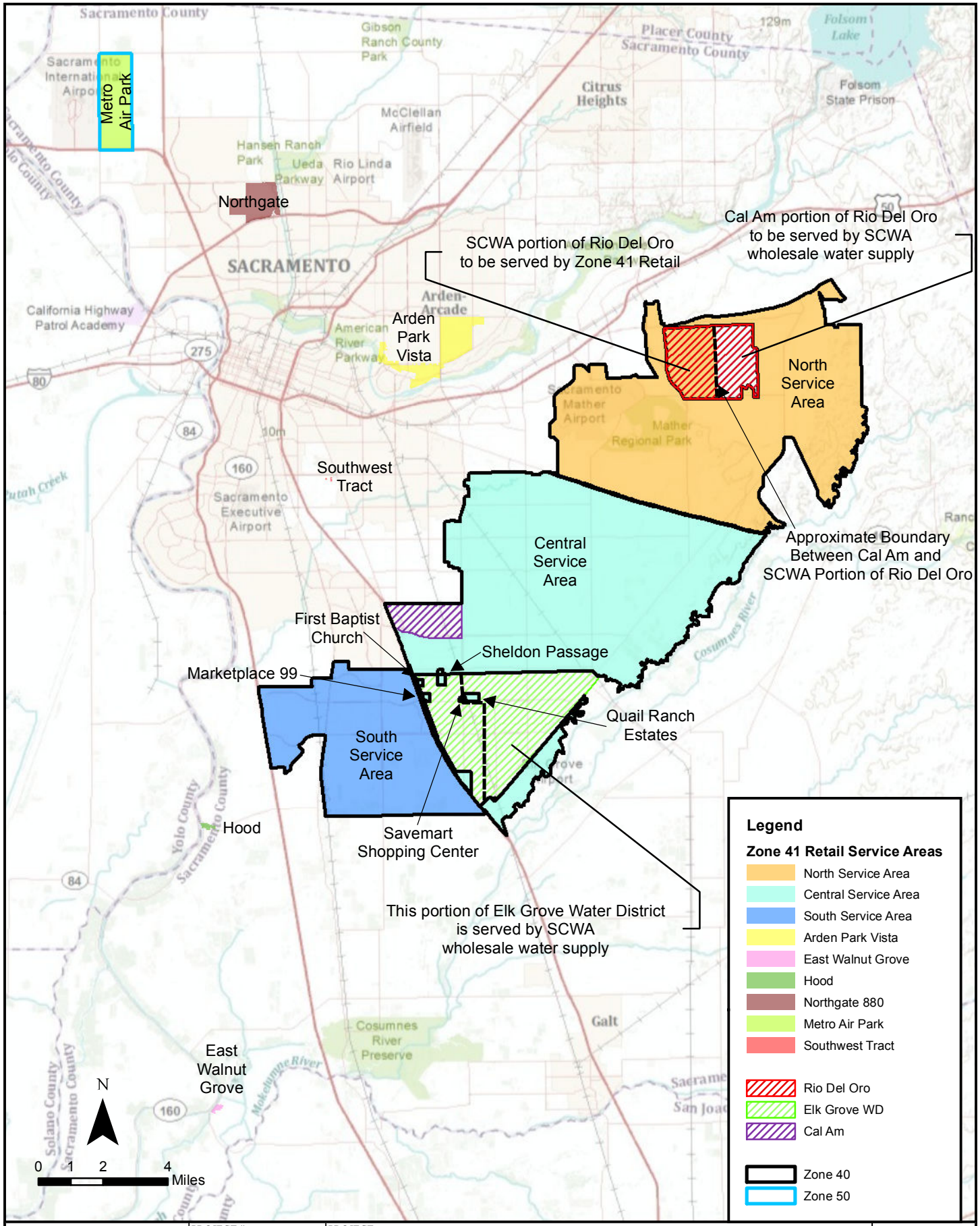


BROWN AND CALDWELL	PROJECT # 140620	PROJECT Urban Water Management Plan	Figure 2-2
	DATE 4-1-2011	TITLE Sacramento County Water Agency Benefit Zones and Service Areas	

FILE: P:\40000\140620 - SCWA 2010 UWMP\03_Engineering\3_2_GIS-CAD\GIS\Fig 2-2 Benefit Zones.mxd

Zone 40 and Zone 50 are two benefit zones created by SCWA for the development and construction of water supplies for some of the areas within Zone 41. Zone 40 was created by SCWA Resolution No. 663 in May 1985. The resolution describes the exact boundaries of Zone 40 and defines the projects to be undertaken as "…the acquisition, construction, maintenance, and operation of facilities for the production, conservation, transmittal, distribution, and sale of ground or surface water or both for the present and future beneficial use of the lands or inhabitants within the zone." The boundaries and scope of Zone 40's activities were expanded in April 1999 by Resolution WA-2331. Zone 40's scope now includes the use of recycled water in the conjunction with surface water and groundwater. Upon completion of construction of Zone 40 water facilities, the facilities are granted over to Zone 41 for long term operations and maintenance and eventually replacement as facilities become older. There is also a portion of Zone 40 that is located within the City of Sacramento's American River Place of Use that will ultimately receive all of this water from City of Sacramento-owned facilities by mutual agreement with SCWA. Figure 2-2 illustrates the location of Zone 40 in the central portion of Sacramento County. For planning purposes, some information in this plan is presented as "Inside Zone 40" and "Outside Zone 40". The NSA, CSA, and SSA are the service areas that are "Inside Zone 40" whereas all of the other service areas are "Outside Zone 40".

Zone 50 was created by SCWA Resolution WA-2542 on June 1, 2004. The resolution describes the exact boundaries of Zone 50 and defines the projects to be undertaken as "…to provide a water system for Metro (Air Park) including but not limited to the fees necessary to fund such a system." Zone 41 will be responsible for the long term operations and maintenance of the system. As shown on Figure 2-2, Zone 50 is located in northwestern Sacramento County, directly east of the Sacramento International Airport.

This section summarizes each of the Zone 41 service areas.

2.1.1 North Service Area

The NSA is located south of the American River to the east of the City of Rancho Cordova. This service area includes the Mather and Sunrise Corridor systems. SCWA assumed ownership of the Mather System shortly after the County of Sacramento took over the old Mather Air Force Base after it was shut down by the US Air Force in the mid-1990's. In the case of the Sunrise Corridor System, SCWA was asked to take ownership and provide water service after the system was constructed through an assessment district in the late 1980's. The majority of the land within the NSA boundary is rural and undeveloped. The Mather and Sunrise Corridor water systems within the NSA are served by groundwater supply and inter-connected via transmission mains.

2.1.2 Central Service Area

The CSA is located to the south of the NSA and is currently supplied solely by groundwater wells, and consists of one pressure zone. The SCWA provides wholesale water to Elk Grove Water Service (EGWS) via the CSA. The CSA is predominately residential with a small amount of commercial and institutional customers. The Vineyard Surface Water Treatment Plant (VSWTP) will begin serving surface water in the CSA in late 2011.

2.1.3 South Service Area

The SSA is located south of the CSA and to the west of Highway 99 and the EGWS. The SSA is supplied by a mix of surface water, groundwater, and recycled water and consists of one pressure zone. The SSA is predominantly residential with some commercial and institutional customers as well.

2.1.4 Metro Air Park

The Metro Air Park service area is located in the northern part of Sacramento County adjacent to the east side of the Sacramento International Airport. Water supply and distribution facilities within the Metro Air Park service area will be constructed by the developer and then dedicated over to SCWA. The WT12 storage tank and booster pump as well as the pipeline distribution system are in place in the Metro Air Park service area. These facilities are not active and there are currently no water demands in the Metro Air Park system. It is estimated that demands within Metro Air Park will occur by 2015. The water supply for Metro Air Park will be provided by the City of Sacramento through a wheeling/wholesale agreement between the City of Sacramento and SCWA.

2.1.5 Arden Park Vista

The Arden Park Vista service area is located north of the American River and to the east of the City of Sacramento. The system began with the development of the Sierra Oaks and Arden Park areas approximately 80 years ago. The service area predominantly consists of single family residential customers. The Arden Park Vista service area water system is supplied by groundwater wells with the ability to purchase water from adjacent agencies, if necessary, and consists of one pressure zone. The system remains a groundwater-based system dependent on system pressure to cycle well pumps on and off, along with supplemental water supplied from interconnections with the City of Sacramento and Sacramento Suburban Water District (SSWD).

2.1.6 East Walnut Grove

The East Walnut Grove service area is located in the southern part of Sacramento County along the east side of the Sacramento River within the town of Walnut Grove. The East Walnut Grove service area is supplied by groundwater wells and consists of one pressure zone. SCWA took over operation and maintenance of this water system in 2002.

2.1.7 Hood

The Hood service area is located in the southern part of Sacramento County along the east side of the Sacramento River north of the East Walnut Grove service area. The Hood service area is supplied by groundwater wells and consists of one pressure zone. SCWA took over operation and maintenance of this water system in 1970s.

2.1.8 Northgate 880

The Northgate 880 service area is located in the northern part of Sacramento County bordered by Interstate 80. The service area consists of all non-residential commercial and industrial customers. The Northgate 880 service area is supplied by groundwater wells and consists of one pressure zone.

2.1.9 Southwest Tract

The Southwest Tract service area is located in central Sacramento County, south of the American River, near Fruitridge Road and Stockton Blvd. Southwest Tract is a small service area (33 flat rate connections) where SCWA operates and maintains the distribution system, but the water is supplied by the Fruitridge Vista Water Company (FVWC). The Southwest Tract service area does not use any water produced by SCWA. The original agreement between FVWC and the Southwest Tract Water Maintenance District (SWTWMD), which later was annexed to SCWA, was adopted on March 2, 1970. In the agreement, the SWTWMD agreed to buy water from FVWC and to sell water to SCWA to satisfy the water supply needs for the parcels within the Southwest Tract service area. SWTWMD agreed to maintain its own mains, hydrants, and services, and to let the FVWC transmit water through the SWTWMD mains to certain parcels east of the Southwest Tract.

2.2 Local Climate

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

The SCWA service area experiences cool and humid winters and hot and dry summers. Based on the historical data obtained from the Western Regional Climate Center, the average monthly temperature ranges from 50 to 73 degrees Fahrenheit, but the extreme low and high daily temperatures have been 18 and 115 degrees Fahrenheit, respectively. The combination of hot and dry weather results in higher water demands during the summer than in winter months

Table 2-1 summarizes the Sacramento region's average climate conditions based on the California Irrigation Management Information System (CIMIS) database.

Table 2-1. Climate Characteristics

	Standard average ETo[1, 2], in	Total rainfall[1], in	Average temperature[1], °F
January	1.6	3.6	47
February	2.2	4.5	51
March	3.7	2.2	55
April	5.1	1.7	58
May	6.8	1.0	66
June	7.8	0.0	72
July	8.7	0.0	76
August	7.8	0.0	75
September	5.7	0.1	71
October	4.0	1.2	62
November	2.1	2.1	53
December	1.6	4.0	47
Annual	57.1	20.5	--

[1] Data recorded from Sacramento Valley, Fair Oaks station 131, CIMIS www.cimis.water.ca.gov (April 1997 – March 2011).

[2] ETo (evapotranspiration), is the loss of water from the soil both by evaporation and by transpiration from the plants growing thereon.

2.3 Historical and Projected Population

10631(a) (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 five-year increments to 20 years or as far as data is available.

This section describes the historical and projected population within SCWA's Zone 41 water systems.

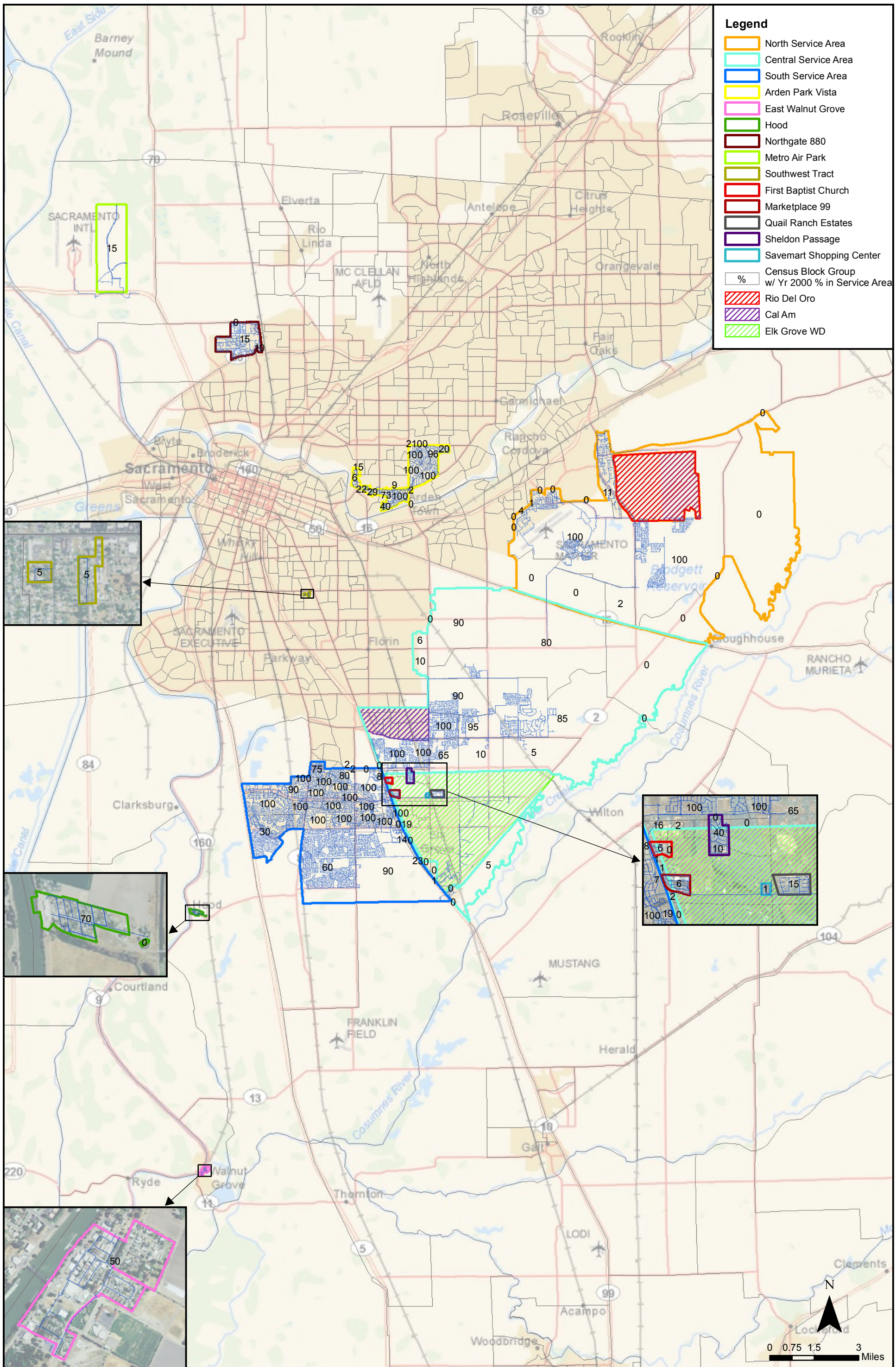
2.3.1 Historical Population

Year 2000 total population is based on the year 2000 census. Per the DWR Methodology, Methodology 2: Service Area Population, SCWA falls into Category 2, a water supplier who has an electronic GIS map of their distribution area, but whose actual distribution area does not overlap substantially (>= 95 percent) with city boundaries. The alternative methodology for service area population described in Appendix A of the DWR Methodology was followed for estimating SCWA's service area population from 1995 through 2010.

The year 2000 census population estimate is based on the population in single family and multi-family dwelling units by census block group. A census block is the smallest geographical unit used by the Census Bureau. Census blocks are areas bounded on all sides by visible features, such as streets, roads, streams, and railroad tracks, and by invisible boundaries such as city, town, township, county limits, and property lines. Census blocks are grouped into block groups. SCWA's GIS boundary map of the distribution area was overlaid on the 2000 census block group map to identify the census block groups located within SCWA's service area. SCWA's boundaries do not fall along census block group boundaries in all cases. As a result, and estimate was made regarding how much of a given census block group is within SCWA's service area.

Because there are rural areas within the NSA, CSA, and SSA service areas consisting of population that SCWA does not serve, an additional step was taken for the Zone 40 service areas in order to identify only the population within the service area boundaries that is actually served by SCWA's distribution system. The distribution pipelines for each system were overlayed on the census block group maps. The percentage of each block group was refined to only include those areas actually served by SCWA's retail distribution system. This additional step was not necessary for the other service areas because there are no rural areas that SCWA does not serve within the boundaries of those other service areas. A list of the block groups that are located within the retail service area and the percentage of each block group located within the service area is provided in Appendix E. Figure 2-3 shows the block groups within SCWA and the corresponding percentage, by land area, of SCWA within each respective block group.

Each block's total population and population by structure type in 2000 were obtained from the Census Bureau's website. The population in single family and multi-family residences combined with single family and multi-family SCWA connections, for the census year 2000, was used to develop ratios of persons per single family and multi-family connection for the year 2000. These ratios were applied to active single family and multi-family connections data for non-census years to estimate non-census-year population. Historical population estimated for SCWA's Zone 41 retail service areas is presented in Table 2-2.



BROWN AND CALDWELL	PROJECT # 140620	PROJECT Urban Water Management Plan	Figure 2-3
	DATE 4-1-2011	TITLE 2000 Census Block Groups within Sacramento County Water Agency's Zone 41 Service Area	

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Table 2-2. Zone 41 Retail Historical Population	
Year	Population
1995	50,592
1996	54,240
1997	55,602
1998	60,983
1999	74,750
2000	77,848
2001	84,649
2002	94,374
2003	106,403
2004	117,868
2005	130,969
2006	140,949
2007	146,297
2008	150,104
2009	152,682
2010	154,508

Source: 2000 Census. Year 2000 Census data by census block correlated to historical SCWA connections single family and multi-family connections.

2.3.2 Projected Population

Population projections for SCWA's Zone 41 are based on demographic projection growth from the Sacramento Area Council of Governments (SACOG), and the 2005 Zone 40 Water Supply Master Plan (WSMP) (MWH, 2005). SACOG estimates for projected population, housing, and employees extend to the year 2035. The most recent SACOG modeling projections for 2035 are used in this Plan and approved by the SACOG Board of Directors in February 2008. SACOG's projections are based on current growth data and region-level near-term projections. The SACOG demographic estimate was formerly referred to as the Blueprint Preferred Smart Growth scenario and is based on feedback and discussions with local governments and interested citizens through a series of planning workshops conducted by SACOG throughout the region. The planning theme for this scenario is slightly higher housing densities compared to current development, mix of land uses, and directing population growth to "inner ring" areas.

Projected SACOG demographic data presented by transportation analysis zone (TAZ) are used for this study. TAZs are for use in the California Statewide Travel Demand Model and are used by SACOG for transportation planning in the Sacramento region whereas U.S. Census block groups and the zones are used in the statewide land use model. Block groups typically nest within TAZs, however in the SCWA service areas many of the TAZs next within the census block groups or are very similar in size to the census block groups. SCWA's boundaries do not fall along TAZ boundaries in all cases. As a result, an estimate was made regarding how much land area of a given TAZ is within SCWA's service areas. For the SACOG 2035 data by TAZ, all of the TAZs within the NSA, CSA, and SSA service area are included, and TAZ percentages were not limited to the current distribution system service areas. In most cases it is assumed that the population, housing, and employees within a TAZ are distributed uniformly within all

parts of that TAZ. Figure 2-4 shows the TAZs within SCWA and the corresponding 2005 percentage, by land area, of each TAZ within SCWA.

The 2005 Zone 40 WSMP presents land use and water use by zoning designation for the years 2000 and 2030. The 2000 landuse in the 2005 Zone 40 WSMP was correlated to year 2000 population for Zone 40 as estimated from the US Census. The ratio of 2000 population to acres was correlated to the estimated 2030 developed acres in order to estimate 2030 population correlated to the 2005 Zone 40 WSMP planning area. Due to the decrease in the rate of development since 2005, it is assumed that the developed acreage that is estimated to occur in 2030 in the 2005 Zone 40 WSMP will not actually occur until 2050.

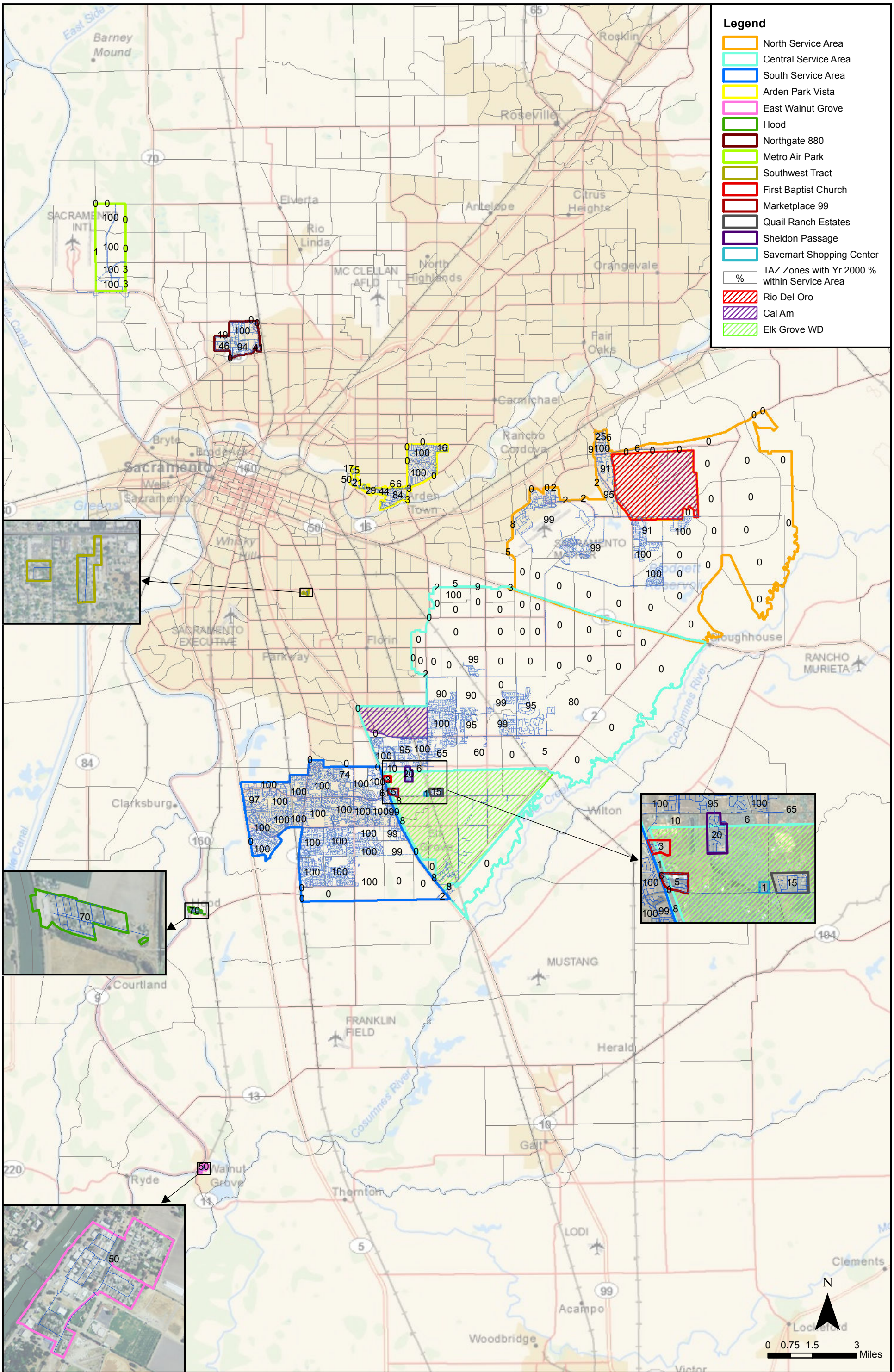
SCWA's Zone 41 population is expected to reach approximately 295,500 in 2035. The projected population by service area is provided in Table 2-3. The historical and projected populations for SCWA are illustrated on Figure 2-5. The population growth rate from 1995 to 2010 was approximately 7.4 percent per year. The projected change in population from approximately 154,650 in 2010 to 295,500 in 2035, is a 2.6 percent average annual growth rate.

Table 2-3. (DWR Table 2) Zone 41 Projected Population

Zone 41 Service Areas	2010[2]	2015	2020	2025	2030	2035
Inside Zone 40 - North Service Area, Central Service Area, South Service Area	144,693	165,741	189,851	217,467	249,101	285,336
Outside Zone 40						
Arden Park Vista	9,120	9,120	9,120	9,120	9,120	9,120
East Walnut Grove	419	423	428	432	436	440
Hood	256	256	256	256	256	256
Metro Air Park[1]	0	0	0	0	0	0
Northgate 880[1]	0	0	0	0	0	0
Southwest Track	157	157	157	157	157	157
Total Zone 41	154,646	175,698	199,811	227,432	259,070	295,309

[1]Metro Air Park and Northgate 880 customers are non-residential and have no population associated with them.

[2] 2010 population estimate is based on correlating the 2000 Census population data to 2000 SCWA single family and multi-family connections ratio to SCWA's 2010 single family and multi-family connections. 2015 through 2035 population projections are based on growth projected from Sacramento Area Council of Governments, February 2008 Projections as well as SCWA 2005 Zone 40 Water Supply Master Plan (MWH, 2005).



BROWN AND CALDWELL	PROJECT # 140620	PROJECT Urban Water Management Plan	Figure 2-4
	DATE 4-1-2011	TITLE Traffic Analyses Zones within Sacramento County Water Agency's Zone 41 Service Area	

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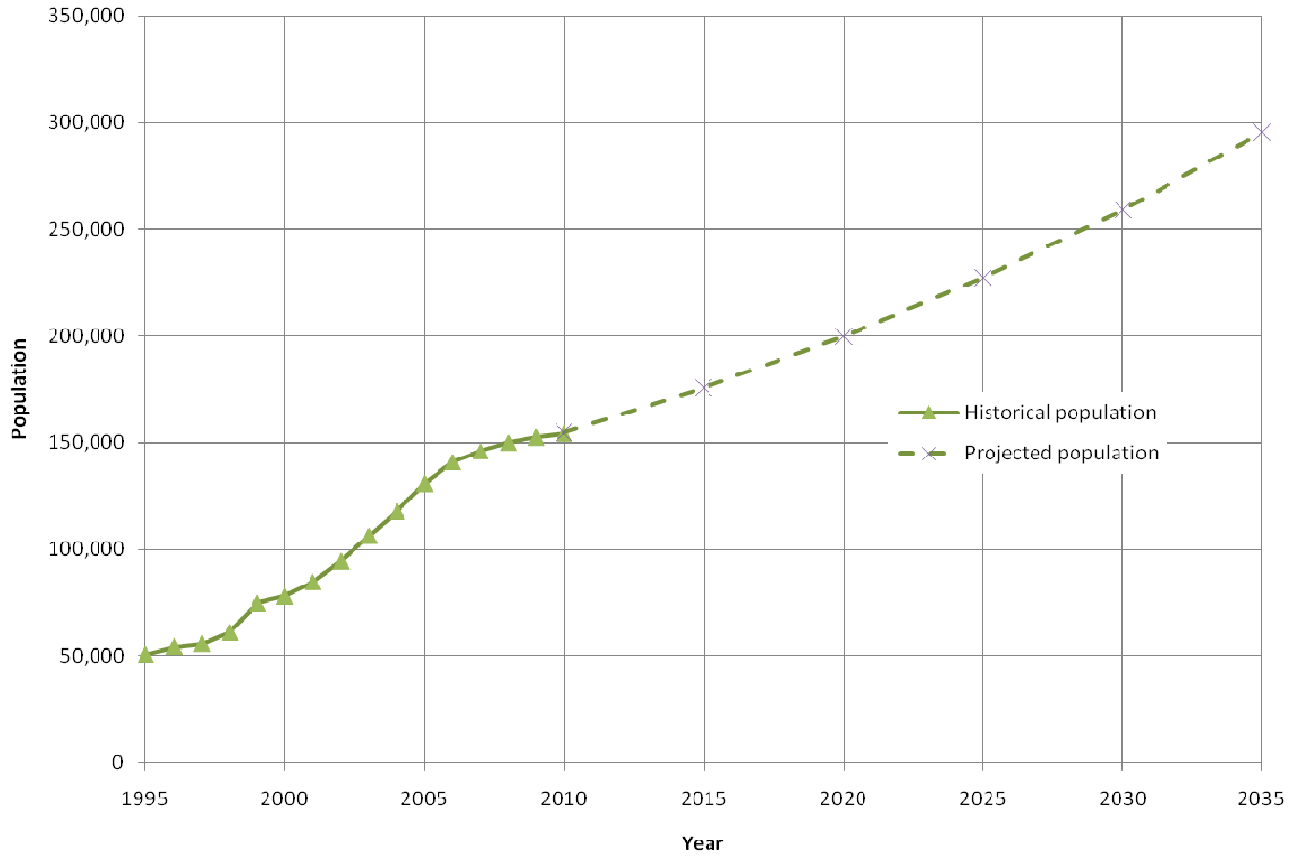


Figure 2-5. SCWA Zone 41 Retail Historical and Projected Population

Section 3

Historical and Projected Water Use

10631(e)(1) and(2) 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.

This section describes the urban water system demands and historical water use data, historical groundwater production, GPCD target water use, and the resulting projections for future water supply needs for SCWA's Zone 41.

3.1 Historical Water Use

Water production is the volume of water measured at the source, which includes all water delivered to residential, commercial, and public authority customers, as well as unaccounted-for water. This section describes SCWA's historical water use and gross water use, calculated as defined by DWR.

As depicted on Figure 3-1, SCWA's total water use grew steadily until 2008. The decline in water use after 2008 could be due in part to a mild climate and the poor economy resulting in less outdoor and construction water use.

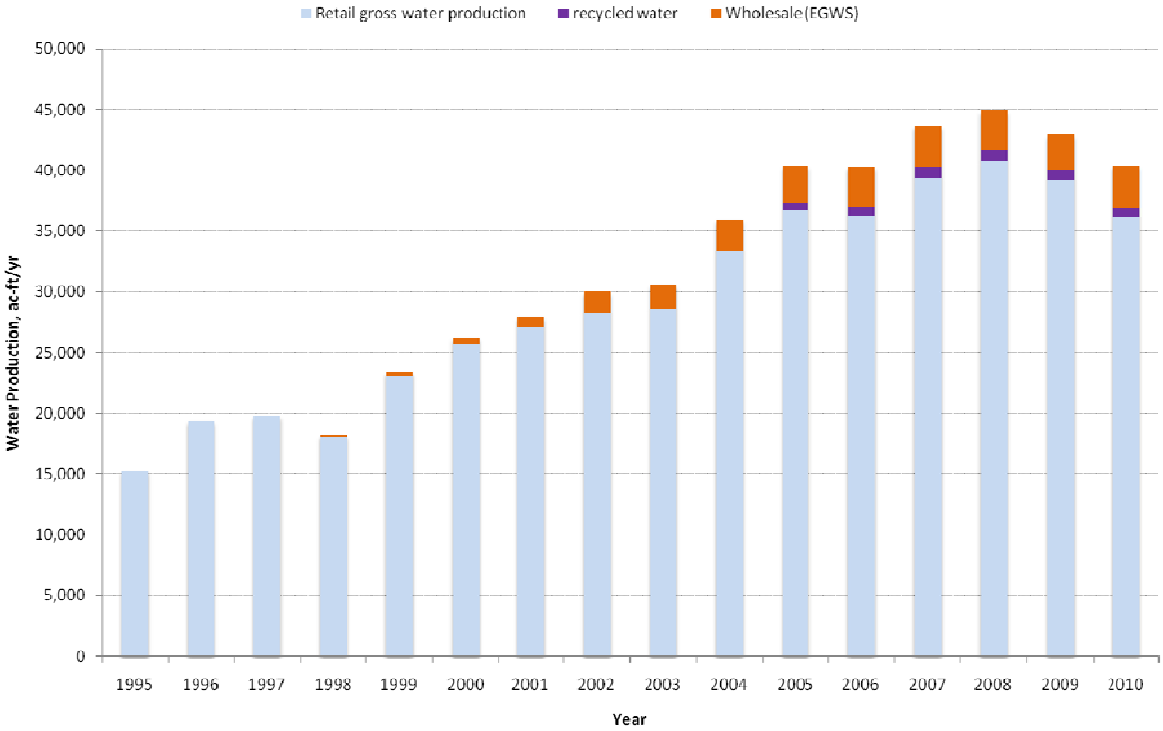


Figure 3-1. Zone 41 Historical Water Production

Note: Groundwater production numbers have not been adjusted for metering errors associated with the groundwater well production meters.

Gross water use is defined as the measure of water supplied to the distribution system over 12 months and adjusted for changes in distribution system storage and deliveries to other water suppliers that pass through the distribution system. Recycled water deliveries are to be excluded from the calculation of gross water use per DWR's Methodologies. Water wholesaled to EGWS as well as recycled water deliveries within the retail service area are subtracted from SCWA's total water production in order to determine the annual gross water use, as shown on Figure 3-1. Gross water use is shown for the purposes of calculating SCWA's GPCD target per DWR's methodology, as described in greater detail in Appendix E of this Plan.

Historical annual groundwater production for the water system is shown in Table 3-1.

Table 3-1. (DWR Table 18) Groundwater – Volume Pumped, ac-ft/yr

Service Area	Basin name	Metered or unmetered	2006	2007	2008	2009	2010
Arden Park Vista	Sacramento Valley Groundwater Basin, North American Subbasin (5-21.64)	Metered	4,139	4,107	4,629	3,925	3,682
East Walnut Grove	Sacramento Valley Groundwater Basin, South American Subbasin(5-21.65)	Metered	79	126	130	126	127
Hood	Sacramento Valley Groundwater Basin, South American Subbasin(5-21.65)	Metered	79	102	97	79	63
Metro Air Park	Sacramento Valley Groundwater Basin, North American Subbasin (5-21.64)	Metered	0	0	0	0	0
Northgate 880	Sacramento Valley Groundwater Basin, North American Subbasin (5-21.64)	Metered	1,004	1,245	400	1,277	1,268
North Service Area	Sacramento Valley Groundwater Basin, South American Subbasin(5-21.65)	Metered	3,875	4,270	4,619	4,295	4,150
Central Service Area	Sacramento Valley Groundwater Basin, South American Subbasin(5-21.65)	Metered	13,121	13,707	14,257	14,810	17,103
South Service Area	Sacramento Valley Groundwater Basin, South American Subbasin(5-21.65)	Metered	12,023	12,665	15,348	15,142	10,916
Southwest Tract	Sacramento Valley Groundwater Basin, South American Subbasin(5-21.65)	Unmetered	22	22	22	22	22
Total [1]	--	--	34,342	36,245	39,502	39,677	37,330
Groundwater as a percent of total supply[1]	--	--	87%	85%	90%	94%	94%

[1] Groundwater production numbers have not been adjusted for metering errors associated with the groundwater well production meters.

[2] Total supply based on total water production from all supply sources for each year.

3.2 GPCD Baseline and Targets

10608.20(e) 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.

Per the law as adopted in SBx7-7, SCWA must establish per capita water use targets using one of four methods

1. Method 1 - Eighty percent of the urban retail supplier's baseline per capita daily water use.
2. Method 2 - The per capita daily water use that is estimated using the sum of several defined performance standards.
   a) 55 gallons per day (gpd) for indoor residential water use.
   b) Water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance for landscape irrigated through dedicated or residential meters or connections.
   c) A 10 percent reduction in commercial, industrial, and institutional (CII) uses from the baseline CII water use by 2020.
3. Method 3 - Ninety-five percent of the applicable state hydrologic region target, as set forth in the State's draft 20x2020 Water Conservation Plan.
4. Method 4 - Calculated water savings based on indoor residential water savings, metering savings, CII savings, and landscape and water loss savings, as set forth in DWR's Provisional Method 4 for Calculating Urban Water Use Targets, released February, 2011.

Tables 3-2, 3-3, and 3-4 provide base period ranges and base daily per capita water use, used to estimate the Method 1 target. Regardless of which of the four methods is adopted by SCWA, the target is compared to 95 percent of SCWA's five-year baseline to achieve a minimum in water use GPCD target. If the five-year baseline water use is more than 100 GPCD, SCWA must compare two values:

1. 95 percent of the five-year baseline daily per capita water use and
2. The target determined by the target method SCWA selects from the four methods allowed.

The 2020 target is the lower of the two values. For SCWA, 95 percent of the five-year baseline daily per capita use is 227 GPCD (95% x 239 GPCD).

SCWA has selected Method 1 to determine their urban water use target. Based on Method 1, SCWA's 2020 target is 222 GPCD with a 2015 interim target of 250 GPCD. SCWA's target using Method 1 will not have to be adjusted since it is lower than 95 percent of the five-year baseline.

A detailed analysis of the GPCD target methods is provided in Appendix E.

Table 3-2. (DWR Table 13) Zone 41 Retail Base Period Ranges

Base	Parameter	Value	Units
10- to 15-year base period	2008 total water deliveries	39,853	ac-ft/yr
	2008 total volume of delivered recycled water	915	ac-ft/yr
	2008 recycled water as a percent of total deliveries	2.3	percent
	Number of years in base period[1]	10	years
	Year beginning base period range	1995	
	Year ending base period range[2]	2004	
5-year base period	Number of years in base period	5	years
	Year beginning base period range	2003	
	Year ending base period range[3]	2007	

[1] Per DWR Methodology, if the 2008 recycled water percent is less than 10 percent, then the base period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the base period is a continuous 10- to 15-year period.

[2] Per DWR Methodology, the ending year must be between December 31, 2004 and December 31, 2010.

[3] Per DWR Methodology, the ending year must be between December 31, 2007 and December 31, 2010.

Table 3-3. (DWR Table 14) Zone 41 Retail Base Daily per Capita Water Use - 10- to 15-year range				
Base period year		Distribution System Population	Daily system gross water use[1], ac-ft/yr	Annual daily per capita water use, GPCD
Sequence Year	Calendar Year			
Year 1	1995	50,592	15,243	269
Year 2	1996	54,240	19,344	318
Year 3	1997	55,602	19,748	317
Year 4	1998	60,983	18,012	264
Year 5	1999	74,750	22,985	275
Year 6	2000	77,848	25,611	294
Year 7	2001	84,649	26,985	285
Year 8	2002	94,374	28,226	267
Year 9	2003	106,403	28,593	240
Year 10	2004	117,868	33,248	252
Year 11				
Year 12				
Year 13				
Year 14				
Year 15				
Base Daily Per Capita Water Use				278

[1] *Groundwater production numbers have not been adjusted for metering errors associated with the groundwater well production meters.*

Table 3-4. (DWR Table 15) 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	Calendar Year			
Year 1	2003	106,403	28,593	240
Year 2	2004	117,868	33,248	252
Year 3	2005	130,969	35,945	245
Year 4	2006	140,949	35,523	225
Year 5	2007	146,297	38,446	235
			Base Daily Per Capita Water Use	239

3.3 Projected Water Demands

This section presents the projected water demands through 2035.

3.3.1 Projected Water Demands

Water demands through the year 2035 are estimated based on the selected GPCD target chosen by SCWA as described in Section 3.2 and the projected population (see Table 2-5). The water demand projections for SCWA Zone 41 retail customers are shown in Tables 3-5 through 3-9 and are illustrated on Figure 3-2. The projected demand and customer breakdown by customer category is based on the year 2010 demand breakdown by customer category as well as the projected growth in single family dwelling units, multi-family dwelling units, and employees within SCWA's service area as projected by SACOG for the other service areas and based on the 2005 Zone 40 WSMP for the Zone 40 service areas. Table 3-10 provides the water amounts sold to other agencies. Appendix F contains spreadsheets of the detailed water demand analysis by service area.

Table 3-5. (DWR Tables 3) Water System Projected Water Demands and Number of Accounts, Actual 2005

Water Use Category	2005				
	Metered		Not metered		Total volume, ac-ft/yr
	# of accounts	Volume[1], ac-ft/yr	# of accounts	Volume[1], ac-ft/yr	
Single-family	24,055	12,073	15,378	13,534	25,607
Multi-family	178	407	40	92	499
Commercial	1,236	2,868	326	756	3,624
Industrial[2]	--	--	--	--	--
Institutional	84	386	13	59	444
Landscape irrigation	641	1,949	20	61	2,010
Total	26,194	17,682	15,777	14,503	32,185

[1]Volume delivered to retail customers. Does not include system losses.
[2] Industrial accounts and water use is included in commercial category.

Table 3-6. (DWR Tables 4) Water System Projected Water Demands and Number of Accounts, Actual 2010

Water Use Category	2010				
	Metered		Not metered		Total volume, ac-ft/yr
	# of accounts	Volume[1], ac-ft/yr	# of accounts	Volume[1], ac-ft/yr	
Single-family	36,629	17,060	9,997	7,346	24,406
Multi-family	212	585	37	39	624
Commercial	1,184	2,792	288	1,076	3,869
Industrial[2]	-	-	-	-	-
Institutional	151	485	13	55	540
Landscape irrigation	603	2,362	6	6	2,368
Total	38,780	23,284	10,341	8,522	31,806

[1]Volume delivered to retail customers. Does not include system losses.
[2] Industrial accounts and water use is included in commercial category.

Table 3-7. (DWR Tables 5) Water System Projected Water Demands and Number of Accounts, Projected 2015					
Water Use Category	2015				
	Metered		Not metered		Total volume, ac-ft/yr
	# of accounts	Volume[1], ac-ft/yr	# of accounts	Volume[1], ac-ft/yr	
Single-family	52,874	25,847	2,946	2,788	28,635
Multi-family	314	818	23	28	846
Commercial	1,464	4,123	287	878	5,002
Industrial[2]	238	467	-	-	467
Institutional	180	809	12	53	862
Landscape irrigation	712	3,592	5	13	3,604
Total	55,782	35,656	3,273	3,760	39,416

[1]Volume delivered to retail customers. Does not include system losses.

[2] Industrial accounts and water use is included in commercial category.

Table 3-8. (DWR Tables 6) Water System Projected Water Demands and Number of Accounts, Projected 2020					
Water Use Category	2020				
	Metered		Not metered		Total volume, ac-ft/yr
	# of accounts	Volume[1], ac-ft/yr	# of accounts	Volume[1], ac-ft/yr	
Single-family	64,003	28,181	2,946	2,788	30,968
Multi-family	438	1,056	23	28	1,085
Commercial	1,963	5,094	287	860	5,954
Industrial[2]	965	1,838	-	-	1,838
Institutional	212	862	12	51	913
Landscape irrigation	840	4,055	5	13	4,067
Total	68,423	41,087	3,273	3,739	44,826

[1]Volume delivered to retail customers. Does not include system losses.

[2] Industrial accounts and water use is included in commercial category.

Table 3-9. (DWR Table 7) Water System Projected Water Demands and Number of Accounts, 2025 - 2035						
Water Use Category	2025		2030		2035	
	Metered		Metered		Metered	
	# of accounts	Volume[1], ac-ft/yr	# of accounts	Volume[1], ac-ft/yr	# of accounts	Volume[1], ac-ft/yr
Single-family	80,421	34,166	96,729	39,014	116,471	44,850
Multi-family	637	1,382	885	1,935	1,235	2,585
Commercial	2,800	6,784	3,125	7,478	3,513	8,040
Industrial[2]	1,688	3,119	1,688	3,119	1,688	3,119
Institutional	263	986	310	1,155	365	1,394
Landscape irrigation	999	4,585	1,181	5,417	1,399	6,259
Total	86,807	51,021	103,918	58,118	124,670	66,246

[1]Volume delivered to retail customers. Does not include system losses.

[2] Industrial accounts and water use is included in commercial category.

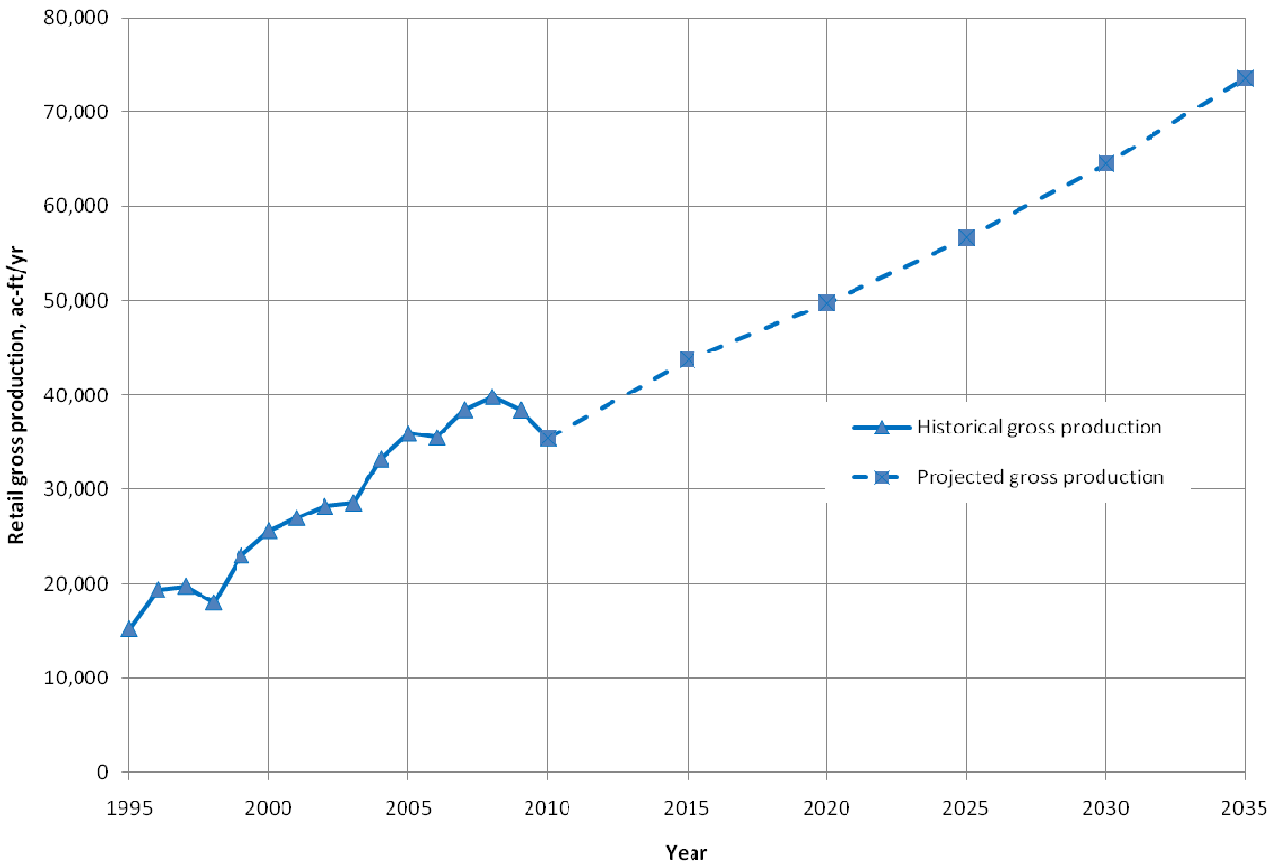
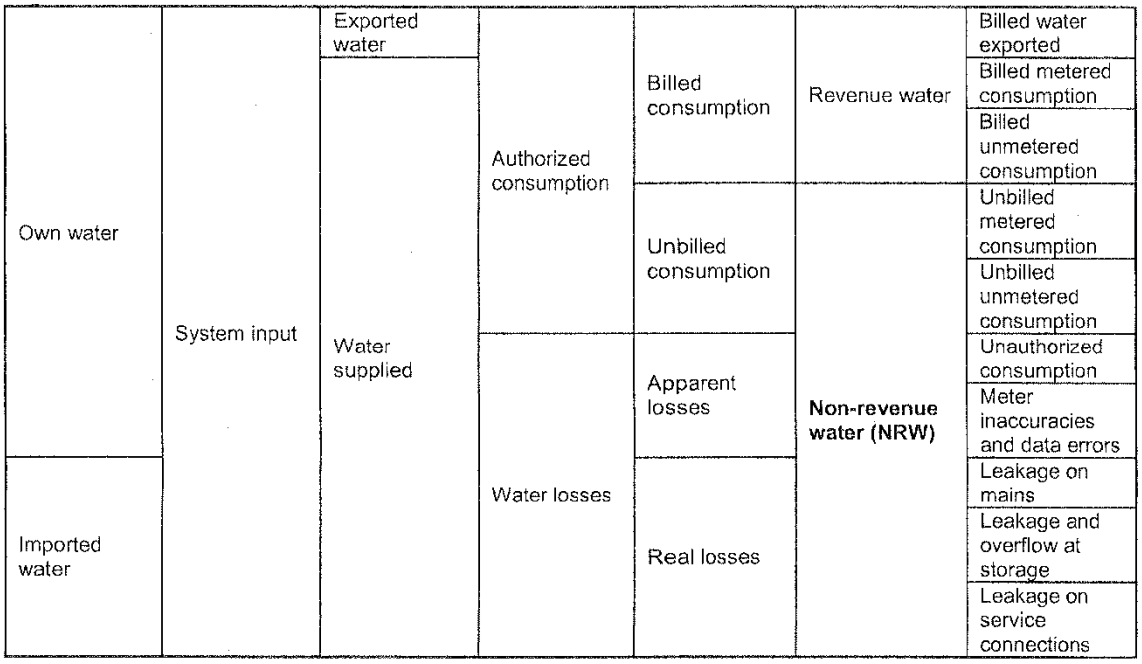


Figure 3 2. Historical and Projected Zone 41 Retail Gross Water Demand

Note: This figure includes water deliveries and non-revenue system losses. Historical groundwater production numbers have not been adjusted for metering errors associated with the groundwater well production meters.

Table 3-10. (DWR Table 9) Sales to Other Water Agencies, ac-ft/yr							
Water Distributed	2005	2010	2015	2020	2025	2030	2035
Elk Grove Water Service	3,018	3,487	3,570	3,640	4,100	4,560	4,560
Cal-Am (Rio del Oro)	0	-	-	1,000	2,500	4,000	5,000
Total	3,018	3,487	3,570	4,640	6,600	8,560	9,560

Traditionally, the term "unaccounted-for-water" has been used to describe the difference between water produced into the system (input) and water delivered (output) to the users or metered consumption by users. However, this term has a variety of definitions and meanings. The International Water Association (IWA) has proposed the term "non-revenue water" (NRW) with a clear definition, as shown in the lower right-hand portion of Figure 3-3. The IWA terminology has also been adopted by the American Water Works Association (AWWA).



Source: Alegre H. et al. IWA 2000.

Figure 3-3. IWA Water Audit Format

One issue with the term "unaccounted-for water"", which the IWA format clarifies, is the differentiation of real water loss and unbilled consumption. As shown on Figure 3-2, apparent water loss includes revenue loss due to leaks, breaks, and storage overflows. Water use for firefighting, line flushing, and other authorized, but unbilled use is classified as neither real nor apparent loss, but is included in the computation of NRW as unbilled consumption.

According to DWR (DWR, 2011) a detailed water audit and leak detection program of 47 California water utilities found an average loss of 10 percent and a range of 30 percent to less than 5 percent of the total water supplied by the utilities. Since SCWA is not completely metered, data are unavailable for determining the percent of NRW. Current NRW is assumed for this study to be approximately 10 percent of total water production. The percentage could possibly be reduced in the future if SCWA takes specific

actions to reduce water loss. However, for the purposes of this Plan, Ten percent of total water production is used in this Plan.

The actual and projected water demand for other uses including recycled water and system losses (NRW) are shown in Table 3-11.

Table 3-11. (DWR Table 10) Additional Water Uses and Losses, ac-ft/yr

Water Distributed	2005	2010	2015	2020	2025	2030	2035
Saline barriers	-	-	-	-	-	-	-
Groundwater recharge	-	-	-	-	-	-	-
Conjunctive use	-	-	-	-	-	-	-
Raw water (agricultural)	167	169	-	-	-	-	-
Recycled water	668	677	3,000[1]	4,400[1]	4,400[1]	4,400[1]	4,400[1]
System losses (retail water system)[2]	3,664	3,619	4,380	4,981	5,669	6,458	7,361
Total	4,498	4,465	7,380	9,381	10,069	10,858	11,761

[1] *Refer to Section 5 for projected recycled water use.*

[2] *System losses assumed to be 10 percent of total retail treated water production.*

Table 3-12 provides a summary of the water use for SCWA Zone 41 demands inside Zone 40 and outside Zone 40 and total Zone 41 (ie. inside Zone 40 plus outside Zone 40), including retail water deliveries, sales to other water agencies, and additional water uses and losses.

Table 3-12. (DWR Table 11) Total Water Use, ac-ft/yr

Water Distributed	2005	2010	2015	2020	2025	2030	2035
Inside Zone 40							
Water deliveries		27,160	34,069	37,460	41,924	49,144	57,377
Sales to other water agencies		3,487	3,570	4,640	6,600	8,560	9,560
Additional water uses and losses		3,864	6,785	8,562	9,058	9,860	10,775
Inside Zone 40 total		34,511	44,425	50,662	57,583	67,565	77,712
Outside Zone 40							
Water deliveries		4,646	5,347	7,366	9,097	8,973	8,869
Sales to other water agencies							
Additional water uses and losses		516	594	818	1,011	997	985
Outside zone 40 total		5,162	5,941	8,184	10,108	9,970	9,855
Total Zone 41 Water Use							
Total water deliveries (from DWR Tables 3 to 7)	32,185	31,806	39,416	44,826	51,021	58,118	66,246
Sales to other water agencies (from DWR Table 9)	3,018	3,487	3,570	4,640	6,600	8,560	9,560
Additional water uses and losses (from DWR Table 10)	4,432	4,397	7,380	9,381	10,069	10,858	11,761
Total Zone 41 Water Use	39,634	39,690	50,366	58,846	67,690	77,535	87,567

Table 3-13 provides a summary of SCWA demands projections as provided to their wholesaler suppliers.

Table 3-13. (DWR Table 12) Retail Agency Demand Projections as Provided to Wholesale Suppliers

Wholesaler	Retail Agency Demand Projections Provided to Wholesale Suppliers (ac-ft/yr)						
	Contracted Volume	2010	2015	2020	2025	2030	2035
City of Sacramento (to serve portion of Zone 40 within the City's American River POU)	9,300 ac-ft/yr	-	-	-	-	9,300	9,300
U.S. Bureau of Reclamation – CVP Supply (SMUD 1, SMUD 2, and Fazio Water) (for Zone 40)	45,000 ac-ft/yr	12,320	25,000	30,000	35,000	40,000	45,000
City of Sacramento (For Zone 50)	9.28 MGD (5,198 ac-ft/yr)	-	779	3,064	5,198	5,198	5,198
Golden State Water Company (for NSA)	1,000 gpm[1]	-	1,000	1,000	1,000	1,000	1,000
Total		12,320	26,779	34,064	41,198	55,498	60,498

[1]A minimal level of water purchase from GSWC will probably continue into the foreseeable future, at least until the VSWTP and associated NSA transmission main are on-line. At this time the intertie will serve as an emergency backup supply.

3.3.2 Water Demands for Lower Income Households

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

The 2008-2013 Sacramento County General Plan Housing Element and the Elk Grove General Plan Housing Element was used to estimate the projected water demands for low income single family and multi-family dwelling units. As part of the Housing Element update, Sacramento County estimates the percent low income households for the various community planning areas within the unincorporated areas of Sacramento County, and Elk Grove estimates the percent low income household for their City. The percent low income is based on households who earned less than 80 percent of Sacramento County's median household income for a family of four ($52,900) based on HUD 2000 income guidelines. For the Zone 41 service areas, the percent low income in the communities of Arden-Arcade, Cosumnes, and Vineyard as well as the City of Elk Grove were used for this Plan. Because a portion of the Zone 41 is located within the City of Elk Grove, the City of Elk Grove Housing Element Update of the General Plan is also used.

The estimate of the projected low income single family and multi-family water demands is provided in Table 3-14. These water demands are estimated by applying the 31 percent of low income units to the projected water use within Zone 41. These low income water demand projections are included in Tables 3-3 through 3-7.

Table 3-14. (DWR Table 8) Low-Income Projected Water Demands

Low Income Water Demands	2015	2020	2025	2030	2035
Single-family residential	8,948	9,678	10,677	12,192	14,016
Multi-family residential	264	339	432	605	808
Total	9,213	10,017	11,109	12,797	14,823

Section 4
Water Supplies

SCWA uses surface water, groundwater, and recycled water as its sources of water supply. Areas inside Zone 40 are served conjunctively with groundwater, surface water, and recycled water while other service areas outside Zone 40 (Arden Park Vista, Walnut Grove, Hood, Northgate, etc.) are served with groundwater except where there are connections with adjacent purveyors so that a small portion of surface water may be received from these purveyors such as Golden State Water Company (GSWC) and SSWD. Connections with these purveyors are normally closed but are opened in the event of emergency conditions. The water supply for Zone 50 (Metro Air Park) is provided by the City of Sacramento through a water wheeling and/or wholesale agreement between the City of Sacramento and SCWA. Therefore, water provided to Zone 50 may be surface water or a combination of surface water and groundwater.

This section describes the sources, quantities, supply constraints, and quality of the various water supply sources. Additionally, this section describes current and projected water supplies and their reliability and vulnerability. Recycled water is discussed in Section 5 of this Plan.

4.1 Surface Water

This section provides a description of SCWA's existing and planned surface water supply including any physical or legal constraints. Surface water is used and planned for in Zone 40 and Zone 50 only. Therefore, the following discussion addresses the surface water rights, entitlements, and contracts for Zone 40 and Zone 50, respectively. .

4.1.1 Zone 40 Surface Water Supplies

Zone 40 surface water supplies include appropriative water, Central Valley Project (CVP) Water, and other surface water as identified in the 2005 Zone 40 WSMP.

<u>Appropriative Water</u>

In February 2008, the State Water Resources Control Board (SWRCB) approved SCWA's appropriative right permit application to divert water from the American and Sacramento Rivers (Permit 21209). Water under this permit is considered "intermittent water" that is typically available during the winter months of normal or wet years. These flows could range up to 71,000 ac-ft/yr.

<u>CVP Water</u>

CVP water is described under three different contracts, as follows.

1. *SMUD 1 Assignment*

   15,000 ac-ft/yr of SMUD's CVP contract water has been assigned to SCWA under the terms of an agreement with SMUD.

2. *SMUD 2 Assignment*

   15,000 ac-ft/yr of SMUD's CVP contract water has been assigned to SCWA under the terms of an agreement with SMUD.

3. *CVP Water Public Law 101-514 ("Fazio" Water)*

   In April 1999, SCWA obtained a CVP water service contract pursuant to PL 101-154 that provides a permanent water supply to Zone 40 of 15,000 ac-ft/yr.

Part of the "Fazio" water is currently used in the SSA of Zone 40. This portion of surface water supply is treated at the City's Sacramento River WTP, wheeled through the City's distribution system, and then delivered to SCWA through the Franklin Intertie. The capacity of the Franklin Intertie is 11 MGD, or 12,320 AF/year. The remaining portion of the "Fazio" water and the SMUD 1 and SMUD2 assignment will be diverted from the Sacramento River at the Freeport Regional Water Authority (FRWA) facility and treated at SCWA's Vineyard Surface WTP which is scheduled to be operational in 2011.

Other Surface Water Supplies

Other surface water supplies are considered to be firm water supplies either from the City of Sacramento to serve the American River Place of Use (POU) area within Zone 40, or water transfers from other upstream water districts on the Sacramento and/or American Rivers.

1. *Wholesale Water Agreement(s) with the City of Sacramento to Serve a Portion of Zone 40 in the City of Sacramento's American River POU*

   SCWA's Water Forum purveyor specific agreement (PSA) directs SCWA to enter into an agreement with the City of Sacramento whereby the City of Sacramento will sell surface water to SCWA for use in the portion Zone 40 that lies within the City of Sacramento's American River POU. The amount of water required to serve the POU area is estimated to be 9,300 ac-ft/yr.

2. *Water Transfers*

   To obtain transfer water supplies, SCWA would enter into purchase and transfer agreements with other entities that currently hold surface water rights upstream of SCWA's points of diversion. According to the WSMP, the amount of water needed is estimated to be 5,200 ac-ft/yr.

Both POU and transfer water are future supplies planned for in the Zone 40 WSMP to meet build-out water demand. The timing for acquiring these two surface water supplies will be determined by demand growth in Zone 40.

In addition to the surface water supplies described above, SCWA has an agreement with GSWC to purchase up to 1,000 gallons per minute (gpm) of water through the Mercantile Intertie located within the NSA. In recent years, the purchase of water from GSWC has been significantly reduced because of the operational characteristics of the Anatolia WTP. A minimal level of water purchase from GSWC will probably continue into the foreseeable future, at least until the VSWTP and associated NSA transmission main are on-line. At this time the intertie will serve as an emergency backup supply.

4.1.2 Zone 50 Surface Water Supplies

On October 12, 2004, SCWA, the County of Sacramento, and the City of Sacramento approved an agreement for wholesale and/or wheeling water service for the Sacramento International Airport and Metro Air Park (Zone 50). This agreement calls for the wholesaling of up to 9.28 MGD of the City of Sacramento's supplied water to SCWA for service to Zone 50. The annual volume of this water supply is estimated to be 5,198 ac-ft/yr at build-out.

4.1.3 Physical Constraints

Physical constraints that limit the ability to provide surface water are capital facilities required for the diversion, treatment, storage, and conveyance of the surface water supplies identified. The majority of these facilities such as the Freeport diversion structure, the FRWA pipeline, and the first phase (50 MGD treatment capacity) of the Vineyard Surface WTP are complete or nearly complete. Once operational,

treated surface water from the Vineyard Surface WTP will primarily serve customers in the CSA and possibly a small portion of the SSA. The NSA will not receive surface water until the NSA pipeline, that connects the Vineyard Surface WTP to the NSA distribution system, is constructed. Timing for the construction of the NSA pipeline is dependent on water demands in the NSA.

4.1.4 Legal Constraints

The WFA includes PSAs that define the benefits each water purveyor will receive as a stakeholder and actions each water purveyor must take to receive these benefits. PSAs for the City of Sacramento and SMUD also describe commitments by the City of Sacramento, SMUD, and SCWA to address issues related to wheeling and wholesaling of surface water, CVP water transfers, and dry year water supply. The availability of CVP water supply is subject to WFA dry year restrictions.

Other legal constraints include project specific compliance with the California Environmental Quality Act (CEQA), and where applicable, the National Environmental Policy Act (NEPA), federal Endangered Species Act, and California Endangered Species Acts. Federal, state, and local permits for the construction of water supply facilities that will undergo site-specific environmental review and approval. Required permits identified pursuant to that review will have to be obtained prior to acceptance of bids for construction of any project.

Water production, treatment, and storage facilities will be added to SCWA's public water system permit issued by CDPH, as required. The design of these facilities will require review and approval by CDPH.

4.2 Groundwater

10631(b) (Is) groundwater…identified as an existing or planed source of water available to the supplier(?)

10631(b)(1) (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.

10631(b)(2)(Provide a) description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, (provide) a copy of the order or decree adopted by the court or the board.

10631(b)(2) (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) 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)(3) (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)(4)(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.

This section provides a description of SCWA's groundwater supply as well as the physical and legal constraints of SCWA's groundwater supply.

Groundwater is a vital source of supply for all of Zone 41. Those portions of Zone 41 located outside of Zone 40 and 50 are completely reliant on groundwater. While groundwater currently makes up a substantial portion of the supply within Zone 40, completion of the FRWA project and the Vineyard Surface WTP will introduce a significant amount of surface water to complement available groundwater, fully initiating SCWA's conjunctive use program. The objective of conjunctively using surface water and groundwater is to maintain the sustainable yield of the groundwater basin underlying SCWA's service area.

Zone 41 pumps groundwater from the Sacramento Valley Groundwater Basin, North American Subbasin (5-21.64) (Northgate 880 and Arden Park Vista) and the South American Subbasin (5-21.65) (Zone 40 (NSA, CSA, and SSA), Walnut Grove, and Hood). Figure 4-1 shows the location of the groundwater basins located within Sacramento County. SCWA service areas pump water from the North American River Basin (North Basin) and the South American River Basin (Central Basin). Currently, groundwater pumping in both basins is either at or below its respective sustainable yield. More detailed descriptions of these basins are provided below.

4.2.1 North American River Basin

The North Basin is defined by DWR as the area bounded on the west by the Feather and Sacramento rivers, on the north by the Bear River, on the south by the American River, and on the east by the Sierra Nevada. The North Basin is not adjudicated and is not considered to be in overdraft according the DWR Bulletin 118 (DWR, 2006). Additional information about the basin includes:

- Surface Area: 548 square miles.
- The eastern basin boundary is a north-south line extending from the Bear River south to Folsom Reservoir. This represents the approximate edge of the alluvial basin where little or no groundwater flows into or out of the groundwater basin from the Sierra Nevada.
- The western portion of the basin consists of nearly flat flood basin deposits from the Bear, Feather, Sacramento and American rivers, and several small east side tributaries.

Hydrogeologic Setting of the North Basin

The groundwater resources of Sacramento County have been extensively investigated and reported in DWR Bulletin 118-3, Evaluation of Ground Water Resources: Sacramento County (DWR, 1974). DWR Bulletin 118-3 identifies and describes the various geologic formations that constitute the water-bearing deposits underlying Sacramento County. These formations include an upper, unconfined aquifer system consisting of the Riverbank (formerly known as Victor), and Turlock Lake (formerly known as Fair Oaks), Laguna, and a lower, semi-confined aquifer system consisting primarily of the Mehrten Formation. These formations are typically composed of lenses of inter-bedded sand, silt, and clay, interlaced with coarse grained stream channel deposits. Figure 4-2 represents a typical geologic cross section in Sacramento County.

As described within DWR Bulletin 118-3, these formations form a maximum thickness of about 2,000 feet under the Sacramento River. The primary water-bearing formations (Laguna and Mehrten) are overlain by much younger basin, natural levee/channel, and alluvium deposits (CDMG, 1981). The Ione and Valley Springs formations exist beneath the Mehrten Formation and are thought to be a transitional aquifer system that contains a mixture of saline and fresh groundwater. There are no regionally-extensive fine grained layers in the subsurface to create a regionally confined aquifer such as is observed in the San Joaquin Valley from the Corcoran Clay layer.

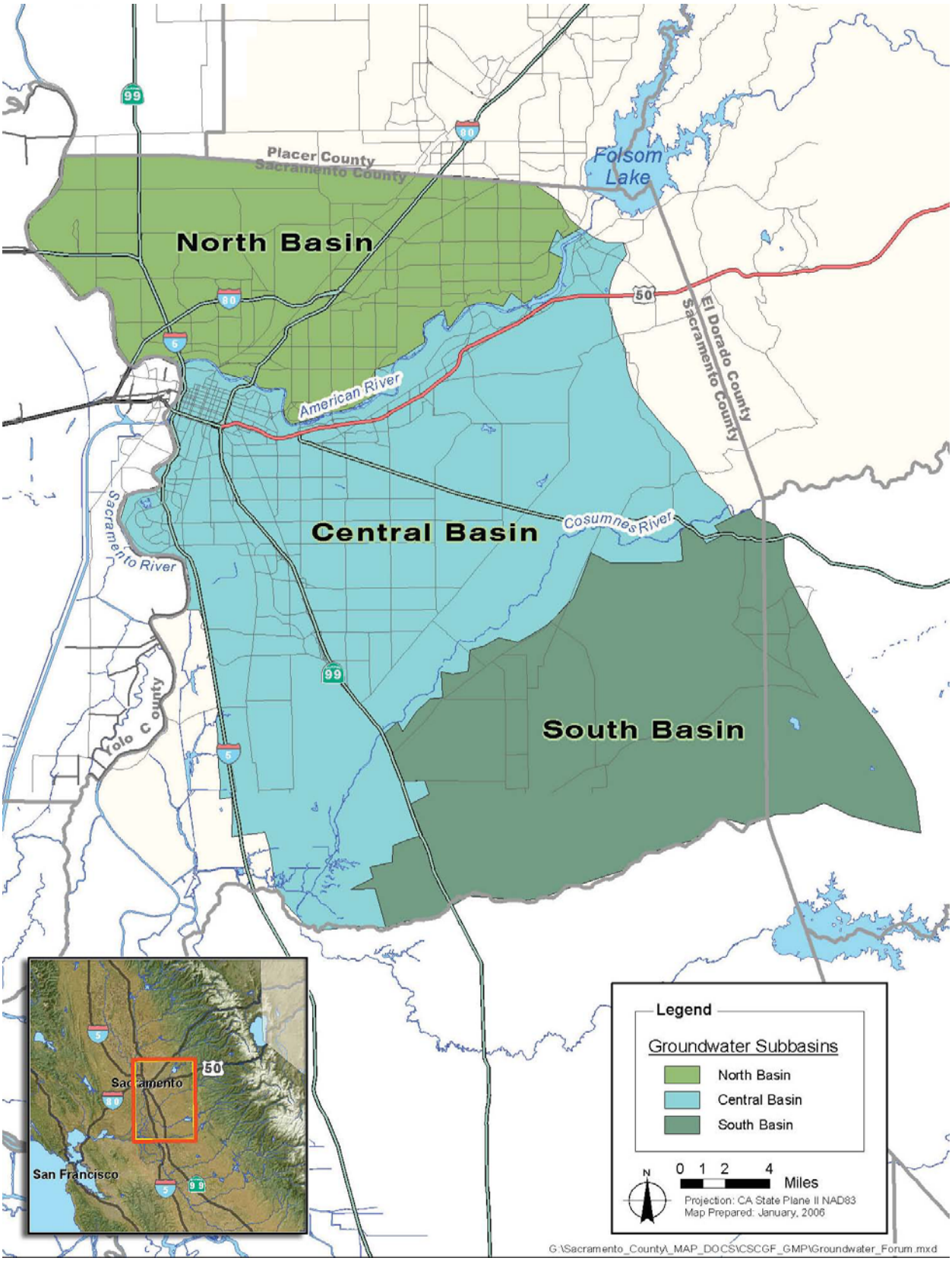


Figure 4-1. Groundwater Basins in Sacramento County

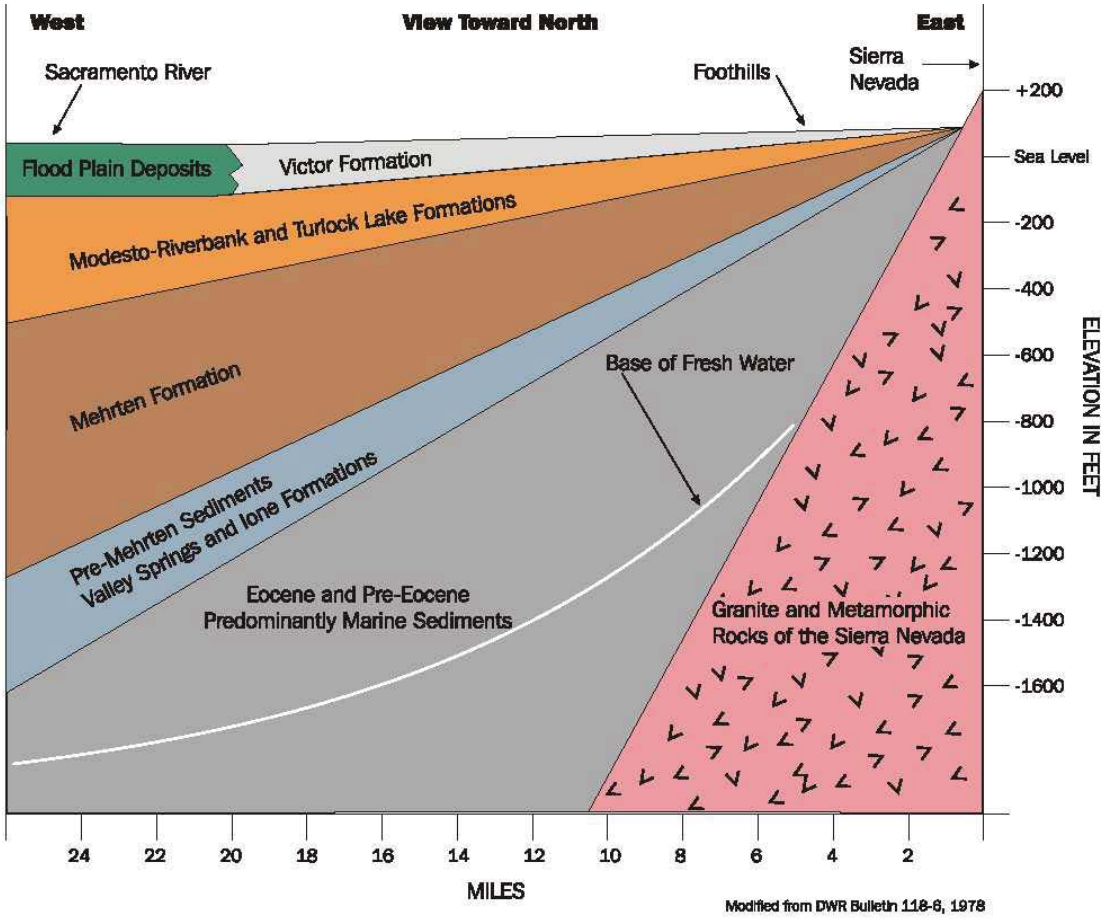


Figure 4-2. Regional Geologic Cross Section in Sacramento County

Groundwater occurs in unconfined to semi-confined states throughout the North Basin. Semi-confined conditions occur in localized areas; the degree of confinement typically increases with depth below the ground surface. Groundwater in the Riverbank, Turlock Lake, and Laguna Formations (the "upper aquifer") is typically unconfined. However, due to the heterogeneous nature of the alluvial depositional system, semi-confined conditions can be encountered at shallow depths in the aquifer. The Laguna formation will yield moderate quantities of water to wells screened in fine grained deposits with wells screened in well sorted Laguna granitic sands producing higher yields (DWR, 1974). The deeper Mehrten Formation (the "lower aquifer") typically exhibits semi-confined conditions. The Mehrten formation is a major aquifer and provides groundwater to many wells within the North Basin.

Groundwater Quality in North Basin

The water quality in the upper aquifer system is regarded as superior to that of the lower aquifer system. The upper aquifer is preferred over the lower aquifer principally because the lower aquifer system (specifically the Mehrten formation) contains higher concentrations of iron and manganese. Water from the upper aquifer generally does not require treatment (other than disinfection). The lower aquifer system is prone to having higher concentrations of total dissolved solids (TDS) than the upper aquifer. In general, at depths of approximately 1,200 feet or greater (actual depth varies throughout the basin), the TDS concentration exceeds 2,000 milligrams per liter (mg/L). At such concentrations, the groundwater is considered to be non-potable.

Groundwater in the North Basin is highly suitable as a source of public drinking water supply from a general chemistry perspective. Specifically, the primary constituents referred to for "general chemistry" include TDS, iron, manganese, arsenic, and nitrate. Despite the very good general chemistry of groundwater in the North Basin, there are several contaminant plumes and many point sources of contamination (e.g., leaking underground storage tanks) that local water managers must consider when managing the basin to ensure a sustainable water supply.

Principal groundwater contaminant plumes within or near the North Basin emanate from source areas at McClellan Air Force Base, Mather Air Force Base, and Aerojet. The presence of these contaminant plumes has damaged some existing municipal wells and limits the construction of new municipal wells in the vicinity of the contaminant plumes. Significant remediation efforts/programs by federal, state, and local government agencies are in progress to confine and clean up the contaminated groundwater.

Groundwater Levels in North Basin

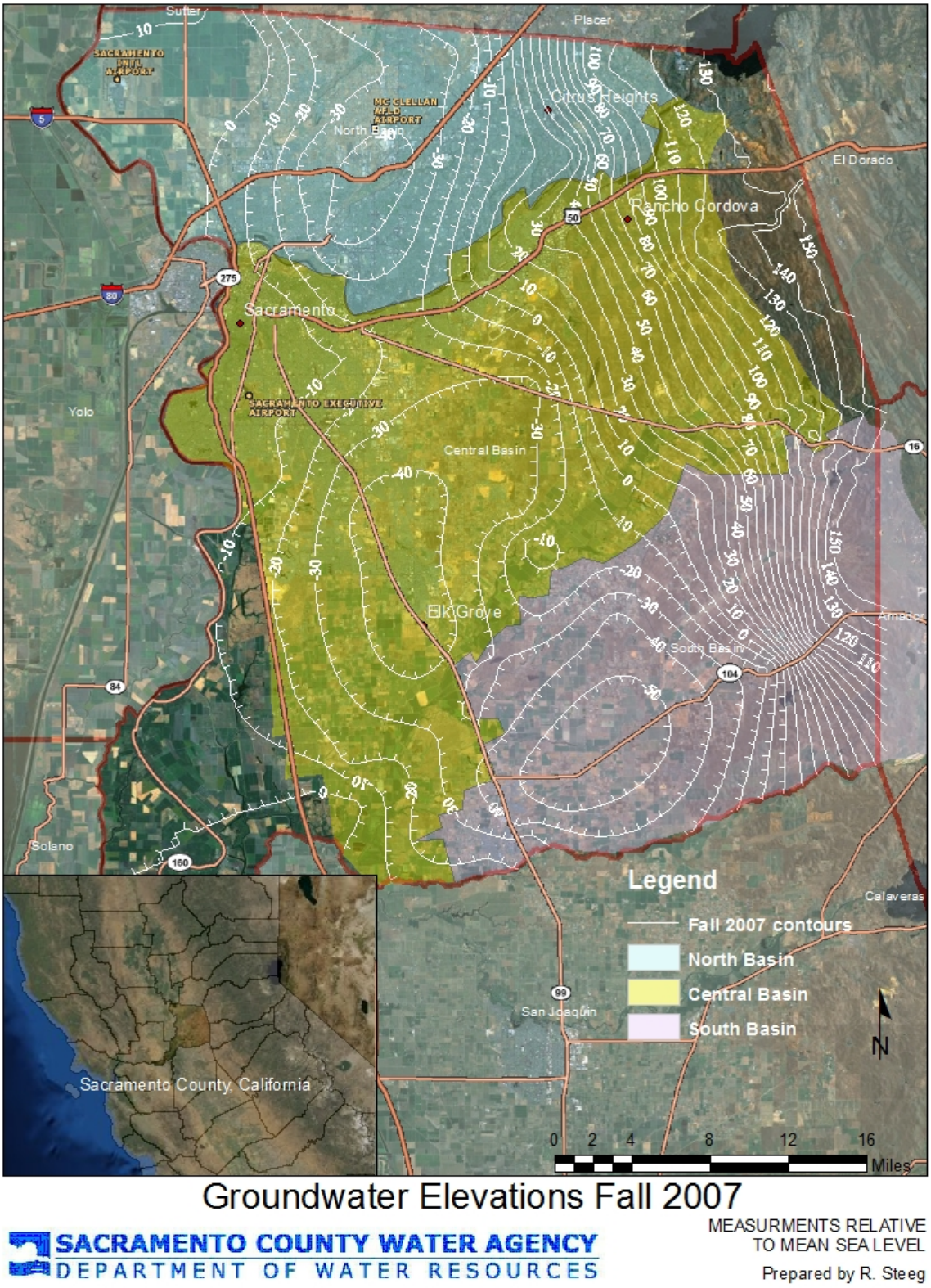
Intensive use of groundwater in the North Basin has resulted in a general lowering of groundwater levels near the center of the basin away from the sources of recharge. As early as 1968, pumping depressions were evident in northern Sacramento County. These depressions have grown and coalesced into a single cone of depression centered in the Sacramento Groundwater Authority (SGA) area as shown on Figure 4-3. Figure 4-3 is a contour plot of equal elevations of the top of the groundwater in the North Basin and Central Basin for Fall 2007. The low groundwater elevation in the area is approximately 40 feet below mean sea level (MSL), represented within the -40 foot contour. In general, the rest of the North Basin does not show any distinctive patterns with respect to regional groundwater elevations, and the water table tends to mimic the local topography. This is also reflected in the increasing density of water elevation contours as the land surface elevation gradient increases in the eastern part of the North Basin.

Groundwater elevations in the eastern and western areas of North Basin have been fairly stable, while the central area (within the cone of depression) experienced continuing decline every year until around the mid-1990s. The groundwater level stabilization in the cone of depression was due, at least in part, to expanded conjunctive use operations by other water agencies in this area. In fact, groundwater elevations have increased slightly over previous years despite the increase in groundwater extraction in the basin in 2007. This is likely because groundwater for public supply has been reduced in the immediate vicinity of the McClellan Business Park to help limit the movement of contamination.

4.2.2 South American River Basin

The Central Basin is defined as the area bounded on the west by the Sacramento River, on the north by the American River, on the south by the Cosumnes and Mokelumne rivers, and on the east by the Sierra Nevada Range. The Central Basin is not adjudicated and is not considered to be in overdraft according the DWR Bulletin 118 (DWR, 2004). Additional information about the groundwater basin includes:

- Surface Area: 388 square miles.
- The perennial rivers that surround the basin generally create a groundwater divide in the shallow subsurface. It is clear that there is interaction between groundwater of adjacent basins at greater depths.
- The eastern basin boundary is defined by the uprising foothills of the Sierra Nevada and is a north-south line extending from Folsom Reservoir south to the small community of Rancho Murieta. This represents the approximate edge of the alluvial basin where little or no groundwater flows into or out of the groundwater basin from the Sierra Nevada foothills. The western portion of the basin consists of nearly flat flood plain deposits from the Sacramento, American, and Cosumnes rivers, and several small east side tributaries.



Groundwater Elevations Fall 2007

SACRAMENTO COUNTY WATER AGENCY
DEPARTMENT OF WATER RESOURCES

MEASURMENTS RELATIVE TO MEAN SEA LEVEL

Prepared by R. Steeg

Figure 4-3. Fall 2007 Groundwater Elevation Contour Map

Hydrogeologic Setting of Central Basin

Bulletin 118-3 identifies and describes various geologic formations that constitute the water-bearing deposits underlying Sacramento County. These formations include an upper, unconfined aquifer system consisting of the Victor, Fair Oaks, and Laguna Formations (now known as the Modesto Formation), and a lower, semi-confined aquifer system consisting primarily of the Mehrten Formation, known for its fine black sands. These formations are shown on Figure 4-2 and are typically composed of lenses of inter-bedded sand, silt, and clay, interlaced with coarse-grained stream channel deposits. Figure 4-2 illustrates that these deposits form a wedge that generally thickens from east to west to a maximum thickness of about 2,500 feet under the Sacramento River. The Mehrten formation outcrops near the Sierra Foothills along the eastern Central Basin boundary and is typically characterized as a black sandy lens.

Groundwater in the Central Basin is generally classified as occurring in a shallow aquifer zone (Laguna or Modesto Formation) or in an underlying deeper aquifer zone (Mehrten Formation). Within the Central Basin, the shallow aquifer extends approximately 200 to 300 feet below ground surface (bgs) and, in general, water quality in this zone is considered to be good with the exception of arsenic detections in a few locations. The shallow aquifer is typically used for private domestic wells requiring no treatment unless high arsenic values are encountered, causing owners to possibly target other water-bearing strata.

The deep aquifer is separated from the shallow aquifer by a discontinuous clay layer that serves as a semi-confining layer for the deep aquifer. The base of the potable water portion of the deep aquifer averages approximately 1,400 feet bgs. Water in the deep aquifer typically has higher concentrations of TDS, iron, and manganese. Groundwater used in the Central Basin is supplied from both the shallow and deeper aquifer systems.

Groundwater Quality in Central Basin

Water quality analysis of the aquifers underlying the Central Basin has shown that groundwater found in the upper aquifer system is of higher quality than that found in the lower aquifer system. This is principally because the lower aquifer system (specifically the Mehrten formation) contains higher concentrations of iron and manganese. The lower aquifer system also has higher concentrations of TDS. At depths of approximately 1,400 feet and greater (actual depth varies throughout the basin), the TDS concentration exceeds 2,000 mg/L and groundwater is considered non-potable unless treated by reverse osmosis. Water from the upper aquifer (specifically the Laguna formation) generally does not require treatment (unless high arsenic values are encountered), other than disinfection for public drinking water systems.

Iron and manganese are found in deeper municipal wells and treatment is required by CDPH when a new well is constructed. Therefore, the presence of iron and manganese does not limit the potable use of groundwater. According to the data management system (DMS), iron concentrations range from non-detect (less than 10 µg/L) to 16,000 mg/L, although most wells have average values of less than 200 mg/L. Manganese concentrations range from non-detect (less than 2 mg/L) to 1,700 mg/L, although most wells have average values of less than 50 mg/L.

In 2004, the U.S. Environmental Protection Agency (EPA) adopted a revised MCL for arsenic of 0.010 mg/L, along with monitoring requirements, arsenic health effects language, and best available technologies for arsenic mitigation in public drinking water systems. Starting in January 2006, CDPH required that untreated municipal wells that exceed the new arsenic standards be phased out of production or be treated to below the new 10 µg/L MCL. Prior to the 2004 EPA ruling, arsenic concentrations of less than 50 µg/L were acceptable for potable drinking water. Municipal wells within the Central Basin have historically met primary drinking water standards; with necessary treatment, arsenic will not limit the potable use of groundwater in the future as well.

Principal groundwater contaminant plumes within or near the Central Basin emanate from source areas such as Mather Field, McClellan Business Park, Aerojet, Boeing, the former Army Depot, the former Southern Pacific and Union Pacific rail yards, and various landfills. The presence of these contaminant plumes has impacted some existing municipal wells. Significant remediation efforts/programs by federal, state, and local government agencies are in progress to clean up the contaminated groundwater and to confine the contaminant plumes from further spreading. Currently, remediated groundwater is discharged into natural water bodies and flows out of the Central Basin. There are on-going discussions and negotiations between purveyors and parties responsible for clean-up to keep the remediated groundwater in the Central Basin and put it to beneficial use.

Groundwater Levels in Central Basin

Intensive groundwater extraction from the Central Basin over the past has resulted in a general lowering of groundwater elevations near the center of the basin away from the sources of recharge. These depressions have grown and coalesced into a single cone of depression centered near Elk Grove as shown on Figure 4-3. Figure 4-3 is a representative contour plot of equal elevations of groundwater levels in the North Basin and Central Basin for Fall 2007. The low groundwater elevation in the area is approximately 40 feet below MSL, represented within the -40 foot contour. In general, the rest of the Central Basin does not show any distinctive patterns with respect to regional groundwater elevations, and the water table tends to mimic the local topography. This is also reflected in the increasing density of water elevation contours as the land surface elevation gradient increases in the eastern part of the Central Basin.

Groundwater elevations generally declined consistently from the 1950s and 1960s to about 1980 on the order of 20 to 30 feet. From 1980 through 1983, water levels recovered by about 10 feet and remained stable until the beginning of the 1987 through 1992 drought. From 1987 until 1995, groundwater levels declined by about 15 feet. From 1995 to 2003 most groundwater levels recovered generally higher than levels prior to the 1987 through 1992 drought. Much of this recovery can be attributed to the increased use of surface water in the Central Basin by SCWA and other water agencies, and the fallowing of previously irrigated agricultural lands transitioning into new urban development areas in accordance with the Sacramento County and City of Elk Grove General Plans.

Upon the completion of FRWA project and SCWA's Vineyard Surface WTP, the groundwater level in the Central Basin is anticipated to stabilize as the conjunctive use program is fully implemented.

4.2.2.1 Groundwater Management Plans

Zone 41 is a part of two groundwater management plan (GMP) efforts: the SGA GMP and the Sacramento Central Groundwater Authority (SCGA) GMP.

SGA Groundwater Management Plan

Service areas within the North Basin, including SCWA's Arden Park Vista and Northgate 880, fall under the purview of the SGA GMP. The SGA GMP was first completed in December 2003 and updated in December 2008.

SGA draws its authority from a joint powers agreement signed by the cities of Citrus Heights, Folsom, and Sacramento and the County of Sacramento to exercise their common police powers to manage the underlying groundwater basin. At the core of SGA's management responsibility is a commitment to not exceed the average annual sustainable yield of the basin, which was estimated to be 131,000 ac-ft in the Water Forum Agreement (WFA).

The goal of the SGA GMP is to ensure a viable groundwater resource for beneficial uses including agricultural, industrial, and municipal supplies that support the WFA's co-equal objectives of providing a reliable and safe water supply and preserving the fishery, wildlife, recreational, and aesthetic values of

the lower American River. To meet the above stated goal, SGA has adopted eight specific basin management objectives (BMOs). These BMOs include the following:

1. Maintain or improve groundwater quality in the SGA area to ensure sustainable use of the groundwater basin.
2. Maintain groundwater elevations that provide for sustainable use of the groundwater basin.
3. Protect against potential inelastic land surface subsidence.
4. Manage groundwater to protect against adverse impacts to surface water flows in the American River, the Sacramento River, and other surface water bodies within the SGA area.
5. Protect against adverse impacts to surface or groundwater quality resulting from interaction between groundwater in the basin and surface water flows in the American River, the Sacramento River, and other surface water bodies within the SGA area.
6. Educate on the need to achieve recharge to the aquifer of appropriate quality and quantity to ensure basin sustainability.
7. Maintain a sustainable groundwater basin to help mitigate potential water supply impacts resulting from an uncertain climate future and an increasingly unreliable state and federal water delivery system.
8. Maintain a sustainable groundwater basin underlying the SGA area through coordination and collaboration with adjacent groundwater basin management efforts.

The SGA GMP also includes a detailed groundwater management implementation plan to comply with the requirements of their BMO's. Additionally, SGA prepares a biannual report to evaluate progress on GMP implementation and to report on basin conditions. The most recent biennial report can be downloaded from SGA's website at www.sgah2o.org. A copy of the 2008 SGA GMP is included in Appendix G on compact disk.

SCGA Groundwater Management Plan

Areas within the Central Basin fall under the purview of the SCGA GMP which was completed in November 2006. Zone 40 is located entirely within the Central Basin.

SCGA draws its authority from a joint powers agreement signed by the Cities of Elk Grove, Folsom, Rancho Cordova, and Sacramento, and the County of Sacramento to exercise their common police powers to manage the underlying groundwater basin. At the core of SCGA's management responsibility is a commitment to not exceed the average annual sustainable yield of the basin, which was estimated to be 273,000 ac-ft in the WFA.

The goal of the SCGA GMP is to ensure a viable groundwater resource for beneficial uses including agricultural, industrial, and municipal supplies that support the WFA's co-equal objectives of providing a reliable and safe water supply, while preserving the fishery, wildlife, recreational, and aesthetic values of the lower American River. To meet the above stated goal, SCGA has adopted five specific BMOs. These BMOs include the following:

1. Maintain the long-term average groundwater extraction rate at or below 273,000 ac-ft/yr.
2. Maintain specific groundwater elevations within all areas of the Central Basin consistent with the Water Forum "solution."
3. Protect any potential inelastic land surface subsidence by limiting subsidence to no more than 0.007 feet per one foot of drawdown in the groundwater basin.
4. Protect against any adverse impacts to surface water flows in the American, Cosumnes, and Sacramento Rivers.
5. Meet specific water quality objectives.

The SCGA GMP also prescribes a well protection program (WPP) to protect existing private domestic well and agricultural well owners from declining groundwater levels resulting from increased groundwater pumping due to new development in the basin. The SCGA GMP includes a detailed groundwater management implementation plan to comply with the requirements of their BMO's. Additionally, SCGA prepares a biennial report to evaluate progress on GMP implementation and to report on basin conditions. The most recent biennial report was completed in 2009 can be downloaded from SCGA's website at www.scgah2o.org. A copy of the 2006 SCGA GMP is included in Appendix G on compact disk.

4.2.3 Physical Constraints

Historically, SCWA has relied primarily on groundwater to provide water service to its customers. Existing groundwater pumping capacity plus a relatively small amount of surface water has been sufficient to meet water demands. With the completion the FRWP and the Vineyard Surface WTP, SCWA will be able to more fully implement the conjunctive use program outlined in their various planning documents. Implementing this conjunctive use program will enable SCWA to meet their current and future water demands while being protective of the underlying groundwater basin. Physical constraints may include 1) well capacity to pump water to the distribution system; and 2) capacity of other water supply facilities such as booster pump stations, storage tanks, pressure reducing valves, and major distribution pipelines.

4.2.4 Legal Constraints

According to the WFA, the long-term average annual groundwater pumping from the Central Basin is limited to 273,000 ac-ft/yr. For Zone 40, a long-term average annual groundwater pumping of 40,900 ac-ft/yr has been identified in both the WFA and the WSMP. Groundwater use in SCWA service areas located outside of Zone 40 is relatively static as these areas are, for the most part, built-out. While no specific annual groundwater pumping amount has been defined in the WFA, SCWA's share of groundwater pumping has been included in the sustainable yield of the North Basin and is essentially equal to the build-out demands for both the North Gate and Arden Park Vista systems. In June 2010 the SGA developed Phase III of the Water Accounting Framework which establishes a combined sustainable pumping estimate of 4,288 ac-ft/yr for SCWA's Arden Park Vista and Northgate 880 systems (SGA, 2010).

4.3 Desalination

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

While sources of brackish groundwater do exist within the region, SCWA has no plans to develop or implement a desalination program as a future supply source.

4.4 Transfer and Exchange Opportunities

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

The "Other Water" supply identified in the 2005 Zone 40 WSMP is necessary to meet build-out demand requirements identified in the WSMP. To obtain these supplies, SCWA would need to enter into purchase and transfer agreements with another entity or entities that currently hold surface water rights upstream of SCWA's points of diversion. The long-term average annual amount of this supply is 5,200 ac-ft/yr.

In 2010, SCWA entered into an agreement with Aerojet to transfer ownership of 8,900 ac-ft/yr of remediated groundwater. This water becomes part of SCWA's water portfolio and will, over time, be used

to meet new development water demands in the Rio del Oro project. Currently, there are no specifics as to how this water supply will be delivered to the Zone 40 service area.

Table 4-1 summarizes the transfer and exchange opportunities for SCWA.

Table 4-1. (DWR Table 20) Transfer and Exchange Opportunities

Transfer Agency	Transfer or Exchange	Short Term or Long Term	Proposed Volume
Surface water right holders upstream of SCWA's diversion point	Transfer	Long-Term	5,200 ac-ft/yr [1]
Aerojet	Remediated groundwater for beneficial use	Long-Term	8,900 ac-ft/yr [2]

[1] *Identified as "Other Water" in 2005 Zone 40 Water Supply Master Plan. Represents transfer opportunities in the Sacramento River watershed for pre-1914 water rights*

[2] *The water supply refers to the potential remediated groundwater supply. The amount of 8,900 ac-ft/yr is intended for Rio del Oro.*

4.5 Water Quality

10634 The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

This section describes the quality of existing water supply sources within SCWA and the manner in which water quality affects water management strategies and supply reliability. Impacts of groundwater quality are described in previous sections 4.2.1.1 and 4.2.1.2.

Current and projected water supply changes due to water quality are provided in Table 4-2. In general, water quality will not have a significant impact on SCWA's current and projected water supplies. Older municipal wells and all domestic wells have been constructed in the shallow aquifer zone to avoid treatment. However, the policies and practices of SCWA in the Central Basin have led to the construction of larger municipal wells that target the Mehrten Formation where higher production rates can be achieved and less impact to private domestic wells would occur. The deeper formation water typically has concentrations of iron and manganese that exceed secondary water quality standards and as a result treatment for iron and manganese removal has been required.

Table 4-2. (DWR Table 30) Current and Projected Water Supply Impacts Due to Water Quality, ac-ft/yr

Water Supply Sources	Description of Condition	2010	2015	2020	2025	2030	2035
Surface Water	Good	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Supplier produced groundwater	The presence of groundwater contamination requires that NSA will predominantly rely on surface water; groundwater development is limited and most new wells have to be constructed offsite	Groundwater contamination damaged some existing wells in NSA. New wells were constructed offsite to support growth.	New wells are constructed offsite to support growth in NSA before NSA pipeline is brought online	NSA pipeline is online. NSA is predominantly served by surface water	NSA pipeline is online. NSA is predominantly served by surface water	NSA pipeline is online. NSA is predominantly served by surface water	NSA pipeline is online. NSA is predominantly served by surface water

Table 4-2. (DWR Table 30) Current and Projected Water Supply Impacts Due to Water Quality, ac-ft/yr							
Water Supply Sources	Description of Condition	2010	2015	2020	2025	2030	2035
Recycled water	Good, only used to irrigate public landscapes	No Impact, but the use is limited to public landscape irrigation	No Impact, but the use is limited to public landscape irrigation	No Impact, but the use is limited to public landscape irrigation	No Impact, but the use is limited to public landscape irrigation	No Impact, but the use is limited to public landscape irrigation	No Impact, but the use is limited to public landscape irrigation
Desalination water	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: NSA pipeline is a large transmission pipeline that delivers treated surface water from the Vineyard Surface WTP to NSA.

4.6 Current and Projected Normal Year Water Supplies

Water supply sources for SCWA fall into three categories: (1) groundwater (including remediated groundwater), (2) surface water, and (3) recycled water. Table 4-3 summarizes SCWA's existing and planned water supplies based on the WSMP and the previous discussions on surface water and groundwater found in Section 4.1 and 4.2 of this Plan. Recycled water supply is described in Section 5.

Table 4-3 identifies existing and future SCWA's water entitlements, water rights, and water service contracts that will be required to meet SCWA's projected build-out water demand. The availability of each water supply is constrained by available water infrastructure capacity, hydrologic condition, and WFA restrictions. For example, while SCWA has acquired a significant amount of surface water, it cannot be treated and delivered without both FRWA and Vineyard Surface WTP facilities being operational. The current and projected water supply availability for the next 25 years during a normal year is shown in Table 4-4.

Table 4-3. Water Supply Entitlements, Water Rights, and Water Service Contracts to Meet the Build-out Water Demand, ac-ft/yr						
Water Supply Sources	Wholesaler Supplied Volume (Yes/No)	Status of Contract, Permit, and Agreement	Availability in Wet Years	Availability in Dry Years	Long-term Average	Reliability
Supplier-produced groundwater to serve Zone 40 [1]	no	Existing	27,300	Up to 69,900	40,900	High
Wholesaler – (City of Sacramento) to serve portion of Zone 40 in City of Sacramento's American river POU[1]	yes	Planned	9,300	9,300	9,300	High
Supplier-produced surface water to Serve Zone 40: U.S. Bureau of Reclamation – CVP Supply (SMUD 1, SMUD 2, and Fazio Water) [1]	yes	Existing	45,000	8,700	38,000	Moderate
Supplier-produced surface water to Serve Zone 40: Appropriative Water – SWRCB Permit 21209 [1]	no	Existing	Up to 71,000	0	21,700	Low
Other Water - Water Transfer [1]	no	Planned	0	9,600	5,200	Moderate to High
Recycled water for Zone 40 [1]	yes	Existing	4,400	4,400	4,400	High
Remediated groundwater to serve Rio del Oro in Zone 40	no	Existing	8,900	8,900	8,900	High
Zone 40 Subtotal			165,900	110,800	128,400	
Wholesaler – (City of Sacramento) to Serve Zone	yes	Existing	5,198	5,198	5,198	High

Table 4-3. Water Supply Entitlements, Water Rights, and Water Service Contracts to Meet the Build-out Water Demand, ac-ft/yr						
Water Supply Sources	Wholesaler Supplied Volume (Yes/No)	Status of Contract, Permit, and Agreement	Availability in Wet Years	Availability in Dry Years	Long-term Average	Reliability
50 [2]						
Supplier-produced groundwater to serve areas outside of Zone 40 [3]	no	Existing	6,000	6,000	6,000	High
Desalination water	N/A	N/A	N/A	N/A	N/A	N/A
Total Water Supply			177,098	121,998	139,598	N/A

[1] *Source: The Zone 40 Water Supply Master Plan. Groundwater pumping rates in wet and dry years are modeling results determined by the build-out demand and the availability of surface water. Groundwater pumping rates can be lower or higher than the numbers identified in the table as long as the long-term average is maintained below 40,900 ac-ft/yr.*
[2] *Source: The Zone 50 Water Supply Master Plan.*
[3] *Estimated based on historical pumping data.*

Table 4-4. (DWR Table 16 and 19) Current and Projected Normal Year Water Supplies, ac-ft/yr							
Water Supply Sources	Wholesaler Supplied Volume (Yes/No)	2010	2015	2020	2025	2030	2035
Supplier-produced groundwater to serve Zone 40	no	35,000	20,000	15,000	20,000	25,000	15,000
Wholesaler – (City of Sacramento) to serve portion of Zone 40 in City of Sacramento's American river POU	yes	0	0	0	0	9,300	9,300
Supplier-produced surface water to Serve Zone 40: U.S. Bureau of Reclamation – CVP Supply (SMUD 1, SMUD 2, and Fazio Water)	yes	12,320	25,000	30,000	35,000	40,000	45,000
Supplier-produced surface water to Serve Zone 40: Appropriate Water – SWRCB Permit 21209	no	0	10,000	12,500	15,000	17,500	21,700
Other surface water transfers to serve Zone 40	no	0	0	0	0	0	5,200
Recycled water for Zone 40	yes	1,000	3,000	4,400	4,400	4,400	4,400
Remediated groundwater to serve Rio del Oro in Zone 40	no	0	0	2,500	5,000	7,500	8,900
Zone 40 Subtotal		48,320	58,000	64,400	79,400	103,700	109,500
Wholesaler – (City of Sacramento) to Serve Zone 50	yes	0	779	3,064	5,198	5,198	5,198
Supplier-produced groundwater to serve areas outside of Zone 40	no	6,000	6,000	6,000	6,000	6,000	6,000
Total		54,320	64,779	73,464	90,598	114,898	120,698

Currently, SCWA relies predominantly on groundwater to meet its water demand with a small amount of surface water and recycled water being delivered in the Zone 40 SSA. The total pumping capacity of existing groundwater wells are estimated to be 35,000 ac-ft/yr in Zone 40 and 6,000 ac-ft/yr for areas outside Zone 40. Without the Vineyard Surface WTP, the Franklin Intertie is the only facility that delivers SCWA's surface water – a portion of the "Fazio" water that is treated and wheeled by the City of Sacramento. The capacity of the Franklin Intertie is 11 MGD, or 12,320 ac-ft/yr, if it runs at full capacity all year. Recycled water is currently used in Laguna West, Lakeside, and Laguna Stonelake, collectively referred to as the Phase 1 area. Recycled water use in the Phase 1 area is estimated to be 1,000 ac-ft/yr.

In 2015, the water supply mix will be significantly different from current condition with the operation of the Vineyard Surface WTP beginning in 2011. Groundwater use is expected to decrease significantly but will continue to be the primary water source for the NSA pending construction of the NSA Pipeline. Groundwater use is estimated to be 20,000 ac-ft/yr in a wet/normal hydrologic year in 2015. Recycled water use will likely increase significantly as the Phase 2 t-main begins delivery of recycled water to the East Franklin and Laguna Ridge areas of Elk Grove (recycled water Phase 2 service area or simply the Phase 2 area). Currently, the recycled water distribution system installed in the Phase 2 area is charged with potable water. Once complete, total recycled water use is estimated to be 3,000 ac-ft/yr.

In 2020, the NSA pipeline is expected to come on-line. With the completion of this pipeline surface water will be the predominant source of water in both the CSA and NSA. At this time groundwater use would experience a further decrease. In 2020, groundwater use is estimated to be 15,000 ac-ft/yr in a wet/normal hydrologic year. Recycled water use is estimated to be 4,400 ac-ft/yr.

Estimated water use from each source is shown for 2025, 2030, and 2035 in Table 4-4. Groundwater use increases from 2020 until it sees another dip in 2035 because the second phase of the Vineyard Surface WTP is estimated to come on-line that year. New groundwater facilities will be added as necessary to meet increased water demands in dry years when the availability of surface water is significantly reduced. Additionally, POU water is estimated to come online in 2030. Water supply reliability in normal, single dry, and multiple dry years is discussed in Section 4.8. Future water supply projects are discussed in Section 4.9.

SCWA will receive normal year wholesale water through an agreement with the City of Sacramento to serve the American River POU area starting in 2030. Table 4-5 shows existing and projected water wholesaled to SCWA, and Table 4-6 shows SCWA's current and projected wholesale water provided to the customers.

Table 4-5. (DWR Table 17) Supplies from Wholesalers – Existing and Planned Sources of Water							
Wholesale Sources	Contracted Volume	2010	2015	2020	2025	2030	2035
City of Sacramento (to Serve Portion of Zone 40 within the City of Sacramento's American River POU)	9,300 [1]	0	0	0	0	9,300	9,300
U.S. Bureau of Reclamation – (CVP Supply (SMUD 1, SMUD 2, and Fazio Water) (to Serve Zone 40)	45,000	12,320	25,000	30,000	35,000	40,000	45,000
City of Sacramento (to Serve Zone 50)	5,198 [2]	0	779	3,064	5,198	5,198	5,198
SRCSD (Recycled water for Zone 40)		1,000	3,000	4,400	4,400	4,400	4,400

Units of Measure: ac-ft/yr
[1] Based on the estimated water demand in the portion of Zone 40 within the City of Sacramento's American River POU.
[2] Based on the estimated water demand in Metro Air Park. See Zone 50 Water Supply Master Plan.

Table 4-6. (DWR Table 17) SCWA Supply to Wholesale Customers – Existing and Planned Sources of Water							
Wholesale customers	Contracted Volume	2010	2015	2020	2025	2030	2035
SCWA - supply to Elk Gove Water District (EGWD)	4,600	2,935	3,570	3,640	4,100	4,560	4,560
SCWA – Cal-Am in Rio del Oro	5,000 [2]	0	0	1,000	2,500	4,000	5,000

Units of Measure: ac-ft/yr
[1] Data provided by Elk Grove Water District in May 2011.
[2] Based on the estimated water demand in Cal-Am wholesale service area. The source of water supply for this area will be remediated groundwater.

4.7 Resources Maximization and Import Minimization

10620 (f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

Water programs that SCWA utilizes to maximize resources are described as follows.

- RWA - SCWA is member of RWA and participates in RWA's American River IWRMP as well as RWA's water efficiency program.
- Water Forum Successor Effort - SCWA is a member of the Water Forum Successor Effort and is a signatory to the WFA. The Water Forum process brought together a diverse group of stakeholders that included water managers, business and agricultural leaders, environmentalists, citizen groups, and local governments to evaluate available water resources and the future needs of the Sacramento metropolitan region. The coequal objectives of the WFA are to: 1) provide a reliable and safe water supply for the region's economic health and planned development through the year 2030; and 2) preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River. The WFA contains seven major elements to meet its objectives including purveyor specific agreements or PSAs.
- SGA - SCWA, through the County of Sacramento, is a Board member of the SGA. SGA has adopted a regional groundwater management plan for the North Basin where part of the Zone 41 service area is

located (i.e., Arden Park Vista, Northgate, and Metro Air Park). This is discussed in greater detail in Section 4.2.1 of this plan.

- SCGA – SCWA, through the County of Sacramento, is a Board member of the SCGA. SCGA has adopted a regional groundwater management plan for the Central Basin where part of the Zone 41 service area is located (i.e., Southwest Tract and Zone 40). This is discussed in greater detail in Section 4.2.1 of this plan.

Through active participation in the above referenced programs, SCWA has access to and participates in the development of various water management tools that provide opportunities for regional cooperation, and resource optimization. No water is imported into Zone 41.

4.8 Water Supply Reliability

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

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

This section describes the reliability of SCWA's various water supply sources and their vulnerability to seasonal or climatic shortage. A summary of the factors resulting in inconsistency of the surface water supply sources is provided in Table 4-7 below.

Table 4-7. (DWR Table 29) Factors Resulting in Inconsistency of Supply

Water Supply Sources	Specific Source Name, if Any	Limitation Quantification	Legal	Environmental	Water Quality	Climatic	Additional Information
Wholesaler - City of Sacramento	City of Sacramento American River POU Water	9,300 ac-ft/yr	WFA	N/A	N/A	N/A	Ongoing negotiation
Supplier-produced groundwater	SGA, SCGA	Basin sustainable yield and PSA	WFA	SGA, SCGA BMO's	contaminant plumes present	N/A	N/A
Supplier-produced surface water	CVP Water	Contract amount	WFA	N/A	N/A	CVP dry year cutbacks	N/A
Supplier-produced surface water	Appropriative Water	Varies	SWRCB Permit 21209	N/A	N/A	Intermittent nature, unreliable	N/A
Transfers in	Other transfer surface water	5,200 ac-ft/yr	Future negotiation	N/A	N/A	N/A	Future negotiation
Exchanges in	Aerojet Remediated GW	8,900 ac-ft/yr	Under negotiation	Ongoing negotiation	Ongoing negotiation	N/A	Ongoing negotiation
Recycled water [1]	SRCSD	4,400 ac-ft/yr	N/A	N/A	N/A	N/A	Limited recycled water demand
Desalination water	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[1] *Recycled water is discussed in Section 5 of this Plan.*

The basis for determining surface water supply reliability is provided in Table 4-8. Actual watershed runoff for each year is identified as well as the percent of average/normal years is shown in Table 4-9. The base years and runoff identified in Tables 4-8, 4-9, and 4-10 are based on runoff data from the State DWR's California Data Exchange Center (CDEC) http://cdec.water.ca.gov/cgi-progs/iodir/WSIHIST. The definitions of the three water year types as described by DWR (DWR, 2010) are provided below.

1. Average year is a year in the historical sequence that most closely represents median runoff levels and patterns. Average is defined as the median runoff over the previous 30 years or more.
2. Single-dry year is generally considered to be the lowest annual runoff for a watershed since the water year beginning in 1903.
3. Multiple-dry year period is generally considered to be the lowest average runoff for a consecutive multiple year period (three years or more) for a watershed since 1903.

Table 4-8. (DWR Table 27) Basis of Water Year Data

Water Year Type	Base Year(s)
Average water year	1993
Single-dry water year	1977
Multiple-dry water years	1989-1992

Table 4-9. (DWR Table 28) Supply Reliability – Historic Conditions – Watershed Runoff

Average / Normal Water Year	Single Dry Water Year	Multiple Dry Water Years			
		Year 1	Year 2	Year 3	Year 4
19.31	5.12	14.82	9.26	8.44	8.87
Percent of average/normal year	26.5%	76.7%	48%	43.7%	45.9%

Units of Measure: Million Acre-Feet

Because SCWA's surface water supply is partly from Sacramento River (appropriative water, water transfer) and partly from the American River (CVP water) which is subject to WFA restrictions, a correlation of the base years between WFA year type and DWR defined water year type is provided in Table 4-10.

Table 4-10. Correlation of Base Years to DWR and Water Forum Water Year Types

DWR Water Year Type	Base Year(s)	Water Forum Year Type
Normal	1993	Wet
Single dry	1977	Driest
Multiple-dry Year 1	1989	Wet
Multiple-dry Year 2	1990	Drier
Multiple-dry Year 3	1991	Average
Multiple-dry Year 4	1992	Drier

A water supply reliability comparison for SCWA's current water sources is made in Table 4-11, considering three water supply scenarios: average/normal water year, single dry water year, and multiple dry water years. Tables 4-12 through 4-16 describe SCWA's water supply reliability for 2015, 2020, 2025, 2030, and 2035 respectively.

Table 4-11. (DWR Table 31) Water Supply Reliability – Current Water Sources, ac-ft/yr

Sources	Normal Water Year	Single Dry Year	Multiple Dry Water Year Supply		
			Year 1	Year 2	Year 3
Supplier-produced groundwater to Serve Zone 40	35,000	39,930	36,232	37,464	38,080
Wholesaler – (City of Sacramento) to serve portion of Zone 40 in City of Sacramento's American River POU	0	0	0	0	0
Supplier-produced surface water to Serve Zone 40: U.S. Bureau of Reclamation – CVP Supply (SMUD 1, SMUD 2, and Fazio Water) [1]	12,320	7,390	11,088	9,856	9,240
Supplier-produced surface water to Serve Zone 40: Appropriate Water – SWRCB Permit 21209	0	0	0	0	0
Other surface water transfers to serve Zone 40	0	0	0	0	0
Recycled water for Zone 40	1,000	1,000	1,000	1,000	1,000
Remediated groundwater to serve Rio del Oro in Zone 40	0	0	0	0	0
Zone 40 Subtotal	48,320	48,320	48,320	48,320	48,320
Wholesaler – (City of Sacramento) to Serve Zone 50	0	0	0	0	0
Supplier-produced groundwater to serve areas outside of Zone 40	6,000	6,000	6,000	6,000	6,000
Total	54,320	54,320	54,320	54,320	54,320
Percent of Normal	100%	100%	100%	100%	100%

[1] *Assume the availability in single dry, multiple dry year 1, year 2, and year 3 is 60 percent, 90 percent, 80 percent, and 75 percent of normal year, respectively. Currently, only Fazio water is available to SCWA through the Franklin Intertie.*

Table 4-12. Water Supply Reliability in 2015, ac-ft/yr

Sources	Normal Water Year	Single Dry Year	Multiple Dry Water Year Supply		
			Year 1	Year 2	Year 3
Supplier-produced groundwater to Serve Zone 40	20,000	46,300	32,500	35,000	36,250
Wholesaler – (City of Sacramento) to serve portion of Zone 40 in City's American River POU	0	0	0	0	0
Supplier-produced surface water to Serve Zone 40: U.S. Bureau of Reclamation – CVP Supply (SMUD 1, SMUD 2, and Fazio Water) [1]	25,000	8,700	22,500	20,000	18,750
Supplier-produced surface water to Serve Zone 40: Appropriate Water – SWRCB Permit 21209 [2]	10,000	0	0	0	0
Other surface water transfers to serve Zone 40	0	0	0	0	0
Recycled water for Zone 40	3,000	3,000	3,000	3,000	3,000

Table 4-12. Water Supply Reliability in 2015, ac-ft/yr					
Sources	Normal Water Year	Single Dry Year	Multiple Dry Water Year Supply		
			Year 1	Year 2	Year 3
Remediated groundwater to serve Rio del Oro in Zone 40	0	0	0	0	0
Zone 40 Subtotal	58,000	58,000	58,000	58,000	58,000
Wholesaler – (City of Sacramento) to Serve Zone 50	779	779	779	779	779
Supplier-produced groundwater to serve areas outside of Zone 40	6,000	6,000	6,000	6,000	6,000
Total	64,779	64,779	64,779	64,779	64,779
Percent of Normal	100%	100%	100%	100%	100%

[1] *Assume the availability for multiple dry year 1, year 2, and year 3 is 90 percent, 80 percent, and 75 percent of normal year, respectively. The availability for single dry year is 8,700 ac-ft/yr according to the WSMP.*

[2] *Assume no appropriative water is available in dry years.*

Table 4-13. Water Supply Reliability in 2020, ac-ft/yr					
Sources	Normal Water Year	Single Dry Year	Multiple Dry Water Year Supply		
			Year 1	Year 2	Year 3
Supplier-produced groundwater to Serve Zone 40	15,000	48,800	30,500	33,500	35,000
Wholesaler – (City of Sacramento) to serve portion of Zone 40 in City of Sacramento's American River POU	0	0	0	0	0
Supplier-produced surface water to Serve Zone 40: U.S. Bureau of Reclamation – CVP Supply (SMUD 1, SMUD 2, and Fazio Water) [1]	30,000	8,700	27,000	24,000	22,500
Supplier-produced surface water to Serve Zone 40: Appropriate Water – SWRCB Permit 21209 [2]	12,500	0	0	0	0
Other surface water transfers to serve Zone 40	0	0	0	0	0
Recycled water for Zone 40	4,400	4,400	4,400	4,400	4,400
Remediated groundwater to serve Rio del Oro in Zone 40	2,500	2,500	2,500	2,500	2,500
Zone 40 Subtotal	64,400	64,400	64,400	64,400	64,400
Wholesaler – (City of Sacramento) to Serve Zone 50	3,064	3,064	3,064	3,064	3,064
Supplier-produced groundwater to serve areas outside of Zone 40	6,000	6,000	6,000	6,000	6,000
Total	73,464	73,464	73,464	73,464	73,464
Percent of Normal	100%	100%	100%	100%	100%

[1] *Assume the availability for multiple dry year 1, year 2, and year 3 is 90 percent, 80 percent, and 75 percent of normal year, respectively. The availability for single dry year is 8,700 ac-ft/yr according to the WSMP.*

[2] *Assume no appropriative water is available in dry years.*

Table 4-14. Water Supply Reliability in 2025, ac-ft/yr					
Sources	Normal Water Year	Single Dry Year	Multiple Dry Water Year Supply		
			Year 1	Year 2	Year 3
Supplier-produced groundwater to Serve Zone 40	20,000	61,300	38,500	42,000	43,750
Wholesaler – (City of Sacramento) to serve portion of Zone 40 in City of Sacramento's American River POU	0	0	0	0	0
Supplier-produced surface water to Serve Zone 40: U.S. Bureau of Reclamation – CVP Supply (SMUD 1, SMUD 2, and Fazio Water) [1]	35,000	8,700	31,500	28,000	26,250
Supplier-produced surface water to Serve Zone 40: Appropriate Water – SWRCB Permit 21209 [2]	15,000	0	0	0	0
Other surface water transfers to serve Zone 40	0	0	0	0	0
Recycled water for Zone 40	4,400	4,400	4,400	4,400	4,400
Remediated groundwater to serve Rio del Oro in Zone 40	5,000	5,000	5,000	5,000	5,000
Zone 40 Subtotal	79,400	79,400	79,400	79,400	79,400
Wholesaler – (City of Sacramento) to Serve Zone 50	5,198	5,198	5,198	5,198	5,198
Supplier-produced groundwater to serve areas outside of Zone 40	6,000	6,000	6,000	6,000	6,000
Total	90,598	90,598	90,598	90,598	90,598
Percent of Normal	100%	100%	100%	100%	100%

[1] *Assume the availability for multiple dry year 1, year 2, and year 3 is 90 percent, 80 percent, and 75 percent of normal year, respectively. The availability for single dry year is 8,700 ac-ft/yr according to the WSMP.*

[2] *Assume no appropriative water is available in dry years.*

Table 4-15. Water Supply Reliability in 2030, ac-ft/yr					
Sources	Normal Water Year	Single Dry Year	Multiple Dry Water Year Supply		
			Year 1	Year 2	Year 3
Supplier-produced groundwater to Serve Zone 40	25,000	64,500	37,200	41,200	43,200
Wholesaler – (City of Sacramento) to serve portion of Zone 40 in City of Sacramento's American River POU	9,300	9,300	9,300	9,300	9,300
Supplier-produced surface water to Serve Zone 40: U.S. Bureau of Reclamation – CVP Supply (SMUD 1, SMUD 2, and Fazio Water) [1]	40,000	8,700	36,000	32,000	30,000
Supplier-produced surface water to Serve Zone 40: Appropriate Water – SWRCB Permit 21209 [2]	17,500	0	0	0	0
Other surface water transfers to serve Zone 40	0	0	0	0	0
Recycled water for Zone 40	4,400	4,400	4,400	4,400	4,400
Remediated groundwater to serve Rio del Oro in Zone 40	7,500	7,500	7,500	7,500	7,500

Table 4-15. Water Supply Reliability in 2030, ac-ft/yr					
Sources	Normal Water Year	Single Dry Year	Multiple Dry Water Year Supply		
			Year 1	Year 2	Year 3
Zone 40 Subtotal	103,700	103,700	103,700	103,700	103,700
Wholesaler – (City of Sacramento) to Serve Zone 50	5,198	5,198	5,198	5,198	5,198
Supplier-produced groundwater to serve areas outside of Zone 40	6,000	6,000	6,000	6,000	6,000
Total	114,898	114,898	114,898	114,898	114,898
Percent of Normal	100%	100%	100%	100%	100%

[1] *Assume the availability for multiple dry year 1, year 2, and year 3 is 90 percent, 80 percent, and 75 percent of normal year, respectively. The availability for single dry year is 8,700 ac-ft/yr according to the WSMP.*

[2] *Assume no appropriative water is available in dry years.*

Table 4-16. Water Supply Reliability in 2035, ac-ft/yr					
Sources	Normal Water Year	Single Dry Year	Multiple Dry Water Year Supply		
			Year 1	Year 2	Year 3
Supplier-produced groundwater to Serve Zone 40	15,000	68,600	36,800	41,300	43,550
Wholesaler – (City of Sacramento) to serve portion of Zone 40 in City of Sacramento's American River POU	9,300	9,300	9,300	9,300	9,300
Supplier-produced surface water to Serve Zone 40: U.S. Bureau of Reclamation – CVP Supply (SMUD 1, SMUD 2, and Fazio Water) [1]	45,000	8,700	40,500	36,000	33,750
Supplier-produced surface water to Serve Zone 40: Appropriate Water – SWRCB Permit 21209 [2]	21,700	0	0	0	0
Other surface water transfers to serve Zone 40	5,200	9,600	9,600	9,600	9,600
Recycled water for Zone 40	4,400	4,400	4,400	4,400	4,400
Remediated groundwater to serve Rio del Oro in Zone 40	8,900	8,900	8,900	8,900	8,900
Zone 40 Subtotal	109,500	109,500	109,500	109,500	109,500
Wholesaler – (City of Sacramento) to Serve Zone 50	5,198	5,198	5,198	5,198	5,198
Supplier-produced groundwater to serve areas outside of Zone 40	6,000	6,000	6,000	6,000	6,000
Total	120,698	120,698	120,698	120,698	120,698
Percent of Normal	100%	100%	100%	100%	100%

[1] *Assume the availability for multiple dry year 1, year 2, and year 3 is 90 percent, 80 percent, and 75 percent of normal year, respectively. The availability for single dry year is 8,700 ac-ft/yr according to the WSMP.*

[2] *Assume no appropriative water is available in dry years.*

4.9 Water Supply Projects

10631(h) (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.

This section provides a description of SCWA's water supply projects and water supply programs that are in progress and planned in the future to meet total projected water use and continue to provide system reliability. Plans to replace inconsistent sources and opportunities for exchanges of water are also presented.

Table 4-17 provides a summary and schedule of the future water supply projects. Also shown is a quantification of each project's normal-year yield, single dry-year yield, and multiple dry-year yield.

Table 4-17. (DWR Table 26) Future Water Supply Projects

Project Name [1,2]	Projected Start Date	Projected Completion Date	Potential Project Constraints	Normal Year Supply, ac-ft/yr	Multiple Dry Year Supply, ac-ft/yr		
					First Year	Second Year	Third Year
Vineyard Surface Water Treatment Plant Phase 1 (50 MGD)	March 10, 2008	November 21, 2011	N/A	45,180	40,660	36,140	33,885
Vineyard Surface Water Treatment Plant Phase 2 (50 MGD [Phase 1 + Phase 2 = 100 MGD])	2033	2035	N/A	14,420	12,980	11,540	10,815
POU Surface Water Intertie with the City of Sacramento	2028	2030	N/A	9,300	9,300	9,300	9,300
Anatolia Groundwater WTP Phase 2 (13 MGD Ultimate)	2013	2015	N/A	3,640	5,460	5,460	5,460
East Elk Grove Groundwater WTP Phase 2 (13 MGD Ultimate)	2018	2020	N/A	3,640	5,460	5,460	5,460
Franklin Groundwater WTP (7 MGD)	2028	2030	N/A	3,920	5,880	5,880	5,880
Big Horn Groundwater WTP Phase 2 (13 MGD Ultimate)	2013	2015	N/A	3,640	5,460	5,460	5,460
Whitelock Groundwater WTP (13 MGD Ultimate)	2023	2025	N/A	3,640	5,460	5,460	5,460
Bond Groundwater WTP (6.5 MGD)	After 2035	After 2035	N/A	3,640	5,460	5,460	5,460
Poppy Ridge Groundwater WTP Phase 2 (13 MGD Ultimate)	2018	2020	N/A	3,640	5,460	5,460	5,460

Table 4-17. (DWR Table 26) Future Water Supply Projects							
Project Name [1,2]	Projected Start Date	Projected Completion Date	Potential Project Constraints	Normal Year Supply, ac-ft/yr	Multiple Dry Year Supply, ac-ft/yr		
					First Year	Second Year	Third Year
Zone 50 (Connection with the City of Sacramento)	2011	Incremental Capacity Purchase	N/A	5,200	5,200	5,200	5,200
Total	-	-	-	99,860	106,780	100,820	97,840

[1] *The capacity refers to the incremental capacity if a project is constructed in phases.*

[2] *Assumes groundwater treatment plants operate at full capacity 50 percent of the time in normal years and 75 percent of the time in dry years. The timing of construction of new groundwater treatment plants and future phases will be determined by demand growth in Zone 40.*

Section 5

Recycled Water

10633 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.

The purpose of this section is to provide information on recycled water and its potential as a resource for SCWA. The elements of this Section include: (1) the quantity of wastewater generated in the service area, (2) description of the collection, treatment, and disposal/reuse of that wastewater, (3) the current plans for water recycling, and (4) the potential for water recycling in the service area.

5.1 Recycled Water Plan Coordination

The SRCSD is responsible for the collection, treatment, disposal and reuse (recycled water) of wastewater throughout most of the urbanized areas of Sacramento County. This includes much of the area where SCWA provides retail water service. SRCSD's boundaries are shown in relation to SCWA's boundaries on Figure 5-1.

Through an agreement, SRCSD has successfully implemented a 5 MGD water recycling program with SCWA. Starting in 2003, this program provides recycled water for SRCSD on-site uses and for large commercial irrigation customers within Zone 40/Zone 41 (e.g., commercial, industrial, right-of-way landscaping, schools, and parks). Recycled water is a desirable source of water for outdoor landscape irrigation and other non-potable uses because of its high reliability and its independence of hydrologic conditions in any given year.

The agencies and their respective roles in water reuse planning are described in Table 5-1.

Table 5-1. SCWA Participation in Reuse Planning

Participating agencies	Role
Sacramento Regional County Sanitation District	As the only agency with wastewater collection and treatment authority, SRCSD developed a Water Recycling Opportunities Study (WROS) to identify reuse supply and projects for implementation. SRCSD is a member of RWA and actively seeks input from water purveyors on reuse supply and planning issues.
Regional Water Authority	Provides input and review of SRCSD's reuse planning process and recommendations. Updates SRCSD on supply issues and where/how reuse could become part of supply integration.
Sacramento Central Groundwater Authority	Provides input and review of SRCSD's reuse planning process and recommendations. Updates SRCSD on supply issues and where/how reuse could become part of supply integration.
Regional Water Authority	Provides input and review of SRCSD's reuse planning process and recommendations. Updates SRCSD on supply issues and where/how reuse could become part of supply integration.
Sacramento County Water Agency	Provides input to SRCSD on localized water demands and supply to highlight where reuse is most feasible. SCWA is responsible for recycled water distribution system operation and maintenance.

5.2 Wastewater Quantity, Quality, and Current Uses

10633(a) (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(b) (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.

The following section describes the estimated volume of wastewater generated in SCWA's Zone 41 service areas. Section 5.2.2 then describes the wastewater collection, conveyance, and treatment system and discharge volumes to the Sacramento River and for reuse.

5.2.1 Wastewater Generation

Municipal wastewater is generated from a combination of residential and commercial sources. The quantity of wastewater generated is proportional to the population and water use in the service area. Estimates of wastewater generated within SCWA's Zone 41 service areas are presented in Table 5-2. Estimates of wastewater flow are based on the population projection in Section 2 and a per capita unit flow of 133 gpd including commercial use (Email communication, Jose Ramirez). Based on discussions with SRCSD, Table 5-2 also identifies the projected volume of effluent that will be treated to appropriate reuse water quality standards.

Table 5-2. (DWR Table 21) Wastewater Collected and Treated, ac-ft/yr

	2005	2010	2015	2020	2025	2030	2035
Wastewater Flow Originated from SCWA's Zone 41 Service Area Only [1]	19,510	23,017	26,178	29,770	33,885	38,598	43,997
Volume That Meets Recycled Water Standard [3]	778	818	23,300	24,400	24,400	24,400	24,400

Notes:

[1] *Estimates are based on the population projection in Section 2 and a per capita unit flow of 133 gpd including commercial use (Email communication, Jose Ramirez).*

[2] *Data for 2005 and 2010 are actual recycled water use data. The volume that meets recycled water standard beyond year 2015 includes recycled water for SCWA and 20,000 ac-ft/yr for agricultural water users in South County.*

5.2.2 Wastewater Collection and Treatment

Wastewater is collected by gravity in a series of main, trunk, and interceptor sewers owned and operated by SRCSD. Collected wastewater is transported to the Sacramento Regional Wastewater Treatment Plant in Elk Grove. This facility serves the entire Sacramento metropolitan area including the unincorporated county area adjacent to the Cities of Elk Grove, Citrus Heights, Folsom, and Rancho Cordova. The plant receives and treats approximately 134 MGD (2009) of dry weather flow on average (Email communication, Jose Ramirez). The current capacity of the plant to treat dry weather flows is approximately 181 MGD. The plant produces a disinfected secondary effluent that is discharged to the Sacramento River downstream from the community of Freeport. The principal treatment processes are primary sedimentation, pure-oxygen activated sludge, secondary sedimentation, and chlorination/dechlorination. Planned disposal methods and quantities are presented in Table 5-3.

Reuse volumes are seasonal since recycled water for in-basin reuse is only produced during the dry weather months (April/May to October/November). SRCSD's WROS, which was completed in February 2007, identifies a goal of recycling 30-40 MGD by 2030.

Table 5-3. (DWR Table 22) Disposal of Wastewater, ac-ft/yr							
Method of Disposal	Treatment Level	2010	2015	2020	2025	2030	2035
River Discharge of Wastewater Originated from Zone 41	Secondary Effluent	22,199	3,178	5,370	9,485	14,198	19,597
Recycled [1]	Tertiary	818	23,000	24,400	24,400	24,400	24,400

[1] *Water reuse includes recycled water provided to SCWA for landscape irrigation and recycled water for agricultural water users in South County.*

5.3 Recycling Current Uses

10633(c) (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.

The most commonly used recycled water is defined as wastewater that has been treated to tertiary standards that meet Title 22 of the California Code of Regulations. Recycled water treated to this level can be used for all outdoor irrigation demands in a community, including parks, schools, street medians, residential front and backyard landscaping, public open space, as well as industrial uses such as cooling water. Additionally, recycled water is commonly used for environmental purposes such as wetland and habitat restoration.

SRCSD has designed and constructed a 5 MGD Water Recycling Facility (WRF) located at the Sacramento Regional Wastewater Treatment Plant site. This facility began delivering recycled water in April 2003 to areas within SCWA's Zone 41 Laguna West, Lakeside, and Laguna Stonelake communities in Elk Grove for landscape irrigation, and for on-site needs at the Regional Plant. Off-site recycled water is delivered in partnership with SCWA. SRCSD provides recycled water and SCWA retails the recycled water to their customers. This program is called the Phase I SRCSD/SCWA Water Recycling Pilot Program (WRPP).

The Phase 1 portion of the program has 54 user sites which include parks, schoolyards, commercial landscaping and roadway medians. Phase I recycled water usage has reached a peak operation of 3.0 MGD and an average daily water recycling usage in the range of 1.0 – 1.5 MGD. All operations are conducted in accordance with the Regional Water Quality Control Board (RWQCB) and CDPH recycled water standards and SRCSD's Master Reclamation Permit (WDR #97-146).

5.4 Potential and Projected Use of Recycled Water

10633(d) (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.

This section describes projected potential uses and methods to optimize the use of recycled water in the future.

5.4.1 Potential Use of Recycled Water

In 2007, SRCSD completed the WROS to identify opportunities for water recycling program growth through 2030. SRCSD's objective is to increase water recycling usage in the Sacramento region during

peak irrigation months to 30MGD to 40 MGD. Water recycling on this scale will allow SRCSD to better manage its effluent discharge to the Sacramento River and could help Sacramento area water purveyors improve water supply availability and reliability. The WROS effort included significant outreach to stakeholders that could participate in SRCSD's future water recycling plans. The WROS provides the following:

1. Studied areas throughout the Sacramento region to identify potential water recycling opportunities,
2. Engaged potential water recycling partners and stakeholders,
3. Developed, assessed, and prioritized potential water recycling projects, and
4. Provided a strategy to further develop and implement the projects initially selected to move forward in achieving the stated goals of a large-scale water recycling program.

The WROS examined and identify potential opportunities to use recycled water for landscape irrigation, agriculture irrigation, commercial irrigation, golf course irrigation, as well as use as industrial processing water.

Table 5-4. (DWR Table 23)Potential Recycled Water Uses, ac-ft/yr

Type of Use	Description	Feasibility	2015	2020	2025	2030	2035
Agriculture irrigation	South County Ag	High	20,000	20,000	20,000	20,000	20,000
Landscape irrigation	Phase 1 &2 Recycled Water Use in Zone 40	High	3,000	4,400	4,400	4,400	4,400
Commercial irrigation	--	--	0	0	0	0	0
Golf course irrigation	--	--	0	0	0	0	0
Wildlife Habitat	--	--	0	0	0	0	0
Wetlands	--	--	0	0	0	0	0
Industrial reuse	--	--	0	0	0	0	0
Groundwater recharge	--	--	0	0	0	0	0
Seawater barrier	--	--	0	0	0	0	0
Geothermal/Energy	--	--	0	0	0	0	0
Indirect potable reuse	--	--	0	0	0	0	0
Total			23,000	24,400	24,400	24,400	24,400

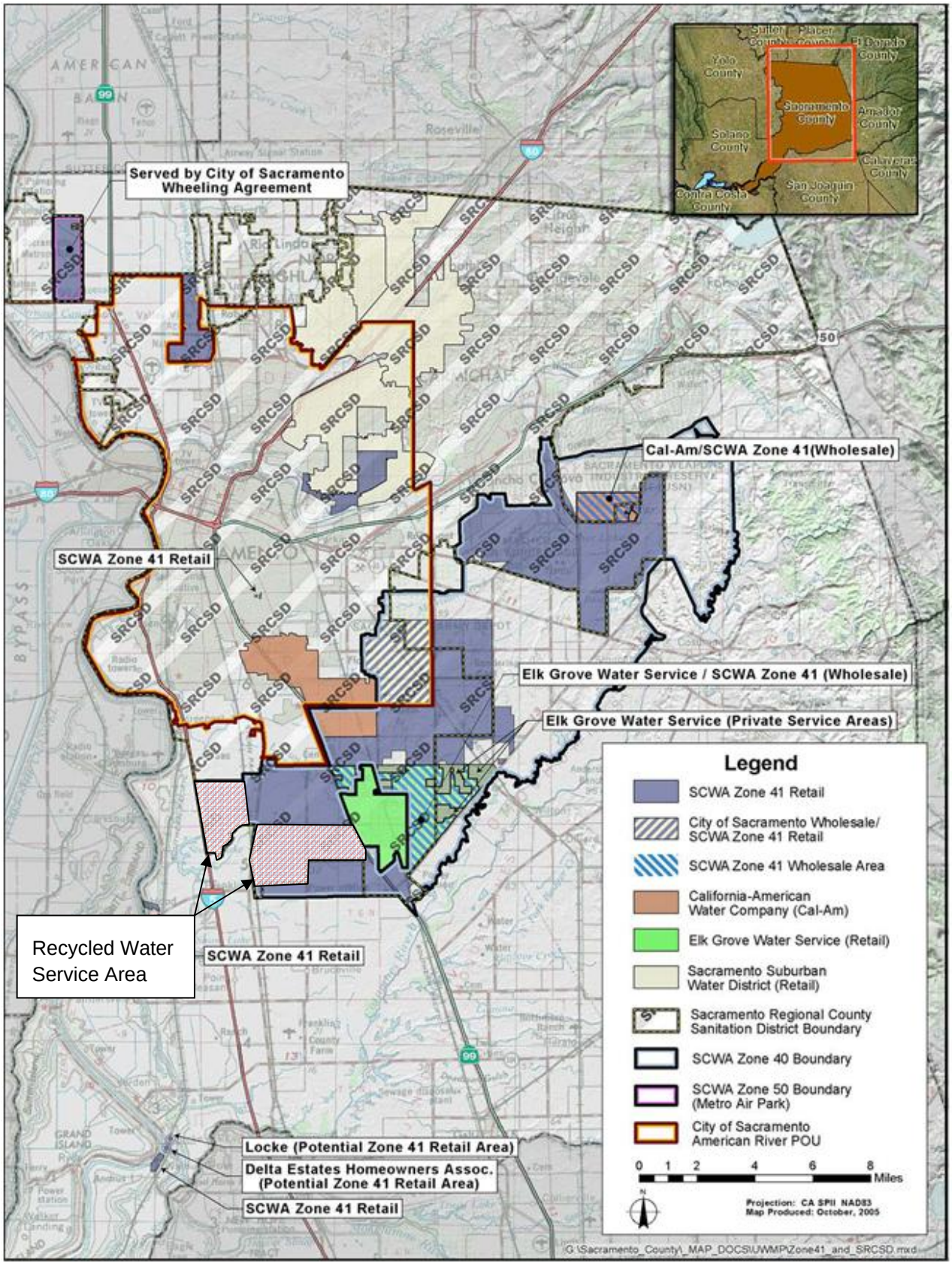


Figure 5-1. Recycled Water Service Area

5.4.2 Projected Future Use of Reclaimed Water

10633(e) (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.

The WRF, located on the Regional Plant site, was designed and constructed to be readily expandable to 10 MGD in accordance with SRCSD's Master Reclamation Permit (WDR #97-146). A planned WRF plant expansion from 5 to 10 MGD will serve new growth areas in the City of Elk Grove (the East Franklin and Laguna Ridge Specific Plan areas). Similar to Phase I, SRCSD will work in partnership with SCWA to serve these areas. The expanded water recycling facility and service areas are called the Phase II WRPP. Construction of Phase II facilities (i.e., expansion of the WRF, construction of the Phase II conveyance pipeline, and storage and pumping facilities in Laguna Ridge) are expected to be in service by 2015-2016. Total recycled water demand within SCWA's service area is estimated to be 4,400 ac-ft/yr as identified in the WSMP.

SRCSD is currently evaluating the feasibility of using recycled water for agriculture irrigation immediately south of the City of Elk Grove to supplement/replace groundwater usage. Recycled water demand for this project is estimated to be 20,000 ac-ft/yr.

Table 5-5 presents the projected possible reuse water demands for landscape irrigation in SCWA's service area and the demand for agriculture irrigation.

Table 5-5. Projected Future Use of Recycled Water, ac-ft/yr

Type of Use	2015	2020	2025	2030	2035
Agriculture irrigation (outside of SCWA)	20,000	20,000	20,000	20,000	20,000
Landscape irrigation (SCWA)	3,000	4,400	4,400	4,400	4,400
Commercial irrigation	0	0	0	0	0
Golf course irrigation	0	0	0	0	0
Wildlife habitat	0	0	0	0	0
Wetlands	0	0	0	0	0
Industrial reuse	0	0	0	0	0
Groundwater recharge	0	0	0	0	0
Seawater barrier	0	0	0	0	0
Geothermal/energy	0	0	0	0	0
Indirect potable reuse	0	0	0	0	0
Total	23,000	24,400	24,400	24,400	24,400

5.5 Optimizing the Use of Reclaimed Water

10633(f) (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(g) (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.

The installation of a recycled water distribution system as a "retrofit," or the installation of a recycled water system after development entitlements have been granted or where infrastructure is already in place, is highly unlikely for economic reasons. New growth areas, as well as areas that are currently served non-potable water supplies from another source, are good candidates for recycled water use.

Since much of the potential for new growth in Sacramento County is in SCWA's service area, the opportunity for expanding the recycled water program is more likely. The economic question of obtaining additional surface water supplies or making best use of recycled water will be one of many factors in determining which areas are likely to move forward with recycled water. Other factors include environmental benefits, long-term sustainability of regional water supplies, as well as other societal and long-term benefits.

In areas where groundwater supplies are not readily available or constrained or where surface water supplies are constrained based on hydrologic year type, recycled water is often seen as reliable source of supply that could extend existing water supplies to meet demands beyond those previously contemplated.

Another method to encourage recycled water use is meeting groundwater BMOs. For example, providing recycled water for landscape and/or agriculture irrigation that currently relies on groundwater would reduce total groundwater extraction in the basin.

Lastly, providing a financial incentive can also encourage recycled water use.

Table 5-6 shows actual recycled water use in 2010 compared to what was projected in the previous Plan. The goal was under achieved primarily because of the recent downturn in development and lack of available funding.

Table 5-6. (DWR Table 24) Recycled Water Uses – 2005 Plan Use Compared to 2010 Actual, ac-ft/yr

Method of Disposal	2005 Plan Projection for 2010	2010 Actual Use
Agriculture irrigation	0	0
Landscape irrigation (SCWA)	4,400	818
Commercial irrigation	0	0
Golf course irrigation	0	0
Wildlife habitat	0	0
Wetlands	0	0
Industrial reuse	0	0
Groundwater recharge	0	0
Seawater barrier	0	0
Geothermal/energy	0	0
Indirect potable reuse	0	0
Total	4,400	818

Table 5-7 shows the projected recycled water demand in SCWA's service area as a result of actions taken to encourage recycled water use. It should be pointed out that recycled water use is the result of

combined efforts including planning, financial incentives, as well as environmental benefits. It is not possible to separate the results for each individual action taken. A combination of factors will result in the projected use of recycled water in the future including a 30 percent reduction in recycled water unit cost over the potable water unit cost, the requirement of recycled water use in the future, increased reliability of recycled water as compared to the water supply from groundwater and surface water supply sources, as well as the increase in installation of dedication landscape meters. Customers will have a higher budget of recycled water use compared to those customers using potable water for their landscape water needs.

Table 5-7. (DWR Table 25) Methods to Encourage Recycled Water Uses

Actions	ac-ft/yr of use projected to result from this action				
	2015	2020	2025	2030	2035
Financial incentives	n/a	n/a	n/a	n/a	n/a
Other	3,000	4,400	4,400	4,400	4,400
Total	3,000	4,400	4,400	4,400	4,400

Section 6

Water Conservation Best Management Practices

10631(f)(1) and (2) (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) 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)(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented for described under the plan.

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

10631(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following: (1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors: (2) Include a cost-benefit analysis, identifying total benefits and total costs; (3) Include a description of funding available to implemented any planned water supply project that would provide water at a higher units 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.

Water conservation is an available method to reduce water demands, thereby reducing water supply needs for SCWA. This section presents a description of SCWA's water conservation program. SCWA has met the Act's demand management measures (DMM) requirements by including their completed CUWCC 2009-2010 best management practices (BMPs) reports in Appendix H of this Plan.

In 2000, the Water Forum formalized the WFA, which is designed to achieve two co-equal objectives: Provide a reliable and safe water supply for the region's economic health and planned development through to the year 2030; and preserve the lower American River. As signatories of the Agreement, the SCWA agrees to carry out the seven elements specified in the Agreement – one of which is Water Conservation. The BMPs that represent the Water Conservation Element were modeled after the CUWCC's BMPs. In consideration of the CUWCC's leadership, resources and state-wide influence, in 2009, the Water Forum modified its Water Conservation Element by urging signatories to adopt the CUWCC's BMPs as the industry standard.

The CUWCC's BMPs are a result of a consensus building effort to address the ever increasing demand on California's complex water resources. 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 BMPs as defined in the MOU are generally recognized as standard definitions of water conservation measures. The MOU is administered by the CUWCC. SCWA is a member of the CUWCC and a signatory to the MOU.

Table 6-1. Water Conservation Best Management Practices

	Category	CUWCC MOU BMP number	Former BMP number	BMP name	UWMP DMMs
Foundational BMPs	1. Utility Operations Programs	1.11	BMP 12	Conservation Coordinator	L. Water Conservation Coordinator
		1.12	BMP 13	Water Waste Prevention	M. Water Waste Prohibition
		1.13	BMP 10	Wholesale Agency Assistance Programs	J. Wholesale Agency Programs
		1.20	BMP 3	Water Loss Control	C. System Water Audits, Leak Detection, and Repair
		1.30	BMP 4	Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections	D. Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections
		1.40	BMP 11	Retail Conservation Pricing	K. Conservation Pricing
	2. Educational Programs	2.10	BMP 7	Public Information Programs	G. Public Information Programs
		2.20	BMP 8	School Education	H. School Education Programs
Programmatic BMPs	3. Residential	3.1	BMP 1/BMP 2	Residential Assistance Program	A. Indoor Water Survey for Single/Multi-Family Residential Customers B. Residential Plumbing Retrofit
		3.20	BMP 1	Landscape water survey	A. Outdoor Water Survey for Single/Multi-Family Residential Customers
		3.30	BMP 6	High-Efficiency Washing Machine Rebate Programs	F. High-Efficiency Washing Machine Rebate Programs
		3.40	BMP 14	WaterSense Specification toilets	N. Residential ULFT Replacement Programs

Table 6-1. Water Conservation Best Management Practices					
	Category	CUWCC MOU BMP number	Former BMP number	BMP name	UWMP DMMs
	4. Commercial, Industrial, Institutional	4.00	BMP 9	Commercial, Industrial, Institutional	I. Conservation programs for Commercial, Industrial, and Institutional (CII) Accounts
	5. Landscape	5.00	BMP 5	Landscape	E. Large Landscape Conservation Programs and Incentives

The CUWCC defines three optional approaches for meeting water conservation commitments, consisting of:

- **Cost Effective BMPs** – implementation of all cost effective BMPs
- **Flex Track Method** – select BMPs to implement in order to achieve equal or greater water savings as the cost effective BMPs approach.
- **GPCD Method** – meet a GPCD target by 2018. This is different than the SBx7-7 GPCD target.

Foundational BMPs are required for all of the three alternative approaches

6.1 Current Water Conservation Program

SCWA has selected to follow the CUWCC GPCD Method. SCWA conducts an ongoing water conservation program. A description of each BMP that is currently being implemented is provided in this section. The completed 2009/2010 BMP reports and coverage reports are provided in Appendix H.

6.1.1 Foundational BMPs

This section provides a description of the foundational BMP conservation programs being implemented by SCWA.

Utility Operations Program 1.1.1 Conservation Coordinator (Former BMP 12)

A conservation coordinator is a key component for implementing SCWA's water conservation program. The conservation coordinator is responsible for implementing and monitoring the SCWA's water conservation activities. This is a full time position. The conservation coordinate is Gail Tauchus, the position title is Principal Engineering Technician. Additional staff members that contribute to the conservation program are Engineering Technicians and a supervising Associate Civil Engineer.

Utility Operations Program 1.1.2 Water Waste Prevention (Former BMP 13)

Water waste is prohibited by ordinance Sacramento County Water Agency Code Title 3 Section 3.40.120. Section 3.40 of Title 3 of the Sacramento County Water Agency Code is provided in Appendix I. Water waste can be reported online on SCWA's website or by calling SCWA. The conservation staff responds to complaints by conducting a site visit and making contact with the consumer typically in the form of a door hanger letter.

Utility Operations Program 1.1.3 Wholesale Agency Assistance Programs (Former BMP 10)

SCWA and its retail agencies are members of the RWA and SGA. The membership organization partners on mutually beneficial programs. SCWA's participation and financial contributions to these programs benefit the agencies to which the SCWA provides wholesale water.

Utility Operations Program 1.20 Water Loss Control (Former BMP 3)

A system water audit, water loss control program consists of ongoing leak detection and repair within the system, focused on the high probability leak areas. This includes an ongoing meter calibration and replacement program for all production and distribution meters.

SCWA's standard water audit for the 2008 calendar year showed water losses in excess of the 10 percent goal. Since the end of the reporting period, BMP 3 has been updated (now BMP 1.2) and SCWA anticipates being compliant with MOU coverage requirements for 2009 and 2010. SCWA's activities include:

- Standard water audit and water balance for reporting years 2009 and 2010.
- Validation: Staff is collecting data on well production meters (90 percent complete) and is planning to test for accuracy by July 1, 2011. They are planning to make the necessary improvements to increase data accuracy in a phased approach based on feasibility, cost, reduction in overall error and other relevant factors.
- Component analysis : A component analysis project will be completed within 4 years
- Interventions: Operations locates and repairs leaks when they are discovered and proactively looks for leaks when time allows and in the vicinity of daily work.
- Customer leaks: A consulting water auditor assists customers in locating leaks both inside and outside the home or business.

Training: Six agency personnel completed the Water Loss Control Workshop sponsored by the CUWCC in 2009 and 2010.

Utility Operations Program 1.30 Metering with Commodity Rates for All New/Retrofit of Existing Connections (Former BMP 4)

As a 1992 CUWCC MOU signatory, SCWA was required to be fully metered by July 1, 2009 in those areas that receive federal water. This condition was not achieved and SCWA filed an exemption in 2009 and 2010 on the basis of cost-effectiveness. Unfortunately, the grant was not awarded and an alternative funding source was not identified.

A new cost-effectiveness exemption will be filed for the 2011 and 2012 reporting periods but SCWA still plans to seek alternative sources of funding and complete meter installation by January 1, 2013.

SCWA demonstrates a commitment to achieving compliance with the coverage level by sustaining an effort to obtain grant funding. In 2010 SCWA received American Recovery and Reinvestment Act funding to install meters in three SCWA service areas and in 2011 SCWA intends to execute an agreement with DWR to use $200,000 to install meters in the Laguna Vineyard areas. An application for $300,000 to pay for meters through RWA is being finalized now.

Utility Operations Program 1.40 Retail Conservation Pricing (Former BMP 11)

SCWA currently implements conservation pricing for all of its metered customers.

Education Programs 2.10 Public Information Programs (Former BMP 7)

SCWA fully participates in the Regional Water Efficiency Program (RWEP) Public Information Campaign. The Regional Water Efficiency Program has a regional outreach program coordinated with support from a

Public Outreach and School Education Committee comprised of RWEP member conservation coordinators and Public information officers. The goals for the regional public information campaign are to raise awareness about the need to use water efficiently outdoors and motivate the target audience to undertake key behaviors that are most likely to reduce outdoor water use. The target audience for the regional public information campaign are the residential water customers within the RWEP participant area.

In 2005, the RWEP developed a new logo and theme for the Be Water Smart public information campaign. To kick-off the campaign, RWA undertook a host of outreach activities including a region-wide "Ultimate Garden Makeover Contest" in 2008 and 2009. Overall, goals of the Be Water Smart program are to:

- Increase the number of Water-Wise House Call requests
- Increase visibility for RWA's water conservation messages in the local media
- Drive traffic to the RWA website and Be Water Smart hotline

In 2010, the RWA and 19 local water providers, including SCWA, announced a new public outreach and advertising campaign called Blue Thumb. The campaign is designed to help residents use less water outdoors. With the Sacramento region's hot, dry climate and long summer season, more than 65 percent of a household's yearly water consumption typically goes toward landscape irrigation. Of that, 30 percent is lost due to overwatering or evaporation, and is the target of the campaign messaging with the call for customer behavioral changes in watering practices.

The ongoing regional campaign shows residents how to use water efficiently outdoors through every-day tasks such as adjusting their irrigation system according to the season or using a shut-off nozzle on their hose. It stars well-known community spokespersons, including Sacramento Mayor Kevin Johnson, Meteorologist Elissa Lynn, and Dinger of the Sacramento River Cats. In addition, six local residents showing off their Blue Thumb and demonstrating how they made a personal commitment to use water wisely. The Blue Thumb campaign has a web site (www.BeWaterSmart.info) where visitors can take the pledge to use water wisely and view video clips from the spokespersons.

Through SCWA's participation in RWA, SCWA is provided avenues and tools to carry the Blue Thumb campaign into SCWA's own outreach efforts. Tools SCWA uses include key messages, web site/newsletter text, bill insert template, Blue Thumb pledge, and collateral materials. Outreach avenues include the opportunity to nominate customers to star in the outreach campaign, participation in the Home Depot partnership by featuring their logo on the in-store banners and connecting with customers at events.

The following marketing strategies were used as tactics to meet the goals of the Public Information Campaign. Specifically for the program, tactics used in the period of 2005-2009 included:

- Planned and executed the 2008 and 2009 Ultimate Water Smart Garden Makeover Contest as a regional media event which included a full remake of the winner's front yard landscape with donated time and materials worth $40,000
- Public service announcements (hundreds of airings on radio and TV)
- Paid advertisements (print ad, television segments)
- Manage Be Water Smart hotline, 1-888-WTR-TIPS
- 5 Be Water Smart e-blasts to 40,000 people
- Participation at public events
- Bill inserts, brochures (e.g. River-Friendly Landscaping and Rules of Thumb for Water Wise Gardening)
- Demonstration garden support to the Fair Oaks Horticulture Center managed by the Sacramento County University of California Cooperative Extension (UCCE)

- Develop partnerships for co-promotion of programs including the following agencies:
  - Sacramento Municipal Utility District (SMUD)
  - Sacramento Regional County Sanitation District (SRCSD)
  - Sacramento Area Water Forum
  - Sacramento Bee
  - Sacramento Stormwater Quality Partnership
  - University of California Cooperative Extension

In addition, the tactics to meet the 2011 and future goals of the revised Public Information campaign include:

- Campaign web site where visitors can take the pledge to use water wisely and view video clips from campaign participants explaining how they earned their Blue Thumb.
- A statistically valid telephone survey completed in 2009 of 604 adults to provide insight into attitudes, behaviors, messages and methods of communication. The survey will be repeated in September 2011 to evaluate the campaign.
- A unique and eye-catching campaign graphic identity.
- Media outreach to announce the campaign and promote the opportunity for residents to star in advertising, as well as a campaign launch press event.
- Television and radio advertising (paid) on KOVR (CBS TV), Comcast Cable, Capitol Public Radio, and Clear Channel radio stations.
- Public Service Announcements (no-cost placement) distributed to television and radio stations throughout the Sacramento region.
- Promotional partnership with WaterSense and 16 Home Depots throughout the Sacramento region for Water Awareness Month in May. This included training by RWA on water efficient topics for Home Depot associates, promoting RWA's "Top 10 List" of water efficient products either via end-cap displays or table displays, in-store banners promoting Water Awareness Month, and events where water providers connected with customers at Home Depot stores.
- Partnership with the Sacramento River Cats (Sacramento's popular minor league baseball team) and Save Our Water that included placing water efficiency advertisements in 110 bathroom stalls at Raley Field, a blast e-mail by the Sacramento River Cats to 1,700 fans promoting the Blue Thumb Web site pledge, and inclusion of a promotional flyer in 1,000 Save Our Water totes distributed at the California State Fair.
- Collateral materials such as garden gloves, lawn signs, pledge banner, and T-shirts with the Blue Thumb logo as an incentive for taking the Blue Thumb pledge online or at events.

RWA also hosts a Speakers Bureau. 2009-2011, speaking engagements included the following:

- Northern California Ace Hardware stores on regional water efficiency programs, Home Depot associates on water efficient products, rebates, and Water Awareness Month, LOWE's stores throughout the region on water efficient products, rebates, and Water Awareness Month promotion, Rainbird Training Academy on local efforts of AB1881, UC Davis WaterWise Symposium on Blue Thumb campaign and local efforts of AB1881, Association of Professional Landscape Architects on local landscape programs, Association of Professional Landscape Designers on local efforts of AB1881 and River Friendly Turf Management Workshop on local agency landscape efficiency rebate program.

- California Green Summit on future green jobs in the water industry, River Friendly Landscaping Homeowner Workshop Series on irrigation efficiency, irrigation controller scheduling, water efficiency in the landscape, Raley Field Turf Management Workshop on RWA programs.
- Department of Water Resources training on local agency implementation of AB1881, California Association of Public Information Officials state conference about Blue Thumb Neighbors.

In the future, RWA will continue to work with SCWA on a regional outreach message appropriate for the current year's water outlook. RWA will continue to provide key messages and update water provider tools as necessary, track the number of media stories (or hits), interviews conducted, and number of impressions of audience viewings.

SCWA augments the regional effort by using RWA-developed and SCWA developed articles in semiannual newsletters and bill inserts. The SCWA conservation group is enthusiastic about its presence at community events such as the Elk Grove Pumpkin Festival and making face-to-face contacts with the community through homeowner association presentations and customer initiated contacts.

After the first year of the Blue Thumb program, results were tracked for 2010 and include the following outcomes:

- Nearly 30 earned media hits covering topics such as the campaign announcement/search for residents to participate, campaign launch, Home Depot events/Water Awareness Month and Blue Thumb Web site pledge.
- Interviews on multiple public service radio programs, including Clear Channel (where the host even took the Blue Thumb pledge on the air) which broadcast on five local stations and family radio, which aired on two local stations.
- Nearly 3.9 million impressions via paid television advertising and 6.3 million impressions via paid radio advertising.
- More than 1.2 million impressions for the (no-cost) television public service announcement (worth an estimated $24,500) and over 3 million impressions for the radio public service announcement (worth an estimated $96,000).

The general schedule for the regional public information campaign follows the annual calendar with the following seasonal activities:

- **Winter** – planning for upcoming year's activities, continue to promote participation in SCWA's programs, such as high efficiency toilet and clothes washer rebates.
- **Spring** – ramping up messaging and strong focus in soliciting media coverage and paid advertising in support of May as Water Awareness Month. Messaging surrounds the traditional spring planting season and checking of irrigation systems as they are turned on and taking the "Blue Thumb Pledge" to lower outdoor water use this season.
- **Summer** – key messaging hits on the issues of efficient irrigation techniques, avoiding water waste, and lowering peak demands on hot summer days.
- **Fall** – participating in local Harvest day events and providing efficient landscape irrigation trainings for professionals that focus on selecting more water efficient plants and irrigation equipment, and when the weather cools and rains return, then messaging calls for shutting down irrigation systems for the winter months.

The implementation schedule for 2011-2015 includes plans to continue to promote water conservation through the Regional Water Efficiency Program's outreach program supplemented by SCWA's own outreach efforts. In addition, SCWA will continue to support community events similar to those conducted in the past as described above.

The total RWEP annual budget for direct expenses to continue with the regional outreach campaign is planned for 2011-2015 to be $160,000 each fiscal year. SCWA pays its share of this program cost.

RWA will conduct an evaluation on a minimum of a bi-annual basis to determine the campaign's effectiveness using the following means:

- Statistically valid post-campaign telephone survey (results compared to 2009 pre-campaign survey responses).
- Tracking of pledges secured both online and by individual RWEP member utility efforts.
- Web site analytics analysis.
- Tracking water provider materials that carry Blue Thumb messages.
- Media and online mentions and content analysis of hits.
- Impressions for television and radio advertising and public service announcements
- Impressions for partner activities (such as the Sacramento River Cats).
- For the Community Based Social Marketing (CBSM) program: Internet/written surveys (and potentially informal phone interviews) and water use data tracking.

In the future, RWA will conduct another random survey of Sacramento area residents, which will seek to measure if the following goals for the campaign are being achieved:

- Increase the number of residents willing to utilize various yard design and maintenance practices promoted by the campaign.
- Increase the number of residents who say they have adopted yard design and maintenance practices promoted by the campaign.
- Increase the number of residents that have seen, read or heard news stories, public information, advertisement or other messages regarding water efficiency in the past six months.
- Increase the number of residents naming key messages promoted by the campaign in verbatim responses about the advertising or messages they heard.

Based on the results of the post-campaign survey, RWA is expecting to measure the success of this DMM based on the metrics listed above. If the campaign is not proving effective based on these metrics, then RWA will update or revise the campaign, or if necessary begin a new campaign, to garner more customer participation.

Estimated Water Savings for the Regional Blue Thumb Campaign

There is no current method in the industry to evaluate water savings for this program. The popularity of public programs can be measured through the acceptance of brochures and attendance at various water conservation related events, etc.

Education Programs 2.20 School Education Programs (Former BMP 8)

SCWA fully participates in the RWEP School Education Program. The RWEP program has focused mainly on K-8 programs. RWEP has continued to use the legacy Sacramento Bee Newspapers in Education (NIE), now called Media in Education (MIE) program that originated back in the mid-1990s as part of the Sacramento Area Water Works Association (SAWWA) program in order to meet the baseline requirements for school education outreach. It includes an annual Water Conservation Pledge and Quiz Contest. It is estimated that a total of 33,932 students have been educated since inception.

Historically between 2004 and 2008, RWEP also sponsored the Great Water Mystery School Assembly program that was co-funded with the Sacramento Stormwater Quality Partnership. Over the years, a total of 60,208 students in Grades 3-6 were educated about benefits of better water management practices at home to save water resources and reduced polluted stormwater runoff.

In FY 2011, RWEP embarked on a new program, in partnership with the Bureau of Reclamations' American River Water Education Center and the Water Education Foundation to include sponsorship of Project WET (Water Education for Teachers) school teacher workshops. A total of 25 teachers attended the first workshop in April 2011.

The RWEP is in the process of evaluating whether a more effective school program that will reach more students is warranted. Working with the RWEP members and local educators, RWA plans to: (1) evaluate the existing program; (2) evaluate the success of other programs in the region and around the state; (3) develop objectives and a target audience (e.g., grade level); (4) materials; and (5) an implementation strategy for the school education program into the future.

The current marketing strategy for the Sacramento Bee MIE program is both email to teachers that have participated in the past and direct mail campaign to local schools for the whole series of topics throughout the year. Each teacher decides on which week's topics to participate in that cover a wide range of education topics including RWEP's sponsored week of "Be Water Smart News, Water the Never Ending Story."

The Project WET workshops are marketed to teachers and environmental educators by the local California Regional Environmental Education Community (CREEC) Network representatives, to water educators through Project WET newsletters, and by RWA through direct mail and contacts with local school administrations and teachers.

RWA continues to track by a variety of means participation in the regional school education program. For the Sacramento Bee MIE Program, the metrics tracked annually include:

- Number of teacher guides downloaded
- Number of schools
- Number of classrooms
- Number of students reached
- Number of students participating in the pledge (Grades K-3) or contest (Grades 4-8) entries received by the Sacramento Bee
- Comments back from teachers

For the Project WET teacher training program, the following metrics are also tracked annually:

- Number of teachers attending workshops
- Which school districts
- Number of schools
- Estimated number of students reached
- Teacher workshop evaluations

RWEP plans to continue with regional school education program activities along with distribution of school-age educational materials and Project WET Workshops. The school schedule dictates when participation in the RWEP school education program occurs and follows the months that schools are in session from August to the following May. The annual budgeted direct expenses for the regional school education program have been $20,000 and will continue at this level for the foreseeable future.

Based on the annual results of the participation levels tracked, RWA is expecting to measure the success of this DMM based on the metrics listed above. As described above, RWA is currently conducting an evaluation process of the existing regional school education program, which includes interviews of local school teachers at a variety of grade levels. The program will continue as currently planned until the evaluation process is complete and the program's content and/or implementation strategy may be revised in the future.

It is unknown what changes in water using behavior may arise from student and educators participation in the regional school education programs. The effectiveness of the program can be determined by the amount of voluntary classroom and school participation.

6.1.2 Programmatic BMPs

This section provides a description of the programmatic BMP conservation programs being implemented by SCWA. Because SCWA has selected to follow the CUWCC GPCD track, implementation of programmatic BMPs is optional.

Residential 3.11 and 3.22 Residential Assistance Program (Former BMPs 1 and 2)

Water wise house calls are offered to all customers at least twice a year in SCWA's Water Spouts newsletter and also offered to customers with high water bill issues by SCWA's billing staff and water conservation staff. Showerhead retrofit kits are distributed to single and multi-family customers. SCWA has distributed 9,600 kits and will distribute 600 more in 2011.

SCWA also has a data logger program that consists of deploying a data logger on a metered line for a week to study rates of use for irrigation, leaks, and indoor use. The data logger is only offered to customers who have high water use and typically their consumption average use upon follow-up. The customer receives a detailed report and consultation from SCWA staff that helps the customer identify how practices and devices can low their water use. This tool has been used 186 times as of December 2010 on 174 unique single family residences. The water savings on residential accounts alone has been estimated to be 39 percent for a cumulative residential savings of 39 ac-ft.

Residential 3.20 Landscape Water Survey (Former BMP 1)

Landscape water audits are performed primarily for single-family residential connections. Multifamily residential connections are covered under BMP 5.00. Audits are performed by certified landscape auditors. Auditors assess irrigation systems – including irrigation timers – to ensure they're functioning properly, and identify water use problems such as leaks. They develop irrigation schedules based on the irrigation system's performance and landscape needs. Auditors recommend repairs, provide instruction in landscape principles, irrigation timer use and, when appropriate, meter reading. Customers are given a copy of the evaluation and water saving devices such as hose timers and shut off hose nozzles.

Residential 3.30 High-efficiency Clothes Washing Machine Financial Incentive Programs (Former BMP 6)

Rebates have been issued since 2008 and SCWA has rebated 600 washing machines as of November 2010. While program participation has been improving since its inception and the California Cash For Appliances program (April - December 2010) appears to have a positive effect on participation, the number of rebates distributed will likely slow in 2011 due to the economic downturn. Nonetheless 2011 and 2012 will see increased promotion with more retail outreach in addition to existing efforts including public outreach events, advertisement in the customer newsletter, and personal contact through the water audit process.

Residential 3.40 (BMP 14. Residential ULFT replacement programs)

SCWA staff continues to emphasize this program and discuss it on a regional basis to find ways to improve response. Interest in toilet replacement is expected to increase as water meters become fully implemented. As with BMP 3.30, severe economic conditions have had a negative impact on households' response to the program. The program has had increasing participation since inception in 2003, but has leveled off in 2010 with about 200 toilet rebates annually. SCWA will deploy additional outreach strategies in 2011, but will also be challenged by a decrease in program partner funding.

Commercial, Industrial, and Institutional 4.00 (BMP 9. Conservation programs for commercial, industrial, and institutional accounts)

SCWA exceeded the goal for CII audits. The 2008 CUWCC goal for these audits was 39, and 115 audits were completed by the end of 2008 and total of 145 audits were completed by November 2010. These audits inform the customer as well as the conservation coordinator and help to justify the use of (and pursuit of grants for) commercial water savings devices such as water brooms, cooling tower instrumentation, etc.

Landscape 5.00 (BMP 5. Large landscape conservation programs and incentives)

The landscape conservation program consists of identifying all CII accounts that have one or more acres of irrigated landscape. Certified landscape auditors assess irrigation systems, including irrigation timers, to ensure they are functioning properly, and identify water use problems such as leaks. They develop irrigation schedules based on the irrigation system's performance and landscape needs. Auditors recommend repairs, provide instruction in landscape principles, irrigation timer use and, when appropriate, meter reading. SCWA's irrigation consultant is also providing water budgets for customers with dedicated irrigation meters. For the remaining accounts with dedicated irrigation meters, SCWA is developing water budgets based on landscape areas calculated from imagery.

6.2 Water Use Reduction Plan

10608.36 Urban wholesale water suppliers shall include in the urban water management plans…an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part.

SCWA will have to meet the 2020 GPCD target described in Section 3 of this Plan. A combination of the installation of low flow devices, reduction of distribution system and customer leaks, conversion to metered rates, implementation of outdoor landscaping measures, and price elasticity impacts will maintain or reduce per capita demands. The priority will be focused on measures that reduce long term maximum day and peak hour demands that would benefit cost-effective infrastructure planning efforts. Focusing SCWA's water conservation program on reducing peak demands would provide the best benefits by reducing summer water supply capacity needs and the use of higher cost peak period energy. A continuation of SCWA's present conservation measures, programs, and policies will help SCWA to maintain or reduce current per capita water use.

SCWA's per capita water use has been declining since the year 2000 to the level where it is approximately at the 2020 GPCD target. SCWA's past and current water conservation program is in part the reason that SCWA's GPCD water use has dropped in recent years. It is likely that SCWA's per capita water use will continue to decline as additional meteres are installed and as customers replace old plumbing fixtures. Over time, efficiency standards have increased the required efficiency of indoor appliances and facilities including dishwashers, clothes washers, showerheads, and toilets. Currently there are two chaptered regulations (Assembly Bill (AB) 715(Laird 2007) and SB 407 (Padilla 2009)) as well as the CALGreen Building Standards that have impacts on efficiency standards. New homes will be constructed with low flow plumbing devices and retrofit on resale requirements become effective in 2016 and 2017.

Section 7

Water Supply versus Demand Comparison

10635(a) Every urban water supplier shall include, as party 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.

This Section provides a comparison of projected water supplies and demand and water shortage expectations.

7.1 Current and Projected Water Supplies vs. Demand

This section provides a comparison of normal, single-dry, and multiple dry water year supply and demand for SCWA. Water demands are addressed in Section 3, water supply is addressed in Section 4, and recycled water supply is addressed in Section 5 of this Plan.

7.1.1 Current and Projected Normal Year Water Supplies vs. Demand

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

Table 7-1. (DWR Table 32) Normal Year Water Supply and Demand Comparison - Outside Zone 40, ac-ft/yr

	2010	2015	2020	2025	2030	2035
Inside Zone 40						
Supply totals	48,320	58,000	64,400	79,400	103,700	109,500
Demand totals	34,511	44,425	50,662	57,583	67,565	77,712
Difference (supply minus demand)	13,809	13,575	13,738	21,817	36,135	31,788
Difference as a percent of supply	29%	23%	21%	27%	35%	29%
Difference as a percent of demand	40%	31%	27%	38%	53%	41%
Outside Zone 40						
Supply totals	6,000	6,779	9,064	11,198	11,198	11,198
Demand totals	5,162	5,941	8,184	10,108	9,970	9,855
Difference (supply minus demand)	838	838	880	1,090	1,228	1,343

Table 7-1. (DWR Table 32) Normal Year Water Supply and Demand Comparison - Outside Zone 40, ac-ft/yr						
	2010	2015	2020	2025	2030	2035
Difference as a percent of supply	14%	12%	10%	10%	11%	12%
Difference as a percent of demand	16%	14%	11%	11%	12%	14%
Total Zone 41						
Supply totals	54,320	64,779	73,464	90,598	114,898	120,698
Demand totals	39,690	50,366	58,846	67,690	77,535	87,567
Difference (supply minus demand)	14,630	14,413	14,618	22,908	37,363	33,131
Difference as a percent of supply	27%	22%	20%	25%	33%	27%
Difference as a percent of demand	37%	29%	25%	34%	48%	38%

Note: Supply data from Section 4 and demand data from Section 3.

7.1.2 Current and Projected Single-Dry Year Water Supplies vs. Demand

The current and projected water supplies are compared to the demands for a single dry year for SCWA in Table 7-2.

Table 7-2. (DWR Table 33) Single-Dry Year Water Supply and Demand Comparison, ac-ft/yr						
	2010	2015	2020	2025	2030	2035
Inside Zone 40						
Supply totals	48,320	58,000	64,400	79,400	103,700	109,500
Demand totals	34,511	44,425	50,662	57,583	67,565	77,712
Difference (supply minus demand)	13,809	13,575	13,738	21,817	36,135	31,788
Difference as a percent of supply	29%	23%	21%	27%	35%	29%
Difference as a percent of demand	40%	31%	27%	38%	53%	41%
Outside Zone 40						
Supply totals	6,000	6,779	9,064	11,198	11,198	11,198
Demand totals	5,162	5,941	8,184	10,108	9,970	9,855
Difference (supply minus demand)	838	838	880	1,090	1,228	1,343
Difference as a percent of supply	14%	12%	10%	10%	11%	12%
Difference as a percent of demand	16%	14%	11%	11%	12%	14%

Table 7-2. (DWR Table 33) Single-Dry Year Water Supply and Demand Comparison, ac-ft/yr						
	2010	2015	2020	2025	2030	2035
Total Zone 41						
Supply totals	54,320	64,779	73,464	90,598	114,898	120,698
Demand totals	39,673	50,366	58,846	67,690	77,535	87,567
Difference (supply minus demand)	14,647	14,413	14,618	22,908	37,363	33,131
Difference as a percent of supply	27%	22%	20%	25%	33%	27%
Difference as a percent of demand	37%	29%	25%	34%	48%	38%

Note: Supply data from Section 4 and demand data from Section 3.

7.1.3 Projected Multiple-Dry Year Water Supplies vs. Demand

The projected water supplies are compared to the demands for multiple dry years for the SCWA in Tables 7-3 and 7-4 for the service areas inside Zone 40 and outside Zone 40, respectively. Table 7-5 summarizes the total projected supplies compared to demands for multiple dry years for Zone 41 (i.e. inside Zone 40 plus outside Zone 40).

Table 7-3. Inside Zone 40 - Multiple-Dry Year Events Water Supply and Demand Comparison, ac-ft/yr							
		2010	2015	2020	2025	2030	2035
Multiple dry year - first year supply	Supply totals	48,320	58,000	64,400	79,400	103,700	109,500
	Demand totals	34,511	44,425	50,662	57,583	67,565	77,712
	Difference	13,809	13,575	13,738	21,817	36,135	31,788
	Difference as % of supply	29%	23%	21%	27%	35%	29%
	Difference as % of demand	40%	31%	27%	38%	53%	41%
Multiple dry year - second year supply	Supply totals	48,320	58,000	64,400	79,400	103,700	109,500
	Demand totals	34,511	44,425	50,662	57,583	67,565	77,712
	Difference	13,809	13,575	13,738	21,817	36,135	31,788
	Difference as % of supply	29%	23%	21%	27%	35%	29%
	Difference as % of demand	40%	31%	27%	38%	53%	41%

Table 7-3. Inside Zone 40 - Multiple-Dry Year Events Water Supply and Demand Comparison, ac-ft/yr							
		2010	2015	2020	2025	2030	2035
Multiple dry year - third year supply	Supply totals	48,320	58,000	64,400	79,400	103,700	109,500
	Demand totals	34,511	44,425	50,662	57,583	67,565	77,712
	Difference	13,809	13,575	13,738	21,817	36,135	31,788
	Difference as % of supply	29%	23%	21%	27%	35%	29%
	Difference as % of demand	40%	31%	27%	38%	53%	41%

Note: Supply data from Section 4 and demand data from Section 3.

Table 7-4. Outside Zone 40 - Multiple-Dry Year Events Water Supply and Demand Comparison, ac-ft/yr							
		2010	2015	2020	2025	2030	2035
Multiple dry year - first year supply	Supply totals	6,000	6,779	9,064	11,198	11,198	11,198
	Demand totals	5,162	5,941	8,184	10,108	9,970	9,855
	Difference	838	838	880	1,090	1,228	1,343
	Difference as % of supply	14%	12%	10%	10%	11%	12%
	Difference as % of demand	16%	14%	11%	11%	12%	14%
Multiple dry year - second year supply	Supply totals	6,000	6,779	9,064	11,198	11,198	11,198
	Demand totals	5,162	5,941	8,184	10,108	9,970	9,855
	Difference	838	838	880	1,090	1,228	1,343
	Difference as % of supply	14%	12%	10%	10%	11%	12%
	Difference as % of demand	16%	14%	11%	11%	12%	14%
Multiple dry year - third year supply	Supply totals	6,000	6,779	9,064	11,198	11,198	11,198
	Demand totals	5,162	5,941	8,184	10,108	9,970	9,855
	Difference	838	838	880	1,090	1,228	1,343
	Difference as % of supply	14%	12%	10%	10%	11%	12%
	Difference as % of demand	16%	14%	11%	11%	12%	14%

Note: Supply data from Section 4 and demand data from Section 3.

Table 7-5. (DWR Table 34) Total Zone 41 - Multiple-Dry Year Events Water Supply and Demand Comparison, ac-ft/yr							
		2010	2015	2020	2025	2030	2035
Multiple dry year - first year supply	Supply totals	54,320	64,779	73,464	90,598	114,898	120,698
	Demand totals	39,673	50,366	58,846	67,690	77,535	87,567
	Difference	14,647	14,413	14,618	22,908	37,363	33,131
	Difference as % of supply	27%	22%	20%	25%	33%	27%
	Difference as % of demand	37%	29%	25%	34%	48%	38%
Multiple dry year - second year supply	Supply totals	54,320	64,779	73,464	90,598	114,898	120,698
	Demand totals	39,673	50,366	58,846	67,690	77,535	87,567
	Difference	14,647	14,413	14,618	22,908	37,363	33,131
	Difference as % of supply	27%	22%	20%	25%	33%	27%
	Difference as % of demand	37%	29%	25%	34%	48%	38%
Multiple dry year - third year supply	Supply totals	54,320	64,779	73,464	90,598	114,898	120,698
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	Difference	14,647	14,413	14,618	22,908	37,363	33,131
	Difference as % of supply	27%	22%	20%	25%	33%	27%
	Difference as % of demand	37%	29%	25%	34%	48%	38%

Note: Supply data from Section 4 and demand data from Section 3.

7.2 Water Shortage Expectations

Water shortages are not projected because the groundwater supply can meet demands during the dry years when minimal surface water is available as shown on Figure 7-1. During a dry year, SCWA's surface water supplies would be reduced. However, groundwater supplies are increased to help meet demands. Groundwater supply shortages are not expected.

In addition, SCWA has established a water shortage contingency plan corresponding to various water supply shortage stages. This is described in detail in Section 8 of this Plan.

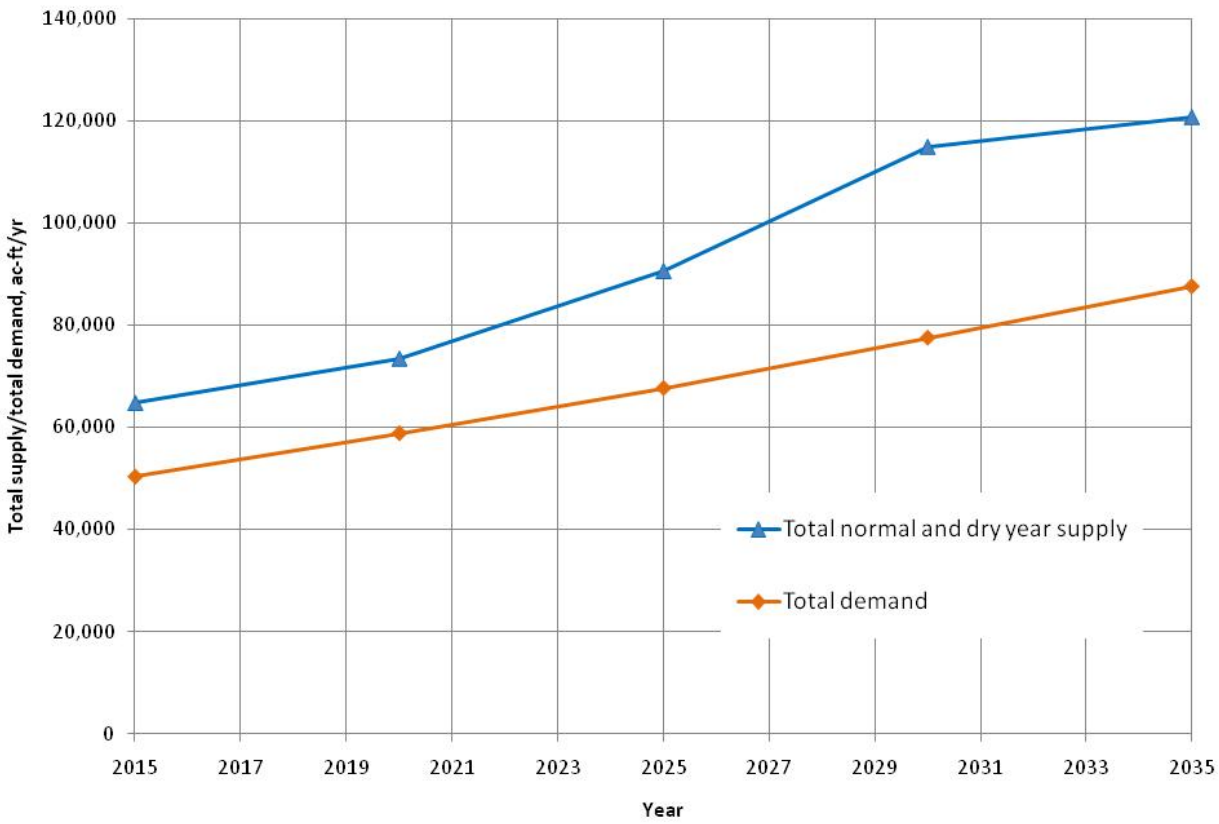

Figure 7-1. Comparison of Projected Total Supply and Demand

Section 8

Water Shortage Contingency Plan

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

The WFA describes surface water supply scenarios for normal, dry, and conference years. The WFA acknowledges that there may be years where surface water supply is less than even the stipulated decreased diversions. SCWA may experience short-term water shortages due to mechanical failures or other circumstances. For these instances, SCWA has developed a water shortage contingency plan. SCWA's Water Shortage Contingency Plan-Stages of Action is included in Appendix J. In addition, SCWA has an Emergency Response Plan in place to mitigate against the impact of catastrophic emergencies and inconvenience to its customers. The Emergency Response Plan is not included in this document due to security reasons.

8.1 Stages of Action

10632(a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

SCWA has established a Water Shortage Contingency Plan that identifies a range of rationing stages which are linked to corresponding water supply conditions. These stages and their corresponding conditions are summarized in Table 8-1.

Table 8-1. (DWR Table 35) Water Shortage Contingency – Rationing Stages to Address Water Supply Shortages

Stage	Water Supply Conditions	Percent shortage, %
1	Normal	0
2	Water Alert – probability that supplies will not be able to meet all demands	20
3	Water Warning - supplies not meeting current demands	30
4	Water Crisis - major failure of a supply, storage, or distribution system, supplies not meeting current demands	40
5	Water Emergency - major failure of a supply, storage, or distribution, supplies not meeting current demands	50 or greater

8.2 Three-Year Minimum Water Supply

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

Currently, SCWA relies primarily on groundwater for its water supply. If the next three years (2012-2014) were equivalent to the driest three year sequence in history, SCWA would be able to use 100 percent groundwater to meet its demands. This is assuming reduced surface water supply from the City of Sacramento, GSWC, and the Vineyard SWTP. Per the WFA, each groundwater basin has a long-term annual average sustainable yield and it is possible to exceed these sustainable yield values during dry hydrologic periods as long as the long-term annual average groundwater use in the basin is below the sustainable yield. Overall water demands within Zone 40 will not exceed this amount within the next three years, regardless if 100 percent groundwater were used. The three-year minimum water supply is presented in Table 4-11.

8.3 Catastrophic Supply Interruption Plan

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

SCWA has various procedures and contingencies prepared in order to be able to continue to deliver water to its customers after a catastrophe. These include approximately 45.1 million gallons (MG) of water storage capacity, backup power generators at every groundwater pump station and treatment plant, the ability to accommodate portable electric generators, use of backup/standby facilities, and utilization of interties with adjacent water purveyors. SCWA has also developed a planning level hydraulic operations model and will eventually develop an implementation level model for its entire distribution system. The implementation model would allow operators to test various scenarios to adjust operations based on a catastrophic supply interruption, such as a ruptured transmission line, and to maximize all available resources. SCWA would also dedicate all necessary maintenance staff to repair and isolate major distribution system failures. SCWA would also notify the public regarding water supply shortages through mailers, newspaper notices, and television and radio announcements.

SCWA and the County have planned for the possibility of a catastrophe. The following is a summary of some of the plans that have been developed:

Sacramento County Multi-Jurisdictional Local Hazard Mitigation Plan Update (2011)

It is anticipated that by mid-2011 the Sacramento County Department of Water Resources will have updated their *Multi-Jurisdictional Local Hazard Mitigation Plan Update* (LHMP) in accordance with the requirements of the Disaster Mitigation Act of 2000 (PL 106-3900). The LHMP also functions as the Community Rating System (CRS) Floodplain Management Plan for the County. The LHMP identifies and assesses the risks from potential natural hazards in Sacramento County, reviews the County's current capabilities to reduce the impacts from hazards, and includes recommended actions to reduce vulnerability to potential disasters. The natural hazards identified and investigated in the LHMP include:

- Severe weather
  - Heavy rains/storms
  - Extreme heat
  - Tornadoes
  - Freeze
  - Fog

- Flood
  - 100/200/500 Year
  - Localized/stormwater
- Dam failure
- Levee failure
- River/stream/creek bank erosion
- Earthquakes
  - Liquefaction
- Wildfires
- Drought
- Natural health hazards
  - West Nile Virus
- Landslides
- Subsidence
- Agricultural hazards
  - Insects/pests
- Volcanoes
- Bird strike

The multi-jurisdictional plan includes the County, the Cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, Isleton, Rancho Cordova, as well as 69 other special districts.

Sacramento County Multi-Hazard Disaster Plan (December, 2004)

This existing plan was developed pursuant to the Disaster Mitigation Act of 2000 regulations published in the *Federal Register* Volume 67, Number 38, Tuesday, February 26, 2002. This plan identifies goals, objectives, and measures for hazard mitigation and risk reduction to make communities less vulnerable and more disaster resistant and sustainable. Information in the plan can also be used to help guide and coordinate mitigation activities and local policy decisions for future land use decisions.

Dam Emergency Preparedness Plans

The county has copies of the emergency plans and inundation maps for Folsom Dam that were prepared by the U.S. Bureau of Reclamation.

County Sandbag Locations

The county has an inventory of sandbag stockpiles and a map showing where these resources are located. These sites are posted on the web at *www.floodready.org*. Sandbag locations are stocked and opened when there is a recognized threat of impending high intensity storms.

Sacramento County Flood ALERT System

Automated Local Evaluation in Real Time (ALERT), developed by the National Weather Service (NWS), signals the County Department of Water Resources of possible flooding. It provides continuous and automatic reports from river levels and rainfall gauges. These monitoring stations provide data to determine when to initiate evacuation procedures.

Sacramento County Website

Emergency information can be found on the County's website at (*www.saccodwr.org* or *www.floodready.org*). Also included are links to several agencies serving the County to contact if power goes out, flood occurs, etc. (SMUD, PG&E, fire and police department links, sand bag locations, etc.).

8.4 Prohibitions, Consumption Reduction Methods, and Penalties

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

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

Actions that SCWA can take during water shortages are summarized in Tables 8-2, 8-3, and 8-4. These actions include more voluntary restrictions, water rationing, and fines for noncompliance.

Table 8-2. (DWR Table 36) Water Shortage Contingency – Mandatory Prohibitions

Prohibitions	Stage When Prohibition is Voluntarily Requested	Stage When Prohibition Becomes Mandatory
Using potable water for street washing	N/A	Stage 1
Washing cars	1	Stage 5
Watering lawns/landscapes	1	Stage 5
Non-permanent agriculture	1	Stage 5
Uncorrected plumbing leaks	1	Stage 5
Gutter flooding	N/A	Stage 1
Open hoses	N/A	Stage 1
Other – Restaurants shall serve water to customers only upon specific request	1	Stage 5
Other – All swimming pools, ponds, and fountains shall be equipped with recirculating pumps	N/A	Stage 1

Table 8-3. (DWR Table 37) Water Shortage Contingency – Consumption Reduction Methods		
Examples of Consumption Reduction Methods	Stage When Method Takes Effect	Projected Reduction, Percent
Demand reduction program	2	20
Reduce pressure in water lines	4	35-50
Flow restriction	2	15-25
Restrict building permits	4	35-50
Use of potable water for construction	2	15-25
Restrict for only priority uses	5	>50
Use prohibitions	1	15
Water shortage pricing	4	35-50
Per capita allotment by customer type	4	35-50
Plumbing fixture replacement	1	15
Voluntary rationing	1	15
Mandatory rationing	5	>50
Incentives to reduce water consumption	1	15
Education program	1	15
Percentage reduction by customer type	4	35-50

Note: projected reductions for each consumption reduction method represent the projected total reduction for all actions of the corresponding stage when method takes effect.

Table 8-4. (DWR Table 38) Water Shortage Contingency – Penalties and Charges	
Examples of Penalties and Charges	Stage When Penalty Takes Effect
Notification of violation	1&2
Written warning	1&2
Penalties for not reducing consumption: repeated violations call for meter installation or placement of flow restrictors	2
Charges for excess use: repeated violations call for meter installation or placement of flow restrictors	2
Flat fine	1
Charge per unit over allotment	4
Flow restriction	2
Mandatory water audit	2
Termination of service	2

8.5 Analysis of Revenue Impacts of Reduced Sales during Shortages

Approximately seventy five percent of the connections within SCWA's service areas are metered. Therefore, if there were a water supply shortage or a catastrophe that would significantly reduce water demand, either voluntarily or involuntarily, SCWA would see a loss in revenue. As shown in Table 8-5, revenues decrease as the reduction in demand increases. Costs also decrease, but they decrease at a slower rate than revenues because SCWA continues to incur fixed costs during a water shortage. If there

were a water supply shortage or catastrophe, SCWA would devote more labor and resources to repair any significant damage. Therefore, if costs increase, this would greatly decrease cash flow to SCWA. SCWA may need to consider expanding its cash reserves, temporarily increasing flat rate water rates, utilize a portion of the $10 million Rate Stabilization Fund, or seeking funding assistance from the state or federal government through loans and/or grants.

Table 8-5. Changes in Revenue and Cost due to Demand Reductions

% Reduction in Water Demand	% Change in Revenue	% Change in Cost	% Shortfall (Revenue – Cost)
15%	-12%	-4%	5%
25%	-18%	-6%	11%
35%	-25%	-8%	17%
50%	-35%	-12%	29%

8.6 Draft Ordinance and Reduction Monitoring Mechanisms

This section describes SCWA's draft water shortage contingency declaration and reduction monitoring mechanisms.

8.6.1 Draft Ordinance

10632(h) A draft water shortage contingency resolution or ordinance.

According the Section 350 of the Water Code, the SCWA Board of Directors must declare a water shortage emergency if there is insufficient water for human consumption, sanitation, and fire protection. The emergency declaration would prompt SCWA to implement its Water Shortage Contingency Plan, as described in the preceding sections. Except during a catastrophic emergency (e.g., failure of a dam, pump, pipeline, or conduit), an emergency declaration may only be made after a public hearing is held so that SCWA's customers would have the opportunity to protest the declaration. Appendix J includes a Water Shortage Contingency Plan-Stages of Action and a water shortage advisory that was enacted by SCWA in 1998 for its Sunrise service area in response to groundwater wells that were impacted by groundwater contamination.

8.6.2 Reduction Monitoring Mechanism

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

Demand:

SCWA can monitor the individual water use of its metered customers. SCWA bills its customer's bi-monthly. These bills show the amount of water used by the customer during the previous billing period as well as previous month's usage. These billing reports can be generated more frequently to verify if a customer has reduced their water usage during a water shortage period or after the customer has received a "Water Shortage Advisory."

Currently, about seventy five percent of SCWA's customers are metered and SCWA is seeking opportunities to install meters on all existing services. All new connections are required to have meters. Upon completion of this program, SCWA will have the ability to fully monitor their customer's water use.

Production:

SCWA keeps records of how much groundwater they produce at each of their groundwater wells and how much surface water they are serving. This production data is typically summarized monthly, but can be generated more frequently if there is a water shortage and there is a need to target specific areas for conservation.

The following Table 8-6 summarizes SCWA's procedure for monitoring its various water shortage mechanisms for effectiveness.

Table 8-6. Reduction Measuring Mechanisms

Mechanism for determining actual reduction
Use normalized or average water use baseline to determine reductions
More frequent review of production
More frequent meter reading at customer location
More frequent leak detection and repair
More frequent meter checking and repair
System audit
Automated sensors and telemetry
Monitor utility actions
Penalties for customers

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Appendix A: Documentation of City/County Notification

Department of Water Resources
H. E. Niederberger, Jr., Interim Director

SACRAMENTO COUNTY
WATER AGENCY

Including service to the Cities of
Elk Grove and Rancho Cordova

March 22, 2011

Jeff Maupin, Operations Manager
Elk Grove Water District
9257 Elk Grove Boulevard
Elk Grove, CA 95624

Dear Mr. Maupin:

SUBJECT: NOTICE OF PREPARATION OF URBAN WATER MANAGEMENT PLAN

The Urban Water Management Plan Act requires the Sacramento County Water Agency (SCWA) to update its Urban Water Management Plan (UWMP) by June 30, 2011. The SCWA is in the process of reviewing its current UWMP, which was last updated in 2005, and will be considering revisions to it.

The SCWA will make proposed revisions to the UWMP available for public review and will hold a public hearing later this year. In the meantime, if you have any questions about SCWA's UWMP, or the process for updating it, please contact Dave Zuccaro at 916-875-6917 or zuccarod@saccounty.net.

Sincerely,

Dave Zuccaro

Dave Zuccaro, P.E.
Associate Civil Engineer
Sacramento County Water Agency

"Managing Tomorrow's Water Today"

Department of Water Resources
H. E. Niederberger, Jr., Interim Director

SACRAMENTO COUNTY
WATER AGENCY

Including service to the Cities of
Elk Grove and Rancho Cordova

March 22, 2011

Richard Shepard, Public Works Director/City Engineer
City of Elk Grove
8401 Laguna Palms Way
Elk Grove, CA 95758

Dear Mr. Shepard:

SUBJECT: NOTICE OF PREPARATION OF URBAN WATER MANAGEMENT PLAN

The Urban Water Management Plan Act requires the Sacramento County Water Agency (SCWA) to update its Urban Water Management Plan (UWMP) by June 30, 2011. The SCWA is in the process of reviewing its current UWMP, which was last updated in 2005, and will be considering revisions to it.

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Sincerely,

Dave Zuccaro

Dave Zuccaro, P.E.
Associate Civil Engineer
Sacramento County Water Agency

"Managing Tomorrow's Water Today"

Department of Water Resources
H. E. Niederberger, Jr., Interim Director

SACRAMENTO COUNTY
WATER AGENCY

Including service to the Cities of
Elk Grove and Rancho Cordova

March 22, 2011

Cyrus Abhar, Public Works Director
City of Rancho Cordova
Public Works Department
2729 Prospect Park Drive
Rancho Cordova, CA 95670

Dear Mr. Abhar:

SUBJECT: NOTICE OF PREPARATION OF URBAN WATER MANAGEMENT PLAN

The Urban Water Management Plan Act requires the Sacramento County Water Agency (SCWA) to update its Urban Water Management Plan (UWMP) by June 30, 2011. The SCWA is in the process of reviewing its current UWMP, which was last updated in 2005, and will be considering revisions to it.

The SCWA will make proposed revisions to the UWMP available for public review and will hold a public hearing later this year. In the meantime, if you have any questions about SCWA's UWMP, or the process for updating it, please contact Dave Zuccaro at 916-875-6917 or zuccarod@saccounty.net.

Sincerely,

Dave Zuccaro

Dave Zuccaro, P.E.
Associate Civil Engineer
Sacramento County Water Agency

"Managing Tomorrow's Water Today"

Appendix B: Notice of Public Hearing

Miscellaneous Wanted 3660

BUYING PRE-1920S old postcards & antique photo albums. (916) 988-1935

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Notices

Farm

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NO 435 PUBLIC NOTICE

The Elk Grove Unified School District Board of Education will have a discussion and consider the adoption of a Resolution approving the proposed sale of a portion of vacant land located at the District's property at 9510 Elk Grove-Florin Road, Elk Grove, to the City of Elk Grove, during the meeting of the Board on June 21 2011. Open session begins at 7:00 p.m. in the Robert L. Trigg Education Center at 9510 Elk Grove-Florin Road in Elk Grove. The proposed Resolution and purchase and sale agreement are available for inspection and copying at the District's Facilities and Planning Department, 9510 Elk Grove-Florin Road, Room 206, Elk Grove, CA 95624.

NO 480 PUBLIC NOTICE

NOTICE OF PUBLIC HEARING SACRAMENTO COUNTY WATER AGENCY

The Board of Directors of the Sacramento County Water Agency will conduct a public hearing pursuant to California Water Code Section 10642 regarding the Sacramento County Water Agency's proposed 2010 Urban Water Management Plan. The hearing will be held at the following time and place:

June 21st, 2011
4:00 p.m.
Board of Supervisors
Chambers
700 H Street, Suite 1450
Sacramento, CA 95814

At the hearing, the Sacramento County Water Agency Board of Directors will receive comments from the public regarding the proposed Urban Water Management Plan and will vote whether to adopt the plan. The plan is available for public review at SCWA.net and at 3847 Branch Center Road, Trailer No. 1.

Headlines are Important

There are 3 types: Information headlines state a fact about the item, such as "Maytag Washer". Clever headlines use humor or rhyme to grab attention, e.g. "Wife says it has to go". A benefit headline describes a benefit of owning the item, e.g. "Ease your troubles in a backyard spa".

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Add attention to your ad and get fast results. Ask your sales rep to help you select the perfect graphic to make your classified ad stand out. Call Bee Classified (916) 321-123 or toll free (800) 876-8700.

NO 496 PUBLIC NOTICE

Request for Proposals (RFP): School and Community-Based Social Skill Violence Prevention and Family Conflict Management Program, MHSA/043

The Sacramento County Department of Health and Human Services (DH Division of Behavioral Health Services (DBHS), announces a Reques Proposals for the Mental Health Services Act (MHSA) School Community-Based Social Skills, Violence Prevention, and Family Co Management Program. The RFP is available online www.sacdhhs.com/MHSA and in hard copy at 7001-A East Par Sacramento, CA 95823, between 8:00 a.m. - 5:00 p.m., Monday-F Agencies interested in applying must send a representative t MandatoryProposers⅛ Conference, scheduled on Tuesday, June 21, 9:00 a.m. at 7001-A East Parkway, Sacramento, CA 95823, in Conf Room 1.

NO 402 PUBLIC NOTICE

NOTICE OF PREPARATION AND PUBLIC SCOPING MEETING

Supplemental Environmental Impact Report for the Davis Woodland Water Supply Project Alternative Intake and Diversion and Raw Water Pipeline Proj

NOTICE IS HEREBY GIVEN that the Woodland-Davis Clean Wate (WDCWA) staff will hold a California Environmental Quality Act (CEQ meeting to seek comments on the scope and content of the envi information that should be included in the Draft Supplemental Envi Impact Report (SEIR) to consider the development of an Alternative Diversion and Raw Water Pipeline. This Notice of Preparation (NOP responsible and trustee agencies and the public with information the project and its potential environmental effects. Pursuant to CE 21080.4(a) and Section 15082 of the State CEQA Guidelines, and trustee agencies and members of the public are asked to pro comments regarding the scope and content of the SEIR.

About the Project: Since the certification of the Davis Woodland W Project (DWWSP) Environmental Impact Report (EIR) in 2007, t Woodland and Davis have formed the WDCWA, a joint powers au to implement the DWWSP. WDCWA has proceeded with implemen DWWSP, including additional project planning in preparation of the design and project construction phases, financial planning, and a project permits and approvals. To further project planning efforts is now interested in evaluating a separate, stand-alone intake facility and associated raw water pipeline that would serve the D as an alternative to the proposed intake and diversion facility jointly owned and operated with Reclamation District 2035, in the WDCWA and Reclamation District 2035 are unable to cons intake and diversion facility.

Public Comment Period and Availability of Documents: released for public review on June 7, 2011 and the 30 day publi for this NOP will extend though July 7, 2011. The NOP, includ project description and a list of environmental issues to be ad SEIR, is available at http://www.wdcwa.com/documents. Ha NOP are available for review at the WDCWA offices at the Written comments on the NOP must be received by mail or e-m 5 p.m. on July 7, 2011; please be sure to include your nam telephone number. Comments on the scope and content of the sent to: Lynanne Mehlhaff, WDCWA at 1717 Fifth Street, Dav at 530-757-5673. Email correspondence sho toLMehlhaff@cityofdavis.org.

Notice of Public Meeting: A public scoping meeting for this p on Wednesday, June 15, 2011 from 4 p.m. to 6:00 p.m. Community and Senior Center, 2001 East Street, Woodland,

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Want more fun?
The Bee's 24-page Puzzles & Games book is packed with just that. It's delivered every Saturday for 50 cents a week. To add it to your subscrip-

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Stuff

ollector, Art Services 3505

ND COLLECTIBLES 1941 ida front room set includ- ottoman, tables , fold all with original excellent stery and paddle arms.) 756-8094

AL PLATE: John F. Kenne- . $400 obo. 1920's Swag o 916-821-4447

I COLLECTOR FAIRE
une 18th 9am-3pm el Paso Bl, Sac 95815 REE ADMISSION ★ rs: antiques, collectibles, lry, vintage, cool stuff! iffestateservices.com

l Jewelry 3535

BOUT WATCHES
n's wrist, pocket, wind lex, TOP $$$ PAID FIRST! 916-708-7804

ces Obtained For Fine Our Consignment/Estate 385-6530 Dalin Jewelers

3543

TILLOS FIREWOOD split almond, free del. x. (209) 394-8787

Accessories 3545

R Schodnauer, model e, rechambered to 7mm of a kind Myrtlewood. all 916-988-6572

LES: SACRAMENTO CITY

s - de Creek 3561

Tues. 6/14 9am-5pm. va Cir Vast array of asst. ! Low, Low Low Cost!

LES: SACRAMENTO CO. OUTLYING AREAS

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Health and Fitness 3630

★ WEIGHT LOSS CHALLENGE! ★
★★ Lose Weight Now! ★★
Classes Start Soon Pam 916-879-4460 all2successknittle@gmail.com

Home Furnishings 3645

DINING TABLE SET Oak pedestal, 24" leaf, w/6 cushioned chairs. 10 mos old. $800 916-983-4310

HOUSEHOLD Furniture Sale-flat screen tv's/stand, liv/fam/bdrm furn. All Must go! Like New Cond. Call 916-640-4161

POOL TABLE Olhausen 8' slate with accessories. Like new condition. A must see. $1,050 (916) 214-1481

Miscellaneous For Sale 3650

AIRCRAFT LANDING MATS Military Aircraft Landing Mats, 2'x10', clean. $65ea. David (916) 332-5000

AMATEUR RADIO ENTHUSIAST/ PHOTOGRAPHER looking to buy old Ham radio and photo equipment, tubes and testers,old hi-fi stereos and speakers and other items of interest. Call Nelsen 530-725-0777

FIREWOOD Oak, 16 or 20" only $219/ cord. Almond & Pine. BUY NOW & $AVE! WE DELIVER ★ 916-991-9148

GATE 20'x6' w/electric Gate opener & accessories $1995-new 916-997-7767

★WE WANT YOUR METAL! ★
Scrap iron, tractors, cars, trucks, steel bldgs some demolition commercial/residential/farm clean up. Top $$ pd. Fully Ins. **530-682-9866**

Miscellaneous Wanted 3660

BUYING PRE-1920S old postcards & antique photo albums. (916) 988-1935

CASH Paid (Anything old I'm interested) antique furn, pict, jwlry, art, toys, pottery, dolls, tools, free pu 530-401-3311

HELPLESS ANIMALS need your donations! SPCA THRIFT SHOP, the real non-profit! 916-442-8118 • 1517 E St

Musical Instruments & Services 3665

● GUITARS WANTED! ●
Older Fender, Gibson, Martin, Mandolin, tube amp Pay to $2K 916-966-1900

PIANO Baldwin, Upright w/bench. Excel. cond. $2,500 916-781-2355

Restaurant, Store, Bar Equip. 3678

Hood Systems•Stainless Steel Design fab/install. 920.3733 Carson Mech.

★ WE BUY & SELL! ★
Used Restaurant/Bar Equip 446-9600

Tickets - Entertainment 3695

4TH ROW KINGS TICKETS SEC102, ROW AA, SEATS 13 & 14. TWO SEATS FROM CENTER COURT. INCL YOUR OWN PRKNG SPOT IN SUPER PREFERRED PRKNG. 1/4 & 1/2 SEASON AVAILABLE. BEHIND

Tools & Shop Equipment 3705

BODY SHOP TOOLS $1500 FOR ALL 916-289-9218

TENNSMITH SHEET METAL EQUIP. HB 97"-18g Brake, 52"- 16g Shear, 6" Knotcher. All in like NEW condition $4000 for all 3 pieces. 530-288-0715

Farm

Livestock 4015

GOATS: ALPINE, PYGMY: Bucks, Does, Kids. Starting at $40 916-684-7375

Farm Equipment 4025

Kubota

KUBOTA L2800DT-1
Tractor rental return, 28HP, 4wd, about 90 hrs. New wrnty. $9375 for cash or $10,375 for 0% financing for 60mo. Dolk Tractor Co. 707-374-6438

Notices

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Legal Notices 2005

TO PUBLISH A LEGAL NOTICE IN THE SACRAMENTO BEE, Call 916-321-1371, Fax 916-321-1110 or email legaladvertising@sacbee.com

NO 424 PUBLIC NOTICE

Date: June 8, 2011

REQUEST FOR PROPOSALS FB11-21

PRODUCT/SERVICE SUMMARY: The Sacramento Metropolitan Fire District is requesting proposals for **Statement of Qualifications for Legal Services.** A document titled "REQUEST FOR FORMAL PROPOSAL (RFFP) FB11-21 Statement of Qualifications for Legal Services " contains detailed information regarding this posting and submission requirements. A copy of this document can be secured from the following locations:

District Website:
www.sacmetrofire.ca.gov – Follow the link in the "What's New for Vendors" window.

Administrative Office:
Sacramento Metropolitan Fire District
2101 Hurley Way,
Sacramento CA 95825-3208
Attn: Charlotte Tilson, Board Clerk
(916) 859-4305

Bids shall be submitted by:
June 20, 2011
no later than 4:00 p.m.

The Sacramento Metropolitan Fire District intends to enter into an agreement with one or more firms that best meet the needs of the District. The Sacramento Metropolitan Fire District reserves the right to reject any or all proposals offered in response to this posting, and either rebid or take any other action permitted by statute. The District reserves the right to negotiate the terms and conditions of any final contract for services described in submitted proposals.

NO 435 PUBLIC NOTICE

The Elk Grove Unified School District Board of Education will have a discussion and consider the adoption of a Resolution approving the proposed sale of a portion of vacant land located at the District's property at 9510 Elk Grove-Florin Road, Elk Grove, to the City of Elk Grove, during the meeting of the Board on June 21 2011. Open session begins at 7:00 p.m. in the Robert L. Trigg Education Center at 9510 Elk Grove-Florin Road in Elk Grove. The proposed Resolution and purchase and sale agreement are available for inspection and copying at the District's Facilities and Planning Department, 9510 Elk Grove-Florin Road, Room 206, Elk Grove, CA 95624.

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Legal Notices 2005

NO 480 PUBLIC NOTICE

NOTICE OF PUBLIC HEARING SACRAMENTO COUNTY WATER AGENCY

The Board of Directors of the Sacramento County Water Agency will conduct a public hearing pursuant to California Water Code Section 10642 regarding the Sacramento County Water Agency's proposed 2010 Urban Water Management Plan. The hearing will be held at the following time and place:

June 21st, 2011
4:00 p.m.
Board of Supervisors Chambers
700 H Street, Suite 1450
Sacramento, CA 95814

At the hearing, the Sacramento County Water Agency Board of Directors will receive comments from the public regarding the proposed Urban Water Management Plan and will vote whether to adopt the plan. The plan is available for public review at SCWA.net and at 3847 Branch Center Road, Trailer No. 1.

NO 440 PUBLIC NOTICE
NOTICE OF BULK SALE

Please take notice that MPF & Associates Incorporated, a California corporation ("**Seller**"), having a business address of 8333 Demetre Avenue, Sacramento, California 95828 ("**Business Location**"), under an Asset Purchase Agreement to be entered into with Grand Designs, Inc., a California corporation ("**Buyer**"), having a business address of 8333 Demetre Avenue, Sacramento, California 95828, intends to make a bulk sale (the "**Bulk Sale**") to Buyer of substantially all of its tangible and intangible assets used in Seller's business in which it manufactures and sells industrial thermal covers and related products and services, which assets are located at the Business Location. The Bulk Sale (a) is not subject to Section 6106.2 of California's Uniform Commercial Code and (b) is anticipated to take place on June 30, 2011, at the Business Location. Following is a list of the business names and addresses used by Seller during the three years preceding the date of this Notice: Names: MPF & Associates Incorporated; Innovative Energy; and Innovative Energy of California. Addresses: 8333 Demetre Avenue, Sacramento, California 95828; and 3329 Fitzgerald Road, Suite #1, Rancho Cordova, California 95742. This Notice is provided by Buyer in compliance with California's Uniform Commercial Code – Bulk Sales.

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Legal Notices

NO 429 PU

NOTICE I

Twin Rivers Uni (TRUSD) is ple availability of it (RFB) for fully Charger and F Police Vehicles will be due on a.m. Interested directed to req the RFB, along specifications, sending an e TRUSD's Con mary.talentinow

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NO 494 P

SUMMONS

NOTICE TO MICAE

You are

PETITION AMAR

Case #H

You have 30 this Summons, on you to file (form FL-120 or and have a c petitioner. a let not protect you. If you do not fil time, the cour affecting your n partnership, custody of you be ordered t attorney fees & pay the filing fe fee waiver form If you want leg lawyer immedia NOTICE: The re effective again wife until the p a judgment is makes further c are enforcea California by a officer who has a copy of them. Name and addr Superior Court County of Alam 24405 Amador Hayward, CA 94 Hayward Hall of Southern Divisi The name, add number of petit Bob Lynn Edwa Attorney at Law 3869 Peralta B Fremont, CA 94 Phone 510-770 Dated: October

The Sac

Classified Toll free: (Fax: (91 sacbee.c

Holton, Melanie

From: Holton, Melanie
Sent: Monday, June 20, 2011 1:49 PM
To: 'Andrew.Soule@amwater.com'
Subject: FW: SCWA 2010 DRAFT Urban Water Management Plan

Mr. Soule,
The Urban Water Management Planning Act (Act) requires that the Sacramento County Water Agency (SCWA) update its Urban Water Management Plan (Plan) by July 1, 2011. SCWA's current Plan was last updated in 2005 and has been updated per requirements of the Act.

SCWA has completed preparation of a DRAFT Plan. The Plan is now available for public review and comment. The Board of Directors of the Sacramento County Water Agency will conduct a public hearing pursuant to California Water Code Section 10642 regarding the Sacramento County Water Agency's proposed 2010 Urban Water Management Plan. The hearing will be held at the following time and place: June 21st, 2011 4:00 p.m. Board of Supervisors Chambers 700 H Street, Suite 1450 Sacramento, CA 95814. At the hearing, the Sacramento County Water Agency Board of Directors will receive comments from the public regarding the proposed Urban Water Management Plan and will vote whether to adopt the plan. The plan is available for public review at SCWA.net and at 3847 Branch Center Road, Trailer No. 1.

Below is a link to SCWA's DRAFT 2010 Plan:

Draft SCWA 2010 Zone 41 Urban Water Management Plan

Written comments may be sent to:
Dave Zuccaro
Sacramento County Water Agency
3847 Branch Center Road, Trailer No. 1.
Sacramento CA, 95827

Melanie Holton, PE

Principal Engineer
Brown and Caldwell
mholton@brwncald.com
T 916.853-5353

Holton, Melanie

From: Holton, Melanie
Sent: Wednesday, June 08, 2011 6:48 AM
To: pjain@ebmud.com
Subject: SCWA 2010 DRAFT Urban Water Management Plan

Dear Ms. Jain,
The Urban Water Management Planning Act (Act) requires that the Sacramento County Water Agency (SCWA) update its Urban Water Management Plan (Plan) by July 1, 2011. SCWA's current Plan was last updated in 2005 and has been updated per requirements of the Act.

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Written comments may be sent to:
Dave Zuccaro
Sacramento County Water Agency
3847 Branch Center Road, Trailer No. 1.
Sacramento CA, 95827

Melanie Holton, PE

Principal Engineer
Brown and Caldwell
mholton@brwncald.com
T 916.853-5353

Holton, Melanie

From: Holton, Melanie
Sent: Monday, June 20, 2011 2:06 PM
To: 'techiburu@elkgrovecity.org'
Subject: SCWA 2010 DRAFT Urban Water Management Plan

Mr. Echiburu,
The Urban Water Management Planning Act (Act) requires that the Sacramento County Water Agency (SCWA) update its Urban Water Management Plan (Plan) by July 1, 2011. SCWA's current Plan was last updated in 2005 and has been updated per requirements of the Act.

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Written comments may be sent to:
Dave Zuccaro
Sacramento County Water Agency
3847 Branch Center Road, Trailer No. 1.
Sacramento CA, 95827

Melanie Holton, PE

Principal Engineer
Brown and Caldwell
mholton@brwncald.com
T 916.853-5353

Holton, Melanie

From: Holton, Melanie
Sent: Tuesday, June 07, 2011 12:48 PM
To: Ellen Carlson
Cc: Brett Williams
Subject: FW: SCWA 2010 DRAFT Urban Water Management Plan

Dear Ms. Carlson,
The Urban Water Management Planning Act (Act) requires that the Sacramento County Water Agency (SCWA) update its Urban Water Management Plan (Plan) by July 1, 2011. SCWA's current Plan was last updated in 2005 and has been updated per requirements of the Act.

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Draft SCWA 2010 Zone 41 Urban Water Management Plan

Written comments may be sent to:
Dave Zuccaro
Sacramento County Water Agency
3847 Branch Center Road, Trailer No. 1.
Sacramento CA, 95827

Melanie Holton, PE

Principal Engineer
Brown and Caldwell
mholton@brwncald.com
T 916.853-5353

Holton, Melanie

From: Holton, Melanie
Sent: Tuesday, June 07, 2011 12:45 PM
To: Kyle Ericson
Subject: SCWA 2010 DRAFT Urban Water Management Plan

Dear Mr. Ericson,
The Urban Water Management Planning Act (Act) requires that the Sacramento County Water Agency (SCWA) update its Urban Water Management Plan (Plan) by July 1, 2011. SCWA's current Plan was last updated in 2005 and has been updated per requirements of the Act.

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Below is a link to SCWA's DRAFT 2010 Plan:

Draft SCWA 2010 Zone 41 Urban Water Management Plan

Written comments may be sent to:
Dave Zuccaro
Sacramento County Water Agency
3847 Branch Center Road, Trailer No. 1.
Sacramento CA, 95827

Melanie Holton, PE

Principal Engineer
Brown and Caldwell
mholton@brwncald.com
T 916.853-5353

Holton, Melanie

From: Holton, Melanie
Sent: Monday, June 20, 2011 1:57 PM
To: bcook@fruitridgevista.com
Subject: SCWA 2010 DRAFT Urban Water Management Plan

Mr. Cook,
The Urban Water Management Planning Act (Act) requires that the Sacramento County Water Agency (SCWA) update its Urban Water Management Plan (Plan) by July 1, 2011. SCWA's current Plan was last updated in 2005 and has been updated per requirements of the Act.

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Below is a link to SCWA's DRAFT 2010 Plan:

Draft SCWA 2010 Zone 41 Urban Water Management Plan

Written comments may be sent to:
Dave Zuccaro
Sacramento County Water Agency
3847 Branch Center Road, Trailer No. 1.
Sacramento CA, 95827

Melanie Holton, PE

Principal Engineer
Brown and Caldwell
mholton@brwncald.com
T 916.853-5353

Holton, Melanie

From: Holton, Melanie
Sent: Tuesday, June 07, 2011 12:47 PM
To: Schubert, Paul T.
Subject: SCWA 2010 DRAFT Urban Water Management Plan

Dear Mr. Schubert,
The Urban Water Management Planning Act (Act) requires that the Sacramento County Water Agency (SCWA) update its Urban Water Management Plan (Plan) by July 1, 2011. SCWA's current Plan was last updated in 2005 and has been updated per requirements of the Act.

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Draft SCWA 2010 Zone 41 Urban Water Management Plan

Written comments may be sent to:
Dave Zuccaro
Sacramento County Water Agency
3847 Branch Center Road, Trailer No. 1.
Sacramento CA, 95827

Melanie Holton, PE

Principal Engineer
Brown and Caldwell
mholton@brwncald.com
T 916.853-5353

Holton, Melanie

From: Holton, Melanie
Sent: Wednesday, June 08, 2011 6:34 AM
To: 'staff@natomaswater.com'
Subject: SCWA 2010 DRAFT Urban Water Management Plan

Dear Sir or Madam,
The Urban Water Management Planning Act (Act) requires that the Sacramento County Water Agency (SCWA) update its Urban Water Management Plan (Plan) by July 1, 2011. SCWA's current Plan was last updated in 2005 and has been updated per requirements of the Act.

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Draft SCWA 2010 Zone 41 Urban Water Management Plan

Written comments may be sent to:
Dave Zuccaro
Sacramento County Water Agency
3847 Branch Center Road, Trailer No. 1.
Sacramento CA, 95827

Melanie Holton, PE

Principal Engineer
Brown and Caldwell
mholton@brwncald.com
T 916.853-5353

Holton, Melanie

From: Holton, Melanie
Sent: Wednesday, June 08, 2011 6:31 AM
To: 'sscawa@aol.com'
Subject: FW: SCWA 2010 DRAFT Urban Water Management Plan

Please see the email below. The email address to which I sent the email below is not valid.

Melanie Holton, PE

Principal Engineer
Brown and Caldwell
mholton@brwncald.com
T 916.853-5353

From: Holton, Melanie
Sent: Wednesday, June 08, 2011 6:27 AM
To: 'omochumnehartnel@aol.com'
Subject: SCWA 2010 DRAFT Urban Water Management Plan

Dear Sir or Madam,
The Urban Water Management Planning Act (Act) requires that the Sacramento County Water Agency (SCWA) update its Urban Water Management Plan (Plan) by July 1, 2011. SCWA's current Plan was last updated in 2005 and has been updated per requirements of the Act.

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Dave Zuccaro
Sacramento County Water Agency
3847 Branch Center Road, Trailer No. 1.
Sacramento CA, 95827

Melanie Holton, PE

Principal Engineer
Brown and Caldwell
mholton@brwncald.com
T 916.853-5353

Holton, Melanie

From: Holton, Melanie
Sent: Tuesday, June 07, 2011 12:56 PM
To: cabhar@cityofranchocordova.org
Subject: SCWA 2010 DRAFT Urban Water Management Plan

Dear Mr. Abhar,
The Urban Water Management Planning Act (Act) requires that the Sacramento County Water Agency (SCWA) update its Urban Water Management Plan (Plan) by July 1, 2011. SCWA's current Plan was last updated in 2005 and has been updated per requirements of the Act.

SCWA has completed preparation of a DRAFT Plan. The Plan is now available for public review and comment. The Board of Directors of the Sacramento County Water Agency will conduct a public hearing pursuant to California Water Code Section 10642 regarding the Sacramento County Water Agency's proposed 2010 Urban Water Management Plan. The hearing will be held at the following time and place: June 21st, 2011 4:00 p.m. Board of Supervisors Chambers 700 H Street, Suite 1450 Sacramento, CA 95814. At the hearing, the Sacramento County Water Agency Board of Directors will receive comments from the public regarding the proposed Urban Water Management Plan and will vote whether to adopt the plan. The plan is available for public review at SCWA.net and at 3847 Branch Center Road, Trailer No. 1.

Below is a link to SCWA's DRAFT 2010 Plan:

Draft SCWA 2010 Zone 41 Urban Water Management Plan

Written comments may be sent to:
Dave Zuccaro
Sacramento County Water Agency
3847 Branch Center Road, Trailer No. 1.
Sacramento CA, 95827

Melanie Holton, PE

Principal Engineer
Brown and Caldwell
mholton@brwncald.com
T 916.853-5353

Holton, Melanie

From: Holton, Melanie
Sent: Tuesday, June 07, 2011 12:30 PM
To: Rob Swartz
Subject: SCWA 2010 DRAFT Urban Water Management Plan

Dear Mr. Swartz,
The Urban Water Management Planning Act (Act) requires that the Sacramento County Water Agency (SCWA) update its Urban Water Management Plan (Plan) by July 1, 2011. SCWA's current Plan was last updated in 2005 and has been updated per requirements of the Act.

SCWA has completed preparation of a DRAFT Plan. The Plan is now available for public review and comment. The Board of Directors of the Sacramento County Water Agency will conduct a public hearing pursuant to California Water Code Section 10642 regarding the Sacramento County Water Agency's proposed 2010 Urban Water Management Plan. The hearing will be held at the following time and place: June 21st, 2011 4:00 p.m. Board of Supervisors Chambers 700 H Street, Suite 1450 Sacramento, CA 95814. At the hearing, the Sacramento County Water Agency Board of Directors will receive comments from the public regarding the proposed Urban Water Management Plan and will vote whether to adopt the plan. The plan is available for public review at SCWA.net and at 3847 Branch Center Road, Trailer No. 1.

Below is a link to SCWA's DRAFT 2010 Plan:

Draft SCWA 2010 Zone 41 Urban Water Management Plan

Written comments may be sent to:
Dave Zuccaro
Sacramento County Water Agency
3847 Branch Center Road, Trailer No. 1.
Sacramento CA, 95827

Melanie Holton, PE

Principal Engineer
Brown and Caldwell
mholton@brwncald.com
T 916.853-5353

Holton, Melanie

From: Holton, Melanie
Sent: Tuesday, June 07, 2011 12:46 PM
To: jpeifer@cityofsacramento.org
Subject: SCWA 2010 DRAFT Urban Water Management Plan

Dear Mr. Peifer,
The Urban Water Management Planning Act (Act) requires that the Sacramento County Water Agency (SCWA) update its Urban Water Management Plan (Plan) by July 1, 2011. SCWA's current Plan was last updated in 2005 and has been updated per requirements of the Act.

SCWA has completed preparation of a DRAFT Plan. The Plan is now available for public review and comment. The Board of Directors of the Sacramento County Water Agency will conduct a public hearing pursuant to California Water Code Section 10642 regarding the Sacramento County Water Agency's proposed 2010 Urban Water Management Plan. The hearing will be held at the following time and place: June 21st, 2011 4:00 p.m. Board of Supervisors Chambers 700 H Street, Suite 1450 Sacramento, CA 95814. At the hearing, the Sacramento County Water Agency Board of Directors will receive comments from the public regarding the proposed Urban Water Management Plan and will vote whether to adopt the plan. The plan is available for public review at SCWA.net and at 3847 Branch Center Road, Trailer No. 1.

Below is a link to SCWA's DRAFT 2010 Plan:

Draft SCWA 2010 Zone 41 Urban Water Management Plan

Written comments may be sent to:
Dave Zuccaro
Sacramento County Water Agency
3847 Branch Center Road, Trailer No. 1.
Sacramento CA, 95827

Melanie Holton, PE

Principal Engineer
Brown and Caldwell
mholton@brwncald.com
T 916.853-5353

Holton, Melanie

From: Holton, Melanie
Sent: Tuesday, June 07, 2011 12:35 PM
To: Ramirez. Jose (SDA)
Subject: SCWA 2010 DRAFT Urban Water Management Plan

Dear Mr. Ramirez,
The Urban Water Management Planning Act (Act) requires that the Sacramento County Water Agency (SCWA) update its Urban Water Management Plan (Plan) by July 1, 2011. SCWA's current Plan was last updated in 2005 and has been updated per requirements of the Act.

SCWA has completed preparation of a DRAFT Plan. The Plan is now available for public review and comment. The Board of Directors of the Sacramento County Water Agency will conduct a public hearing pursuant to California Water Code Section 10642 regarding the Sacramento County Water Agency's proposed 2010 Urban Water Management Plan. The hearing will be held at the following time and place: June 21st, 2011 4:00 p.m. Board of Supervisors Chambers 700 H Street, Suite 1450 Sacramento, CA 95814. At the hearing, the Sacramento County Water Agency Board of Directors will receive comments from the public regarding the proposed Urban Water Management Plan and will vote whether to adopt the plan. The plan is available for public review at SCWA.net and at 3847 Branch Center Road, Trailer No. 1.

Below is a link to SCWA's DRAFT 2010 Plan:

Draft SCWA 2010 Zone 41 Urban Water Management Plan

Written comments may be sent to:
Dave Zuccaro
Sacramento County Water Agency
3847 Branch Center Road, Trailer No. 1.
Sacramento CA, 95827

Melanie Holton, PE

Principal Engineer
Brown and Caldwell
mholton@brwncald.com
T 916.853-5353

Holton, Melanie

From: Holton, Melanie
Sent: Tuesday, June 07, 2011 12:49 PM
To: Warren Jung
Subject: SCWA 2010 DRAFT Urban Water Management Plan

Dear Mr. Jung,
The Urban Water Management Planning Act (Act) requires that the Sacramento County Water Agency (SCWA) update its Urban Water Management Plan (Plan) by July 1, 2011. SCWA's current Plan was last updated in 2005 and has been updated per requirements of the Act.

SCWA has completed preparation of a DRAFT Plan. The Plan is now available for public review and comment. The Board of Directors of the Sacramento County Water Agency will conduct a public hearing pursuant to California Water Code Section 10642 regarding the Sacramento County Water Agency's proposed 2010 Urban Water Management Plan. The hearing will be held at the following time and place: June 21st, 2011 4:00 p.m. Board of Supervisors Chambers 700 H Street, Suite 1450 Sacramento, CA 95814. At the hearing, the Sacramento County Water Agency Board of Directors will receive comments from the public regarding the proposed Urban Water Management Plan and will vote whether to adopt the plan. The plan is available for public review at SCWA.net and at 3847 Branch Center Road, Trailer No. 1.

Below is a link to SCWA's DRAFT 2010 Plan:

Draft SCWA 2010 Zone 41 Urban Water Management Plan

Written comments may be sent to:
Dave Zuccaro
Sacramento County Water Agency
3847 Branch Center Road, Trailer No. 1.
Sacramento CA, 95827

Melanie Holton, PE

Principal Engineer
Brown and Caldwell
mholton@brwncald.com
T 916.853-5353

Holton, Melanie

From: Holton, Melanie
Sent: Tuesday, June 07, 2011 12:33 PM
To: mfinnegan@usbr.gov
Subject: SCWA 2010 DRAFT Urban Water Management Plan

Dear Mr. Finnegan,
The Urban Water Management Planning Act (Act) requires that the Sacramento County Water Agency (SCWA) update its Urban Water Management Plan (Plan) by July 1, 2011. SCWA's current Plan was last updated in 2005 and has been updated per requirements of the Act.

SCWA has completed preparation of a DRAFT Plan. The Plan is now available for public review and comment. The Board of Directors of the Sacramento County Water Agency will conduct a public hearing pursuant to California Water Code Section 10642 regarding the Sacramento County Water Agency's proposed 2010 Urban Water Management Plan. The hearing will be held at the following time and place: June 21st, 2011 4:00 p.m. Board of Supervisors Chambers 700 H Street, Suite 1450 Sacramento, CA 95814. At the hearing, the Sacramento County Water Agency Board of Directors will receive comments from the public regarding the proposed Urban Water Management Plan and will vote whether to adopt the plan. The plan is available for public review at SCWA.net and at 3847 Branch Center Road, Trailer No. 1.

Below is a link to SCWA's DRAFT 2010 Plan:

Draft SCWA 2010 Zone 41 Urban Water Management Plan

Written comments may be sent to:
Dave Zuccaro
Sacramento County Water Agency
3847 Branch Center Road, Trailer No. 1.
Sacramento CA, 95827

Melanie Holton, PE

Principal Engineer
Brown and Caldwell
mholton@brwncald.com
T 916.853-5353

Appendix C: Adoption Resolution

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FILED
BOARD OF SUPERVISORS
JUN 21 2011
BY Cyndi Lee
CLERK OF THE BOARD

SACRAMENTO COUNTY WATER AGENCY
CALIFORNIA

For the Agenda of:
June 21, 2011
Timed: 4:00 p.m.

To: Board of Directors
Sacramento County Water Agency

From: Department of Water Resources

Subject: Public Hearing For The Adoption Of The Zone 41 2010 Urban Water Management Plan Update

Supervisorial Districts: All

Contact: Darrell Eck, Senior Engineer, 874-5039
Dave Underwood, Senior Engineer, 875-6947

Overview

The California Water Code (Water Code) section 10620 requires that every urban water supplier prepare and adopt an Urban Water Management Plan (UWMP). Once adopted, Water Code section 10621 requires that the UWMP be updated every five years. On December 6, 2005, the Sacramento County Water Agency (SCWA) Board of Directors (Board) adopted the 2005 Zone 41 UWMP. SCWA's 2010 Zone 41 UWMP update (available for viewing at the Clerk of the Board's office or on-line at www.scwa.net) incorporates the latest planning information developed by SCWA and satisfies all current requirements set forth in the Water Code, including new stringent water conservation targets.

Recommendations

1. Open public hearing on the adoption of the 2010 Zone 41 UWMP (2010 UWMP) update.
2. Close public hearing.
3. Adopt the 2010 UWMP update.

Measures/Evaluation

Measures/Evaluation are not applicable to this agenda item.

Fiscal Impact

The adoption of the 2010 UWMP has no direct fiscal impact. However, completion of the update will allow SCWA to qualify for future state-administered grants, loans, and drought assistance.

BACKGROUND

The Urban Water Management Planning Act (Act) became part of the Water Code with the passage of Assembly Bill 797 during the 1983-84 regular session of the California legislature. The Water Code describes the contents of the UWMP, as well as how urban water suppliers should adopt and implement it. The Act was most recently amended in November 2009 with the adoption of Senate Bill (SB) x7-7, also known as the Water Conservation Act of 2009. The most significant revisions in this legislation are the requirement for establishing per capita water use targets and an option that allows water purveyors to delay adoption of their UWMP to July 1, 2011.

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 (ac-ft) of water annually to adopt and submit an UWMP every five years to the California Department of Water Resources (DWR). Currently, SCWA Zone 41 provides water service to approximately 49,000 connections and serves approximately 37,000 ac-ft of potable drinking water (2010) within eight service areas. Even though some of these service areas are not required to be included in the UWMP by the Water Code due to their size, they have been included in the 2010 UWMP to provide a more complete document and a system-wide evaluation of water supplies and demands.

The State considers the UWMP to be a long-range planning document for water supply, a source of data for development of General Plans and Regional Water Plans, a source of information to develop Integrated Regional Water Management Plans, a source of information for Water Supply Assessments (Senate Bill 610) Water Code section 10613 *et seq.* (*Added by* Stats. 2001, c. 643), and Written Verifications of Supply (Senate Bill 221) Water Code section 66473.7 (*Added by* Stats. 2001, c. 642). The State also requires an approved UWMP to qualify for state-sponsored grants and loans.

On December 6, 2005, the SCWA Board approved the 2005 Zone 41 UWMP. In general, UWMPs contain the latest information on available water supplies, water supply reliability, water shortage contingencies, recycled water usage, and water conservation.

Since the approval of the 2005 UWMP, SCWA has been or is currently involved in various planning efforts that have a bearing on the UWMP. These efforts include an amendment to the Zone 40 Water Supply Master Plan (in progress), an update to the American River Basin Integrated Regional Water Management Plan (in progress), and the Central Sacramento County Groundwater Management Plan (February 2006).

DISCUSSION

The most significant change in the 2010 UWMP is the new state requirement created by the Water Conservation Act of 2009, which mandates the reduction of water consumption on a per capita basis by 10 percent by 2015 and another 10 percent by 2020. To meet these targets, SCWA will continue to implement its water conservation best management practices (BMPs) including the requirement that all residences be metered. At present, approximately 20 percent of SCWA's customers are unmetered.

The 2010 UWMP includes the entire retail and wholesale area of Zone 41 (i.e., Walnut Grove, Hood, Arden Park Vista, Northgate, Southwest Tract, Zone 50, and Zone 40). The cities of Elk Grove and Rancho Cordova and the Elk Grove Water District were notified on March 22, 2011, of SCWA's intention to update its UWMP and that there would be an opportunity for public review and a public hearing. Additionally, outreach was conducted to neighboring water purveyors, SMUD, EBMUD, the Building Industry Association, SCWA customers (via newsletter), and other interested persons or entities. Comments were solicited, but none were received. Notice of the public hearing was published in the Sacramento Bee on May 10 and 17, 2011.

The updated UWMP incorporates the latest planning information developed by SCWA, satisfies all current requirements set forth in the Water Code, and must be adopted by July 1, 2011, as specified in the Water Code.

FINANCIAL ANALYSIS

Approval of this UWMP update will not result in any fiscal impact or obligation to SCWA.

Respectfully submitted,

MICHAEL L. PETERSON, Director
Department of Water Resources

APPROVED:
STEVEN C. SZALAY
Interim County Executive

By: _____
ROBERT B. LEONARD, Administrator
Municipal Services Agency

cc: M. Peterson, K. Schmitz, D. Underwood, D. Eck, Mike Crooks – SCWA
Dennis Rogers – Building Industry Association
Richard Shepard – City Of Elk Grove Public Works Director
Cyrus Abhar – City of Rancho Cordova Public Works Director
Jeff Maupin – Elk Grove Water District Operations Manager

Appendix D: DWR Urban Water Management Plan Checklist

Table I-1 Urban Water Management Plan checklist, organized by legislation number

No.	UWMP requirement [a]	Calif. 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 3.2
2	*Wholesalers:* Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. *Retailers:* Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	System Demands	10608.36	Section 6.2
3	Report progress in meeting urban water use targets using the standardized form.	10608.40	Not applicable	Standardized form not yet available	Not applicable
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 1.3
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 4.7`
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 1.2
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		Not applicable

No.	UWMP requirement [a]	Calif. 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 2.4
11	. . . (population projections) shall be in five-year increments to 20 years or as far as data is available.	10631(a)	System Description		Section 2.4.2
12	Describe . . . other demographic factors affecting the supplier's water management planning	10631(a)	System Description		Section 2.4.2
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		Section 4.2 – groundwater Section 4.1 – surface water 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 4.2
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		Appendix E Section 4.2

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
16	(Provide a) description of any groundwater basin or basins from which the urban water supplier pumps groundwater.	10631(b)(2)	System Supplies		Section 4.2
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		Section 4.2
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		Section 4.2
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		Section 4.2
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 4.2
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.	Section 4.2
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)	Water Supply Reliability . . .		Section 4.8 Table 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 4.8

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)	System Supplies		Section 4.4
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	Provide numbers for each category.	Section 3.1
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 6.1 Appendix H (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 H (2009/2010 BMP reports)

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
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 H (2009/2010 BMP reports) Per item no. 32 in this table, since SCWA is a signer of the MOU and submits the annual reports, they are deemed with no. 28 and 29 in this table.
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 H (2009/2010 BMP reports) Per item no. 32 in this table, since SCWA is a signer of the MOU and submits the annual reports, they are deemed with no. 28 and 29 in this table.

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
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)	System Supplies		Section 4.9
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)	System Supplies		Section 4.3
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 H (2009/2010 BMP reports)

No.	UWMP requirement [a]	Calif. 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		Section 6.2
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 3.3.2
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 . . .		Section 8.1
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)	Water Supply Reliability . . .		Section 8.2
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 8.3
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 . . .		Section 8.4

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
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 . . .		Section 8.4
40	(Indicated) penalties or charges for excessive use, where applicable.	10632(f)	Water Supply Reliability . . .		Section 8.4
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 . . .		Section 8.5
42	(Provide) a draft water shortage contingency resolution or ordinance.	10632(h)	Water Supply Reliability . . .		Appendix J Section 8.6.1
43	(Indicate) a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)	Water Supply Reliability . . .		Section 8.6.2
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		Section 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 5.2
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		Section 5.2.1
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 5.3

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
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 5.4.1
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 5.4.2
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 5.5
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 5.5
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, 2030, and 2035	Section 4.5

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
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 . . .	Years 2010 - 2035	Section 4.6 Section 7.1
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 1.2
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 the plan.	10642	Plan Preparation		Section 1.3
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 1.2
57	After the hearing, the plan shall be adopted as prepared or as modified after the hearing.	10642	Plan Preparation		Section 1.2
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 1.4

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
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 supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.	10644(a)	Plan Preparation		Section 1.2
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 1.2

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

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

Appendix E: SBx7-7 GPCD

Brown AND Caldwell

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Technical Memorandum

Prepared for: Sacramento County Water Agency

Project Title: Zone 41 2010 Urban Water Management Plan

Project No: 140620

Technical Memorandum

Subject: SBX7-7 GPCD Target Analysis

Date: May 17, 2011

To: Dave Zuccaro

From: Melanie Holton, PE

Prepared by: _____

Melanie Holton, P.E.

Reviewed by: _____

Paul Selsky, P.E.

REGISTERED PROFESSIONAL ENGINEER
MELANIE ELISE HOLTON
No. 64983
Exp 6/30/2011
CIVIL
STATE OF CALIFORNIA

Report Purpose:

Determine the baseline water use, evaluate per capita water use target methods, and recommend a per capita water use target as defined by SBX7-7.

Attachments:

Attachment A: Figures
Attachment B: Tables

Limitations:

This document was prepared solely for Sacramento County Water Agency in accordance with professional standards at the time the services were performed and in accordance with the contract between Sacramento County Water Agency and Brown and Caldwell dated February 1, 2011. This document is governed by the specific scope of work authorized by Sacramento County Water Agency; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by Sacramento County Water Agency and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.

1. Introduction

The efficient and economic use of water has been an objective of the Sacramento County Water (SCWA) for many years. Water conservation is also a state-wide priority in meeting the future water needs of the state and region as outlined in the 2009 California Water Plan.

This analysis describes SCWA's water use characteristics to determine SCWA's baseline water use. This analysis also develops an estimate of the gallons per capita per day (GPCD) target options for SCWA. This analysis presents the key results of this evaluation, which are the four GPCD targets, and provides a recommended water use target method, per the requirements of Senate Bill 7-7 (SBX7-7). All of the figures and tables for this analysis are included as attachments at the end of this document.

2. Baseline Water Use

SCWA must define a 10-year baseline period for daily per capita water use. The determination of the baseline water use involves the following steps:

1. Estimate the service area population for each year in the base period which is from 1995 through 2010,
2. Calculate gross water use for each year in the base period,
3. Calculate daily per capita water use for each year in the base period by dividing the gross water use by the service area population,
4. Calculate the average per capita water use by annual GPCD values for the 10-year periods occurring between 1995 and 2010, and
5. Select the 10-year baseline period.

2.1 Historical Population

Figure 1 presents the historical population and number of connections or customers that are served by SCWA's retail water system. Year 2000 total population is based on the year 2000 census. Per the DWR Methodology, Methodology 2: Service Area Population, SCWA falls into Category 2, a water supplier who has an electronic GIS map of their distribution area, but whose actual distribution area does not overlap substantially (>= 95%) with city boundaries. The alternative methodology for service area population described in Appendix A of the DWR Methodology was followed for estimating SCWA's service area population from 1995 through 2009.

The year 2000 census population estimate is based on the total population by census block group. A census block is the smallest geographical unit used by the Census Bureau. Census blocks are areas bounded on all sides by visible features, such as streets, roads, streams, and railroad tracks, and by invisible boundaries such as city, town, township, county limits, and property lines. Census blocks are grouped into block groups. SCWA's GIS boundary map of the distribution area was overlaid on the 2000 census block group map to identify the census block groups located within SCWA's service area. SCWA's boundaries do not fall along census block group boundaries in all cases. As a result, and estimate was made regarding how much of a given census block group is within SCWA's service area.

Because there are rural areas within the Zone 40 service areas (NSA, CSA, and SSA) consisting of population that SCWA does not serve, an additional step was taken for the Zone 40 service areas in order to identify only the population within the service area boundaries that is actually served by SCWA's distribution system. The distribution pipelines for each system were overlayed on the census block group maps. The percentage of each block group was refined to only include those areas actually served by SCWA's retail distribution system. This additional step was not necessary for the other service areas because there are no rural areas that SCWA does not serve within the boundaries of those other service areas. Table 1 lists the block groups that are located within the retail service area and Figure 2 illustrates the census block groups within SCWA's retail service area.

Each block's total population and population by structure type in 2000 were obtained from the Census Bureau's website. The population in single family and multi family residences combined with single family and multi family retail connections, for the census year 2000, was used to develop ratios of persons per single family and multi family connection for the year 2000. These ratios were applied to active single family and multi family connections data for non-census years to estimate non-census-year population. Table 2 provides the resulting historical population estimate of retail water system customers within SCWA.

2.2 Historical Water Use

This section describes SCWA's historical water use characteristics and trends over time. Also presented is SCWA's gross water use, calculated as defined by DWR.

As depicted on Figure 3, SCWA's total water use grew steadily until 2008. Total water use is measured based on the total water produced from the sources of supply, and includes water use that is not metered, such as water used for pipe flushing and fire hydrant flow testing, and system leaks. It should be noted that historical groundwater production numbers have not been adjusted for metering errors associated with the groundwater well production meters. SCWA is in the process of groundwater well production meter testing. Based on past testing, groundwater production well meters could be under-registering up to 4 percent.

Figure 4 depicts the total annual water use per connection. Figure 5 depicts SCWA's total annual water use per person expressed GPCD. The highest 10-year average is the 1995 to 2004 period.

Gross water use is a measure of water supplied to the distribution system over 12 months and adjusted for changes in distribution system storage and deliveries to other water suppliers that pass through the distribution system. Recycled water deliveries are to be excluded from the calculation of gross water use. Water wholesaled to Elk Grove Water Service (EGWS) as well as recycled water deliveries within the retail service area are subtracted from SCWA's total water production in order to determine the annual gross water use, as shown in Table 2.

2.3 Baseline Per Capita Water Use

The daily per capita water use for each year from 1995 through 2010 is calculated by dividing the gross water use for each year by the service area population for each year, respectively. Per DWR's Methodology, if SCWA's 2008 recycled water percent is less than 10 percent of the total 2008 deliveries, then the first base period is a continuous 10-year period, and if the 2008 recycled water percent is greater than 10 percent of the total 2008 deliveries, then the first base period is a continuous 15-year period. Because SCWA's 2008 recycled water use was 2.3 percent of the total deliveries, SCWA's base period will be a 10-year period, as shown in Table 3. In order to calculate the baseline per capita water use, the annual daily per capita water use is averaged for 10-year periods ending no earlier than December 31, 2004 and no later than December 31, 2010. SCWA's baseline daily per capita water use of 278 GPCD is based on a base period starting in 1995 and

ending in 2004. The annual daily per capita water use and 10-year average per capita water use for SCWA is shown in Tables 2 and 4.

A second baseline period that must be calculated is a 5-year range. This is utilized as a check against SCWA's selected GPCD target method. If SCWA's selected GPCD target method results in a GPCD target that is greater than 95 percent of the 5-year base daily per capita range, than SCWA's target shall be 95 percent of their 5-year base daily per capita range. As shown in Table 5, SCWA's 5-year base daily per capita range is 239 GPCD. 95 percent of this value is 227 GPCD. This value will be used later in this analysis as a check against the recommended method GPCD value. If the selected GPCD target method results in a GPCD target greater than 95 percent of the 5-year baseline GPCD, SCWA will be required to adjust their target to meet a target equal to 95 percent of the 5-year baseline GPCD (227 GPCD).

3. GPCD Targets

New requirements regarding water use targets are in the SBX7-7 bill passed in early November 2009 by the state legislature. There are four methods that the legislation defines for establishing a GPCD target. SCWA will have to select one of the methods to establish their 2020 water use target, as well as the interim 2015 target. SCWA will have to select the GPCD method it will use for the 2010 urban water management plan, to be adopted by July 1, 2011. The four methods available to establish SCWA's GPCD target are described below.

1. Eighty percent of SCWA's baseline per capita daily water use using a 10-year average, starting no earlier than 1995. Method 1 is relatively straightforward in that it involves computing the total water production divided by the population by year.
2. The per capita daily water use that is estimated using the sum of several defined performance standards for water use for indoor residential, outdoor landscape, and commercial, industrial, and institutional (CII) purposes. This method requires quantifying the landscaped area and the baseline CII GPCD. Outdoor water use would be limited to the amount of landscape water use defined by the 1992 and 2010 Model Landscape Ordinance.
3. Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's 20x2020 Water Conservation Plan (dated February, 2010). Method 3 is the simplest of the methods as it involves looking up a table value for the applicable hydrologic region.
4. Calculated water savings based on indoor residential water savings, metering savings, CII savings, and landscape and water loss savings, as set forth in DWR's Draft Provisional Method 4 for Calculating Urban Water Use Targets, released January 24, 2011.

The "Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use" (DWR Methodology) was issued by the DWR on October 1, 2010. The methodologies document presents standardized approaches to calculate the GPCD targets for Methods 1 and 2. Figure 6 presents the results of the analysis for Methods 1, 2, 3, and 4 in comparison to SCWA's most recent 3-year average GPCD as wells as the 95 percent of SCWA's 5-year baseline GPCD. Table 6 provides a summary of the GPCD 2020 targets and 2015 interim targets by method. SCWA will be able to reevaluate their targets and selected target method when completing the 2015 UWMP. Following the 2015 UWMP, SCWA will not be able to change the method it selects for the 2020 target.

3.1 Method 1

The Method 1 GPCD goal is 223 GPCD which is 80 percent of the 10-year baseline.

3.2 Method 2

The Method 2 GPCD goal has three components consisting of indoor residential, outdoor landscaping, and CII water use. A preliminary estimate of SCWA's GPCD target using this method results in a 2020 GPCD target of 139 GPCD. This is a preliminary estimate because it is based on estimated landscape area and estimated CII baseline GPCD. Table 7 provides detail calculations for this method.

If SCWA desires to select this method, SCWA will have to measure or estimate the landscaped area for all parcels served by a residential or dedicated landscape water meter or connection in the service area using measurement techniques that are described in DWR's Methodology. These techniques include field-based measurement, measuring with remote sensing, or using sampling to estimate landscape area on small parcels.

3.3 Method 3

The Method 3 GPCD target is based on 95% of the Hydrologic Region No. 5 GPCD target of 176 GPCD as set forth in the State's 20x2020 Water Conservation Plan (dated February, 2010). The resulting target is 167 GPCD by 2020.

3.4 Method 4

Method 4 is based on calculating the water savings based on indoor residential water savings, metering savings, CII savings, and landscape and water loss savings, as set forth in DWR's Provisional Method 4 for Calculating Urban Water Use Targets, released February, 2011. A preliminary estimate of SCWA's GPCD target using this method results in a 2020 GPCD target of 191 GPCD. This is a preliminary estimate because it is based on an estimated CII baseline GPCD. DWR provides key equations and the related assumptions to estimate the water savings from three general water use sectors: residential indoor, CII, and landscape and water loss. Table 8 provides detailed calculations for this method.

3.5 2015 Interim Target

The target method selected by SCWA will define a 2020 target GPCD. SCWA will also be required to meet an interim target in 2015. The interim target is determined as the GPCD that is halfway between the baseline daily per capita water use and the 2020 GPCD target.

4. Conclusions and Recommendations

Below is a summary of the conclusions of this analysis:

1. SCWA's 10-year baseline is 278 GPCD. This baseline is used for the determination of the Method 1 GPCD.
2. SCWA's 5-year baseline is 239 GPCD. 95 percent of this 5-year baseline is 227 GPCD. If the method selected by SCWA results in a GPCD target greater than 95 percent of the 5-year baseline, than SCWA's target shall be adjusted to equal 95 percent of the 5-year baseline (227 GPCD).
3. SCWA's 2020 GPCD target utilizing Method 1 is 223 GPCD (2015 interim target is 250 GPCD).

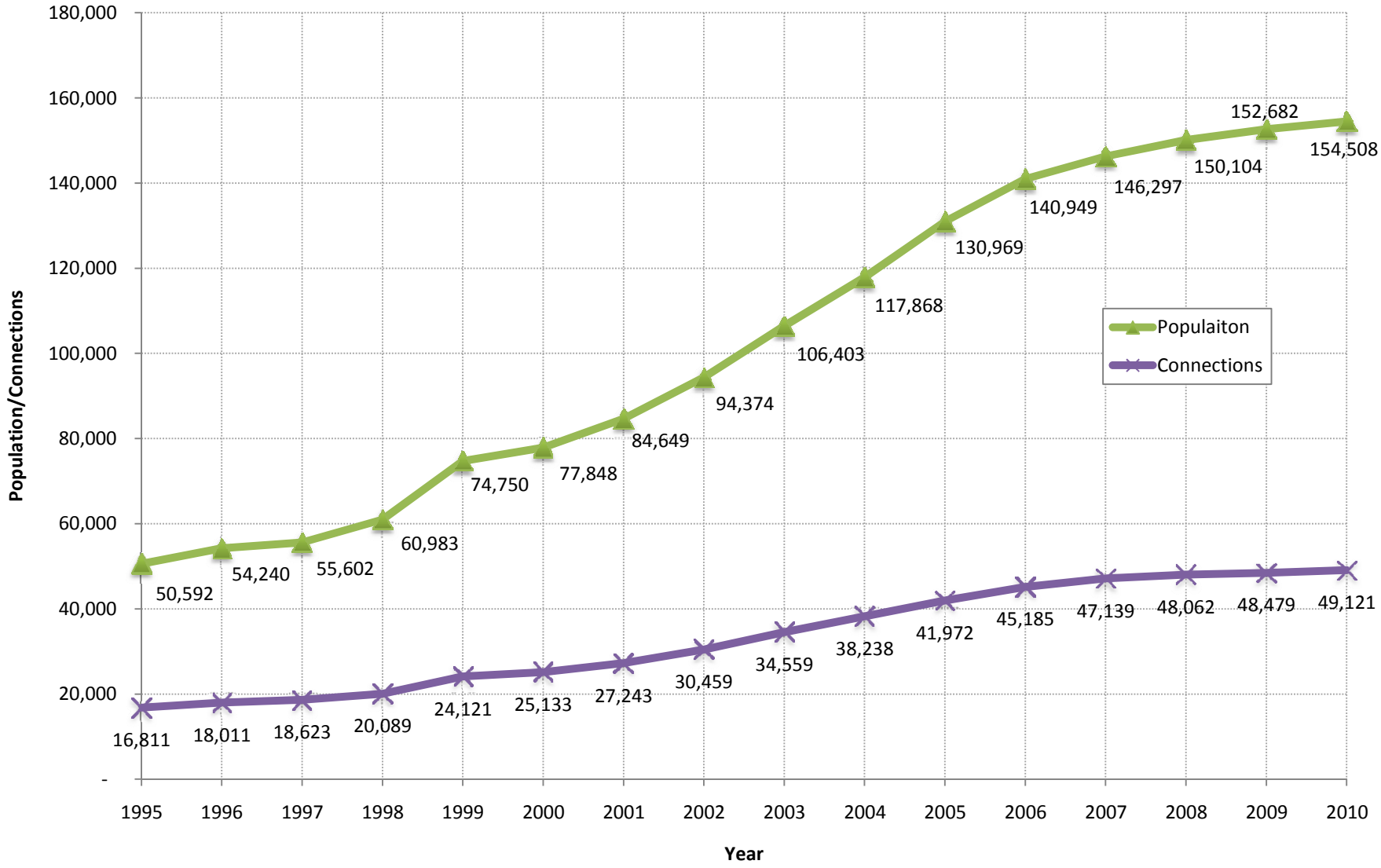
4. SCWA's 2020 GPCD target utilizing Method 2 is estimated to be approximately 139 GPCD (2015 interim target is 197 GPCD). If SCWA desires to pursue this method, additional effort is required by SCWA to meet the DWR requirements of measuring the residential landscape and dedicated landscape area within the retail service area.
5. SCWA's 2020 GPCD target utilizing Method 3 is 167 GPCD (2015 interim target is 204 GPCD).
6. SCWA's 2020 GPCD target utilizing Method 4 is 191 GPCD (2015 interim target is 223 GPCD).
7. SCWA's 2008 through 2010 average GPCD was 222 GPCD.
8. SCWA's 2010 per capita water use was 205 GPCD

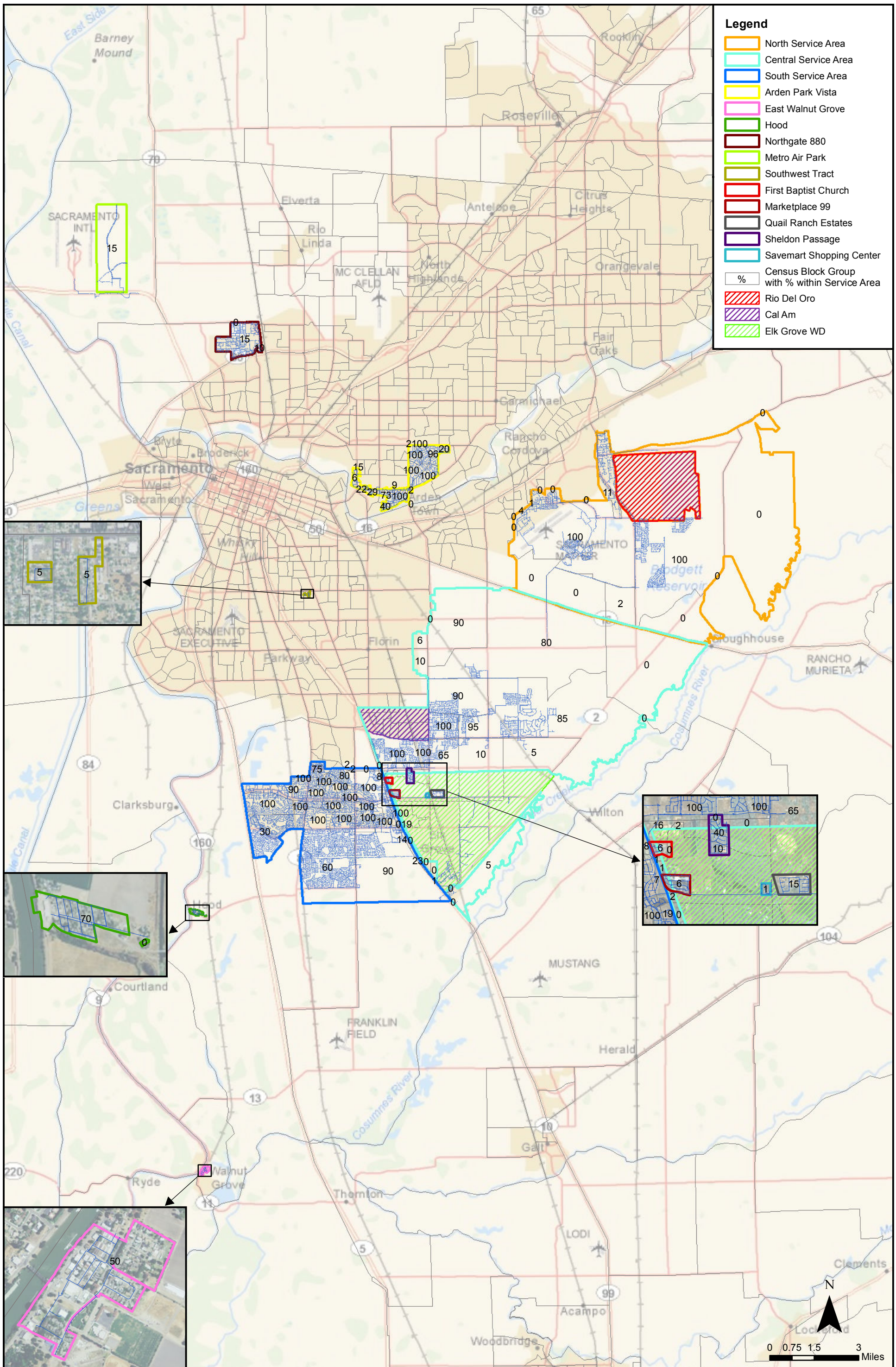
It is recommended that SCWA select Method 1, requiring a retail water system use of no greater than 223 GPCD by 2020 with a 2015 interim target of 250 GPCD. SCWA is currently meeting both the 2020 and the 2015 interim target based on SCWA's 2010 GPCD.

Attachment A: Figures

Figure 1. Historical Population and Total Connections
Figure 2. Census Block Tracks within the Retail Service Area
Figure 3. Historical Water Production for Zone 41, Retail
Figure 4. Historical Gross Water Production per Connection
Figure 5. Historical Gallons per Capita per Day
Figure 6. GPCD Target Options

Figure 1. Historical Population and Total Connections





BROWN AND CALDWELL	PROJECT # 140620	PROJECT Urban Water Management Plan	Figure 2
	DATE 4-1-2011	TITLE 2000 Census Block Groups within Sacrametno County Water Agency's Zone 41 Service Area	

FILE: P:\40000\140620 - SCWA 2010 UWMP\03_Engineering\3_2_GIS-CAD\GIS\Fig 2-3 Census Blocks.mxd

Figure 3. Historical Water Production for Zone 41

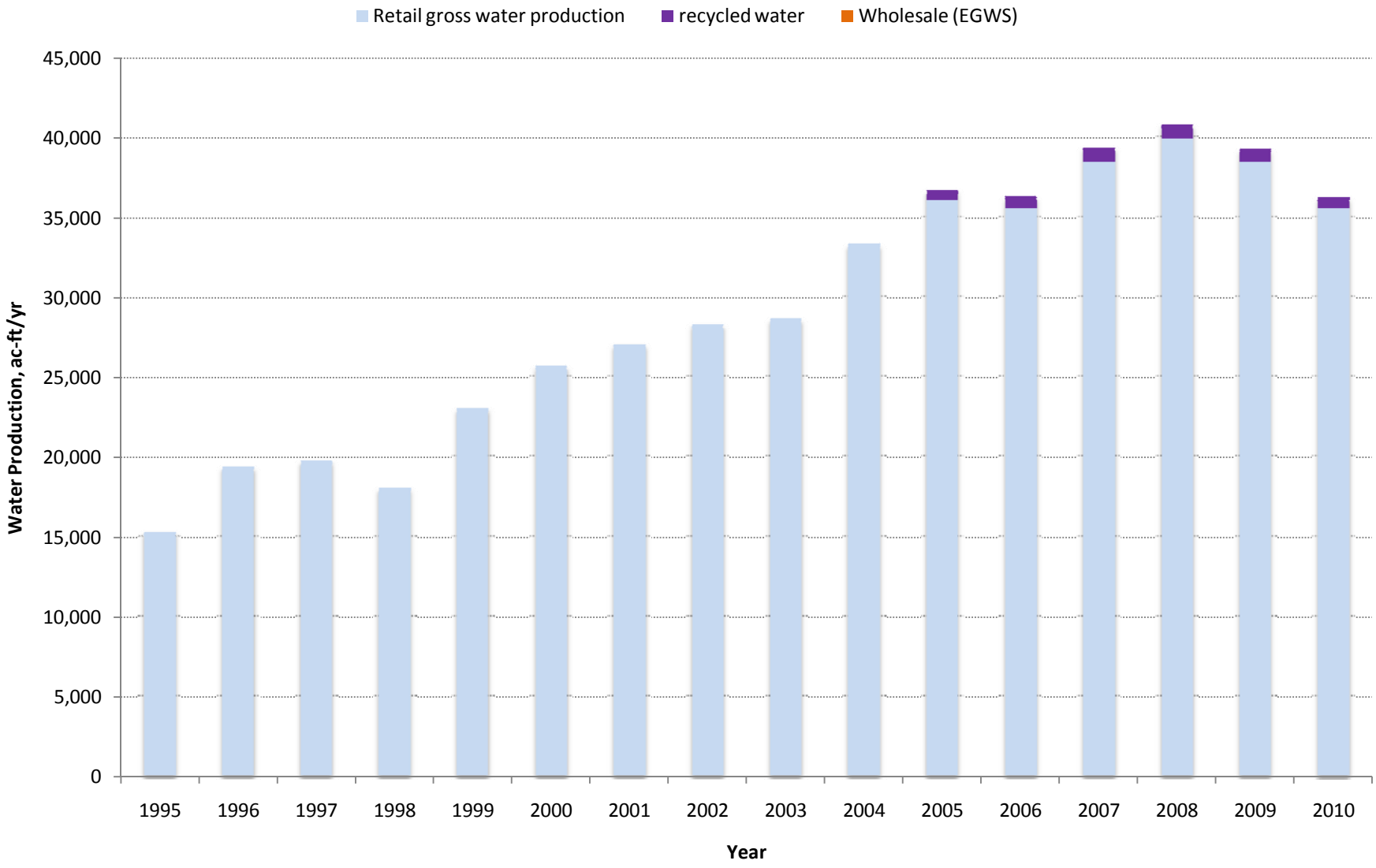


Figure 4. Historical Gross Water Production per Connection

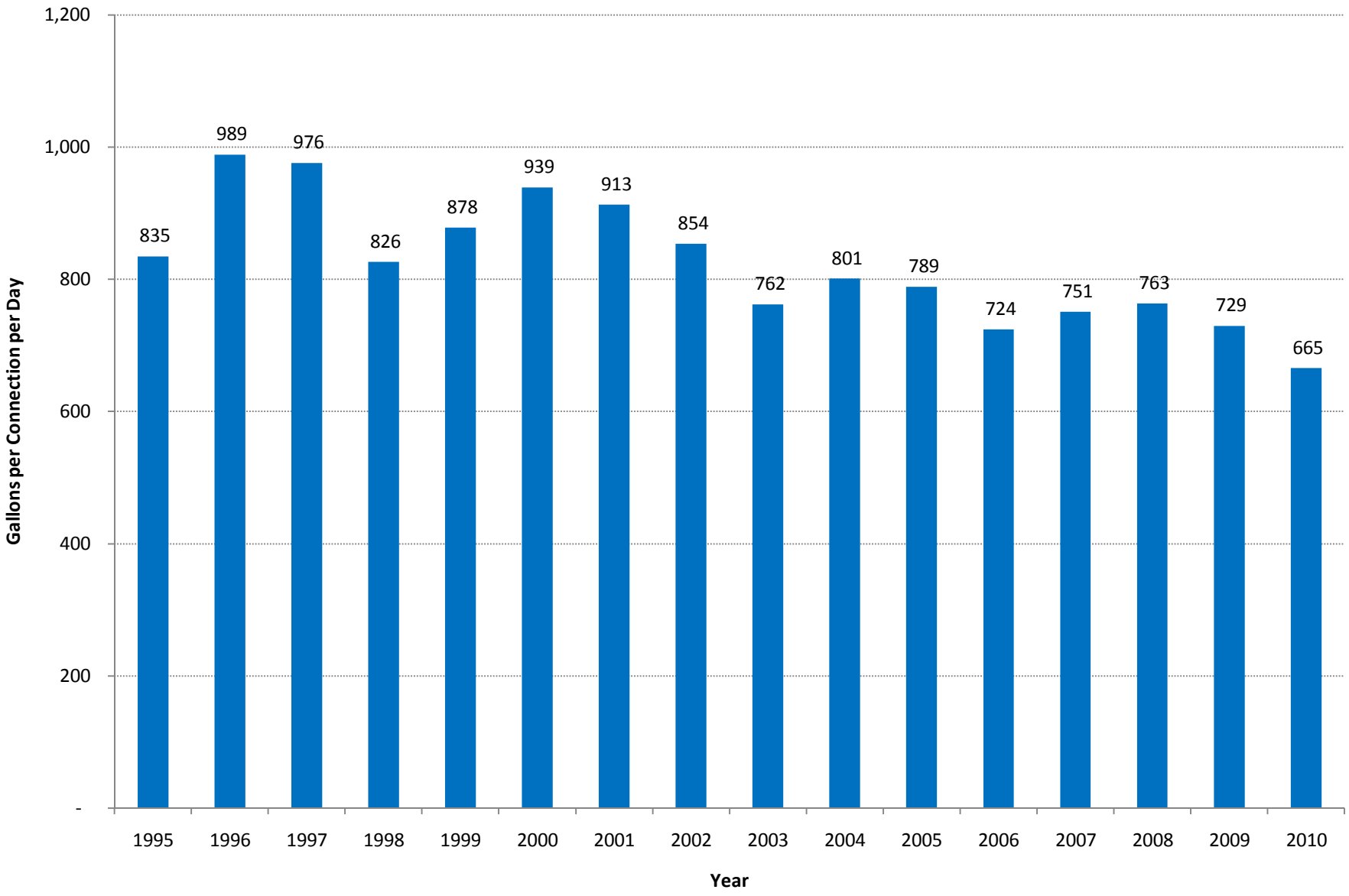


Figure 5. Historical Gallons per Capita per Day

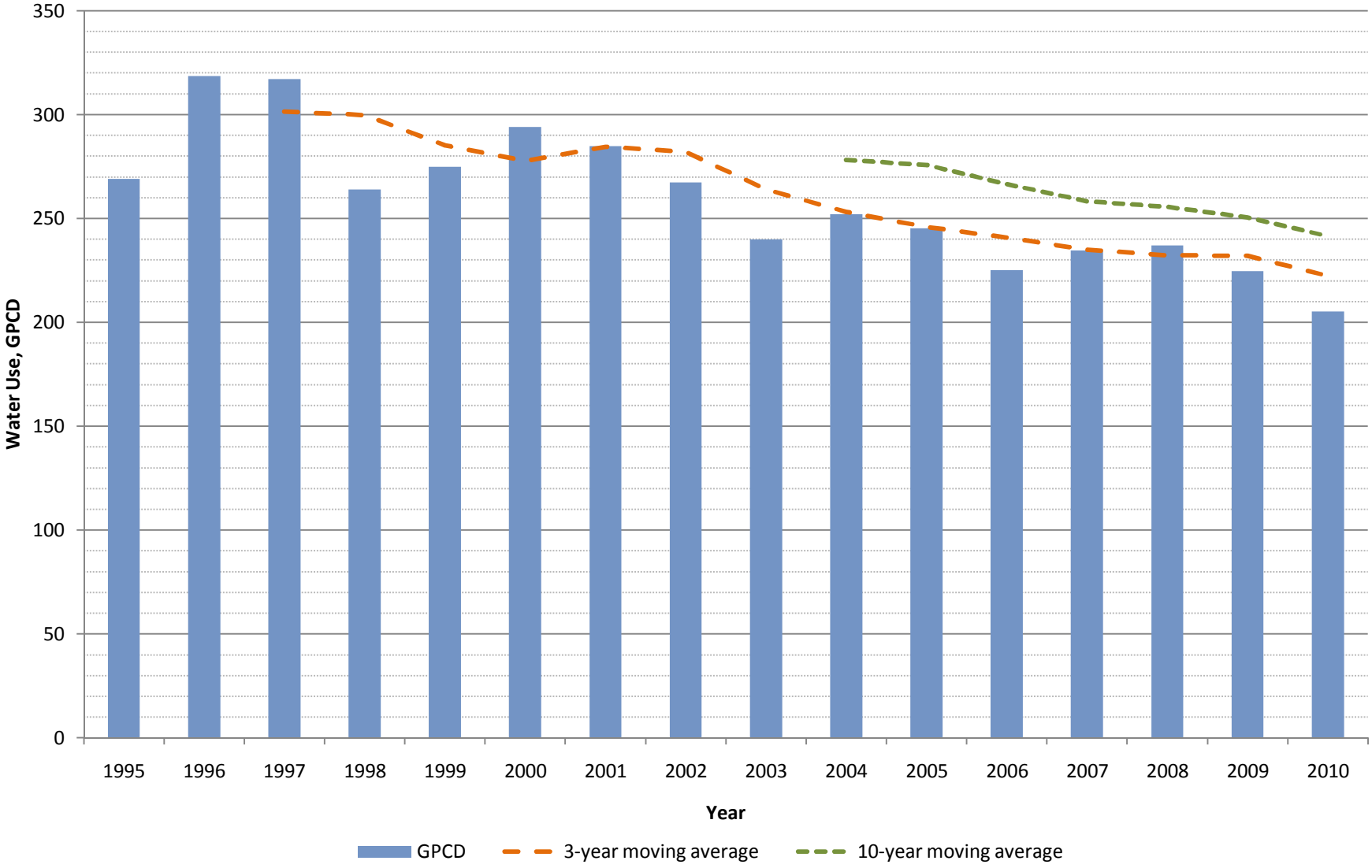
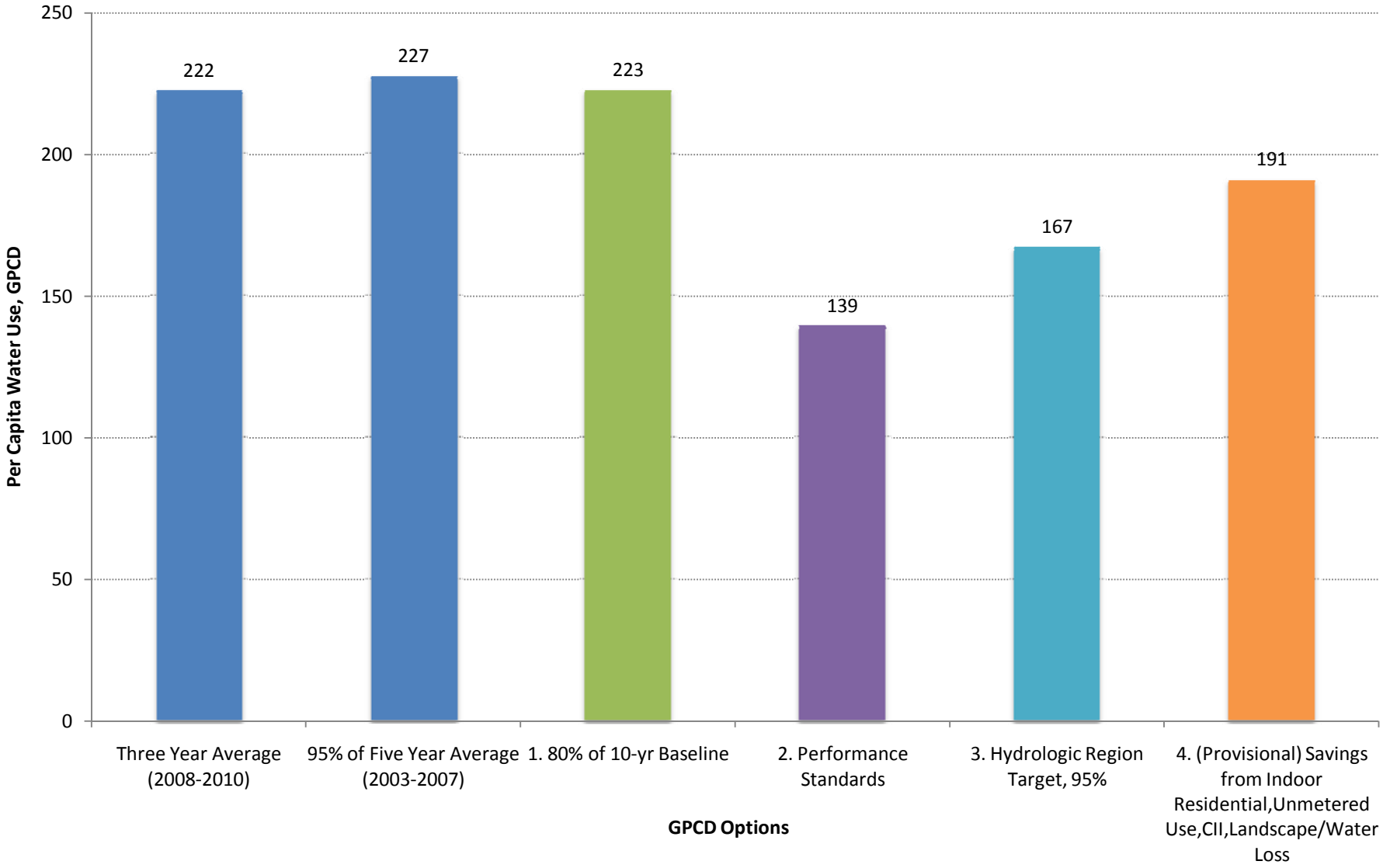


Figure 6. GPCD Target Options



Attachment B: Tables

Table 1. Block Groups within SCWA Zone 41 Retail Service Area

Table 2. SCWA Water Use Analysis

Table 3. (DWR Table 13) Base Period Ranges

Table 4. (DWR Table 14) Base Daily Per Capita Water Use – 10-to 15-year range

Table 5. (DWR Table 15) Base Daily Per Capita Water Use –5-year range

Table 6. GPCD Target Calculations Summary

Table 7. Method 2 Supporting Data and Calculation

Table 8. Method 4 Supporting Data and Calculation

Table 1. Block Groups within SCWA Zone 41 Retail Service Area			
Service Area	**Geography Identifier**	**Geography**	**Percent of Block Group Within Service Area**
Arden Park Vista	15000US060670052023	Block Group 3, Census Tract 52.02, Sacramento County, California	0%
Arden Park Vista	15000US060670054021	Block Group 1, Census Tract 54.02, Sacramento County, California	6%
Arden Park Vista	15000US060670054041	Block Group 1, Census Tract 54.04, Sacramento County, California	2%
Arden Park Vista	15000US060670054042	Block Group 2, Census Tract 54.04, Sacramento County, California	100%
Arden Park Vista	15000US060670054043	Block Group 3, Census Tract 54.04, Sacramento County, California	73%
Arden Park Vista	15000US060670054044	Block Group 4, Census Tract 54.04, Sacramento County, California	29%
Arden Park Vista	15000US060670054045	Block Group 5, Census Tract 54.04, Sacramento County, California	40%
Arden Park Vista	15000US060670055071	Block Group 1, Census Tract 55.07, Sacramento County, California	15%
Arden Park Vista	15000US060670055081	Block Group 1, Census Tract 55.08, Sacramento County, California	22%
Arden Park Vista	15000US060670056012	Block Group 2, Census Tract 56.01, Sacramento County, California	0%
Arden Park Vista	15000US060670056051	Block Group 1, Census Tract 56.05, Sacramento County, California	5%
Arden Park Vista	15000US060670056052	Block Group 2, Census Tract 56.05, Sacramento County, California	3%
Arden Park Vista	15000US060670056061	Block Group 1, Census Tract 56.06, Sacramento County, California	9%
Arden Park Vista	15000US060670056063	Block Group 3, Census Tract 56.06, Sacramento County, California	3%
Arden Park Vista	15000US060670056064	Block Group 4, Census Tract 56.06, Sacramento County, California	1%
Arden Park Vista	15000US060670057012	Block Group 2, Census Tract 57.01, Sacramento County, California	1%
Arden Park Vista	15000US060670057021	Block Group 1, Census Tract 57.02, Sacramento County, California	96%
Arden Park Vista	15000US060670057022	Block Group 2, Census Tract 57.02, Sacramento County, California	100%
Arden Park Vista	15000US060670057023	Block Group 3, Census Tract 57.02, Sacramento County, California	100%
Arden Park Vista	15000US060670057024	Block Group 4, Census Tract 57.02, Sacramento County, California	100%
Arden Park Vista	15000US060670057025	Block Group 5, Census Tract 57.02, Sacramento County, California	100%
Arden Park Vista	15000US060670058013	Block Group 3, Census Tract 58.01, Sacramento County, California	0%
Arden Park Vista	15000US060670058032	Block Group 2, Census Tract 58.03, Sacramento County, California	20%
Central Service Area	15000US060670051021	Block Group 1, Census Tract 51.02, Sacramento County, California	10%
Central Service Area	15000US060670051031	Block Group 1, Census Tract 51.03, Sacramento County, California	6%
Central Service Area	15000US060670051031	Block Group 1, Census Tract 51.03, Sacramento County, California	0%
Central Service Area	15000US060670086003	Block Group 3, Census Tract 86, Sacramento County, California	0%
Central Service Area	15000US060670092001	Block Group 1, Census Tract 92, Sacramento County, California	80%
Central Service Area	15000US060670092002	Block Group 2, Census Tract 92, Sacramento County, California	90%
Central Service Area	15000US060670093082	Block Group 2, Census Tract 93.08, Sacramento County, California	0%
Central Service Area	15000US060670093083	Block Group 3, Census Tract 93.08, Sacramento County, California	0%
Central Service Area	15000US060670093091	Block Group 1, Census Tract 93.09, Sacramento County, California	0%
Central Service Area	15000US060670093092	Block Group 2, Census Tract 93.09, Sacramento County, California	0%
Central Service Area	15000US060670093103	Block Group 3, Census Tract 93.10, Sacramento County, California	0%
Central Service Area	15000US060670093111	Block Group 1, Census Tract 93.11, Sacramento County, California	90%
Central Service Area	15000US060670093121	Block Group 1, Census Tract 93.12, Sacramento County, California	100%
Central Service Area	15000US060670093131	Block Group 1, Census Tract 93.13, Sacramento County, California	95%
Central Service Area	15000US060670093141	Block Group 1, Census Tract 93.14, Sacramento County, California	65%
Central Service Area	15000US060670093151	Block Group 1, Census Tract 93.15, Sacramento County, California	0%
Central Service Area	15000US060670093151	Block Group 1, Census Tract 93.15, Sacramento County, California	85%
Central Service Area	15000US060670093152	Block Group 2, Census Tract 93.15, Sacramento County, California	5%
Central Service Area	15000US060670093153	Block Group 3, Census Tract 93.15, Sacramento County, California	10%
Central Service Area	15000US060670093221	Block Group 1, Census Tract 93.22, Sacramento County, California	100%
Central Service Area	15000US060670093222	Block Group 2, Census Tract 93.22, Sacramento County, California	100%
Central Service Area	15000US060670093231	Block Group 1, Census Tract 93.23, Sacramento County, California	2%
Central Service Area	15000US060670093231	Block Group 1, Census Tract 93.23, Sacramento County, California	1%
Central Service Area	15000US060670093232	Block Group 2, Census Tract 93.23, Sacramento County, California	1%
Central Service Area	15000US060670093232	Block Group 2, Census Tract 93.23, Sacramento County, California	16%
Central Service Area	15000US060670093232	Block Group 2, Census Tract 93.23, Sacramento County, California	0%
First Baptist Church	15000US060670093231	Block Group 1, Census Tract 93.23, Sacramento County, California	0%
First Baptist Church	15000US060670093232	Block Group 2, Census Tract 93.23, Sacramento County, California	6%
Hood	15000US060670096051	Block Group 1, Census Tract 96.05, Sacramento County, California	70%
Hood	15000US060670096051	Block Group 1, Census Tract 96.05, Sacramento County, California	0%
Marketplace 99	15000US060670093231	Block Group 1, Census Tract 93.23, Sacramento County, California	6%
Metro Air Park	15000US060670071002	Block Group 2, Census Tract 71, Sacramento County, California	15%

Table 1. Block Groups within SCWA Zone 41 Retail Service Area			
Service Area	**Geography Identifier**	**Geography**	**Percent of Block Group Within Service Area**
North Service Area	15000US060670086001	Block Group 1, Census Tract 86, Sacramento County, California	0%
North Service Area	15000US060670086001	Block Group 1, Census Tract 86, Sacramento County, California	0%
North Service Area	15000US060670086001	Block Group 1, Census Tract 86, Sacramento County, California	0%
North Service Area	15000US060670086003	Block Group 3, Census Tract 86, Sacramento County, California	2%
North Service Area	15000US060670087012	Block Group 2, Census Tract 87.01, Sacramento County, California	0%
North Service Area	15000US060670087012	Block Group 2, Census Tract 87.01, Sacramento County, California	100%
North Service Area	15000US060670088001	Block Group 1, Census Tract 88, Sacramento County, California	100%
North Service Area	15000US060670090051	Block Group 1, Census Tract 90.05, Sacramento County, California	0%
North Service Area	15000US060670090052	Block Group 2, Census Tract 90.05, Sacramento County, California	0%
North Service Area	15000US060670090052	Block Group 2, Census Tract 90.05, Sacramento County, California	0%
North Service Area	15000US060670090053	Block Group 3, Census Tract 90.05, Sacramento County, California	0%
North Service Area	15000US060670090065	Block Group 5, Census Tract 90.06, Sacramento County, California	4%
North Service Area	15000US060670090071	Block Group 1, Census Tract 90.07, Sacramento County, California	0%
North Service Area	15000US060670090072	Block Group 2, Census Tract 90.07, Sacramento County, California	1%
North Service Area	15000US060670090091	Block Group 1, Census Tract 90.09, Sacramento County, California	11%
North Service Area	15000US060670090091	Block Group 1, Census Tract 90.09, Sacramento County, California	0%
North Service Area	15000US060670090091	Block Group 1, Census Tract 90.09, Sacramento County, California	0%
Northgate	15000US060670070011	Block Group 1, Census Tract 70.01, Sacramento County, California	10%
Northgate	15000US060670070081	Block Group 1, Census Tract 70.08, Sacramento County, California	0%
Northgate	15000US060670070081	Block Group 1, Census Tract 70.08, Sacramento County, California	15%
Northgate	15000US060670071001	Block Group 1, Census Tract 71, Sacramento County, California	0%
Quail Ranch Estates	15000US060670093141	Block Group 1, Census Tract 93.14, Sacramento County, California	15%
Savemart Shopping Ce	15000US060670093231	Block Group 1, Census Tract 93.23, Sacramento County, California	1%
Sheldon Passage	15000US060670093222	Block Group 2, Census Tract 93.22, Sacramento County, California	0%
Sheldon Passage	15000US060670093231	Block Group 1, Census Tract 93.23, Sacramento County, California	10%
Sheldon Passage	15000US060670093232	Block Group 2, Census Tract 93.23, Sacramento County, California	40%
South Service Area	15000US060670093082	Block Group 2, Census Tract 93.08, Sacramento County, California	19%
South Service Area	15000US060670093083	Block Group 3, Census Tract 93.08, Sacramento County, California	6%
South Service Area	15000US060670093091	Block Group 1, Census Tract 93.09, Sacramento County, California	14%
South Service Area	15000US060670093092	Block Group 2, Census Tract 93.09, Sacramento County, California	23%
South Service Area	15000US060670093103	Block Group 3, Census Tract 93.10, Sacramento County, California	1%
South Service Area	15000US060670093222	Block Group 2, Census Tract 93.22, Sacramento County, California	0%
South Service Area	15000US060670093231	Block Group 1, Census Tract 93.23, Sacramento County, California	7%
South Service Area	15000US060670093232	Block Group 2, Census Tract 93.23, Sacramento County, California	8%
South Service Area	15000US060670096041	Block Group 1, Census Tract 96.04, Sacramento County, California	0%
South Service Area	15000US060670096041	Block Group 1, Census Tract 96.04, Sacramento County, California	90%
South Service Area	15000US060670096042	Block Group 2, Census Tract 96.04, Sacramento County, California	30%
South Service Area	15000US060670096042	Block Group 2, Census Tract 96.04, Sacramento County, California	60%
South Service Area	15000US060670096081	Block Group 1, Census Tract 96.08, Sacramento County, California	2%
South Service Area	15000US060670096082	Block Group 2, Census Tract 96.08, Sacramento County, California	0%
South Service Area	15000US060670096091	Block Group 1, Census Tract 96.09, Sacramento County, California	2%
South Service Area	15000US060670096111	Block Group 1, Census Tract 96.11, Sacramento County, California	100%
South Service Area	15000US060670096112	Block Group 2, Census Tract 96.11, Sacramento County, California	100%
South Service Area	15000US060670096121	Block Group 1, Census Tract 96.12, Sacramento County, California	100%
South Service Area	15000US060670096122	Block Group 2, Census Tract 96.12, Sacramento County, California	100%
South Service Area	15000US060670096131	Block Group 1, Census Tract 96.13, Sacramento County, California	100%
South Service Area	15000US060670096141	Block Group 1, Census Tract 96.14, Sacramento County, California	75%
South Service Area	15000US060670096142	Block Group 2, Census Tract 96.14, Sacramento County, California	80%
South Service Area	15000US060670096151	Block Group 1, Census Tract 96.15, Sacramento County, California	100%
South Service Area	15000US060670096152	Block Group 2, Census Tract 96.15, Sacramento County, California	100%
South Service Area	15000US060670096153	Block Group 3, Census Tract 96.15, Sacramento County, California	100%
South Service Area	15000US060670096154	Block Group 4, Census Tract 96.15, Sacramento County, California	100%
South Service Area	15000US060670096155	Block Group 5, Census Tract 96.15, Sacramento County, California	100%
South Service Area	15000US060670096161	Block Group 1, Census Tract 96.16, Sacramento County, California	100%
South Service Area	15000US060670096162	Block Group 2, Census Tract 96.16, Sacramento County, California	100%
South Service Area	15000US060670096171	Block Group 1, Census Tract 96.17, Sacramento County, California	100%
South Service Area	15000US060670096172	Block Group 2, Census Tract 96.17, Sacramento County, California	100%
South Service Area	15000US060670096181	Block Group 1, Census Tract 96.18, Sacramento County, California	100%
South Service Area	15000US060670096182	Block Group 2, Census Tract 96.18, Sacramento County, California	90%
South Service Area	15000US060670096191	Block Group 1, Census Tract 96.19, Sacramento County, California	100%
Walnut Grove	15000US060670097003	Block Group 3, Census Tract 97, Sacramento County, California	50%
Southwest Tract	15000US060670046011	Block Group 1, Census Tract 46.01, Sacramento County, California	5%

Table 2. SCWA Water Use Analysis

Year	Comments	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Water Use		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (metered)	actual data	-	-	-	-	396	1,119	2,276	4,197	6,417	9,654	12,073	16,565	19,474	18,899	18,317	17,060
Single-family (unmetered)	estimated	-	-	-	-	18,222	20,478	16,049	14,177	13,936	13,935	13,534	8,215	6,819	8,877	8,521	7,346
Multi-family (metered)	actual data	-	-	-	-	100	77	137	213	238	285	407	490	518	472	554	585
Multi-family (unmetered)	estimated	-	-	-	-	43	33	75	70	97	93	92	102	147	85	95	39
Commercial (metered)	actual data	-	-	-	-	412	340	1,212	1,625	1,467	1,576	2,868	2,849	3,338	3,296	2,938	2,792
Commercial (unmetered)	estimated	-	-	-	-	393	283	951	747	780	633	756	696	687	675	607	1,076
Industrial (metered)	actual data	-	-	-	-	22	245	727	982	720	814	-	-	-	-	-	-
Industrial (unmetered)	estimated	-	-	-	-	614	112	487	263	242	224	-	-	-	-	-	-
Institutional (metered)	actual data	-	-	-	-	50	33	295	366	372	688	386	401	507	682	529	485
Institutional (unmetered)	estimated	-	-	-	-	24	18	181	122	123	149	59	71	74	99	96	55
Landscape Irrigation (metered)	actual data	-	-	-	-	409	309	1,608	2,722	1,251	1,794	1,949	2,351	2,760	2,503	2,699	2,362
Landscape Irrigation (unmetered)	estimated	-	-	-	-	4	3	291	(82)	91	76	61	57	56	54	18	6
Recycled Irrigation (metered)	actual data	-	-	-	-	-	-	-	-	609	786	695	596	837	915	866	794
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total metered gross sales (not including recycled water)		-	-	-	-	-	-	-	-	-	-	32,185	-	-	-	-	31,806
UAW, AF		1,524	1,934	1,975	1,803	2,301	2,563	2,701	2,825	2,861	3,327	3,597	3,554	3,845	3,985	3,842	3,551
Unaccounted-for water, % of total	Assumed (percent of gross production)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Total Production, AF	Includes water wholesaled to EGWC and recycled water and raw water from SRCSD. Includes FVWS water wholesaled for Southwest Tract. Historical groundwater production numbers have not been adjusted for metering errors associated with the groundwater well production meters.	15,243	19,344	19,748	18,186	23,357	26,203	27,907	29,960	30,581	35,911	39,656	39,548	42,756	43,974	42,091	39,673
Total Gross Production	Total production minus water wholesaled to EGWC and recycled water from SRCSD. (Does include raw water from SRCSD)	15,243	19,344	19,748	18,025	23,010	25,633	27,007	28,253	28,608	33,273	35,971	35,543	38,449	39,852	38,418	35,509
Raw Water*		-	-	-	-	-	-	-	-	-	-	167	175	222	226	201	169
Recycled Water*		-	-	-	-	-	-	-	-	-	-	668	701	887	903	803	677
Wholesaled water (total), AF		-	-	-	160	347	571	900	1,707	1,973	2,638	3,018	3,304	3,420	3,219	2,870	3,487
Population and census data																	
SF - Population based on 2000 census SF population and 2000 SF connections		49,341	53,034	54,799	58,974	69,526	72,668	78,537	87,698	99,845	110,549	121,243	130,477	135,657	138,200	141,660	143,357
MF - Population based on 2000 census (Total minus SF population) and MF connections		1,250	1,206	804	2,009	5,224	5,180	6,112	6,675	6,558	7,320	9,726	10,473	10,640	11,904	11,022	11,151
Total population (sum of SF and MF population)		50,592	54,240	55,602	60,983	74,750	77,848	84,649	94,374	106,403	117,868	130,969	140,949	146,297	150,104	152,682	154,508
2000 Census SF population divided by 2000 SF connections		-	-	-	-	-	3.075	-	-	-	-	-	-	-	-	-	-
2000 Census MF population divided by 2000 MF connections		-	-	-	-	-	44.652	-	-	-	-	-	-	-	-	-	-
2000 Census people per res connections		-	-	-	-	-	3.278	-	-	-	-	-	-	-	-	-	-
Population used for this analysis		50,592	54,240	55,602	60,983	74,750	77,848	84,649	94,374	106,403	117,868	130,969	140,949	146,297	150,104	152,682	154,508

Table 2. SCWA Water Use Analysis

Year	Comments	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Connections																	
Single-family (metered)		273	273	268	297	324	1,180	3,605	7,434	11,189	16,648	24,055	30,125	33,298	34,743	36,051	36,629
Single-family (unmetered)		15,775	16,976	17,555	18,884	22,289	22,455	21,939	21,089	21,285	19,307	15,378	12,311	10,824	10,206	10,023	9,997
Multi-family (metered)		-	-	2	28	82	81	89	113	104	123	178	195	200	226	211	212
Multi-family (unmetered)		28	27	16	17	35	35	48	37	42	40	40	39	39	40	35	37
Commercial (metered)		101	108	104	112	323	347	387	567	577	697	1,236	1,347	1,539	1,594	1,248	1,184
Commercial (unmetered)		138	132	178	227	308	289	304	260	307	280	326	327	307	317	247	288
Industrial (metered)		-	-	2	4	13	255	245	353	356	379	-	-	-	-	-	-
Industrial (unmetered)		319	326	328	342	363	117	164	95	119	104	-	-	-	-	-	-
Institutional (metered)		-	-	8	21	41	35	39	50	62	76	84	92	97	105	73	151
Institutional (unmetered)		10	10	6	8	20	19	24	17	20	16	13	16	14	15	13	13
Landscape Irrigation (metered)		92	104	152	146	320	317	339	458	464	543	641	714	807	797	574	603
Landscape Irrigation (unmetered)		75	55	4	3	3	3	61	(14)	34	23	20	17	16	17	4	6
Recycled Irrigation (metered)		-	-	-	-	-	-	-	-	114	123	130	140	152	155	168	174
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	7	5	4	3	3	3	77	81
Total metered connections		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total unmetered connections		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total connections		16,811	18,011	18,623	20,089	24,121	25,133	27,243	30,459	34,559	38,238	41,972	45,185	47,139	48,062	48,479	49,121
Water use per connection																	
Water production per all connections, gallons per connection per day		835	989	976	826	878	939	913	854	762	801	789	724	751	763	729	665
Single-family (metered)	actual data	-	-	-	-	1,091	847	564	504	512	518	448	491	522	486	454	416
Single-family (unmetered)	estimated	-	-	-	-	730	814	653	600	585	644	786	596	563	777	759	669
Multi-family (metered)	actual data	-	-	-	-	1,089	849	1,381	1,690	2,035	2,059	2,045	2,242	2,315	1,860	2,339	2,459
Multi-family (unmetered)	estimated	-	-	-	-	1,089	849	1,381	1,690	2,035	2,059	2,045	2,300	3,400	1,900	2,400	2,500
Commercial (metered)	actual data	-	-	-	-	1,139	875	2,794	2,560	2,271	2,020	2,071	1,889	1,937	1,846	2,103	2,105
Commercial (unmetered)	estimated	-	-	-	-	1,139	875	2,794	2,560	2,271	2,020	2,071	1,900	2,000	1,900	2,200	2,105
Industrial (metered)	actual data	-	-	-	-	1,511	858	2,652	2,484	1,806	1,919						
Industrial (unmetered)	estimated	-	-	-	-	1,511	858	2,652	2,484	1,806	1,919						
Institutional (metered)	actual data	-	-	-	-	1,089	842	6,816	6,519	5,379	8,106	4,093	3,877	4,691	5,784	6,457	2,859
Institutional (unmetered)	estimated	-	-	-	-	1,089	842	6,816	6,519	5,379	8,106	4,100	3,900	4,700	5,800	6,500	2,900
Landscape Irrigation (metered)	actual data	-	-	-	-	1,141	870	4,236	5,302	2,407	2,948	2,714	2,939	3,052	2,805	4,197	3,496
Landscape Irrigation (unmetered)	estimated	-	-	-	-	1,141	870	4,236	5,302	2,407	2,948	2,714	2,939	3,052	2,805	4,200	3,700
Recycled Irrigation (metered)	actual data	-	-	-	-	-	-	-	-	4,752	5,725	4,779	3,788	4,918	5,283	4,593	4,066
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPCD																	
GPCD Total		269	318	317	264	275	294	285	267	240	252	245	225	235	237	225	205
GPCD-3 year moving average		-	-	301	300	285	278	285	282	264	253	246	241	235	232	232	222
GPCD Total - 5 year moving average		-	-	-	-	-	-	-	-	-	-	-	-	239	239	233	225
GPCD Total - 10 year moving average		-	-	-	-	-	-	-	-	-	278	276	266	258	256	250	242
GPCD-CII only		-	-	-	-	18	12	41	39	31	31	28	25	28	28	24	25
GPCD CII only - 10 year average		-	-	-	-	-	-	-	-	-	17	20	22	25	28	29	30

Table 3. (DWR Table 13) Base Period Ranges

Base	Parameter	Value	Units
10- to 15-year base period	2008 total water deliveries	39,852	ac-ft/yr
	2008 total volume of delivered recycled water	915	ac-ft/yr
	2008 recycled water as a percent of total deliveries	2.3%	percent
	Number of years in base period[1]	10	years
	Year beginning base period range	1995	
	Year ending base period range[2]	2004	
5-year base period	Number of years in base period	5	years
	Year beginning base period range	2003	
	Year ending base period range[3]	2007	

[1] If the 2008 recycled water percent is less than 10 percent, then the first base period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first base period is a continuous 10- to 15-year period.

[2] The ending year must be between December 31, 2004 and December 31, 2010.

[3] The ending year must be between December 31, 2007 and December 31, 2010.

Table 4. (DWR Table 14) 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	Annual daily per capita water use, GPCD
Sequence Year	Calendar Year			
Year 1	1995	50,592	15,243	269
Year 2	1996	54,240	19,344	318
Year 3	1997	55,602	19,748	317
Year 4	1998	60,983	18,025	264
Year 5	1999	74,750	23,010	275
Year 6	2000	77,848	25,633	294
Year 7	2001	84,649	27,007	285
Year 8	2002	94,374	28,253	267
Year 9	2003	106,403	28,608	240
Year 10	2004	117,868	33,273	252
Year 11				
Year 12				
Year 13				
Year 14				
Year 15				
Base Daily Per Capita Water Use[1]				**278**

[1] Add the values in the column and divide by the number of rows.

Table 5. (DWR Table 15) Base Daily per Capita Water Use - 5-year range

Base period year		Distribution System Population	Daily system gross water use,	Annual daily per capita water use,
Sequence Year	Calendar Year			
Year 1	2003	106,403	28,608	240
Year 2	2004	117,868	33,273	252
Year 3	2005	130,969	35,971	245
Year 4	2006	140,949	35,543	225
Year 5	2007	146,297	38,449	235
Base Daily Per Capita Water Use[1]				**239**

[1] Add the values in the columne and divide by the number of rows.

Table 6. GPCD Target Calculations Summary

Method	Factor	Units	Comments
Method 1. 80% of Baseline			
Baseline per capita daily water use	278	GPCD	10-year average gpcd from 1995 through 2004
Method 1 2015 interim target:	250	GPCD	90% of the urban retail water supplier's baseline per capita daily water use
Method 1 2020 target:	**223**	**GPCD**	80% of the urban retail water supplier's baseline per capita daily water use
Method 2. Performance Standards			See Table 6 for supporting calculations
Method 2 2015 interim target:	197	GPCD	Halfway between baseline per capita daily water use and 2020 target.
Method 2 total:	**139**	**GPCD**	Target indoor use+Target outdoor use+Target CII use
Method 3. 95% of Draft 20x2020 Plan			
Applicable target for SCWA:	176	GPCD	Hydrologic Region #5 (2015 interim target 215 GPCD)
Method 3 2015 interim target:	204	GPCD	95% of Hydraulic Region #5 interim target
Method 3 2020 target:	**167**	**GPCD**	95% of Hydraulic Region #5 target
Method 4. Savings from Indoor Residential,Unmetered Use,CII,Landscape/Water Loss			See Table 7 for supporting calculations
Method 4 2015 interim target:	223	GPCD	Halfway between Baseline per capita daily water use and 2020 target.
Method 4 gpcd 2020 target	**191**	**GPCD**	Base daily per capita use minus sum of savings for indoor residential, 10% of CII, 20% of unmetered use, and 21.6% of other uses (landscape and water loss).

Table 7. Method 2 Supporting Data and Calculation
Indoor Use plus Irrigation Landscapes plus Commercial, Industrial, and Institutional Use

Part A: Indoor Residential Water Use — **GPCD**

Indoor Residential Water Use Standard per Section 10608.20 (b)(2)(A) — **55**

Part B: Irrigated Landscapes

Year landscaped area installed	Accounts			Avg Irrigated area per account[a], sq ft			Total LA, sq ft	SLA	Reference ETO[b], in/yr	MWELO	MAWA Equation	MAWA, gal/yr	2020 population	Landscape Water Use Target, gpcd
	SF	MF	Dedicated irrigation	SF	MF	Dedicated irrigation								
Pre 2010	46,626	250	609	2,177	4,356	43,560	129,126,256	--	51.9	1992	=(ETO)(0.62)[(0.8xLA)	3,324,019,726	154,508	
2010 through 2020							-		51.9	2010	=(ETO)(0.62)[(0.7xLA)+(0.3xSLA)]	-		
Total	--	--	--	--	--	--	--	--	--	--	--	3,324,019,726	154,508	**59**

[a] Average irrigated area per account is based on the following assumptions per account type:

SF pre 2010 - Average lot size is 0.20 acres with 25% irrigated landscape.

SF post 2010 - Average lot size is 0.15 acres with 20% irrigated landscape.

MF - Average lot size is 0.5 acres with 20% irrigated landscape.

Dedicated irrigation - Average irrigated area of one acre pre 2010 and 3/4 acre post 2010.

[b]Sacramento, from Model Landscape Ordinance Appendix A

MWELO = Model Water Efficient Landscape Ordinance

MAWA = Maximum Applied Water Allowance

LA = landscaped area

SLA = special landscaped area

Part C: Commercial, Industrial, and Institutional (CII) Water Use

CII Baseline = Maximum 10-year rolling average=	28	
10% Reduction in CII Baseline	2.8	
CII 2020 Target, gpcd		**25**

Total Method 2 Target Sum of Parts A, B, and C: **139**

Table 8. Method 4 Supporting Data and Calculation
Base Dailey Per Capita Water Use Minus Savings from Indoor Residential, Unmetered Use, CII, and Landscape and Water Loss

Equation 1

Urban Water Use Target = Base Daily per Capita Water Use - Total Savings

Note: Equations 1, 2, and 3 from DWR "Draft Provisional Method 4 for Calculating Urban Water Use Targets", released January 24,

Equation 2

Landscape and Water Loss per Capita Use = Base Daily per Capita Water Use - Standard Indoor Residential 70 gpcd - CII Water Use

Equation 3

Total Savings = Indoor Residential Savings + Metering Savings + CII Savings + Landscape and Water Loss Savings

Equation 2 - Landscape and Water Loss			
Base Daily per Capita Water Use	278	GPCD	
Standard Indoor Residential	70	GPCD	
CII Water Use	28	GPCD	
Landscape and Water Loss per Capita Use	180	GPCD	
Equation 3 - Total Savings			
Indoor Residential Savings			
BMP calculator or 15 GPCD	15	GPCD	
Metering Savings			
Unmetered deliveries	152	GPCD	Based on 2003 unmetered deliveries (based on midyear of baseline period)
20 percent of unmetered deliveries	30	GPCD	
CII Savings			
10% of CII baseline water use	3	GPCD	
Landscape and Water Loss Savings			
21.6% of Landscape and Water Loss per capita use	39	GPCD	
Total Savings	87	GPCD	
Equation 1 - Urban Water Use Target			
Urban Water Use Target	191	GPCD	Base Daily per Capita Water Use minus Total Savings

Appendix F: Detailed Water Demand Estimate Calculations by Service Area

Table 2. SCWA Water Use Analysis

Year	Comments	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2015	2020	2025	2030	2035
Grpss Water Use, AF																						
Inside Zone 40																						
Single-family (metered)	**actual data**																17,054	25,836	28,169	31,447	36,374	42,273
Single-family (unmetered)	**estimated**																4,537	-	-	-	-	-
Multi-family (metered)	**actual data**																585	807	1,046	1,343	1,898	2,549
Multi-family (unmetered)	**estimated**																-	-	-	-	-	-
Commercial (metered)	**actual data**																2,193	3,242	3,537	3,827	4,555	5,151
Commercial (unmetered)	**estimated**																-	-	-	-	-	-
Industrial (metered)	**actual data**																-	-	-	-	-	-
Industrial (unmetered)	**estimated**																-	-	-	-	-	-
Institutional (metered)	**actual data**																472	770	824	899	1,071	1,313
Institutional (unmetered)	**estimated**																-	-	-	-	-	-
Landscape Irrigation (metered)	**actual data**																2,319	3,415	3,884	4,408	5,246	6,092
Landscape Irrigation (unmetered)	**estimated**																-	-	-	-	-	-
Total metered gross sales (not including recycled water)																	22,623	34,069	37,460	41,924	49,144	57,377
Total unmetered gross deliveries (not including recycled water)																	4,537	-	-	-	-	-
Total gross deliveries (not including recycled water, no UAW)																	27,160	34,069	37,460	41,924	49,144	57,377
UAW, AF																	3,018	3,785	4,162	4,658	5,460	6,375
Unaccounted-for water, % of total	Assumed (percent of gross production)																10%	10%	10%	10%	10%	10%
Total inside Zone 40 gross production																	**30,178**	**37,855**	**41,622**	**46,583**	**54,605**	**63,752**
																	-	-	-	-	-	-
Gross Water Use, AF																	-	-	-	-	-	-
Outside Zone 40																	-	-	-	-	-	-
Single-family (metered)	**actual data**																6	11	11	2,719	2,640	2,577
Single-family (unmetered)	**estimated**																2,809	2,788	2,788	-	-	-
Multi-family (metered)	**actual data**																-	11	11	39	36	36
Multi-family (unmetered)	**estimated**																39	28	28	-	-	-
Commercial (metered)	**actual data**																599	882	1,557	2,957	2,923	2,890
Commercial (unmetered)	**estimated**																1,076	878	860	-	-	-
Industrial (metered)	**actual data**																-	467	1,838	3,119	3,119	3,119
Industrial (unmetered)	**estimated**																-	-	-	-	-	-
Institutional (metered)	**actual data**																13	39	38	86	84	81
Institutional (unmetered)	**estimated**																55	53	51	-	-	-
Landscape Irrigation (metered)	**actual data**																43	177	171	177	171	166
Landscape Irrigation (unmetered)	**estimated**																6	13	13	-	-	-
Total metered gross sales (not including recycled water)																	661	1,587	3,627	9,097	8,973	8,869
Total unmetered gross deliveries (not including recycled water, no UAW)																	3,985	3,760	3,739	-	-	-
Total gross deliveries (not including recycled water)																	4,646	5,347	7,366	9,097	8,973	8,869
UAW, AF																	516	594	818	1,011	997	985
Unaccounted-for water, % of total	Assumed (percent of gross production)																10%	10%	10%	10%	10%	10%
Total Outside Zone 40 gross production																	5,162	5,941	8,184	10,108	9,970	9,855
																	-	-	-	-	-	-
Gross Water Use, AF																						
Total Zone 41																	-	-	-	-	-	-
Single-family (metered)	**actual data**	-	-	-	-	396	1,119	2,276	4,197	6,417	9,654	12,073	16,565	19,474	18,899	18,317	17,060	25,847	28,181	34,166	39,014	44,850
Single-family (unmetered)	**estimated**	-	-	-	-	18,222	20,478	16,049	14,177	13,936	13,935	13,534	8,215	6,819	8,877	8,521	7,346	2,788	2,788	-	-	-
Multi-family (metered)	**actual data**	-	-	-	-	100	77	137	213	238	285	407	490	518	472	554	585	818	1,056	1,382	1,935	2,585
Multi-family (unmetered)	**estimated**	-	-	-	-	43	33	75	70	97	93	92	102	147	85	95	39	28	28	-	-	-
Commercial (metered)	**actual data**	-	-	-	-	412	340	1,212	1,625	1,467	1,576	2,868	2,849	3,338	3,296	2,938	2,792	4,123	5,094	6,784	7,478	8,040
Commercial (unmetered)	**estimated**	-	-	-	-	393	283	951	747	780	633	756	696	687	675	607	1,076	878	860	-	-	-
Industrial (metered)	**actual data**	-	-	-	-	22	245	727	982	720	814	-	-	-	-	-	-	467	1,838	3,119	3,119	3,119
Industrial (unmetered)	**estimated**	-	-	-	-	614	112	487	263	242	224	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)	**actual data**	-	-	-	-	50	33	295	366	372	688	386	401	507	682	529	485	809	862	986	1,155	1,394
Institutional (unmetered)	**estimated**	-	-	-	-	24	18	181	122	123	149	59	71	74	99	96	55	53	51	-	-	-
Landscape Irrigation (metered)	**actual data**	-	-	-	-	409	309	1,608	2,722	1,251	1,794	1,949	2,351	2,760	2,503	2,699	2,362	3,592	4,055	4,585	5,417	6,259
Landscape Irrigation (unmetered)	**estimated**	-	-	-	-	4	3	291	(82)	91	76	61	57	56	54	18	6	13	13	-	-	-
Total metered gross sales (not including recycled water, no UAW)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23,284	35,656	41,087	51,021	58,118	66,246
Total unmetered gross deliveries (not including recycled water)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8,522	3,760	3,739	-	-	-
Total gross deliveries (not including recycled water)		-	-	-	-	-	-	-	-	-	-	32,185	-	-	-	-	31,806	39,416	44,826	51,021	58,118	66,246
UAW, AF		1,524	1,934	1,975	1,803	2,301	2,563	2,701	2,825	2,861	3,327	3,597	3,554	3,845	3,985	3,842	3,551	4,380	4,981	5,669	6,458	7,361
Unaccounted-for water, % of total	Assumed (percent of gross production)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Total Gross Production	Total production minus water wholesaled to EGWC and recycled water from SRCSD.	15,243	19,344	19,748	18,025	23,010	25,633	27,007	28,253	28,608	33,273	35,971	35,543	38,449	39,852	38,418	35,509	43,796	49,806	56,690	64,575	73,607
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Projected gpcd		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	223	223	223	223	223

Table 2. SCWA Water Use Analysis

Year	Comments	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2015	2020	2025	2030	2035
Total Production, AF																						
Volume of water from own source (Zone 41)	GW production - Historical groundwater production numbers have not been adjusted for metering errors associated with the groundwater well production meters.	13,706	16,924	18,175	16,309	21,375	23,940	23,612	24,789	25,657	31,103	33,048	34,321	36,222	39,479	39,655	37,307					
Volume from imported sources (Zone 41)-Surface water	Surface water	1,514	2,398	840	1,712	1,788	1,595	3,044	4,355	4,040	4,202	5,040	4,253	5,403	3,344	1,410	1,496					
Volume from imported sources (Zone 41)-Wholesale (for Southwest Track)	For Southwest Track	22	22	22	22	22	23	22	23	22	22	22	22	21	21	22	22					
Volume from imported sources (Zone 41)-Wholesale	Purchased from SSWD and GSWC	-	-	710	143	172	645	1,229	793	862	584	711	77	0	0	-	0					
Raw Water	From SRCSD - purple pipe	-	-	-	-	-	-	-	-	-	-	167	175	222	226	201	169	-	-	-	-	-
Recycled Water	From SRCSD - purple pipe	-	-	-	-	-	-	-	-	-	-	668	701	887	903	803	677	4,400	4,400	4,400	4,400	4,400
Sales to other agencies																						
Water sold to EGWS through OUT-1, AF	Water through this intertie is metered as it enters the EGWS distribution system.	-	-	-	160	301	271	278	337	193	311	321	250	37	-	15	782	6,551	7,321	7,321	7,321	7,321
Reported EGWS metered customer water usage, AF	Water usage reported in this row is sales data to EGWS customers. An additional 7.5% of total production is assumed for unaccounted-for water through the wholesale transmission system.	-	-	-	-	46	300	622	1,370	1,779	2,327	2,697	3,055	3,382	3,219	2,855	2,705	-	-	-	-	-
Total production for EGWS, AF		-	-	-	160	347	571	900	1,707	1,973	2,638	3,018	3,304	3,420	3,219	2,870	3,487	9,051	12,321	12,321	12,321	12,321
Cal-AM (Rio del Oro)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,500	5,000	5,000	5,000	5,000
Total Production, AF	Includes Zone 41 retail gross water use, water wholesaled to EGWC and CalAm, and recycled water and raw water from SRCSD.	15,243	19,344	19,748	18,186	23,357	26,203	27,907	29,960	30,581	35,911	39,656	39,548	42,756	43,974	42,091	39,673	57,247	66,527	73,411	81,296	90,328
Population and census data		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total population	Based on total population to total residential connections ratio	52,692	56,625	58,477	63,017	74,502	77,848	84,173	93,980	106,921	118,388	129,964	139,863	145,398	148,202	151,825	153,644	-	-	-	-	-
SF - Population based on 2000 census SF population and 2000 SF connections		49,341	53,034	54,799	58,974	69,526	72,668	78,537	87,698	99,845	110,549	121,243	130,477	135,657	138,200	141,660	143,357	-	-	-	-	-
MF - Population based on 2000 census (Total minus SF population) and MF connections		1,250	1,206	804	2,009	5,224	5,180	6,112	6,675	6,558	7,320	9,726	10,473	10,640	11,904	11,022	11,151	-	-	-	-	-
Total population (sum of SF and MF population)		50,592	54,240	55,602	60,983	74,750	77,848	84,649	94,374	106,403	117,868	130,969	140,949	146,297	150,104	152,682	154,508	-	-	-	-	-
Total population	Based on total population to total connections	52,071	55,788	57,684	62,225	74,713	77,848	84,384	94,345	107,045	118,439	130,005	139,958	146,012	148,868	150,162	-	-	-	-	-	-
2000 Census SF population divided by 2000 SF connections		-	-	-	-	-	3.075	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000 Census MF population divided by 2000 MF connections		-	-	-	-	-	44.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000 Census people per res connections		-	-	-	-	-	3.278	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000 Census pph		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Population used for this analysis		50,592	54,240	55,602	60,983	74,750	77,848	84,649	94,374	106,403	117,868	130,969	140,949	146,297	150,104	152,682	154,508	175,729	199,842	227,463	259,102	295,342
SACOG Population		-	-	-	-	-	-	-	-	-	-	106,563	-	-	-	-	-	-	-	-	-	343,318
SACOG Single family dwelling units		-	-	-	-	-	-	-	-	-	-	33,825	-	-	-	-	-	-	-	-	-	100,080
SACOG Multi family dwelling units		-	-	-	-	-	-	-	-	-	-	4,441	-	-	-	-	-	-	-	-	-	26,620
SACOG Employees		-	-	-	-	-	-	-	-	-	-	31,588	-	-	-	-	-	-	-	-	-	82,703
Connections																						
Single-family (metered)		273	273	268	297	324	1,180	3,605	7,434	11,189	16,648	24,055	30,125	33,298	34,743	36,051	36,629	52,874	64,003	80,421	96,729	116,471
Single-family (unmetered)		15,775	16,976	17,555	18,884	22,289	22,455	21,939	21,089	21,285	19,307	15,378	12,311	10,824	10,206	10,023	9,997	2,946	2,946	-	-	-
Multi-family (metered)		-	-	2	28	82	81	89	113	104	123	178	195	200	226	211	212	314	438	637	885	1,235
Multi-family (unmetered)		28	27	16	17	35	35	48	37	42	40	40	39	39	40	35	37	23	23	-	-	-
Commercial (metered)		101	108	104	112	323	347	387	567	577	697	1,236	1,347	1,539	1,594	1,248	1,184	1,464	1,963	2,800	3,125	3,513
Commercial (unmetered)		138	132	178	227	308	289	304	260	307	280	326	327	307	317	247	288	287	287	-	-	-
Industrial (metered)		-	-	2	4	13	255	245	353	356	379	-	-	-	-	-	-	238	965	1,688	1,688	1,688
Industrial (unmetered)		319	326	328	342	363	117	164	95	119	104	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	8	21	41	35	39	50	62	76	84	92	97	105	73	151	180	212	263	310	365
Institutional (unmetered)		10	10	6	8	20	19	24	17	20	16	13	16	14	15	13	13	12	12	-	-	-
Landscape Irrigation (metered)		92	104	152	146	320	317	339	458	464	543	641	714	807	797	574	603	712	840	999	1,181	1,399
Landscape Irrigation (unmetered)		75	55	4	3	3	3	61	(14)	34	23	20	17	16	17	4	6	5	5	-	-	-
Total metered connections		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55,782	68,423	86,807	103,918	124,670
Total unmetered connections		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,273	3,273	-	-	-
Total connections	Does not include recycled water connections	16,811	18,011	18,623	20,089	24,121	25,133	27,243	30,459	34,559	38,238	41,972	45,185	47,139	48,062	48,479	49,121	59,055	71,696	86,807	103,918	124,670

Table 2. SCWA Water Use Analysis

Year	Comments	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2015	2020	2025	2030	2035
Water use per connection, gpd/connection																						
Water production per all connections, gallons per connection per day		835	989	976	826	878	939	913	854	762	801	789	724	751	763	729	665	-	-	-	-	-
Single-family (metered)	**actual data**	-	-	-	-	1,091	847	564	504	512	518	448	491	522	486	454	416	462	440	424	400	382
Single-family (unmetered)	**estimated**	-	-	-	-	730	814	653	600	585	644	786	596	563	777	759	669	660	625	600	-	-
Multi-family (metered)	**actual data**	-	-	-	-	1,089	849	1,381	1,690	2,035	2,059	2,045	2,242	2,315	1,860	2,339	2,459	2,400	2,300	2,200	2,100	1,900
Multi-family (unmetered)	**estimated**	-	-	-	-	1,089	849	1,381	1,690	2,035	2,059	2,045	2,300	3,400	1,900	2,400	2,500	2,400	2,300	2,200	2,100	1,900
Commercial (metered)	**actual data**	-	-	-	-	1,139	875	2,794	2,560	2,271	2,020	2,071	1,889	1,937	1,846	2,103	2,105	2,400	2,300	2,200	2,100	1,900
Commercial (unmetered)	**estimated**	-	-	-	-	1,139	875	2,794	2,560	2,271	2,020	2,071	1,900	2,000	1,900	2,200	2,105	2,400	2,300	2,200	2,100	1,900
Industrial (metered)	**actual data**	-	-	-	-	1,511	858	2,652	2,484	1,806	1,919	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1,750	1,700	1,650	1,600	1,500
Industrial (unmetered)	**estimated**	-	-	-	-	1,511	858	2,652	2,484	1,806	1,919	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1,800	#DIV/0!	1,750	1,700	1,650	1,600	1,500
Institutional (metered)	**actual data**	-	-	-	-	1,089	842	6,816	6,519	5,379	8,106	4,093	3,877	4,691	5,784	6,457	2,859	4,000	3,800	3,700	3,600	3,400
Institutional (unmetered)	**estimated**	-	-	-	-	1,089	842	6,816	6,519	5,379	8,106	4,100	3,900	4,700	5,800	6,500	2,900	4,000	3,800	3,700	3,600	3,400
Landscape Irrigation (metered)	**actual data**	-	-	-	-	1,141	870	4,236	5,302	2,407	2,948	2,714	2,939	3,052	2,805	4,197	3,496	4,500	4,400	4,300	4,200	4,000
Landscape Irrigation (unmetered)	**estimated**	-	-	-	-	1,141	870	4,236	5,302	2,407	2,948	2,714	2,939	3,052	2,805	4,200	3,700	4,500	4,400	4,300	4,200	4,000
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPCD		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPCD Total		269	318	317	264	275	294	285	267	240	252	245	225	235	237	225	205	223	223	223	223	223
GPCD-3 year moving average		-	-	301	300	285	278	285	282	264	253	246	241	235	232	232	222	-	-	-	-	-
GPCD Total - 5 year moving average		-	-	-	-	-	-	-	-	-	-	-	-	239	239	233	225	-	-	-	-	-
GPCD Total - 10 year moving average		-	-	-	-	-	-	-	-	-	278	276	266	258	256	250	242	-	-	-	-	-
GPCD-CII only		-	-	-	-	18	12	41	39	31	31	28	25	28	28	24	25	-	-	-	-	-
GPCD CII only - 10 year average		-	-	-	-	-	-	-	-	-	17	20	22	25	28	29	30	-	-	-	-	-

Table 2. SCWA Water Use Analysis

Year	Comments	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2015	2020	2025	2030	2035
Arden Park Vista																						
Water use, AF																						
Single-family (metered)		-	-	-	-	-	-	-	0	-	1	5	7	7	6	5	6	4	4	2,632	2,554	2,492
Single-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,713	2,705	2,705	-	-	-
Multi-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	16	16
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	18	18	-	-	-
Commercial (metered)		-	-	-	-	-	-	55	69	48	46	52	51	68	101	49	41	41	40	429	409	388
Commercial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	429	429	410	-	-	-
Industrial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	15	12	13	9	9	50	49	46
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	45	43	-	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	14	10	9	10	110	42	34	21	74	43	42	41	45	43	41
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	6	-	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total metered sales		-	-	-	-	-	-	70	79	57	57	167	100	109	143	140	103	97	93	3,174	3,071	2,984
Total unmetered deliveries		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,211	3,203	3,182	-	-	-
UAW		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	368	367	364	353	341	332
Total production	GW plus purchased water, Assume future water use is reduced by 10% from 2010 water use.	3,750	4,445	4,519	3,887	3,160	3,899	4,458	4,378	4,074	4,511	4,096	4,139	4,107	4,629	3,925	3,682	3,666	3,639	3,526	3,412	3,316
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Connections		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single family (metered)		-	-	-	-	-	-	-	1	-	3	4	4	5	4	4	4	4	4	2,764	2,764	2,764
Single-family (unmetered)		-	-	-	-	-	2,661	2,600	2,707	2,659	2,667	2,632	2,638	2,621	2,598	2,740	2,760	2,760	2,760	-	-	-
Multi family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	16	16
Multi-family (unmetered)		-	-	-	-	-	11	15	16	15	16	15	15	15	15	15	16	16	16	-	-	-
Commercial (metered)		-	-	-	-	-	-	9	12	11	12	12	20	23	23	17	16	16	16	183	183	183
Commercial (unmetered)		-	-	-	-	-	-	158	179	178	179	159	166	152	172	128	167	167	167	-	-	-
Industrial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	2	2	12	12	12
Institutional (unmetered)		-	-	-	-	-	-	7	8	9	9	6	9	7	10	10	10	10	10	-	-	-
Landscape (metered)		-	-	-	-	-	-	2	5	5	5	11	12	15	20	14	14	14	14	16	16	16
Landscape (unmetered)		-	-	-	-	-	-	3	3	3	2	2	2	(11)	2	2	2	2	2	-	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total (metered), updated		-	-	-	-	-	-	11	18	15	20	27	36	42	48	36	36	36	36	2,991	2,991	2,991
Total (unmetered), updated		-	-	-	-	-	2,672	2,783	2,912	2,865	2,873	2,814	2,830	2,784	2,798	2,897	2,957	2,955	2,955	-	-	-
Total connections		-	-	-	-	-	2,672	2,794	2,930	2,880	2,892	2,841	2,865	2,826	2,845	2,932	2,991	2,991	2,991	2,991	2,991	2,991
Water use per connection, gpd/connection																						
Single-family (metered)		-	-	-	-	-	-	#DIV/0!	250	#DIV/0!	354	1,309	1,653	1,306	1,502	1,109	1,329	875	875	850	825	805
Single-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	878	875	875	875	-	-
Multi-family (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1,000	1,000	1,000	900	900
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,000	1,000	1,000	1,000	-	-
Commercial (metered)		-	-	-	-	-	-	5,593	5,026	3,971	3,406	3,830	2,320	2,713	3,873	2,544	2,306	2,300	2,200	2,100	2,000	1,900
Commercial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,300	2,300	2,200	2,100	-	-
Industrial (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1,750	1,700	1,650	1,600	1,500
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,750	1,750	1,700	1,650	-	-
Institutional (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	14,092	11,035	5,620	4,000	3,800	3,700	3,600	3,400
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,000	4,000	3,800	3,700	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	5,308	1,678	1,741	1,875	8,721	3,058	2,017	930	4,728	2,731	2,700	2,600	2,500	2,400	2,300
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,700	2,700	2,600	2,500	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total (metered)		-	-	-	-	-	-	5,532	3,830	3,315	2,605	5,506	2,502	2,309	2,642	3,470	2,547	-	-	-	-	-
Total (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total connections		-	-	-	-	-	-	1,424	1,334	1,263	1,392	1,287	1,290	1,297	1,453	1,195	1,099	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Population		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single family	Census	-	-	-	-	-	6,913	6,754	7,034	6,908	6,937	6,847	6,862	6,821	6,758	7,129	7,181	7,181	7,181	7,181	7,181	7,181
Multi family	Census	-	-	-	-	-	1,322	1,825	1,902	1,868	1,875	1,855	1,858	1,843	1,834	1,819	1,939	1,939	1,939	1,939	1,939	1,939
Total	Census - assumed not additional growth from 2010 through 2035 within service area.	-	-	-	-	-	8,235	8,579	8,935	8,776	8,812	8,703	8,720	8,664	8,592	8,947	9,120	9,120	9,120	9,120	9,120	9,120
SACOG Population		-	-	-	-	-	-	-	-	-	-	8,510	-	-	-	-	-	-	-	-	-	8,598
SACOG Single family dwelling units		-	-	-	-	-	-	-	-	-	-	2,874	-	-	-	-	-	-	-	-	-	2,877
SACOG Multi family dwelling units		-	-	-	-	-	-	-	-	-	-	1,198	-	-	-	-	-	-	-	-	-	1,251
SACOG Employees		-	-	-	-	-	-	-	-	-	-	3,606	-	-	-	-	-	-	-	-	-	3,713
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPCD		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		-	-	-	-	-	423	464	437	414	457	420	424	423	481	392	360	359	356	345	334	325

Table 2. SCWA Water Use Analysis

Year	Comments	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2015	2020	2025	2030	2035
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
East Walnut Grove		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water use, AF		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	39	39	39
Single-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	38	38	-	-	-
Multi-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	11	10	10
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	-	-	-
Commercial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	61	61	62
Commercial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59	59	59	-	-	-
Industrial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	6	6
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	7	-	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total treated water sales		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	119	119	120
Total unmetered deliveries		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	114	116	116	-	-	-
UAW		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	13	13	13	13	13
Total	GW, Assumed 5% of growth from 2010 through 2035	NA	NA	NA	NA	NA	NA	NA	63	71	76	78	79	126	130	126	127	130	132	133	132	133
Connections																						
Single family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	117	118	119
Single-family (unmetered)		-	-	-	-	-		-	75	73	77	77	106	106	107	110	113	113	113	-	-	-
Multi family (metered)		-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	0	0	7	7	7
Multi-family (unmetered)		-	-	-	-	-		-	7	7	7	7	7	7	7	6	7	7	7	-	-	-
Commercial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	36	37	37
Commercial (unmetered)		-	-	-	-	-	-	-	32	32	32	32	33	34	34	31	35	35	35	-	-	-
Industrial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	1	3	1	1	1	1	1	-	-	-
Landscape (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3
Landscape (unmetered)		-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	3	3	3	-	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total (metered), updated		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	164	166	167
Total (unmetered), updated		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	159	159	-	-	-
Total connections		-	-	-	-	-	-	-	115	113	116	116	147	151	150	150	159	161	163	164	166	167
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water use per connection, gpd/connection		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	300	300	300	295	295
Single-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	350	300	300	300	-	-
Multi-family (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1,300	1,300	1,300	1,250	1,250
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,300	1,300	1,300	1,300	-	-
Commercial (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1,500	1,500	1,500	1,500	1,500
Commercial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,500	1,500	1,500	1,500	-	-
Industrial (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	2,000	1,900	1,900
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,000	2,000	2,000	2,000	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	2,000	1,900	1,900
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,000	2,000	2,000	2,000	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Total (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total connections		-	-	-	-	-	-	#VALUE!	488	562	585	602	483	748	776	751	711	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Population		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
Single family	Census	-	-	-	-	-	295	-	277	272	284	284	391	391	397	408	419	423	428	432	436	440
Multi family	Census	-	-	-	-	-	29	-	30	30	30	29	29	29	29	26	31	31	31	32	32	32
Total	Census - assumed no more than 5% growth rate for 2010 through 2035 growth within service area.	-	-	-	-	-	323	-	307	301	313	313	421	421	426	435	450	454	459	463	468	473
SACOG Population		-	-	-	-	-	-	-	-	-	-	372	-	-	-	-	-	-	-	-	-	778
SACOG Single family dwelling units		-	-	-	-	-	-	-	-	-	-	147	-	-	-	-	-	-	-	-	-	292
SACOG Multi family dwelling units		-	-	-	-	-	-	-	-	-	-	37	-	-	-	-	-	-	-	-	-	46
SACOG Employees		-	-	-	-	-	-	-	-	-	-	317	-	-	-	-	-	-	-	-	-	593
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPCD		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		-	-	-	-	-	#VALUE!	#VALUE!	183	211	217	223	169	268	273	258	252	256	256	256	252	252

Table 2. SCWA Water Use Analysis

Year	Comments	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2015	2020	2025	2030	2035
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hood		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water use, AF		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	41	40
Single-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	44	44	-	-	-
Multi-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	11
Commercial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	12	-	-	-
Industrial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total treated water sales		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	53	51
Total unmetered deliveries		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57	57	57	-	-	-
UAW		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	6	6	6	6
Total	**GW**	93	102	106	57	72	23	39	94	94	95	98	79	102	97	79	63	63	63	60	58	57
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Connections		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	72	72
Single-family (unmetered)		-	-	-	-	-	68	66	69	67	67	66	67	67	66	70	72	72	72	-	-	-
Multi-family (metered)		-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	5
Commercial (unmetered)		-	-	-	-	-	-	6	6	6	6	6	6	6	6	6	5	5	5	-	-	-
Industrial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total (metered), updated		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	77	77
Total (unmetered), updated		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	77	-	-	-
Total connections		-	-	-	-	-	-	72	75	72	73	72	73	72	72	76	77	77	77	77	77	77
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water use per connection, gpd/connection		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	550	535	520	505	490
Single-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	550	550	550	-	-	-
Multi-family (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	2,200	2,200	2,200	2,100	2,000
Commercial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,200	2,200	2,200	-	-	-
Industrial (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Total (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total connections		-	-	-	-	-	-	487	1,117	1,156	1,168	1,211	968	1,257	1,200	929	723	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Population		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single family	Census	-	-	-	-	-	240	235	244	237	238	235	239	237	236	249	256	256	256	256	256	256
Multi family	Census	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	Census - assumed no growth from 2010 through 2035	-	-	-	-	-	240	235	244	237	238	235	239	237	236	249	256	256	256	256	256	256
SACOG Population		-	-	-	-	-	-	-	-	-	-	231	-	-	-	-	-	-	-	-	-	584
SACOG Single family dwelling units		-	-	-	-	-	-	-	-	-	-	60	-	-	-	-	-	-	-	-	-	159
SACOG Multi family dwelling units		-	-	-	-	-	-	-	-	-	-	39	-	-	-	-	-	-	-	-	-	86
SACOG Employees		-	-	-	-	-	-	-	-	-	-	184	-	-	-	-	-	-	-	-	-	250
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPCD		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		-	-	-	-	-	85	149	342	354	358	371	296	385	367	284	218	220	220	211	204	197

Table 2. SCWA Water Use Analysis

Year	Comments	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2015	2020	2025	2030	2035
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Southwest Tract		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water use, AF		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	6	6	6	6
Single-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-
Multi-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	11	10	10	10
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-
Commercial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3	3
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total treated water sales		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	21	20	19	19
Total unmetered water deliveries		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	-	-	-
UAW		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2
Total	Historical water use estimated based on 0.7 AF per connection	22	22	22	22	22	23	22	23	22	22	22	22	21	21	22	22	23	23	22	22	21
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Connections		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	17	17	17	17
Single-family (unmetered)		18	18	18	18	18	18	17	18	17	17	17	17	16	15	17	17	-	-	-	-	-
Multi-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	14	14	14	14
Multi-family (unmetered)		14	14	14	14	14	14	13	14	14	14	13	13	13	14	14	14	-	-	-	-	-
Commercial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1
Institutional (unmetered)		-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	32	32	32	32
Total (unmetered)		-	-	-	-	-	-	31	32	32	32	32	32	31	30	32	32	-	-	-	-	-
Total connections		32	32	32	32	32	33	31	32	32	32	32	32	31	30	32	32	32	32	32	32	32
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water use per connection, gpd/connection		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	350	340	330	320	310
Single-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	345	-	-	-	-	-
Multi-family (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	700	680	660	640	620
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	675	-	-	-	-	-
Commercial (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Commercial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	3,000	2,950	2,900	2,850	2,800
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,900	-	-	-	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Total (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total connections		-	-	-	-	-	-	625	625	625	625	625	625	625	625	625	625	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Population		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single family	Census	-	-	-	-	-	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
Multi family	Census	-	-	-	-	-	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
Total	Census	-	-	-	-	-	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPCD		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		-	-	-	-	-	131	124	129	127	128	126	126	122	121	128	128	133	130	126	123	119

Table 2. SCWA Water Use Analysis

Year	Comments	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2015	2020	2025	2030	2035
Metro Air Park		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water use, AF		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multi-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	234	919	1,559	1,559	1,559
Commercial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	467	1,838	3,119	3,119	3,119
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total treated water sales		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	701	2,758	4,678	4,678	4,678
UAW		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	306	520	520	520
Total	GW, projected use from zone 50 Water Supply Master Plan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	779	3,064	5,198	5,198	5,198
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Connections		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multi-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	87	357	633	633	633
Commercial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	238	965	1,688	1,688	1,688
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	325	1,322	2,320	2,320	2,320
Total (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total connections	Estimated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	325	1,322	2,320	2,320	2,320
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water use per connection, gpd/connection		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multi-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,400	2,300	2,200	2,200	2,200
Commercial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,750	1,700	1,650	1,650	1,650
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total connections		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Population		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single family	Census	-	-	-	-	-	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multi family	Census	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	Census	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SACOG Population		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	287
SACOG Single family dwelling units		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79
SACOG Multi family dwelling units		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26
SACOG Employees		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,393
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPCD	No residential population	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2. SCWA Water Use Analysis

Year	Comments	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2015	2020	2025	2030	2035
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Northgate 880		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water use, AF		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multi-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial (metered)		-	-	-	-	-	-	39	145	197	207	593	482	550	493	578	558	606	598	895	882	869
Commercial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	576	378	378	-	-	-
Industrial (metered)		-	-	-	-	-	-	102	222	27	75	-	-	-	-	-	-	-	-	-	-	-
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	26	31	30	30
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	6	6	-	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	28	94	50	49	68	53	158	88	-	-	134	130	125	121	119
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total treated water sales		-	-	-	-	-	-	170	461	274	331	661	535	708	582	578	558	767	754	1,051	1,033	1,017
Total unmetered water deliveries		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	583	384	384	-	-	-
UAW		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	127	128	126	117	115	113
Total	GW	805	812	873	814	994	1,025	1,097	1,002	1,097	1,297	1,311	1,004	1,245	400	1,277	1,268	1,279	1,264	1,168	1,148	1,130
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Connections		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multi-family (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial (new metered) after 2010		-	-	-	-	-	-	14	21	20	26	113	125	147	175	157	155	155	155	235	235	235
Commercial (updated unmetered)		-	-	-	-	-	-	20	18	20	18	84	82	9	(51)	79	80	80	80	-	-	-
Industrial (metered)		-	-	-	-	-	-	6	10	13	18	4	7	7	-	-	-	-	-	-	-	-
Industrial (unmetered)		-	-	-	-	-	-	93	95	94	100	0	1	(2)	131	-	-	-	-	-	-	-
Institutional (new metered) after 2010		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	5	6	6	6
Institutional (updated unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	10	16	15	17	20	23	25	25	19	20	20	20	20	20	20
Landscape Irrigation (unmetered)		-	-	-	-	-	-	2	(1)	1	1	1	0	(20)	0	0	0	-	-	-	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total (metered)		-	-	-	-	-	-	29	48	48	61	136	155	179	200	176	180	180	180	180	180	180
Total (metered), updated		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	180	180	261	261	261
Total (unmetered)		-	-	-	-	-	-	116	113	115	121	86	86	(10)	82	81	81	81	81	81	81	81
Total (unmetered), updated		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81	81	-	-	-
Total connections		-	-	-	-	-	-	145	161	163	181	223	240	169	283	257	262	261	261	261	261	261
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water use per connection, gpd/connection		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Single-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multi-family (metered)		-	-	-	-	-	-	#REF!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial (metered)		-	-	-	-	-	-	#REF!	6,046	8,784	7,060	4,682	3,435	3,337	2,515	3,282	3,207	3,500	3,450	3,400	3,350	3,300
Commercial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,400	4,200	4,200	-	-	-
Industrial (metered)		-	-	-	-	-	-	#REF!	19,349	1,891	3,763	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	#REF!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	4,800	4,700	4,600	4,500	4,400
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,000	5,000	5,000	-	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	#REF!	5,139	2,911	2,589	3,091	2,096	5,562	3,138	-	6,000	6,000	5,800	5,600	5,400	5,300
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recycled Irrigation (metered)		-	-	-	-	-	-	#REF!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total (metered)		-	-	-	-	-	-	#REF!	8,568	5,079	4,858	4,325	3,092	3,529	2,593	2,927	2,762	-	-	-	-	-
Total (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total connections		-	-	-	-	-	-	6,738	5,547	5,999	6,382	5,256	3,731	6,591	1,262	4,438	4,323	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Population	No residential population	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single family	Census	-	-	-	-	-	199	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Multi family	Census	-	-	-	-	-	83	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Total	Census	-	-	-	-	-	282	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
SACOG Population		-	-	-	-	-	-	-	-	-	-	76	-	-	-	-	-	-	-	-	-	519
SACOG Single family dwelling units		-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	88
SACOG Multi family dwelling units		-	-	-	-	-	-	-	-	-	-	25	-	-	-	-	-	-	-	-	-	118
SACOG Employees		-	-	-	-	-	-	-	-	-	-	7,521	-	-	-	-	-	-	-	-	-	16,286
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPCD	No residential population	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Calculation of Zone 40 2030 Master Plan Projected Growth		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zone 40 2030 Master Plan - NSA, CSA, SSA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Year 2000		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000 developed land use (acres)	From Table 2-1 of 2030 MP	7,418	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000 water use (AF)	From Table 2-1 of 2030 MP	23,020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000 water use per connection (AF/connection)	AF from 2030 master plan	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000 water use per connection (AF/connection)	AF from 2010 UWMP production data	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000 water use AF/acre		3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000 acres/connection		0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000 people/connection		3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000 gpcd		270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000 water use (AF)	From data provided for UWMP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NSA		2,108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSA		5,501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SSA		13,054	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		20,663	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NSA, CSA, SSA 2000 population	est from 2000 Census	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NSA	2001	2,003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSA	2001	27,702	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SSA	2001	46,297	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	2001	76,001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NSA, CSA, SSA 2000 connections		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NSA	est from 2001 no. of connections	990	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSA	est from 2001 no. of connections	5,888	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SSA	est from 2001 no. of connections	17,322	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		24,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Year 2030		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2030 developed land use (acres)	From Table 2-2 of 2030 MP	41,857	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2030 water use (AF)	From Table 2-2 of 2030 MP	104,645	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2030 water use AF/acre		2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2030 acres/connection	same as 2000	0.3	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2030 connections		136,553	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2030 population/connection	same as 2000	3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2030 population	Assume this occurs in 2050 for UWMP	428,846	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2030 demand based on 2020 target of 220 gpcd, AF	Assume this occurs in 2050 for UWMP	105,674	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2030 gpcd based on 2030 pop and 2030 MP water use		218	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2. SCWA Water Use Analysis

Year	Comments	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2015	2020	2025	2030	2035
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inside Zone 40 - NSA+CSA+SSA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water use, AF		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (metered)		-	-	-	-	-	-	2,276	4,196	6,416	9,653	12,066	16,558	19,467	18,893	18,312	17,054	25,836	28,169	31,447	36,374	42,273
Single-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,537	-	-	-	-	-
Multi-family (metered)		-	-	-	-	-	-	137	213	238	285	407	490	422	472	554	585	807	1,046	1,343	1,898	2,549
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial (metered)		-	-	-	-	-	-	1,117	1,410	1,851	1,322	2,223	2,316	2,720	2,701	2,312	2,193	3,242	3,537	3,827	4,555	5,151
Commercial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (metered)		-	-	-	-	-	-	624	760	693	740	-	-	-	-	-	-	-	-	-	-	-
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	294	366	372	688	386	400	507	667	516	472	770	824	899	1,071	1,313
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	1,566	2,618	1,191	1,736	1,772	2,256	2,568	2,393	2,510	2,319	3,415	3,884	4,408	5,246	6,092
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total treated water sales		-	-	-	-	-	-	6,014	9,563	10,761	14,423	16,853	22,020	25,685	25,125	24,204	22,623	34,069	37,460	41,924	49,144	57,377
Total unmetered water deliveries		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,537	-	-	-	-	-
UAW		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,018	3,785	4,162	4,658	5,460	6,375
Total	GW plus all SW purchases	10,573	13,963	14,228	13,245	18,761	20,663	21,391	22,694	23,249	27,272	30,199	30,044	32,625	34,349	32,788	30,178	37,855	41,622	46,583	54,605	63,752
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Connections		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single family (new metered) after 2010		-	-	-	-	-	1,180	3,605	7,433	11,189	16,646	24,052	30,122	33,293	34,739	36,047	36,625	52,852	63,980	77,450	93,758	113,498
Single-family (updated unmetered)		-	-	-	-	-	19,709	19,256	18,221	18,469	16,479	12,586	9,483	8,014	7,420	7,085	7,034	-	-	-	-	-
Multi-family (metered)		-	-	-	-	-	81	89	113	104	123	178	195	200	226	211	212	300	424	600	847	1,198
Multi-family (unmetered)		-	-	-	-	-	14	20	1	7	5	5	4	3	4	0	-	-	-	-	-	-
Commercial (metered)		-	-	-	-	-	-	365	533	546	658	1,082	1,170	1,347	1,396	1,073	1,013	1,206	1,435	1,708	2,033	2,420
Commercial (unmetered)		-	-	-	-	-	-	120	26	71	45	45	39	23	25	1	-	-	-	-	-	-
Industrial (metered)		-	-	-	-	-	-	239	343	343	361	25	25	15	-	-	-	-	-	-	-	-
Industrial (unmetered)		-	-	-	-	-	-	71	(0)	26	13	1	0	0	-	-	-	-	-	-	-	-
Institutional (metered)		-	-	-	-	-	-	39	50	62	76	84	92	97	104	72	144	172	204	243	290	345
Institutional (unmetered)		-	-	-	-	-	-	15	7	10	5	4	4	2	2	0	-	-	-	-	-	-
Landscape Irrigation (metered)		-	-	-	-	-	-	327	437	444	522	610	679	767	751	541	569	677	806	960	1,142	1,360
Landscape Irrigation (unmetered)		-	-	-	-	-	-	56	(17)	28	19	16	14	13	14	1	-	-	-	-	-	-
Total (metered)		-	-	-	-	-	-	4,663	8,909	12,688	18,386	26,031	32,283	35,719	37,217	37,945	38,564	46,899	56,789	68,777	83,315	100,951
Total (metered), updated		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55,463	67,204	81,640	98,934	119,848
Total (unmetered)		-	-	-	-	-	-	19,538	18,237	18,610	16,565	12,657	9,544	8,055	7,465	7,088	7,036	8,820	10,671	12,910	15,619	18,898
Total (unmetered), updated		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	256	256	-	-	-
Total connections		-	-	-	-	-	-	24,200	27,145	31,298	34,952	38,688	41,827	43,774	44,681	45,033	45,600	55,719	67,459	81,687	98,934	119,848
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water use per connection, gpd/connection		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-family (metered)		-	-	-	-	-	-	564	504	512	518	448	491	522	486	454	416	436	393	363	346	333
Single-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	660	625	600	-	-
Multi-family (metered)		-	-	-	-	-	-	1,381	1,690	2,035	2,059	2,045	2,242	1,887	1,860	2,339	2,459	2,400	2,200	2,000	2,000	1,900
Multi-family (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,400	2,300	2,200	2,100	1,900
Commercial (metered)		-	-	-	-	-	-	2,735	2,362	3,028	1,792	1,834	1,766	1,802	1,728	1,923	1,933	2,400	2,200	2,000	2,000	1,900
Commercial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,400	2,300	2,200	2,100	1,900
Industrial (metered)		-	-	-	-	-	-	2,330	1,980	1,803	1,829	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	1,750	1,600	1,500	1,500	1,500
Industrial (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,750	1,700	1,650	1,600	1,500
Institutional (metered)		-	-	-	-	-	-	6,793	6,519	5,379	8,106	4,093	3,868	4,691	5,703	6,386	2,920	4,000	3,600	3,300	3,300	3,400
Institutional (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,000	3,800	3,700	3,600	3,400
Landscape Irrigation (metered)		-	-	-	-	-	-	4,278	5,351	2,395	2,969	2,592	2,964	2,990	2,844	4,142	3,638	4,500	4,300	4,100	4,100	4,000
Landscape Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,500	4,400	4,300	4,200	4,000
Recycled Irrigation (metered)		-	-	-	-	-	-	#DIV/0!	#DIV/0!	4,752	5,725	4,779	3,788	4,918	5,283	4,593	4,066	-	-	-	-	-
Recycled Irrigation (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total (metered)		-	-	-	-	-	-	1,152	958	757	700	578	609	642	603	569	524	-	-	-	-	-
Total (unmetered)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total connections		-	-	-	-	-	-	789	746	663	697	697	641	665	686	650	591	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Population		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single family	Census	-	-	-	-	-	64,868	72,310	81,411	98,114	108,933	119,181	126,933	131,214	133,273	135,783	137,122	-	-	-	-	-
Multi family	Census	-	-	-	-	-	3,625	3,691	3,845	2,896	3,763	5,035	5,910	5,998	8,045	7,549	7,571	-	-	-	-	-
Total	Census	-	-	-	-	-	69,675	76,001	85,256	101,010	112,696	124,216	132,843	137,211	141,318	143,333	144,693	165,741	189,851	217,467	249,101	285,336
SACOG Population		-	-	-	-	-	-	-	-	-	-	97,450	0	-	-	-	-	-	-	-	-	333,357
SACOG Single family dwelling units		-	-	-	-	-	-	-	-	-	-	30,744	0	-	-	-	-	-	-	-	-	96,753
SACOG Multi family dwelling units		-	-	-	-	-	-	-	-	-	-	3,168	0	-	-	-	-	-	-	-	-	25,239
SACOG Employees		-	-	-	-	-	-	-	-	-	-	27,482	0	-	-	-	-	-	-	-	-	78,147
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPCD		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		-	-	-	-	-	265	251	238	205	216	217	202	212	217	204	186	204	196	191	196	199

Appendix G: Sacramento Groundwater Authority and Sacramento Central Groundwater Authority Groundwater Management Plans (Provided on CD)

Appendix H: Water Conservation 2009/2010 BMP Reports

2009 and 2010 Calendar Year CUWCC Reports

Zone 41 CUWCC GPCD Calculations

California Urban Water Conservation Council

CUWCC

TARGETS / COMPLIANCE (SBx7-7)

Input cells:

Calculated cells:

Target Summary	2020	2015
Method 1	230.5	259.4
Method 2	N/A	N/A
Method 3	N/A	N/A
Method 4	0.0	0.0
	Min Value	Max Value

GPCD in 2010	213.8
Base daily per capita water use (10-15yr baseline)	288.2
Base daily per capita water use (5yr baseline)	248.3
Max. allowable GPCD target in 2020 (95% x 5yr baseline)	235.9

Method 1: Baseline per Capita Water Use

80% x Base daily per capita water use (10-15yr baseline): 230.5

2015 Target: 259.4

2020 Target: 230.5

Method 2: Performance Standards

TM 2 Indoor Water Use allowance: 0.0

TM 6 Landscaped Area Water Use: 0.0

TM 7 Baseline CII Water Use: 0.0

2015 Target: N/A

2020 Target: N/A

Method 3: Hydrologic Region Targets

Enter the percentage of your service area population in each hydrologic region

Region	Region Name	% Population	GPCD Target
1	North Coast		137
2	San Francisco Bay		131
3	Central Coast		123
4	South Coast		149
5	Sacramento River		176
6	San Jacinto		174
7	Tulare lake		188
8	North Lahontan		173
9	South Lahontan		170
10	Colorado River		211
		0.0%	

2015 Target: N/A

2020 Target: N/A

Method 4:

To be Developed

California Urban Water Conservation Council

CUWCC

TARGETS / COMPLIANCE
(CUWCC MOU)

Baseline / Initial GPCD
(Use option buttons to select)

GPCD in 2006 ○	225.1
Baseline GPCD (1997 to 2006) ◉	266.4
GPCD in 2010	205.2
GPCD Target for 2018	218.5

Potable Water GPCD for each Year in the Baseline Period

Year	GPCD
2006	225.1
2005	245.2
2004	252.0
2003	240.0
2002	267.3
2001	284.8
2000	293.9
1999	274.8
1998	263.9
1997	317.1

Biennial GPCD Compliance Table

Year	Report	Target		Highest Acceptable Bound	
		% Base	GPCD	% Base	GPCD
2010	1	96.4%	256.8	100%	266.4
2012	2	92.8%	247.2	96.4%	256.8
2014	3	89.2%	237.6	92.8%	247.2
2016	4	85.6%	228.1	89.2%	237.6
2018	5	82.0%	218.5	82.0%	218.5

Monthly GPCD Data for Weather Normalization

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	205.2	205.2	205.2	205.2	205.2	205.2	205.2	205.2	205.2	205.2	205.2	205.2
Baseline avg*	266.4	266.4	266.4	266.4	266.4	266.4	266.4	266.4	266.4	266.4	266.4	266.4

* The average for each month is based on the baseline period 1997 to 2006

California Urban Water Conservation Council

CUWCC

Commercial, Industrial & Institutional (CII) Water Use (Method 2 only)

If you wish to exclude process water from the calculation of the baseline CII GPCD, enter process water volumes in the Main Data sheet

Input cells:
Calculated cells:

Data Entry in Acre-feet unless otherwise noted

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL	POPULATION SERVED BY CII	ANNUAL CII GPCD
2010																	
2009																	
2008																	
2007																	
2006																	
2005																	
2004																	
2003																	
2002																	
2001																	
2000																	
1999																	
1998																	
1997																	
1996																	
1995																	
1994																	
1993																	
1992																	
1991																	
1990																	

Recycled water accounts for 2.2 % of 2008 deliveries, therefore select a a 10 year baseline period using the selection buttons below

WARNING: Insufficient data for the selected baseline period; please add data or choose a different baseline period (in the GPCD worksheet)

Ending in...	Baseline 10 years	N/A	N/A	N/A	N/A	N/A
2010	0.0					
2009	0.0					
2008	0.0					
2007	0.0					
2006	0.0					
2005	0.0					
2004	0.0					

Min Value Max Value

CII Baseline start and end date is determined by the selection made in the GPCD Matrix worksheet. The red outlined cell in the table to the left indicates the choice of baseline and the corresponding CII GPCD value.

Please add data or use a different baseline period N/A

Adjustments for Residential Uses in CII Connections

Some CII connections also may serve group quarters or other residential uses. Examples could include campus dormitories, military base housing, and apartments that are served by a CII connection. Water use target Method 2 already provides an indoor use allowance of 55 GPCD for such residents. To ensure that this indoor use is not double-counted, enter the population served by CII connections during the baseline period and whose residents use is included in the water supplier's unadjusted Baseline CII Water Use.

NOTE: This value is a subset of the Population value entered on the Population worksheet

California Urban Water Conservation Council

CUWCC

Landscaped Area Water Use (method 2 only)

Input cells:
Calculated cells:

Please note:

Water suppliers shall develop an estimate (forecast) of 2020 landscaped areas for purposes; do not enter existing landscaped area data

	Reference Evapotranspiration **(Inches per year)**	Landscaped Area (1992 MWELO) **(Square feet)**	Landscaped Area (2009 MWELO) **(Square feet)**	Special Landscaped Area (Non-residential, non-commercial) **(Square feet)**	Maximum Applied Water Allowance (1992) (Gallons per year)	Maximum Applied Water Allowance (2009) (Gallons per year)	GPCD
ET zone 1							
ET zone 2							
ET zone 4							
ET zone 4							
ET zone 5							
ET zone 6							
ET zone 7							
ET zone 8							
ET zone 9							
ET zone 10							

2020 Target: 0.00

ET Zones:
Enter landscaped area data for

California Urban Water Conservation Council

CUWCC

GPCD Matrix

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL GPCD
2010	213.8	213.8	213.8	213.8	213.8	213.8	213.8	213.8	213.8	213.8	213.8	213.8	213.8
2009	233.9	233.9	233.9	233.9	233.9	233.9	233.9	233.9	233.9	233.9	233.9	233.9	233.9
2008	246.4	246.4	246.4	246.4	246.4	246.4	246.4	246.4	246.4	246.4	246.4	246.4	246.4
2007	243.5	243.5	243.5	243.5	243.5	243.5	243.5	243.5	243.5	243.5	243.5	243.5	243.5
2006	233.8	233.8	233.8	233.8	233.8	233.8	233.8	233.8	233.8	233.8	233.8	233.8	233.8
2005	254.2	254.2	254.2	254.2	254.2	254.2	254.2	254.2	254.2	254.2	254.2	254.2	254.2
2004	261.4	261.4	261.4	261.4	261.4	261.4	261.4	261.4	261.4	261.4	261.4	261.4	261.4
2003	248.6	248.6	248.6	248.6	248.6	248.6	248.6	248.6	248.6	248.6	248.6	248.6	248.6
2002	276.6	276.6	276.6	276.6	276.6	276.6	276.6	276.6	276.6	276.6	276.6	276.6	276.6
2001	294.8	294.8	294.8	294.8	294.8	294.8	294.8	294.8	294.8	294.8	294.8	294.8	294.8
2000	304.9	304.9	304.9	304.9	304.9	304.9	304.9	304.9	304.9	304.9	304.9	304.9	304.9
1999	285.0	285.0	285.0	285.0	285.0	285.0	285.0	285.0	285.0	285.0	285.0	285.0	285.0
1998	273.4	273.4	273.4	273.4	273.4	273.4	273.4	273.4	273.4	273.4	273.4	273.4	273.4
1997	328.7	328.7	328.7	328.7	328.7	328.7	328.7	328.7	328.7	328.7	328.7	328.7	328.7
1996	329.5	329.5	329.5	329.5	329.5	329.5	329.5	329.5	329.5	329.5	329.5	329.5	329.5
1995	278.7	278.7	278.7	278.7	278.7	278.7	278.7	278.7	278.7	278.7	278.7	278.7	278.7
1994													
1993													
1992													
1991													
1990													

Recycled water accounts for 2.2 % of 2008 deliveries, therefore select a a 10 year baseline period using the selection buttons below

Baseline Ending In...		Baseline 10-years	N/A	N/A	N/A	N/A	N/A
		◉	○	○	○	○	○
2010	○	250.7					
2009	○	259.8					
2008	○	264.9					
2007	○	267.6					
2006	○	276.2					
2005	○	285.7					
2004	◉	288.2					

Min Value Max Value

	Ending in...	Baseline 5-years
○	2010	234.3
○	2009	242.4
○	2008	247.9
◉	2007	248.3

Base daily per capita water use (10-15yr baseline)	288.2
Base daily per capita water use (5yr baseline)	248.3

User selection buttons:
Use the buttons to indicate the chosen baseline period

California Urban Water Conservation Council

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This worksheet can be used as a calculator to generate an annual total for each year of input to the Main Data worksheet: (see here)

Annual Deductable Volume of Indirect Recycled Water Entering Distribution System

Data Entry in acre-feet unless otherwise noted

Input cells:
Calculated cells:

Surface Reservoir Augmentation	N/A	N/A	Volume Discharged from Reservoir for Distribution System Delivery	Recycled Water Blend %	Recycled Water Delivered to Treatment Plant	Use Default ☐ 3% Transmission / Treatment Loss %	Transmission / Treatment Losses	Volume entering Distribution System
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Source 1								
Source 2								
Source 3								
Source 4								
Source 5								
						Subtotal Reservoir Augmentation (A):		0.000

Groundwater Recharge	5-Year Annual Average Recharge	Use Default ☐ 90% Recharge Recovery Factor	Recycled Water Pumped from Basin	Utility Pumping as % of Basin Total	Recycled Water Pumped by Utility	Use Default ☐ 3% Transmission / Treatment Loss %	Transmission / Treatment Losses	Volume entering Distribution System
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Basin 1								
Basin 2								
Basin 3								
Basin 4								
Basin S								
						Subtotal Groundwater Recharge (B):		0.000
						Deductable Volume of Indirect Recycled Water Entering Distribution System (A+B):		0.000

Transfer this value back to

California Urban Water Conservation Council

CUWCC

Population

Input cells:
Calculated cells:

Enter population data for the service area.

YEAR	POPULATION	
2010	154,508	
2009	152,682	
2008	150,104	
2007	146,297	
2006	140,949	
2005	130,969	
2004	117,868	
2003	106,403	
2002	94,374	
2001	84,649	
2000	77,848	
1999	74,750	
1998	60,983	
1997	55,602	
1996	54,240	
1995	50,592	
1994		
1993		
1992		
1991		
1990		

Please note:

The GPCD calculation is very sensitive to errors in population. Please review the guidance document ***Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*** for additional information and direction in order to acquire the most accurate population estimates.

Population data are only required for years that contain water use data.

If you see "<--Enter Population" this indicates you have entered water use data for this timeframe but not population. Please add population data to enable a calculation of GPCD and associated targets.

77,731 Average population, for the baseline period selected, in the GPCD Matrix worksheet

2004															0.000
2003															0.000
2002															0.000
2001															0.000
2000															0.000
1999															0.000
1998															0.000
1997															0.000
1996															0.000
1995															0.000
1994															0.000
1993															0.000
1992															0.000
1991															0.000
1990															0.000

Gross Water Use

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL TOTAL USAGE
2010	3,083.357	3,083.357	3,083.357	3,083.357	3,083.357	3,083.357	3,083.357	3,083.357	3,083.357	3,083.357	3,083.357	3,083.357	37,000.280
2009	3,333.683	3,333.683	3,333.683	3,333.683	3,333.683	3,333.683	3,333.683	3,333.683	3,333.683	3,333.683	3,333.683	3,333.683	40,004.200
2008	3,452.597	3,452.597	3,452.597	3,452.597	3,452.597	3,452.597	3,452.597	3,452.597	3,452.597	3,452.597	3,452.597	3,452.597	41,431.160
2007	3,324.740	3,324.740	3,324.740	3,324.740	3,324.740	3,324.740	3,324.740	3,324.740	3,324.740	3,324.740	3,324.740	3,324.740	39,896.880
2006	3,076.403	3,076.403	3,076.403	3,076.403	3,076.403	3,076.403	3,076.403	3,076.403	3,076.403	3,076.403	3,076.403	3,076.403	36,916.840
2005	3,107.743	3,107.743	3,107.743	3,107.743	3,107.743	3,107.743	3,107.743	3,107.743	3,107.743	3,107.743	3,107.743	3,107.743	37,292.920
2004	2,876.427	2,876.427	2,876.427	2,876.427	2,876.427	2,876.427	2,876.427	2,876.427	2,876.427	2,876.427	2,876.427	2,876.427	34,517.120
2003	2,469.523	2,469.523	2,469.523	2,469.523	2,469.523	2,469.523	2,469.523	2,469.523	2,469.523	2,469.523	2,469.523	2,469.523	29,634.280
2002	2,437.047	2,437.047	2,437.047	2,437.047	2,437.047	2,437.047	2,437.047	2,437.047	2,437.047	2,437.047	2,437.047	2,437.047	29,244.560
2001	2,329.290	2,329.290	2,329.290	2,329.290	2,329.290	2,329.290	2,329.290	2,329.290	2,329.290	2,329.290	2,329.290	2,329.290	27,951.480
2000	2,215.800	2,215.800	2,215.800	2,215.800	2,215.800	2,215.800	2,215.800	2,215.800	2,215.800	2,215.800	2,215.800	2,215.800	26,589.600
1999	1,988.750	1,988.750	1,988.750	1,988.750	1,988.750	1,988.750	1,988.750	1,988.750	1,988.750	1,988.750	1,988.750	1,988.750	23,865.000
1998	1,556.530	1,556.530	1,556.530	1,556.530	1,556.530	1,556.530	1,556.530	1,556.530	1,556.530	1,556.530	1,556.530	1,556.530	18,678.360
1997	1,706.250	1,706.250	1,706.250	1,706.250	1,706.250	1,706.250	1,706.250	1,706.250	1,706.250	1,706.250	1,706.250	1,706.250	20,475.000
1996	1,668.413	1,668.413	1,668.413	1,668.413	1,668.413	1,668.413	1,668.413	1,668.413	1,668.413	1,668.413	1,668.413	1,668.413	20,020.960
1995	1,315.937	1,315.937	1,315.937	1,315.937	1,315.937	1,315.937	1,315.937	1,315.937	1,315.937	1,315.937	1,315.937	1,315.937	15,791.240
1994	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1993	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1991	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1990	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

2002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1999	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1998	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1997	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1996	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1995	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1994	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1993	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1991	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1990	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

2002		0.000
2001		0.000
2000		0.000
1999		0.000
1998		0.000
1997		0.000
1996		0.000
1995		0.000
1994		0.000
1993		0.000
1992		0.000
1991		0.000
1990		0.000

Water Delivered for Agricultural Use (values entered will be subtracted from base daily GPCD water use)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010												
2009												
2008												
2007												
2006												
2005												
2004												
2003												
2002												
2001												
2000												
1999												
1998												
1997												
1996												
1995												
1994												
1993												
1992												
1991												
1990												

ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000

Industrial Process Water Delivered (values entered will be subtracted from base daily GPCD water use and baseline CII GPCD)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010												
2009												
2008												
2007												
2006												
2005												

ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000

1999												
1998												
1997												
1996												
1995												
1994												
1993												
1992												
1991												
1990												

		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000

Change in Distribution System Storage

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010												
2009												
2008												
2007												
2006												
2005												
2004												
2003												
2002												
2001												
2000												
1999												
1998												
1997												
1996												
1995												
1994												
1993												
1992												
1991												
1990												

Year	ANNUAL CHANGE IN STORAGE	CALCULATED Net Change in Storage
2010		0.000
2009		0.000
2008		0.000
2007		0.000
2006		0.000
2005		0.000
2004		0.000
2003		0.000
2002		0.000
2001		0.000
2000		0.000
1999		0.000
1998		0.000
1997		0.000
1996		0.000
1995		0.000
1994		0.000
1993		0.000
1992		0.000
1991		0.000
1990		0.000

Indirect Recycled Water Use

(use this calculator to help generate values)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Year	ANNUAL TOTAL (INPUT)	CALCULATED TOTAL
2010		0.000
2009		0.000
2008		0.000
2007		0.000
2006		0.000
2005		0.000
2004		0.000
2003		0.000

1997													1,573.000	0%	1,573.000
1996													2,420.000	0%	2,420.000
1995													1,537.000	0%	1,537.000
1994															0.000
1993															0.000
1992															0.000
1991															0.000
1990															0.000

Volume of Water Exported to Another Water Utility or Jurisdiction

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2010													3,487.000	0%	3,487.000
2009													2,870.000	0%	2,870.000
2008													3,219.000	0%	3,219.000
2007													3,420.000	0%	3,420.000
2006													3,304.000	0%	3,304.000
2005													3,018.000	0%	3,018.000
2004													2,638.000	0%	2,638.000
2003													1,973.000	0%	1,973.000
2002													1,707.000	0%	1,707.000
2001													900.000	0%	900.000
2000													571.000	0%	571.000
1999													347.000	0%	347.000
1998													160.000	0%	160.000
1997															0.000
1996															0.000
1995															0.000
1994															0.000
1993															0.000
1992															0.000
1991															0.000
1990															0.000

Recycled Water Delivered

NOTE: Only 2008 recycled water delivered is required; other years are optional

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2010															0.000
2009															0.000
2008													903.000	0%	903.000
2007															0.000
2006															0.000
2005															0.000
2004															0.000
2003															0.000
2002															0.000
2001															0.000
2000															0.000

California Urban Water Conservation Council

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Main Data

Input cells:
Calculated cells:

Data Entry in acre-feet unless otherwise noted

Volume from Own Sources

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2010													37,307.000	4%	38,799.280
2009													39,655.000	4%	41,241.200
2008													39,479.000	4%	41,058.160
2007													36,222.000	4%	37,670.880
2006													34,321.000	4%	35,693.840
2005													33,048.000	4%	34,369.920
2004													31,103.000	4%	32,347.120
2003													25,657.000	4%	26,683.280
2002													24,789.000	4%	25,780.560
2001													23,612.000	4%	24,556.480
2000													23,940.000	4%	24,897.600
1999													21,375.000	4%	22,230.000
1998													16,309.000	4%	16,961.360
1997													18,175.000	4%	18,902.000
1996													16,924.000	4%	17,600.960
1995													13,706.000	4%	14,254.240
1994															0.000
1993															0.000
1992															0.000
1991															0.000
1990															0.000

Volume from Imported Sources

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2010													1,688.000	0%	1,688.000
2009													1,633.000	0%	1,633.000
2008													3,592.000	0%	3,592.000
2007													5,646.000	0%	5,646.000
2006													4,527.000	0%	4,527.000
2005													5,941.000	0%	5,941.000
2004													4,808.000	0%	4,808.000
2003													4,924.000	0%	4,924.000
2002													5,171.000	0%	5,171.000
2001													4,295.000	0%	4,295.000
2000													2,263.000	0%	2,263.000
1999													1,982.000	0%	1,982.000
1998													1,877.000	0%	1,877.000

2009 Laguna Vineyard

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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? Calendar

BMP 1.3 Metering

Number of unmetered accounts in Base Year: 7,156

BMP 3.1 & BMP 3.2 & BMP 3.3 Residential Programs

Number of Single Family Customers in Base Year: 44,438

Number of Multi Family Units in Base Year: 4,743

BMP 3.4 WaterSense Specification (WSS) Toilets

Number of Single Family Housing Units constructed prior to 1992: 7408

Number of Multi Family Units prior to 1992: 240

Average number of toilets per single family household: 2.06

Average number of toilets per multi family household: 1.26

Five year average resale rate of single family households: 4.91%

Five-year average resale rate of multi family households: 10.40%

Average number of persons per single family household: 3.075

Average number of persons per multi family household: 2.17

BMP 4.0 & BMP 5.0 CII & Landscape

Total water use (in Acre Feet) by CII accounts: 3699

Number of accounts with dedicated irrigation meters: 609

Number of CII accounts without meters or with Mixed Use Meters: 748

Number of CII accounts: 927

Comments: Number of accounts with dedicated irrigation meters is 609 and includes recycled water accounts.

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

2009

BMP 1.1 Operations Practices

Comments:

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name	Gail
Last Name	Tauchus
Title	Water Conservation Coordinator
Phone	916-875-4217
Email	tauchusg@saccounty.net

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

Water Waste Prevention

Water Agency shall do one or more of the following:

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

To document this BMP, provide the following:

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

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

File name(s): Email files to natalie@cuwcc.org WaterConsMeas11.docx, Title3.pdf, WaterWasteProhibition.pdf

Web address(s) URL: comma-separated list

Enter a description: SCWA satisfies the water waste BMP by enforcing its' ordinance prohibiting water waster (ordinance attached). In addition, SCWA has been collaborating with Sacramento region water purveyors representatives to create a Sacramento County landscape ordinance.

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

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:

SCWA_UPDATE_Laguna-Vineyard_5031_2009_BMP_1-2_WaterAudit2009-Zone40.xlsx

Water Audit Validity Score from AWWA spreadsheet: 56

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

The crew visually inspects the distribution system for unreported leaks daily. Depending on severity, leaks may be repaired immediately or a work order is created to make the repair at a future date.

Annual Summary Information

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

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

BMP 1.3 Metering with Commodity

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? (Yes) No

If YES, has your agency completed a meter retrofit plan? (Yes) No

Enter the number of previously unmetered accounts fitted with meters during reporting year: 137

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	35,975	35,975	35,975	Bi-monthly	0
Multi-Family	211	211	211	Bi-monthly	0
Commericial	1,051	1,051	1,051	Bi-monthly	0
Industrial	20	20	20	Bi-monthly	0
Institutional	72	72	72	Bi-monthly	0
Dedicated Irrigatic	785	785	785	Bi-monthly	0
Other				Other	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 759

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

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

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted: 11/05/2007

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

File name(s): Email files to natalie@cuwcc.org BarriersBMP4.doc.

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

General Comments about BMP 1.3:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

2009

Link to FAQs

View MOU

BMP 1.4 Retail Conservation Pricing

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

Implementation (Water Rate Structure)

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

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Other	Single-Family	7,519,818.00	1,229,208.00
Uniform	Multi-Family	204,381.00	0.00
Uniform	Commercial	573,004.00	1,103,716.00
Uniform	Industrial	280,899.00	463.00
Uniform	Institutional	191,429.00	1,337.00
Uniform	Dedicated Irrigation	1,367,741.00	150,591.00
Select a Rate Struc	Other		

Implementation Option (Conservation Pricing Option)

- (●) Use Annual Revenue As Reported
- ( ) Use Canadian Water & Wastewater Association Rate Design Model

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

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service ( ) Yes (●) No

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

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Comments:

The residential single family rate structure for metered customers is uniform with an

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

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): Regional Water Authority

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	Newsletter articles on conservation
202	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
1	Website
	Select a public contact
	Select a public contact

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? (•) Yes ( ) No

Enter the name(s) of the wholesale agency (comma delimited): Regional Water Authority

OR Retail Agency (Contacts with the Media)

Media Contacts List

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

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
1		Articles or stories resulting from outreach
1		News releases
1		Television contacts
7		Newspaper contacts
1		Radio contacts
		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)

Regional Water Authority helps with this BMP, but does not assume responsibility for it. They do website updates for the RWA website and many other outreach activities.

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address): http://www.msa2.saccounty.net/dwr/scwa/Pages/default_03182009.aspx

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

Website redesign, Spring watering tips added, clarification on qualifications for toilet rebate, add link for MaP testing for toilet rebate program, summer watering schedule update, add meter installation webpage, add water waste data entry form.

Did at least one Website Update take place during each quarter of the reporting year? ⊙ Yes ○ No

Public Outreach Annual Budget

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

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	
Half of RWA du	$20,406		☐		
			☐		
			☐		
			☐		
			☐		
			☐		

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

2009

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

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

Expense Category	Expense Amount	Personnel Costs Included?	
Half Regional Water Authority Dues	$20,406	☐	If yes, check the check box.
		☐	
		☐	
		☐	

Additional Public Information Program

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

Were there additional Public Outreach efforts? ⊙ Yes ○ No

Public Outreach Additional Information

Public Information Programs	Importance	
	$1	
	$1	
	$1	

Social Marketing Programs

Branding

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

Describe the brand, theme or mascot.

The Regional Water Efficiency Program uses one overall brand image "Be Water Smart".

Market Research

Have you sponsored or participated in market research to refine your message? ⊙ Yes ○ No

Market Research Topic	RWA performed market research to determine attitudes and behaviors to determine messages and methods of communication that are most effective for our customers regarding water conservation.
Brand Message	"Be Water Smart": use water wisely.
Brand Mission Statement	The "Be Water Smart" brand encourages residents to use water efficiently at home.

Community Committees

Do you have a community conservation committee? ⊙ Yes ○ No

Enter the names of the community committees: RWEPC Public Outreach Subcommittee.

Training

Training Type	# of Trainings	# of Attendees	Description of Other

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name	Type of Program
☐ CLCA?	
☐ Green Building Programs?	
☐ Master Gardeners?	
☐ Cooperative Extension?	
☐ Local Colleges?	
☐ Other	

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

Partnering Programs - Newsletters

Number of newsletters per year: 2

Number of customers per year	100,000

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities	SCWA is a member of the Regional Water Authority. Public outreach and education programs conducted by RWA are described in the attached document: RWAOutreachSummary0910Final.pdf.

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new	Donna Dean Water Conservation Garden is a water efficient garden located in a high traffic area near a junior high and high school. The garden will go through a major renovation in 2011.

Landscape contests or awards

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

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

2009

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is 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: Regional Water Authority

☑ Materials meet state education framework requirements?

Description of Materials: Sacramento Bee - Be Water Smart student supplement, teacher's guide, electronic edition of Sacramento Bee, California Waterways map from DWR, Mr. Leaky booklets for grades K-4.

☑ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students: Same as above

Number of students reached: 518

☑ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students: Same as above

Number of Distribution: 173

Annual budget for school education program: $20,405.00

Description of all other water supplier education programs:

School Program Activities

Classroom presentations:

Number of presentations: 2 Number of attendees: 60

Large group assemblies:

Number of presentations: 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

Number distributed

Staffing children's booths at events & festivals:

Number of booths: 1

Number of attendees: 300

Water conservation contests such as poster and photo:

Description

Number distributed

Offer monetary awards/funding or scholarships to students:

Number Offered

Total Funding

Teacher training workshops:

Number of presentations

Number of attendees

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips

Number of participants

College internships in water conservation offered:

Number of internships

Total funding

Career fairs/workshops:

Number of presentations

Number of attendees

Additional program(s) supported by agency but not mentioned above:

Description

Number of events (if applicable)

Number of participants

Total reporting period budget expenditures for school education programs (include all agency costs): $20,405.00

Comments

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

Water Uses 2009

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	35,975.00	18,312.00	7,012.00	4,283.00	
Multi-Family	211.00	554.00	0.00	0.00	
Commercial	1,051.00	1,987.00	0.00	0.00	
Industrial	20.00	324.00	0.00	0.00	
Institutional	72.00	517.00	1.00	9.00	
Dedicated Irrigation	540.00	2,509.00	0.00	0.00	
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other	0.00		0.00	0.00	Discharges to sewer
Other	0.00		0.00	0.00	Discharge to storm drain
Other	0.00		0.00	0.00	Construction water
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

Water Uses 2009

Non-Potable Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Dedicated Irrigation	245.00	904.00	0.00	0.00	Recycled water and backup raw water
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Non-Potable Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

WATER SOURCES

2009

Service Area Population: 143,332

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
All wells	34,248.00	Groundwater	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Franklin Booster	857.00	Surface	
Valve at WT01	553.00	Surface	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?
Sheldon Turnout	15.00	Elk Grove Water Service
Consumer use reported	2,641.00	Elk Grove Water Service

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

2009

Service Area Population: 143,332

Non- Potable Water

If you select Other for type, enter

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
SRCSD water reclamation facility	672.00	Recycled Non Potable	
Backup well	232.00	Raw Water	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,

2009 Arden Park Vista

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

Base Year Data

Link to FAQs

Reporting Unit Base Year

What is your reporting period? Calendar

Base Year 2008

BMP 1.3 Metering

Number of unmetered accounts in Base Year 3,296

BMP 3.1 & BMP 3.2 & BMP 3.3 Residential Programs

Number of Single Family Customers in Base Year 2,941

Number of Multi Family Units in Base Year 742

BMP 3.4 WaterSense Specification (WSS) Toilets

Number of Single Family Housing Units constructed prior to 1992 2768

Number of Multi Family Units prior to 1992 742

Average number of toilets per single family household 2.06

Average number of toilets per multi family household 1.26

Five year average resale rate of single family households 4.91%

Five-year average resale rate of multi family households 10.40%

Average number of persons per single family household 3.075

Average number of persons per multi family household 2.17

BMP 4.0 & BMP 5.0 CII & Landscape

Total water use (in Acre Feet) by CII accounts 2,136

Number of accounts with dedicated irrigation meters 20

Number of CII accounts without meters or with Mixed Use Meters 412

Number of CII accounts 434

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

2009

BMP 1.1 Operations Practices

Comments:

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name	Gail
Last Name	Tauchus
Title	Water Conservation Coordinator
Phone	916-875-4217
Email	tauchusg@saccounty.net

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

Water Waste Prevention

Water Agency shall do one or more of the following:

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

To document this BMP, provide the following:

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

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

File name(s): Email files to natalie@cuwcc.org WaterConsMeas11.docx, Title3.pdf, WaterWasteProhibition.pdf

Web address(s) URL: comma-separated list

Enter a description: SCWA satisfies the water waste BMP by enforcing it's ordinance prohibiting water waste (ordinance attached). In addition, SCWA has been collaborating with Sacramento region water purveyors representatives to create a Sacramento County landscape ordinance.

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

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:

SCWA_Arden Park Vista_5030_2009_BMP_1-2_WaterAudit2009-NonZone 40.xlsx

Water Audit Validity Score from AWWA spreadsheet: 52

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

The crew visually inspects the distribution system for unreported leaks daily. Depending on severity, leaks may be repaired immediately or a work order is created to make the repair at a future date.

Annual Summary Information

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

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

BMP 1.3 Metering with Commodity

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? Yes No

If YES, has your agency completed a meter retrofit plan? Yes No

Enter the number of previously unmetered accounts fitted with meters during reporting year: 0

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	4	4	4	Bi-monthly	0
Multi-Family	0	0	0	Bi-monthly	0
Commericial	167	167	167	Bi-monthly	0
Institutional	1	1	1	Bi-monthly	0
Industrial	7	7	7	Bi-monthly	0
Dedicated Irrigatic	33	33	33	Bi-monthly	0
Other				Other	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 85

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

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

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted: 11/05/2007

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

File name(s): Email files to natalie@cuwcc.org BarriersBMP4.doc

Web address(s) URL: comma-separated list

General Comments about BMP 1.3:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

2009

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)
Other	Single-Family	2,104.00	689,795.00
Uniform	Multi-Family	0.00	156,124.00
Uniform	Commercial	154,591.00	219,741.00
Uniform	Industrial	76,902.00	106,533.00
Uniform	Institutional	4,596.00	12,215.00
Uniform	Dedicated Irrigation	68,804.00	5,332.00
Select a Rate Struc	Other		

Implementation Option (Conservation Pricing Option)

- (●) Use Annual Revenue As Reported
- ( ) Use Canadian Water & Wastewater Association Rate Design Model

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

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service ( ) Yes (●) No

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

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Comments:

The residential single family rate structure for metered customers is uniform with an

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

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): Regional Water Authority

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	Newsletter articles on conservation
202	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
1	Website
	Select a public contact
	Select a public contact

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? (•) Yes (•) No

Enter the name(s) of the wholesale agency (comma delimited): Regional Water Authority

OR Retail Agency (Contacts with the Media)

Media Contacts List

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

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
1		Articles or stories resulting from outreach
1		News releases
1		Television contacts
7		Newspaper contacts
1		Radio contacts
		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)

Regional Water Authority helps with this BMP, but does not assume responsibility for it. They do website updates for the RWA website and many other outreach activities.

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address): http://www.msa2.saccounty.net/dwr/scwa/Pages/default_03182009.aspx

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

Website redesign, Spring watering tips added, clarification on qualifications for toilet rebate, add link for MaP testing for toilet rebate program, summer watering schedule update, add meter installation webpage, add water waste data entry form.

Did at least one Website Update take place during each quarter of the reporting year? ⊙Yes ○No

Public Outreach Annual Budget

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

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments
Half of RWA du	$20,406			

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

2009

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

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

Expense Category	Expense Amount	Personnel Costs Included?
Half Regional Water Authority Dues	$20,408	☐ If yes, check the check box.
		☐
		☐
		☐

Additional Public Information Program

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

Were there additional Public Outreach efforts? ⊙ Yes ○ No

Public Outreach Additional Information

Public Information Programs	Importance
	$1
	$1
	$1

Social Marketing Programs

Branding

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

Describe the brand, theme or mascot: The Regional Water Efficiency Program uses one overall brand image "Be Water Smart".

Market Research

Have you sponsored or participated in market research to refine your message? ⊙ Yes ○ No

Market Research Topic	RWA performed market research to determine attitudes and behaviors to determine messages and methods of communication that are most effective for our customers regarding water conservation.
Brand Message	"Be Water Smart": use water wisely.
Brand Mission Statement	The "Be Water Smart" brand encourages residents to use water efficiently at home.

Community Committees

Do you have a community conservation committee? (•) Yes ( ) No

Enter the names of the community committees: RWEPC Public Outreach Subcommittee.

Training

Training Type	# of Trainings	# of Attendees	Description of Other

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name	Type of Program
[ ] CLCA?	
[ ] Green Building Programs?	
[ ] Master Gardeners?	
[ ] Cooperative Extension?	
[ ] Local Colleges?	
[ ] Other	

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

Partnering Programs - Newsletters

Number of newsletters per year: 2

Number of customers per year: 100,000

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities

SCWA is a member of the Regional Water Authority. Public outreach and education programs conducted by RWA are described in the attached document: RWAOutreachSummary0910Final.pdf.

Conservation Gardens

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

Donna Dean Water Conservation Garden is a water efficient garden located in a high traffic area near and junior high and high school. The garden will go through a major renovation in 2011.

Landscape contests or awards

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

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

2009

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is 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: Regional Water Authority

☑ Materials meet state education framework requirements?

Description of Materials: Sacramento Bee's Be Water Smart program student supplement, teacher's guide, electronic edition of the Sacramento Bee, California Waterways Map from DWR, Mr. Leaky books for grades K-4.

☑ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students: Same as above

Number of students reached: 518

☑ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students: Same as above

Number of Distribution: 173

Annual budget for school education program: $20,405.50

Description of all other water supplier education programs:

School Program Activities

Classroom presentations:

Number of presentations: Number of attendees:

Large group assemblies:

Number of presentations: 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

Number distributed

Staffing children's booths at events & festivals:

Number of booths

Number of attendees

Water conservation contests such as poster and photo:

Description

Number distributed

Offer monetary awards/funding or scholarships to students:

Number Offered

Total Funding

Teacher training workshops:

Number of presentations

Number of attendees

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips

Number of participants

College internships in water conservation offered:

Number of internships

Total funding

Career fairs/workshops:

Number of presentations

Number of attendees

Additional program(s) supported by agency but not mentioned above:

Description

Number of events (if applicable)

Number of participants

Total reporting period budget expenditures for school education programs (include all agency costs): 20405.50

Comments

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

WATER SOURCES

2009

Service Area Population: 9749

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
All groundwater wells	5,407.00	Groundwater	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

Water Uses 2009

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	4.00	5.00	2,928.00	1,789.00	
Multi-Family	0.00	0.00	35.00	110.00	
Commercial	166.00	421.00	243.00	739.00	
Institutional	1.00	12.00	13.00	112.00	
Industrial	8.00	206.00	1.00	31.00	
Dedicated Irrigation	33.00	190.00	3.00	17.00	
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

2009

Service Area Population: 9749

Non- Potable Water

If you select Other for type, enter

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
No non-potable water in this area	0.00	Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

Water Uses 2009

Non-Potable Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					No non-potable water in this area
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Non-Potable Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

2009 Wholesale

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Wholesale

Reporting unit number: 505/1

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

Base Year Data

Link to FAQs

Reporting Unit Base Year

What is your reporting period? Calendar

Base Year 2008

BMP 1.3 Metering

Number of unmetered accounts in Base Year

BMP 3.1 & BMP 3.2 & BMP 3.3 Residential Programs

Number of Single Family Customers in Base Year

Number of Multi Family Units in Base Year

BMP 3.4 WaterSense Specification (WSS) Toilets

Number of Single Family Housing Units constructed prior to 1992

Number of Multi Family Units prior to 1992

Average number of toilets per single family household

Average number of toilets per multi family household

Five year average resale rate of single family households

Five-year average resale rate of multi family households

Average number of persons per single family household

Average number of persons per multi family household

BMP 4.0 & BMP 5.0 CII & Landscape

Total water use (in Acre Feet) by CII accounts

Number of accounts with dedicated irrigation meters

Number of CII accounts without meters or with Mixed Use Meters

Number of CII accounts

Comments:

SCWA wholesales water to Elk Grove Water Service, but does not manage its' distribution system.

d. Water Shortage Allocation

If a water shortage allocation plan or policy has been developed, provide the date of adoption and electronic link to the document or hardcopy.

Date Format: 05/15/2010

Enter the file name of the document.
Send it to natalie@cuwcc.org

e. Non-signatory Reporting

Receipt of reports

Enter the file name of the document.
Send it to natalie@cuwcc.org

f. Encourage CUWCC Membership

List of efforts to recruit retailers and amount of dues paid on behalf of retail agencies.

Enter the file name of the document.
Send it to natalie@cuwcc.org

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Wholesale

Reporting unit number: 5,051

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC BMP Report Forms

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

View MOU

2009 BMP 1.1 Operation Practices for Wholesalers

Wholesale agency assistance programs

a. Financial Investments and Building Partnerships

List the total monetary amount of financial incentives and equivalent resources provided to retail members to assist with, or to otherwise support, implementation of BMPs, subtotaled by BMP. List regional partnerships developed to encourage resource conservation and maximize economies of scale benefits.

BMP Section and/or Sub-section Name	Monetary Amount for Financial Incentives	Monetary Amount for Equivalent Resources
BMP 3 - residential water audits	$406.50	
BMP 4 - CII water audit	$974.67	
BMP 5 - Large landscape water audit	$2,937.83	
BMP 2.2 - assist with school presentation	$181.18	

b. Technical Support

Supply a summary of types of technical support provided to retail agencies

SCWA provides technical support upon request from EGWS. Support consists of program implementation advise, referring water waste calls back and forth, and assisting with school presentations and outreach events.

c. Program Management

If your wholesale agency has assumed reporting responsibility, list the programs managed on behalf of the retail agencies.

Retail Agency Name	Program Name
Elk Grove Water Service	Water wise house and business calls

Questions? office@cuwcc.org

d. Water Shortage Allocation

If a water shortage allocation plan or policy has been developed, provide the date of adoption and electronic link to the document or hardcopy.

04/30/1991

Date Format: 05/15/2010

SCWA_Wholesale_5051_2009_BMP_1-1_Wtrshortplan.pdf

Enter the file name of the document.

Send it to natalie@cuwcc.org

e. Non-signatory Reporting

Receipt of reports

SCWA retailers are CUWCC members

Enter the file name of the document.

Send it to natalie@cuwcc.org

f. Encourage CUWCC Membership

List of efforts to recruit retailers and amount of dues paid on behalf of retail agencies.

Encouraged EGWS to join and they joined 11-2009

Enter the file name of the document.

Send it to natalie@cuwcc.org

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Wholesale

Reporting unit number: 5051

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

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:

SCWA_UPDATE_Laguna-Vineyard_5031_2009_BMP_1-2_WaterAudit2009-Zone40.xlsx

Water Audit Validity Score from AWWA spreadsheet: 56

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

The crew visually inspects the distribution system for unreported leaks daily. Depending on severity, leaks may be repaired immediately or a work order is created to make the repair at a future date.

Annual Summary Information

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

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Wholesale

Reporting unit number: 5051

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

BMP 1.3 Metering with Commodity

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? ○ Yes ◉ No

If YES, has your agency completed a meter retrofit plan? ◉ Yes ○ No

Enter the number of previously unmetered accounts fitted with meters during reporting year: 0

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
Other	4,088	4,088	4,088	Bi-monthly	6
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 0

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

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

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted

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

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

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

General Comments about BMP 1.3:

EGWS wholesale area is fully metered. They have 4,088 meters.

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Wholesale

Reporting unit number: 5051

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

WATER SOURCES

2009

Service Area Population:

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Sheldon Turnout	15.00	Groundwater	
Customer use reported	2,641.00	Groundwater	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Wholesale

Reporting unit number: 5051

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

2009

Service Area Population:

Non- Potable Water

If you select Other for type, enter

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
	0.00	Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,

2010 Laguna Vineyard

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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 1.1 Operations Practices

Comments:

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name	Gail
Last Name	Tauchus
Title	Water Conservation Coordinator
Phone	916-875-4217
Email	tauchusg@saccounty.net

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

Water Waste Prevention

Water Agency shall do one or more of the following:

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

To document this BMP, provide the following:

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

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

File name(s): Email files to natalie@cuwcc.org WaterConsMeas.docx, Title3.pdf, WaterWasteProhibition.pdf

Web address(s) URL: comma-separated list

Enter a description: SCWA satisfies the water waste BMP by enforcing its' ordinance prohibiting water waste (ordinance attached). In addition, SCWA has been collaborating with Sacramento region water purveyors representatives to create an updated Sacramento County landscape ordinance.

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gall

Last name: Tauchus

Email: tauchusg@saccounty.net

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

2010 BMP 1.2 Water Loss Control

AWWA Water Audit

Agency to complete a Water Audit & Balance Using The AWWA Software ⦿ Yes ○ No

Email to natalie@cuwcc.org - Worksheets (AWWA Water Audit). Enter the name of the file below:

WaterAudit2010 - Zone40.xlsx

Water Audit Validity Score from AWWA spreadsheet: 56

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

Per Wade Proctor, Water Distribution Manager, "In the course of crew's every day duties is to visually inspect the distribution system for unreported leaks. The crew leader will either contact their supervisor and advise of the severity o

Annual Summary Information

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

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

BMP 1.3 Metering with Commodity 2010

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? Yes No

If YES, has your agency completed a meter retrofit plan? Yes No

Enter the number of previously unmetered accounts fitted with meters during reporting year: 32

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	36,549	36,549	36,549	Bi-monthly	6
Multi-Family	212	212	212	Bi-monthly	6
Commericial	991	991	991	Bi-monthly	6
Industrial	20	20	20	Bi-monthly	6
Institutional	144	144	144	Bi-monthly	6
Dedicated Irrigatic	823	823	823	Bi-monthly	6
Other				Other	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 780

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

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

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted: 11/05/2007

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

File name(s): Email files to natalie@cuwcc.org BarriersBMP4.doc

Web address(s) URL: comma-separated list

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC 2010

Link to FAQs

View MOU

BMP 1.4 Retail Conservation Pricing

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

Implementation (Water Rate Structure)

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

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Other	Single-Family	7,958,153.00	1,361,961.00
Uniform	Multi-Family	228,748.00	0.00
Uniform	Commercial	580,234.00	919,438.00
Uniform	Industrial	287,054.00	771.00
Uniform	Institutional	189,534.00	1,504.00
Uniform	Dedicated Irrigation	1,385,712.00	138,334.00
Select a Rate Struc	Other		

Implementation Option (Conservation Pricing Option)

- (●) Use Annual Revenue As Reported
- ( ) Use Canadian Water & Wastewater Association Rate Design Model

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

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service ( ) Yes (●) No

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

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Comments:

The residential single family rate structure for metered customers is uniform with

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

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): Regional Water Authority

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
2	Newsletter articles on conservation
204	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
42	General water conservation information
	Select a public contact
	Select a public contact

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? (•) Yes ( ) No

Enter the name(s) of the wholesale agency (comma delimited): Regional Water Authority - Report attached - RWAOutreachSummary0910Final.pdf.

OR Retail Agency (Contacts with the Media)

Media Contacts List

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

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
4		News releases
3		Newspaper contacts
1		Articles or stories resulting from outreach
		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)

Regional Water Authority helps with this BMP, but does not assume responsibility for it. They do website updates for the RWA website and many other outreach activities.

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address): http://www.msa2.saccounty.net/dwr/scwa/Pages/default_03182009.aspx

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

In the 2010 calendar year, website updates included, Spring water conservation tips, text added and a link to Water Conservation Measures document, updated toilet rebate brochure to HET, and changed rebate program dates.

Did at least one Website Update take place during each quarter of the reporting year? ⊙ Yes ○ No

Public Outreach Annual Budget

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

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	
Half of RWA due	$20,406		☐		
			☐		
			☐		
			☐		
			☐		
			☐		

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

2010

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

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

Expense Category	Expense Amount	Personnel Costs Included?
Half of RWA dues	$20,406	☐ If yes, check the check box.
		☐
		☐
		☐

Additional Public Information Program

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

Were there additional Public Outreach efforts? ○ Yes ○ No

Public Outreach Additional Information

Public Information Programs	Importance
	$1
	$1
	$1

Social Marketing Programs

Branding

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

Describe the brand, theme or mascot.

The Regional Water Efficiency Program uses one overall brand image ("Be Water Smart") and a separate image for the current outdoor water efficiency campaign ("Blue Thumb").

Market Research

Have you sponsored or participated in market research to refine your message? ⊙ Yes ○ No

Market Research Topic	The Regional Water Efficiency Program conducted a statistically valid phone survey of 600 customers about water efficiency knowledge, attitudes and behaviors; also written/online surveys of participants in the Community-Based Social Marketing (CBSM) program Blue Thumb Neighbors.
Brand Message	"Be Water Smart": use water wisely/"Blue Thumb": use water efficiently outdoors
Brand Mission Statement	The "Be Water Smart" and "Blue Thumb" brands both encourage residents to use water efficiently at home. "Blue Thumb" focuses on water efficiency in the landscape where most water use and water waste, occurs.

Community Committees

Do you have a community conservation committee? ⊙ Yes ○ No

Enter the names of the community committees: Regional Water Efficiency Program Public Outreach Committee

Training

Training Type	# of Trainings	# of Attendees	Description of Other

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name	Type of Program
☐ CLCA?	
☐ Green Building Programs?	
☐ Master Gardeners?	
☐ Cooperative Extension?	
☐ Local Colleges?	
☐ Other	

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

Partnering Programs - Newsletters

Number of newsletters per year

Number of customers per year

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities

SCWA is a member of the Regional Water Authority. Public outreach and education programs conducted by the RWA are described in the attached document: RWAOutreachSummary0910.pdf.

Conservation Gardens

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

Donna Dean Water Conservation Garden is a water efficient garden located in a high traffic area near a junior high and high school. The garden will go through a major renovation in 2011.

Landscape contests or awards

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

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

2010

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is 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: Regional Water Authority

☑ Materials meet state education framework requirements?

Description of Materials: Sacramento Bee - Be Water Smart student supplement, teacher's guide, electronic edition of the Sacramento Bee, California Waterways map from DWR, Mr. Leaky booklets for grades K - 4.

☑ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students: Same as above

Number of students reached: 681

☑ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students: Same as above

Number of Distribution: 176

Annual budget for school education program: $20,405.00

Description of all other water supplier education programs:

School Program Activities

Classroom presentations:

Number of presentations: 3 Number of attendees:

Large group assemblies:

Number of presentations: 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

Number distributed

Staffing children's booths at events & festivals:

Number of booths

Number of attendees

Water conservation contests such as poster and photo:

Description

Number distributed

Offer monetary awards/funding or scholarships to students:

Number Offered

Total Funding

Teacher training workshops:

Number of presentations

Number of attendees

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips

Number of participants

College internships in water conservation offered:

Number of internships

Total funding

Career fairs/workshops:

Number of presentations

Number of attendees

Additional program(s) supported by agency but not mentioned above:

Description: Attended Be Water Smart student award presentation at Joseph Sims Elementary. Our student won an award for best PSA!

Number of events (if applicable): 1

Number of participants: 30

Total reporting period budget expenditures for school education programs (include all agency costs): 20405

Comments

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

WATER SOURCES

2010

Service Area Population: 144676

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
All wells	32,168.00	Groundwater	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Franklin Booster	1,473.00	Surface	
Valve at WT01	23.00	Surface	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?
Sheldon Turnout	782.00	Elk Grove Water Service
Customer use reported	2,501.68	Elk Grove Water Service

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

2010

Service Area Population: 144676

Non- Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	If you select Other for type, enter Water Supply Description
SRCSD water reclamation facility	633.00	Recycled Non Potable	
Backup well	160.00	Raw Water	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

Water Uses 2010

Non-Potable Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Dedicated Irrigation	255.00	793.00	0.00	0.00	Recycled water and backup raw water
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Non-Potable Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Laguna/Vineyard

Reporting unit number: 5031

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

Water Uses 2010

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	36,549.00	17,054.00	6,981.00	3,909.00	
Multi-Family	212.00	584.00	0.00	0.00	
Commercial	991.00	1,856.00	0.00	0.00	
Institutional	144.00	471.00	1.00	4.00	
Industrial	20.00	337.00	0.00	0.00	
Dedicated Irrigation	568.00	2,319.00	0.00	0.00	
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other	0.00		0.00	0.00	Discharge to sewer
Other	0.00		0.00	0.00	Discharge to storm drain
Other	0.00		0.00	0.00	Construction water
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

2010 Arden Park Vista

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

2010

BMP 1.1 Operations Practices

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Comments:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name	Gail
Last Name	Tauchus
Title	Water Conservation Coordinator
Phone	916-875-4217
Email	tauchusg@saccounty.net

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

Water Waste Prevention

Water Agency shall do one or more of the following:

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

To document this BMP, provide the following:

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

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

File name(s): Email files to natalie@cuwcc.org WaterConsMeas11.docx, Title3.pdf, WaterWasteProhibition.pdf

Web address(s) URL: comma-separated list

Enter a description: SCWA satisfies water waste BMP by enforcing its' ordinance prohibiting water waste (ordinance attached). In addition, SCWA has been collaborating with Sacramento region water purveyors representatives to create a Sacramento County landscape ordinance.

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

View MOU

2010 BMP 1.2 Water Loss Control

AWWA Water Audit

Agency to complete a Water Audit & Balance Using The AWWA Software ⦿ Yes ○ No

Email to natalie@cuwcc.org - Worksheets (AWWA Water Audit). Enter the name of the file below:

WaterAudit2010 - NonZone40.xlsx

Water Audit Validity Score from AWWA spreadsheet: 52

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

Per Wade Proctor, Water Distribution Manager, "In the course of crew's every day duties is to visually inspect the distribution system for unreported leaks. The crew leader will either contact their supervisor and advise of the severity o

Annual Summary Information

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

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

BMP 1.3 Metering with Commodity 2010

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? (•) Yes ( ) No

If YES, has your agency completed a meter retrofit plan? (•) Yes ( ) No

Enter the number of previously unmetered accounts fitted with meters during reporting year: 1

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	4	4	4	Bi-monthly	0
Multi-Family	0	0	0	Bi-monthly	0
Commericial	164	164	164	Bi-monthly	0
Industrial	7	7	7	Bi-monthly	0
Institutional	7	7	7	Bi-monthly	0
Dedicated Irrigatic	34	34	34	Bi-monthly	0
Other				Other	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 105

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

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

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted: 11/05/2007

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

File name(s): Email files to natalie@cuwcc.org BarriersBMP4.doc

Web address(s) URL: comma-separated list

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

2010

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)
Other	Single-Family	3,052.00	777,906.00
Uniform	Multi-Family	0.00	179,361.00
Uniform	Commercial	164,060.00	205,275.00
Uniform	Industrial	72,662.00	119,465.00
Uniform	Institutional	5,128.00	13,609.00
Uniform	Dedicated Irrigation	62,665.00	6,288.00
Select a Rate Struc	Other		

Implementation Option (Conservation Pricing Option)

- (●) Use Annual Revenue As Reported
- ( ) Use Canadian Water & Wastewater Association Rate Design Model

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

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service ( ) Yes (●) No

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

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Comments:

The residential single family rate structure for metered customers is uniform with

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

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): Regional Water Authority

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
2	Newsletter articles on conservation
204	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
42	General water conservation information
	Select a public contact
	Select a public contact

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? (•) Yes (•) No

Enter the name(s) of the wholesale agency (comma delimited): Regional Water Authority - report attached - RWAOutreachSummary0910.pdf.

OR Retail Agency (Contacts with the Media)

Media Contacts List

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

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
4		News releases
3		Newspaper contacts
1		Articles or stories resulting from outreach
		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)

Regional Water Authority helps with this BMP, but does not assume responsibility for it. They do website updates for the RWA website and many other outreach activities.

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address): http://www.msa2.saccounty.net/dwr/scwa/Pages/default_03182009.aspx

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

In the 2010 calendar year, website updates included, Spring water conservation tips, text added and a link to Water Conservation Measures document, updated toilet rebate brochure to HET, and changed rebate program dates.

Did at least one Website Update take place during each quarter of the reporting year? ⊙Yes ○No

Public Outreach Annual Budget

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

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	
Half of RWA due	$20,406				

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

2010

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

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

Expense Category	Expense Amount	Personnel Costs Included?	
Half of RWA dues	$20,406	☐	If yes, check the check box.
		☐	
		☐	
		☐	

Additional Public Information Program

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

Were there additional Public Outreach efforts? ○ Yes ○ No

Public Outreach Additional Information

Public Information Programs	Importance	
	$1	
	$1	
	$1	

Social Marketing Programs

Branding

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

Describe the brand, theme or mascot.

The Regional Water Efficiency Program uses one overall brand image ("Be Water Smart") and a separate image for the current outdoor water efficiency campaign ("Blue Thumb").

Market Research

Have you sponsored or participated in market research to refine your message? ⊙ Yes ○ No

Market Research Topic	The Regional Water Efficiency Program conducted a statistically valid phone survey of 600 customers about water efficiency knowledge, attitudes and behaviors; also written/online surveys of participants in the Community-Based Social Marketing (CBSM) program Blue Thumb neighbors.
Brand Message	"Be Water Smart": use water wisely/"Blue Thumb": use water efficiently outdoors
Brand Mission Statement	The "Be Water Smart" and "Blue Thumb" brands both encourage residents to use water efficiently at home. "Blue Thumb" focuses on water efficiency in the landscape where most of the water use and water waste occurs.

Community Committees

Do you have a community conservation committee? ⦿ Yes ○ No

Enter the names of the community committees: Regional Water Efficiency Program Public Outreach Committee

Training

Training Type	# of Trainings	# of Attendees	Description of Other

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name	Type of Program
☐ CLCA?	
☐ Green Building Programs?	
☐ Master Gardeners?	
☐ Cooperative Extension?	
☐ Local Colleges?	
☐ Other	

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

Partnering Programs - Newsletters

Number of newsletters per year

Number of customers per year

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities

SCWA is a member of the Regional Water Authority. Public outreach and education programs conducted by the RWA are described in the attached document: RWAOutreachSummary0910Final.pdf.

Conservation Gardens

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

Donna Dean Water Conservation Garden is a water efficient garden located in a high traffic area near a junior high and high school. The garden will go through a major renovation in 2011.

Landscape contests or awards

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

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

2010

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is 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: Regional Water Authority

☑ Materials meet state education framework requirements?

Description of Materials: Sacramento Bee - Be Water Smart student supplement, teacher's guide, electronic edition of the Sacramento Bee, California Waterways map from DWR, Mr. Leak booklets for grades K - 4.

☑ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students: Same as above

Number of students reached: 681

☑ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students: Same as above

Number of Distribution: 176

Annual budget for school education program: $20,405.00

Description of all other water supplier education programs: Presentation to 50 teachers at San Juan School District - see below.

School Program Activities

Classroom presentations:

Number of presentations: Number of attendees:

Large group assemblies:

Number of presentations: 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

Number distributed

Staffing children's booths at events & festivals:

Number of booths | Number of attendees

Water conservation contests such as poster and photo:

Description

Number distributed

Offer monetary awards/funding or scholarships to students:

Number Offered | Total Funding

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 | Number of participants

College internships in water conservation offered:

Number of internships | Total funding

Career fairs/workshops:

Number of presentations | Number of attendees

Additional program(s) supported by agency but not mentioned above:

Description

Number of events (if applicable) | Number of participants

Total reporting period budget expenditures for school education programs (include all agency costs): 20405

Comments

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

Water Uses 2010

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	4.00	6.00	2,954.00	1,654.00	
Multi-Family	0.00	0.00	37.00	122.00	
Commercial	164.00	371.00	285.00	774.00	
Institutional	7.00	13.00	13.00	51.00	
Industrial	7.00	228.00	1.00	20.00	
Dedicated Irrigation	34.00	156.00	5.00	24.00	
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

WATER SOURCES

2010

Service Area Population: 9788

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
All groundwater wells	5,139.00	Groundwater	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
No imported supply	0.00	Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?
No exported water	0.00	

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

Water Uses 2010

Non-Potable Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					No non-potable water in this area
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Non-Potable Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Arden Park Vista

Reporting unit number: 5030

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

2010

Service Area Population: 9788

Non- Potable Water

If you select Other for type, enter

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
No non-potable water in this area	0.00	Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,

2010 Wholesale

The fields in red are required.

CUWCC BMP Report Forms

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Wholesale

Reporting unit number: 5,051

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

View MOU

2010 BMP 1.1 Operation Practices for Wholesalers

Wholesale agency assistance programs

a. Financial Investments and Building Partnerships

List the total monetary amount of financial incentives and equivalent resources provided to retail members to assist with, or to otherwise support, implementation of BMPs, subtotaled by BMP. List regional partnerships developed to encourage resource conservation and maximize economies of scale benefits.

BMP Section and/or Sub-section Name	Monetary Amount for Financial Incentives	Monetary Amount for Equivalent Resources
BMP 3 - residential water audits	$1,835.67	
BMP 5 - large landscape audits	$226.00	
BMP 2.2 - assist w/school presentations	$306.27	

b. Technical Support

Supply a summary of types of technical support provided to retail agencies

SCWA provides technical support upon request from EGWS. Support consists of program implementation advise, referring water waste calls back and forth, and assisting with school outreach presentations and outreach events.

c. Program Management

If your wholesale agency has assumed reporting responsibility, list the programs managed on behalf of the retail agencies.

Retail Agency Name	Program Name
Elk Grove Water Service	Water wise house and business calls

d. Water Shortage Allocation

If a water shortage allocation plan or policy has been developed, provide the date of adoption and electronic link to the document or hardcopy.

04/30/1991

Date Format: 05/15/2010

SCWA_Wholesale_5051_2009_BMP_1-1_Wtrshortplan.pdf

Enter the file name of the document.

Send it to natalie@cuwcc.org

e. Non-signatory Reporting

Receipt of reports

SCWA retailers are CUWCC members

Enter the file name of the document.

Send it to natalie@cuwcc.org

f. Encourage CUWCC Membership

List of efforts to recruit retailers and amount of dues paid on behalf of retail agencies.

Encouraged EGWS to join - they joined 11-2009

Enter the file name of the document.

Send it to natalie@cuwcc.org

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Wholesale

Reporting unit number: 5051

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

2010 BMP 1.2 Water Loss Control

AWWA Water Audit

Agency to complete a Water Audit & Balance Using The AWWA Software ⦿ Yes ○ No

Email to natalie@cuwcc.org - Worksheets (AWWA Water Audit). Enter the name of the file below:

WaterAudit2010 - Zone40.xlsx

Water Audit Validity Score from AWWA spreadsheet: 56

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

The crew visually inspects the distribution system for unreported leaks daily. Depending on severity, leaks may be repaired immediately or a work order is created to make the repair at a future date.

Annual Summary Information

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

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)

Comments: WaterAudit2010-Zone40.xlsx was emailed to CUWCC with initial reports. We assumed the values on this form came from Water Supplied and Authorized Consumption portions of the water audit spreadsheet.

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Wholesale

Reporting unit number: 5051

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

BMP 1.3 Metering with Commodity 2010

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? ○ Yes ◉ No

If YES, has your agency completed a meter retrofit plan? ◉ Yes ○ No

Enter the number of previously unmetered accounts fitted with meters during reporting year: 0

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
Other	4,125	4,125	4,125	Bi-monthly	6
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 0

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

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

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted

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:

EGWS wholesale area is fully metered. They have 4,125 meters.

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Wholesale

Reporting unit number: 5,051

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

View MOU

2010

BMP 2.1 Public Outreach

Is your agency performing Public Outreach for your Retailers?

Are there one or more retail agencies that count on your agency to help them comply with this BMP? ○ Yes ◉ No

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

Regional Water Authority provides outreach for all member agencies in the Sacramento area. Elk Grove Water Service is an RWA member. Some of SCWA's outreach in Elk Grove benefits Elk Grove Water Service customers.

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	
	Select a public contact		
	Select a public contact		
	Select a public contact		
	Select a public contact		
	Select a public contact		

Contact with the Media

Are there one or more retail agencies that count on your agency to help them comply with this BMP? ○ Yes ◉ No

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

OR Wholesale Agency (Contacts with the Media)

Media Contacts List

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

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

Is a Wholesale Agency Performing Website Updates?

Did one or more retail agencies rely on your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP? ○Yes ○No

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

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address):

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

Did at least one Website Update take place during each quarter of the reporting year? ○Yes ○No

Public Outreach Annual Budget

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

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	

Comments:

The fields in red are required.

Agency name: Sacramento County Water Agency

Reporting unit name (District name): Wholesale

Reporting unit number: 5051

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

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

CUWCC

Link to FAQs

2010

BMP 2.2 School Education Programs

View MOU

School Programs

Is your agency implementing school programs which can be counted to help another agency comply with this BMP? ○ Yes ◉ No

Enter retailer names, separated by commas: Regional Water Authority conducts educational programs that benefit all members. Elk Grove Water Service is an RWA member. Elk Grove Water Service also conducts their own classroom outreach program. SCWA has assisted EGWS with classroom presentations.

☐ Materials meet state education framework requirements?

Description of Materials

☐ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students

Number of students reached

☐ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students

Number of Distribution

Annual budget for school education program

Description of all other water supplier education programs

School Program Activities

Classroom presentations:

Number of presentations

Number of attendees

Large group assemblies:

Number of presentations

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

Number distributed

Staffing children's booths at events & festivals:

Number of booths

Number of attendees

Water conservation contests such as poster and photo:

Description

Number distributed

Offer monetary awards/funding or scholarships to students:

Number Offered

Total Funding

Teacher training workshops:

Number of presentations

Number of attendees

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips

Number of participants

College internships in water conservation offered:

Number of internships

Total funding

Career fairs/workshops:

Number of presentations

Number of attendees

Additional program(s) supported by agency but not mentioned above:

Description

Number of events (if applicable)

Number of participants

Total reporting period budget expenditures for school education programs (include all agency costs): $20,405.00

Comments

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Wholesale

Reporting unit number: 5,051

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

WATER SOURCES

2010

Service Area Population: unknown

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Sheldon Turnout	782.00	Groundwater	
Customer use reported	2,501.68	Groundwater	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?

The fields in red are required.

Agency name: Sacramento County Water Agency

Division name (Reporting unit): Wholesale

Reporting unit number: 5,051

Primary contact:

First name: Gail

Last name: Tauchus

Email: tauchusg@saccounty.net

CUWCC

WATER SOURCES

2010

Service Area Population: unknown

Non- Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
No non-potable water in this area	0.00	Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported?

CUWCC Coverage Reports

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Agency: Sacramento County Water Agency **District Name:** Arden Park Vista **CUWCC Unit #:** 5030
Retail

Primary Contact Gail Tauchus **Telephone** 916-875-4217 **Email:** tauchusg@saccounty.net

Compliance Option Chosen By Reporting Agency:
(Traditional, Flex Track or GPCD)
GPCD if used:

GPCD in 2010	**205**
GPCD Target for 2018	218

Year	Report	Target		Highest Acceptable Bound	
		% Base	GPCD	% Base	GPCD
2010	1	96.4%	257	100%	266
2012	2	92.8%	247	96%	257
2014	3	89.2%	238	93%	247
2016	4	85.6%	228	89%	238
2018	5	82.0%	218	82%	218

Note: GPCD is for all of Sacramento County

Not on Track if 2010 GPCD is $\geq$ than target

GPCD in 2010	205
Highest Acceptable GPCD for 2010	266

On Track

CUWCC BMP COVERAGE REPORT FOR WHOLESALE AGENCIES

Foundation Best Management Practices for Urban Water Efficiency

Agency: Sacramento County Water Agency **District Name:** Sacramento County Water Agency **CUWCC Unit #:** 5051

Primary Contact Gail Tauchus **Email:** tauchusg@saccounty.net

Base Year: Calendar or FiscalYear Reporting Report Date: 29-Jun-11

Foundational BMPs

BMP 1.1.3 Wholesale Agency Assistance Programs

Date of 2009 Data Download June 24, 2011

Date of 2010 Data Download May 26, 2011

a) Financial investments and building partnerships Value of resources provided to retailers for: **2009**	**2009 Monetary Amount for Financial Incentives**	**2009 Monetary Amount for Equivalent Resources**
BMP 3 - residential water audits	$ 407	no data
BMP 4 - CII water audit	no data	no data
BMP 5 - Large landscape water audit	$ 2,938	no data
BMP 2.2 - assist with school presentation	$ 181	no data
no data	no data	no data
no data	no data	no data
Total Value of Resources	$ 3,526	$ -
	On Track	**On Track**

a) Financial investments and building partnerships Value of resources provided to retailers for: **2010**	**2010 Monetary Amount for Financial Incentives**	**2010 Monetary Amount for Equivalent Resources**
BMP 3 - residential water audits	$ 1,836	no data
BMP 5 - large landscape audits	$ 226	no data
BMP 2.2 - assist w/school presentations	$ 306	no data
no data	no data	no data
no data	no data	no data
no data	no data	no data
Total Value of Resources	$ 2,368	$ -
	On Track	**On Track**

"On Track" if Retailer accepted offer and Wholesaler provided resources. "Not on Track" if Retailer accepted offer and Wholesaler did not provde resources.

Agency: Sacramento County Water Agency **District Name:** Sacramento County Water Agency **CUWCC Unit #:** 5051

	2009 Technical Support Description	2010 Technical Support Description	
b) Technical Support	SCWA provides technical support upon request from EGWS. Support consists of program implementation advise, referring water waste calls back and forth, and assisting with school presentations and outreach events.	SCWA provides technical support upon request from EGWS. Support consists of program implementation advise, referring water waste calls back and forth, and assisting with school outreach presentations and outreach events.	" On Track" if Retailer accepted and Wholesaler provided and described Technical Support
	On Track	**On Track**	

2009		2010		
c) Retail Angency	**Programs Managed for Retailers**	**c) Retail Angency**	**Programs Managed for Retailers**	
Elk Grove Water Service	Water wise house and business calls	Elk Grove Water Service	Water wise house and business calls	
no data	no data	no data	no data	
no data	no data	no data	no data	" On Track" if Retailer accepted and Wholesaler provided and lists programs managed for retailers
no data	no data	no data	no data	
no data	no data	no data	no data	
no data	no data	no data	no data	
no data	no data	no data	no data	
	On Track		**On Track**	

	2009		2010	
d) Water Shortage Allocation				
Has Water shortage plan or policy been adopted?	April 30, 1991	Adoption Date	April 30, 1991	"OnTrack" if plan /policy adopted and document provided. "Not on Track" if no water shortage plan or policy adopted or document not provided.
	SCWA_Wholesale_5051_2009_BMP_1-1_Wtrshortplan.pdf	File Name	SCWA_Wholesale_5051_2009_BMP_1-1_Wtrshortplan.pdf	
	On Track		**On Track**	
e) Non signatory Reporting of BMP implementation by non-signatory agencies	Unable to Report		SCWA retailers are CUWCC members	Report if possible
	On Track		**On Track**	
f) Encourage CUWCC Membership	List Efforts to recruit retailers			
List Efforts to recruit retailers	Encouraged EGWS to join and they joined 11-2009		SCWA retailers are CUWCC members	"On Track" if efforts listed or dues paid.
	On Track		**On Track**	

Agency: Sacramento County Water Agency | **District Name:** Sacramento County Water Agency | **CUWCC Unit #:** 5051

BMP 1.2 Water Loss Control

Date of 2009 Data Submittal: #N/A
Date of 2010 Data Submittal: June 24, 2011

	2009		
Complete a prescreening Audit	Yes	On Track	On Track if Yes
Metered Sales AF	33,457		Metered sales to retail agencies
Verifiable Other Uses AF	15		
Total Supply AF	34,502		Into wholesale system
(Metered Sales + System uses)/ Total Supply >0.89	0.97	On Track	On Track if =>.89, Not on Track if No
If ratio is less than 0.9, complete a full scale Audit in 2009?	No	On Track	On Track if Yes
Verify Data with Records on File?	Yes		On Track if Yes
Operate a system Leak Detection Program?	Yes		On Track if Yes

Comments

For wholesalers AWWA methodology applies to supplies to wholesalers, sales to retail agencies or sub wholesalers, and pipelines operated by wholesalers. End use retail customers are not considered in this

		2010		
Compile Standard Water Audit using AWWA Software?		Yes	On Track	On Track if Yes, Not on Track if No
AWWA file provided to CUWCC?	WaterAudit2010 - Zone4	Yes	On Track	On Track if Yes, Not on Track if No
AWWA Water Audit Validity Score?		56		Info only until 2012
Completed Training in AWWA Audit Method?		yes		Info only until 2012
Completed Training in Component Analysis Process?		No		Info only until 2012
Complete Component Analysis?		no		Info only until 2012
Repaired all leaks and breaks to the extent cost effective?		Yes	On Track	On Track if Yes, Not on Track if No
Locate and repair unreported leaks to the extent cost effective.		Yes	On Track	On Track if Yes, Not on Track if No
Maintain a record-keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair.				Info only until 2012
Provided 7 types of Water Loss Control Info				info only until 2012

Leaks Repaire	Value Real Losses	Value Apparent Losses	Miles Surveyed	Press Reduction	Cost Interventions	Water Lost from Leaks AF
no data	$ -	$ -	0	No	$ -	no data

Agency: Sacramento County Water Agency **District Name:** Sacramento County Water Agency **CUWCC Unit #:** 5051

1.3 METERING WITH COMMODITY RATES FOR ALL NEW CONNECTIONS AND RETROFIT OF EXISTING CONNECTIONS

Date of 2009 Data Submittal: June 24, 2011
Date of 2010 Data Submittal: June 24, 2011

	2009		2010		
Exemption requested?	No		No		
At least as Effective As Requested?	No		No		
Does Agency have Unmetered Deliveries to Retail Agencies or Other Wholesalers?	No		No		
Metered Accounts billed by volume of use	Yes		Yes		Volumetric billing required for all connections on same schedule as metering
Completed a written plan, policy or program to test, repair and replace meters	Yes	On Track	Yes	On Track	On Track if Yes, Not on Track if No

CUWCC BMP COVERAGE REPORT FOR WHOLESALE AGENCIES

Foundation Best Management Practices for Urban Water Efficiency

Agency: **Sacramento County Water Agency**
WHOLESALE Water Supplier

District Name: **Wholesale**

CUWCC Unit #: **5051**
Coverage Report Date: June 29, 2011

Primary Contact Gail Tauchus

Email: tauchusg@saccounty.net

BMP 2. EDUCATION PROGRAMS

date 2009 datafile downloaded: May 26, 2011
date 2010 datafile downloaded: May 26, 2011

BMP 2.1 Public Outreach Actions Implemented and Reported to CUWCC

	2009	2010
1) Contacts with the public (minimum = 4 times per year)	207	248
2) Water supplier contacts with media (minimum = 4 times per year, i.e., at least quarterly).	11	8
3) An actively maintained website that is updated regularly (minimum = 4 times per year, i.e., at least quarterly).	Yes	Yes
4) Description of materials used to meet minimum requirement.	Newsletter articles on conservation Website Select a public contact Select a public contact Articles or stories resulting from outreach News releases Television contacts Newspaper contacts	Newsletter articles on conservation General water conservation information Select a public contact Select a public contact News releases Newspaper contacts Articles or stories resulting from outreach Select a type of media contact
5) Annual budget for public outreach program.	$ 20,406	$ 20,406
6) Description of all other outreach programs	Description is too large for text area. Data will be stored in the BMP Reporting database when online.	Description is too large for text area. Data will be stored in the BMP Reporting database when online.
	On Track for 6 Actions	**On Track for 6 Actions**

All 6 action types implemented and reported to CUWCC to be 'On Track')

Agency: **Sacramento County Water Agency** **District Name:** **Wholesale** **CUWCC Unit #:** **5051**

WHOLESALE Water Supplier

Coverage Report Date: June 29, 2011

date 2009 datafile downloaded: May 26, 2011

date 2010 datafile downloaded: May 26, 2011

2.2 School Education Programs Implemented and Reported to CUWCC

	2009	2010	
Does this wholesale agency implement School Education Programs for Sub Wholesalers or Retail unility's benefit?	Yes	Yes	
Names of Sub Wholesale and Retail Agencies benefiting from Program?	Regional Water Authority conducts education programs that benefit all members. Elk Grove Water Service is an RWA member. Elk Grove Water Service also	Regional Water Authority conducts educational programs that benefit all members. Elk Grove Water Service is an RWA member. Elk Grove Water Service also	
1) Curriculum materials developed and/or provided by wholesale agency	Sacramento Bee's Be Water Smart program student supplement, teacher's guide, electronic edition of the Sacramento Bee, California Waterways Map from DWR, Mr. Leaky books for grades K-4.	Sacramento Bee's Be Water Smart program student supplement, teacher's guide, electronic edition of the Sacramento Bee, California Waterways Map from DWR, Mr. Leaky books for grades K-4.	All 5 actions types implemented and reported to CUWCC to be 'On Track'
2) Materials meet state education framework requirements and are grade-level appropriate?	Yes	Yes	
3) Materials Distributed to K-6?	Yes	Yes	
Describe K-6 Materials	Same as above	Same as above	Describe materials to meet minimum requirements
Materials distributed to 7-12 students?	Yes	Yes	Info Only
4) Annual budget for school education program.	$ 20,405	$ 20,405	
5) Description of all other water supplier education programs	Description is too large for text area. Data will be stored in the BMP Reporting database when online.	Description is too large for text area. Data will be stored in the BMP Reporting database when online.	
	On Track for 5 Actions	**On Track for 5 Actions**	

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Agency: Sacramento County Water Agency **District Name:** Laguna/Vineyard **CUWCC Unit #:** 5031
Retail

Primary Contact Gail Tauchus **Telephone** 916-875-4217 **Email:** tauchusg@saccounty.net

Compliance Option Chosen By Reporting Agency:
(Traditional, Flex Track or GPCD)
GPCD if used:

GPCD in 2010	**205**
GPCD Target for 2018	218

Year	Report	Target		Highest Acceptable Bound	
		% Base	GPCD	% Base	GPCD
2010	1	96.4%	257	100%	266
2012	2	92.8%	247	96%	257
2014	3	89.2%	238	93%	247
2016	4	85.6%	228	89%	238
2018	5	82.0%	218	82%	218

Note: GPCD is for all of Sacramento County

Not on Track if 2010 GPCD is ≥ than target

GPCD in 2010	205
Highest Acceptable GPCD for 2010	266

On Track

Agency: Sacramento County Water Agency **District Name:** Laguna/Vineyard **CUWCC Unit #:** 5031
Retail

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Foundational BMPs

BMP 1.1 Operational Practices

Conservation Coordinator provided with necessary resources to implement BMPs?

		2009	2010
1.Conservation Coordinator provided with necessary resources to implement BMPs?	Name	Gail Tauchus	Gail Tauchus
	Title	Water Conservation Coordinator	Water Conservation Coordinator
	Email		tauchusg@sacco
		On Track	**On Track**

2. Water waste prevention documentation

	2009	2010	
Descriptive File	WaterConsMeas11.docx,		
Descriptive File 2010		WaterConsMeas.docx, Title3.pdf, WaterWasteProhibition.pdf	On Track if any one of the 6 ordinance actions done, plus documentation or links provided
URL	SCWA satisfies the water waste BMP by enforcing its' ordinance		
URL 2010		0	
Describe Ordinance Terms	SCWA satisfies the water waste BMP by enforcing its' ordinance		
Describe Ordinance Terms 2010		SCWA satisfies the water waste BMP by enforcing its' ordinance prohibiting water waste (ordinance attached). In addition, SCWA has	
	On Track	**On Track**	

Agency: Sacramento County Water Agency **District Name:** Laguna/Vineyard **CUWCC Unit #:** 5031
Retail

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

BMP 1.2 Water Loss Control

		2009		
Compile Standard Water Audit using AWWA Software?		Yes	On Track	On Track if Yes, Not on Track if No
AWWA file provided to CUWCC?	SCWA_UPDATE_Lag	Yes	On Track	On Track if Yes, Not on Track if No
AWWA Water Audit Validity Score?		56		Info only until 2012
Completed Training in AWWA Audit Method?		Yes		
Completed Training in Component Analysis Process?		No		Info only until 2012
Complete Component Analysis?		No		Info only until 2012
Repaired all leaks and breaks to the extent cost effective?		Yes	On Track	On Track if Yes, Not on Track if No
Locate and repair unreported leaks to the extent cost effective.		Yes	On Track	On Track if Yes, Not on Track if No
Maintain a record-keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair.				Info only until 2012
Provided 7 types of Water Loss Control Info				Info only until 2012

Leaks Repaired	Value Real Losses	Value Apparent Losses	Miles Surveyed	Press Reduction	Cost of Interventions	Water Saved
0	$ -	$ -	0	0	$ -	0

		2010		
Compile Standard Water Audit using AWWA Software?		Yes	On Track	On Track if Yes, Not on Track if No
AWWA file provided to CUWCC?	WaterAudit2010 - Zone40.xlsx		On Track	On Track if Yes, Not on Track if No
AWWA Water Audit Validity Score?		56		Info only until 2012
Completed Training in AWWA Audit Method?		Yes		
Completed Training in Component Analysis Process?		No		Info only until 2012
Complete Component Analysis?		No		Info only until 2012
Repaired all leaks and breaks to the extent cost effective?		Yes	On Track	On Track if Yes, Not on Track if No
Locate and repair unreported leaks to the extent cost effective.		Yes	On Track	On Track if Yes, Not on Track if No
Maintain a record-keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair.				Info only until 2012
Provided 7 types of Water Loss Control Info				Info only until 2012

Leaks Repaired	Value Real Losses	Value Apparent Losses	Miles Surveyed	Press Reduction	Cost of Interventions	Water Saved
0	$ -	$ -	0	Off	$ -	0

Agency: Sacramento County Water Agency **District Name:** Laguna/Vineyard **CUWCC Unit #:** 5031
Retail

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

1.3 METERING WITH COMMODITY RATES FOR ALL NEW CONNECTIONS AND RETROFIT OF EXISTING CONNECTIONS

If signed MOU prior to 31 Dec 1997, On Track if all connections metered; If signed after 31 Dec 1997, complete meter installations by 1 July 2012 or within 6 yrs of signing and 20% biannual reduction of unmetered connections.

	2009		2010		
Exemption or 'At least as Effective As' accepted by CUWCC					
Numbered Unmetered Accounts	7013	On Track	6982	On Track	On Track if no unmetered accounts
Metered Accounts billed by volume of use	Yes	On Track	Yes	On Track	Volumetric billing required for all connections on same schedule as metering
Number of CII accounts with Mixed Use meters	759		780		Info only
Conducted a feasibility study to assess merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?	Yes		Yes		Info Only due 2011
Feasibility Study provided to CUWCC?	Yes		Yes		Info Only due 2011
Completed a written plan, policy or program to test, repair and replace meters	Yes	On Track	Yes	On Track	On Track if Yes, Not on Track if No

Note:SCWA filed for an exemption for this BMP on 4/17/2009 for the 2009-2010 reporting period based on cost effectiveness. We are reporting number of meters for all accounts, not specifically number of accounts. Regarding meter retrofit plan: plans and specs are complete.

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Agency: Sacramento County Water Agency **District Name:** Laguna/Vineyard **CUWCC Unit #:** 5031

Retail

Coverage Report Date: June 27, 2011

Primary Contact Gail Tauchus **Email:** tauchusg@saccounty.net

1.4 Retail Conservation Pricing

Date 2009 data received May 20, 2011

Date 2010 data received May 20, 2011

On Track if: Increasing Block, Uniform, Allocation, Standby Service; Not on Track if otherwise

Metered Water Rate Structure

Customer Class	2009 Rate Type	Conserving Rate?	Customer Class	2010 Rate Type	Conserving Rate?
Single-Family	Other	Yes	Single-Family	Other	Yes
Multi-Family	Uniform	Yes	Multi-Family	Uniform	Yes
Commercial	Uniform	Yes	Commercial	Uniform	Yes
Industrial	Uniform	Yes	Industrial	Uniform	Yes
Institutional	Uniform	Yes	Institutional	Uniform	Yes
	On Track			On Track	

Note: The residential single family rate structure for metered customers is uniform with an efficiency incentive. Customers who use less than 14 CCF per 2 month billing cycle receive a discount of 20% off the monthly service charge and quantity rate. Those who use between 14 and 30 CCF get a 10% discount.

Year Volumetric Rates began for Agencies with some Unmetered Accounts

Info only

Agencies with Partially Metered Service Areas: If signed MOU prior to 31 Dec. 1997, implementation starts no later than 1July 2010. If signed MOU after 31 Dec. 1997, implementation starts no later than 1July 2013, or within seven years of signing the MOU,

Agency: Sacramento County Water Agency
Retail

District Name: Laguna/Vineyard

CUWCC Unit #: 5031

Coverage Report Date: June 29, 2011

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Adequacy of Volumetric Rates) for Agencies with No Unmetered Accounts

Customer Class	2009 Rate Type	2009 Volumetric Revenues $1000s	2010 Rate Type	2010 Volumetric Revenues $1000s
Single-Family	Other	$ 7,520	Single-Family	$ 7,958
Multi-Family	Uniform	$ 204	Multi-Family	$ 229
Commercial	Uniform	$ 573	Commercial	$ 580
Industrial	Uniform	$ 281	Industrial	$ 287
Institutional	Uniform	$ 191	Institutional	$ 190
Dedicated Irrigation		$ 1,368		$ 1,386
Other		$ -		$ -
Total Revenue Commodity Charges (V):		$ 10,137		$ 10,629
Total Revenue Fixed Charges (M):		$ 2,485		$ 2,422
Calculate: V / (V + M):		80%		81%
		On Track		On Track

Agency Choices for rates:

A) Agencies signing MOU prior to 13 June2007, implementation starts 1 July2007: On Track if (V / (V + M) ≥ 70% x .8 = **56% for 2009** and 70%x0.90 = **63% for 2010**; Not on track if (V / (V + M)) < 70%;

B) Use Canadian model. Agencies signing MOU after 13June2007, implementation starts July 1 of year following signing.

	2009	2010
Canadian Water & Wastewater Rate Design Model Used and Provided to CUWCC	No	No
If Canadian Model is used, was 1 year or 3 year period applied?		

Wastewater Rates

	2009	2010
Does Agency Provide Sewer Service?	No	No

If 'No', then wastewater rate info not required.

Customer Class	2009 Rate Type	Conserving Rate?	Customer Class	2010 Rate Type	Conserving Rate?
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		On Track			On Track

On Track if: 'Increasing Block', 'Uniform', 'based on long term marginal cost' or 'next unit of capacity'

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

BMP 2. EDUCATION PROGRAMS

BMP 2.1 Public Outreach Actions Implemented and Reported to CUWCC

	2009	2010	
Does a wholesale agency implement Public Outrach Programs for this unility's benefit?	Yes	**Yes**	Yes/No
Names of Wholesale Agencies	**Regional Water Authority**	**Regional Water Authority**	
1) Contacts with the public (minimum = 4 times per year)	207	248	
2) Water supplier contacts with media (minimum = 4 times per year, i.e., at least quarterly).	11	8	
3) An actively maintained website that is updated regularly (minimum = 4 times per year, i.e., at least quarterly).	Yes	Yes	All 6 action types implemented and reported to CUWCC to be 'On Track')
4) Description of materials used to meet minimum requirement.	Newsletter articles on conservation General water conservation information Select a public contact Select a public contact Newspaper contacts Select a type of media contact Select a type of media contact Select a type of media contact	Newsletter articles on conservation General water conservation information Select a public contact Select a public contact Newspaper contacts Select a type of media contact Select a type of media contact Select a type of media contact	
5) Annual budget for public outreach program.	$ 20,406	$ 20,406	
6) Description of all other outreach programs	Description is too large for text area. Data will be stored in the BMP Reporting database when online.	Description is too large for text area. Data will be stored in the BMP Reporting database when online.	
	On Track	**On Track**	

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

2.2 School Education Programs Implemented and Reported to CUWCC

	2009	2010	
Does a wholesale agency implement School Education Programs for this unility's benefit?	Yes	Yes	
Name of Wholesale Supplier?	Regional Water Authority	Regional Water Authority	
1) Curriculum materials developed and/or provided by agency	Sacramento Bee - Be Water Smart student supplement, teacher's guide, electronic edition of Sacramento Bee, California Waterways map from DWR, Mr. Leaky booklets for grades K-4.	Sacramento Bee - Be Water Smart student supplement, teacher's guide, electronic edition of Sacramento Bee, California Waterways map from DWR, Mr. Leaky booklets for grades K-4.	Yes/ No
2) Materials meet state education framework requirements and are grade-level appropriate?	Yes	Yes	All 5 actions types implemented and reported to CUWCC to be
3) Materials Distributed to K-6?	Yes	Yes	
Describe K-6 Materials	Same as above	Same as above	Describe materials to meet minimum requirements
Materials distributed to 7-12 students?	Yes	Yes	Info Only
4) Annual budget for school education program.	$ 20,405	$ 20,405	
5) Description of all other water supplier education programs	Description is too large for text area. Data will be stored in the BMP Reporting database when online.	Description is too large for text area. Data will be stored in the BMP Reporting database when online.	
	See Wholesale Report 0	**See Wholesale Report** 0	

On Track	**On Track**

Agency: Sacramento County Water Agency **District Name:** Arden Park Vista **CUWCC Unit #:** 5030
Retail

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Foundational BMPs

BMP 1.1 Operational Practices

Conservation Coordinator provided with necessary resources to implement BMPs?

		2009	2010
1.Conservation Coordinator provided with necessary resources to implement BMPs?	Name	Gail Tauchus	Gail Tauchus
	Title	Water Conservation Coordinator	Water Conservation Coordinator
	Email		tauchusg@sacco
		On Track	**On Track**

2. Water waste prevention documentation

	2009	2010	
Descriptive File	WaterConsMeas11.docx,		
Descriptive File 2010		WaterConsMeas11.docx, Title3.pdf, WaterWasteProhibition.pdf	On Track if any one of the 6 ordinance actions done, plus documentation or links provided
URL	SCWA satisfies the water waste BMP by enforcing it's ordinance		
URL 2010		0	
Describe Ordinance Terms	SCWA satisfies the water waste BMP by enforcing it's ordinance		
Describe Ordinance Terms 2010		SCWA satisfies water waste BMP by enforcing its' ordinance prohibiting water waste (ordinance attached). In addition, SCWA has been	
	On Track	**On Track**	

Agency: Sacramento County Water Agency **District Name:** Arden Park Vista **CUWCC Unit #:** 5030
Retail

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

BMP 1.2 Water Loss Control

		2009		
Compile Standard Water Audit using AWWA Software?		Yes	On Track	On Track if Yes, Not on Track if No
AWWA file provided to CUWCC?	SCWA_Arden Park Vis	Yes	On Track	On Track if Yes, Not on Track if No
AWWA Water Audit Validity Score?		52		Info only until 2012
Completed Training in AWWA Audit Method?		Yes		
Completed Training in Component Analysis Process?		No		Info only until 2012
Complete Component Analysis?		No		Info only until 2012
Repaired all leaks and breaks to the extent cost effective?		Yes	On Track	On Track if Yes, Not on Track if No
Locate and repair unreported leaks to the extent cost effective.		Yes	On Track	On Track if Yes, Not on Track if No
Maintain a record-keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair.				Info only until 2012
Provided 7 types of Water Loss Control Info				Info only until 2012

Leaks Repaired	Value Real Losses	Value Apparent Losses	Miles Surveyed	Press Reduction	Cost of Interventions	Water Saved
0	$ -	$ -	0	0	$ -	0

		2010		
Compile Standard Water Audit using AWWA Software?		Yes	On Track	On Track if Yes, Not on Track if No
AWWA file provided to CUWCC?	WaterAudit2010 - NonZone40.xlsx		On Track	On Track if Yes, Not on Track if No
AWWA Water Audit Validity Score?		52		Info only until 2012
Completed Training in AWWA Audit Method?		yes		
Completed Training in Component Analysis Process?		No		Info only until 2012
Complete Component Analysis?		No		Info only until 2012
Repaired all leaks and breaks to the extent cost effective?		Yes	On Track	On Track if Yes, Not on Track if No
Locate and repair unreported leaks to the extent cost effective.		Yes	On Track	On Track if Yes, Not on Track if No
Maintain a record-keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair.				Info only until 2012
Provided 7 types of Water Loss Control Info				Info only until 2012

Leaks Repaired	Value Real Losses	Value Apparent Losses	Miles Surveyed	Press Reduction	Cost of Interventions	Water Saved
0	$ -	$ -	0	Off	$ -	0

Agency: Sacramento County Water Agency **District Name:** Arden Park Vista **CUWCC Unit #:** 5030
Retail

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

1.3 METERING WITH COMMODITY RATES FOR ALL NEW CONNECTIONS AND RETROFIT OF EXISTING CONNECTIONS

	2009		2010		
Exemption or 'At least as Effective As' accepted by CUWCC					If signed MOU prior to 31 Dec 1997, On Track if all connections metered; If signed after 31 Dec 1997, complete meter installations by 1 July 2012 or within 6 yrs of signing and 20% biannual reduction of unmetered connections.
Numbered Unmetered Accounts	3295	On Track	3223	On Track	On Track if no unmetered accounts
Metered Accounts billed by volume of use	Yes	On Track	Yes	On Track	Volumetric billing required for all connections on same schedule as metering
Number of CII accounts with Mixed Use meters	85		105		Info only
Conducted a feasibility study to assess merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?	Yes	On Track	Yes	On Track	Info only due 2011
Feasibility Study provided to CUWCC?	Yes	On Track	Yes	On Track	Info only due 2011
Completed a written plan, policy or program to test, repair and replace meters	Yes	On Track	Yes	On Track	On Track if Yes, Not on Track if No

Note:SCWA filed for an exemption for this BMP on 4/17/2009 for the 2009-2010 reporting period based on cost effectiveness. We are reporting number of meters for all accounts, not specifically number of accounts. Regarding meter retrofit plan: plans and specs are complete.

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Agency: Sacramento County Water Agency **District Name:** Arden Park Vista **CUWCC Unit #:** 5030

Retail

Coverage Report Date: June 27, 2011

Primary Contact Gail Tauchus **Email:** tauchusg@saccounty.net

1.4 Retail Conservation Pricing

Metered Water Rate Structure

Date 2009 data received May 20, 2011

Date 2010 data received May 20, 2011

On Track if: Increasing Block, Uniform, Allocation, Standby Service; Not on Track if otherwise

Customer Class	2009 Rate Type	Conserving Rate?	Customer Class	2010 Rate Type	Conserving Rate?
Single-Family	Other	Yes	Single-Family	Other	Yes
Multi-Family	Uniform	Yes	Multi-Family	Uniform	Yes
Commercial	Uniform	Yes	Commercial	Uniform	Yes
Industrial	Uniform	Yes	Industrial	Uniform	Yes
Institutional	Uniform	Yes	Institutional	Uniform	Yes
	On Track			On Track	

Note: The residential single family rate structure for metered customers is uniform with an efficiency incentive. Customers who use less than 14 CCF per 2 month billing cycle receive a discount of 20% off the monthly service charge and quantity rate. Those who use between 14 and 30 CCF get a 10% discount.

Year Volumetric Rates began for Agencies with some Unmetered Accounts

Info only

Agencies with Partially Metered Service Areas: If signed MOU prior to 31 Dec. 1997, implementation starts no later than 1July 2010. If signed MOU after 31 Dec. 1997, implementation starts no later than 1July 2013, or within seven years of signing the MOU,

Agency: Sacramento County Water Agency
Retail

District Name: Arden Park Vista

CUWCC Unit #: 5030

Coverage Report Date: June 27, 2011

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Adequacy of Volumetric Rates) for Agencies with No Unmetered Accounts

Customer Class	2009 Rate Type	2009 Volumetric Revenues $1000s	2010 Rate Type	2010 Volumetric Revenues $1000s
Single-Family	Other	$ 2	Single-Family	$ 3
Multi-Family	Uniform	$ -	Multi-Family	$ -
Commercial	Uniform	$ 155	Commercial	$ 164
Industrial	Uniform	$ 77	Industrial	$ 73
Institutional	Uniform	$ 5	Institutional	$ 5
Dedicated Irrigation		$ 69		$ 63
Other		$ -		$ -
Total Revenue Commodity Charges (V):		$ 307		$ 308
Total Revenue Fixed Charges (M):		$ 1,190		$ 1,302
Calculate: V / (V + M):		21%		19%

Agency Choices for rates:

A) Agencies signing MOU prior to 13 June2007, implementation starts 1 July2007: On Track if (V / (V + M) ≥ 70% x .8 = **56% for 2009** and 70%x0.90 = **63% for 2010**; Not on track if (V / (V + M)) < 70%;

B) Use Canadian model. Agencies signing MOU after 13June2007, implementation starts July 1 of year following signing.

Canadian Water & Wastewater Rate Design Model Used and Provided to CUWCC	**No**	**No**
If Canadian Model is used, was 1 year or 3 year period applied?		

Wastewater Rates

	2009	If 'No', then wastewater rate info not required.	2010
Does Agency Provide Sewer Service?	**No**		**No**

Customer Class	2009 Rate Type	Conserving Rate?	Customer Class	2010 Rate Type	Conserving Rate?
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		On Track			**On Track**

On Track if: 'Increasing Block', 'Uniform', 'based on long term marginal cost' or 'next unit of capacity'

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

BMP 2. EDUCATION PROGRAMS

BMP 2.1 Public Outreach Actions Implemented and Reported to CUWCC

	2009	2010	
Does a wholesale agency implement Public Outrach Programs for this unility's benefit?	Yes	**Yes**	Yes/No
Names of Wholesale Agencies	**Regional Water Authority**	**Regional Water Authority**	
1) Contacts with the public (minimum = 4 times per year)	207	248	
2) Water supplier contacts with media (minimum = 4 times per year, i.e., at least quarterly).	11	8	
3) An actively maintained website that is updated regularly (minimum = 4 times per year, i.e., at least quarterly).	Yes	Yes	All 6 action types implemented and reported to CUWCC to be 'On Track')
4) Description of materials used to meet minimum requirement.	Newsletter articles on conservation Website Select a public contact Select a public contact Articles or stories resulting from outreach News releases Television contacts Newspaper contacts	Newsletter articles on conservation General water conservation information Select a public contact Select a public contact News releases Newspaper contacts Articles or stories resulting from outreach Select a type of media contact	
5) Annual budget for public outreach program.	$ 20,406	$ 20,406	
6) Description of all other outreach programs	Description is too large for text area. Data will be stored in the BMP Reporting database when online.	Description is too large for text area. Data will be stored in the BMP Reporting database when online.	
	On Track	**On Track**	

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

2.2 School Education Programs Implemented and Reported to CUWCC

	2009	2010	
Does a wholesale agency implement School Education Programs for this unility's benefit?	Yes	Yes	
Name of Wholesale Supplier?	Regional Water Authority	Regional Water Authority	
1) Curriculum materials developed and/or provided by agency	Sacramento Bee's Be Water Smart program student supplement, teacher's guide, electronic edition of the Sacramento Bee, California Waterways Map from DWR, Mr. Leaky books for grades K-4.	Sacramento Bee - Be Water Smart student supplement, teacher's guide, electronic edition of the Sacramento Bee, California Waterways map from DWR, Mr. Leak booklets for grades K - 4.	Yes/ No
2) Materials meet state education framework requirements and are grade-level appropriate?	Yes	Yes	All 5 actions types implemented and reported to CUWCC to be
3) Materials Distributed to K-6?	Yes	Yes	
Describe K-6 Materials	Same as above	Same as above	Describe materials to meet minimum requirements
Materials distributed to 7-12 students?	Yes	Yes	Info Only
4) Annual budget for school education program.	$ 20,406	$ 20,405	
5) Description of all other water supplier education programs	Description is too large for text area. Data will be stored in the BMP Reporting database when online.	Presentation to 50 teachers at San Juan School District - see below.	
	See Wholesale Report 0	**See Wholesale Report** 0	

On Track	**On Track**

Appendix I: Section 3.40.120 of Sacramento County Water Agency Code – Water Waste Ordinance

WHOLESALE AND RETAIL WATER SERVICES

TITLE 3

Chapters:

3.10 General Provisions
3.20 Definitions
3.30 Establishment of Zones
3.40 Conditions of Service
3.50 Rates and Fees

CONDITIONS OF SERVICE

CHAPTER 3.40

Sections:

3.40.010 Application for Service
3.40.020 Annexations
3.40.030 Installation of Services
3.40.040 Extension of Service
3.40.050 Access to Property
3.40.060 Supply to Separate Premises
3.40.070 Temporary Service
3.40.080 Service Outside Agency
3.40.085 Reclaimed Water Use Conditions and Restrictions
3.40.090 Ground and Surface Water Export
3.40.100 Discontinuance of Service
3.40.110 Reestablishment of Discontinued Service
3.40.120 Water Waste
3.40.130 Unauthorized Use of Agency Water
3.40.140 Interference with Agency or County Employees
3.40.150 Continuity of Service
3.40.160 Enforcement

3.40.010 Application for Service.

New customers will be required to make written application for water service. Application shall be made on a form furnished by the Engineer. The application shall be supplemented by any other information considered necessary, in the judgment of the Engineer, to properly size the service. No work will be undertaken on any service line or connection until after the required application has been submitted and all applicable fees have been paid. The use of Agency water other than as specified in the application for service shall be considered fraudulent use of service and subject to fines as authorized in Section 3.50.105.

To be eligible for water service the property must front on an Agency water main under proper pressure and of adequate capacity to serve the proposed use of the premises.

The Agency may refuse to serve an applicant for service under the following conditions:

A. If the intended use of the service is of such a nature that it will be detrimental or injurious to the service furnished to existing customers;

B. If, in the judgment of the Engineer, the applicant's installation for utilizing the service is unsafe or hazardous, or of such a nature that satisfactory service cannot be rendered;

C. If the applicant has failed to pay all bills for service previously rendered by any County operated utility, the Agency may refuse to furnish service until all outstanding bills are paid.

3.40.020 Annexations.

Annexation to Zone 41 shall be conditioned upon payment of a Capital Inclusion Fee in accordance with Section 3.50.040 (1). Where applicable, payment of Zone 40 Development Fees per Sacramento County Water Agency Ordinance No. 18 shall meet this requirement. New customers who wish to annex to Zone 41 must submit a written request and pay any applicable fees before any work will be done on any service line or connection for the annexed area.

3.40.030 Installation of Services.

The service line from the water main to the property line shall be installed at the time the main is constructed whenever practicable. When a service line is not available, the connection to the main shall be made by County or Agency forces or by other forces authorized by the Engineer. Charges for this work shall equal the cost of labor and materials to construct the connection and shall be paid by the applicant.

The size of the service is subject to the prior approval of the Engineer based on the anticipated average water consumption needs of the property. Except when specifically approved by the Engineer, the maximum size service for single family domestic service shall be one inch. When there is an existing service line and the customer requests that the service connection be at a different location, or a service of a different size, the entire cost of the new service line shall be borne by the customer.

The customer shall install at his own expense that portion of the piping from the service connection to the point of use on his property. Such portion shall remain the sole property of the customer who shall be responsible at all times for its proper maintenance and repair. The materials and method of construction shall be as required by Chapter 16.24 of the Sacramento County Code.

3.40.040 Extension of Service.

A. The preparation of plans and specifications and the construction of all facilities for the supplying or distribution of a domestic water supply within the Agency or which it is contemplated will be under the management and control of the Agency, shall comply in every respect with the current improvement standards and standard specifications as adopted by the Board of Supervisors of Sacramento County by resolution.

B. Any person who requests a water service connection that exceeds the water system design unit demand for the service area shall pay, as a condition of service, a Capital Inclusion Fee as provided for in Section 3.50.040.

3.40.050 Access to Property.

The Agency shall at all reasonable hours have access to the customer's premises for the purposes of installation, maintenance and operation, or removal of meters, service connections and other property owned by the Agency.

The customer's water system shall be open to inspection at all reasonable times to authorized representatives of the Agency, provided however, that before entering occupied dwellings or premises for the purpose of making an inspection, consent of the occupant thereof shall be secured, or twenty-four hours' written notice of intention to so enter and inspect shall be served upon such occupant.

3.40.060 Supply to Separate Premises.

Separate premises, even though owned by the same person, shall not be supplied with water through a single service connection. The use of Agency water for multiple premises through a single service connection shall be considered fraudulent use of service and subject to fines as authorized in Section 3.50.105.

3.40.070 Temporary Service.

The term temporary service as used herein refers to a service for construction work, or a similar use that due to its nature will be of intermittent or nonpermanent use. Before taking any water from the Agency water system, the customer shall secure approval from the Agency for temporary service.

The customer shall furnish the Agency with true and accurate records of water used through the temporary service.

The Agency reserves the right to restrict the use of temporary water to such hours as will cause the least inconvenience to other customers.

No person or persons other than employees of the Agency, or properly authorized members of the appropriate fire department, shall open any fire hydrant or attach any hose or pipe thereto for any purpose without first obtaining written permission from the Engineer.

All possible care shall be exercised to prevent damage to facilities of the Agency involved in furnishing the temporary service. No person shall operate the valve of any fire hydrant in any manner other than by the use of a spanner wrench designed for that purpose. In case of damage to any Agency facilities, the cost of making repairs shall be paid by the customer.

3.40.080 Service Outside Agency.

The Agency may provide water service outside its boundaries when the Engineer finds that such service will not be adverse to the Agency's interests, and that a surplus supply of water and pipeline capacity exists. Each application will be considered on its merit.

Rules and regulations of the Agency shall be applicable to outside customers. In the event that it shall subsequently develop by reason of increased use or other cause, the service becomes adverse to the Agency's interest or that surplus water and/or pipeline capacity is no longer available for such outside user, such service may be discontinued one hundred twenty days after notice is given in writing that such service is to be terminated.

Charges to all outside customers shall be one hundred fifty percent of the charges applicable if the customers were within the Agency.

3.40.085 Reclaimed Water Use Conditions and Restrictions.

Reclaimed water shall not be used for human consumption. In Sections 60301 through 60355, in inclusive, of Title 22 of the California Code of Regulations, the California Department of Health Services has established uniform statewide conditions and restrictions for the use of reclaimed water depending on the specific use, source and quality of the reclaimed water. The specific conditions and restrictions for each reclaimed water service connection are available from the Engineer. Those conditions and restrictions are as set forth in the regulations referenced in this section or any successor regulations as they may be amended from time to time. Failure to strictly adhere to the conditions and restrictions associated with reclaimed water may result in discontinuance of service as authorized by section 3.40.100

3.40.090 Groundwater and Surface Water Export.

Groundwater or surface water shall not be transported in any manner from Sacramento County to any point outside the County, except pursuant to a permit issued by the Engineer for each and every source and/or location of water export in accordance with the following:

A. Application. To obtain a permit the owner or authorized agent shall first file an application in writing stating the following:

1. Name of applicant, owner of source, owner of place of use, consulting engineer who will plan and design the work;

2. Description of proposed action, location of source(s) and point(s) of use;
3. Justification for proposed action;
4. Any other information requested by Engineer.

B. Engineer shall within thirty days of receipt of the application, or within thirty days of receipt of additional information, make such investigations as necessary to determine if the proposal is in conformance with County water planning policies adopted and revised from time to time by the County and the Sacramento County Water Agency, and if the proposal will impose liability on the County or the Water Agency, or cause adverse impacts on the source, the area of use, or the environment.

C. After investigation Engineer shall approve, approve conditionally, or disapprove the application for permit. Engineer shall not grant a permit if the permit will authorize work or activity which is inconsistent with the general plan of the County of Sacramento, the water plan of the Sacramento County Water Agency, or a specific plan of the County or Water Agency which may be affected by the work or activity.

Nothing in this section contained shall apply to those public water purveyors providing water service in two or more counties within a legally defined service area.

3.40.100 Discontinuance of Service.

The Agency may discontinue service to any customer or premises under any of the following conditions:

A. Nonpayment of Bills. Service may be discontinued for nonpayment of bills for service rendered as set forth in Chapter 3.50.

B. Noncompliance with Regulations. Service may be discontinued if the customer fails to comply with any of these regulations after being advised of the violation. Service shall not be discontinued until at least ten days after the mailing of a written notice of such intention by registered mail to the customer; provided however, where safety of the water supply may be endangered by such violation, service may be discontinued immediately without notice.

C. Unsafe Apparatus - Where Service is Detrimental or Damaging to the Agency or its Customers. Service may be discontinued if an unsafe or hazardous condition is found to exist on the customer's premises, or if the use of water thereon by any equipment, apparatus, appliance, or otherwise is found to be detrimental or damaging to the Agency or its customers. Service may be shut off without notice; however the Agency shall notify the customer immediately of the reasons for the discontinuance, and the corrective action to be taken by the customer before service will be restored.

D. Fraudulent Use of Service. When this Agency has discovered that a customer has obtained water service by fraudulent means, or has diverted the water service for unauthorized use, the service to that customer may be discontinued without notice. Service will not be restored until the customer has complied with all these regulations and any reasonable requirement of the Agency, and the Agency has been reimbursed for the full amount of the service rendered and the actual cost incurred by the Agency by reason of the fraudulent use and has paid any applicable fines as authorized in Section 3.50.105.

E. Repeated Violations. Repeated violations of this section shall be cause for the Agency to permanently withhold water service.

3.40.110 Reestablishment of Discontinued Service.

A. The customer shall pay fees in accordance with Section 3.50.030 each

time water service is discontinued as authorized by Section 3.40.100.

B. Agency or County employees dispatched to disconnect or discontinue water service are not authorized to receive payment for water services or connection charges.

C. If the cause of the disconnection or discontinuance has been corrected, all regulations relating to water service have been complied with, and all applicable fees paid, the Agency shall restore service to the customer as promptly as possible.

3.40.120 Water Waste.

A. No person or persons shall use, or cause to be used, Agency water in a negligent or wasteful manner.

B. No person or persons shall allow water to run off property excessively; maintain faulty or improperly adjusted sprinklers, leaking fixtures, or distributing devices so that Agency water is wasted.

C. Continued or repeated waste of Agency water shall be sufficient cause for the Agency to meter the customer's service.

3.40.130 Unauthorized Use of Agency Water.

No person shall:

A. make or cause to be made an unauthorized connection to the Agency's water system;

B. open or cause to be opened any Agency valve, hydrant, corporation stop, or curb stop;

C. in any other manner obtain unauthorized use of Agency water;

D. willfully break, damage, destroy, deface or tamper with any Agency water main, valve, hydrant, corporation stop, curb stop or equipment.

The Engineer is authorized to fine responsible parties for unauthorized use of Agency water as provided for in section 3.50.105.

3.40.140 Interference with Agency or County Employees.

No person shall interfere with Agency or County employees while these employees are performing their duties authorized by this Title.

3.40.150 Continuity of Service.

A. The Agency shall not be held liable for interruption, shortage or insufficiency of water supply or pressure or for any loss or damage occasioned thereby. The Agency shall exercise all reasonable diligence and care to deliver a continuous and sufficient supply of water to the customer at a proper pressure and to avoid any shortage or interruption in delivery. However unusual peak period uses, fires, the need to make repairs and improvements, and emergency interruptions beyond the control of the Agency require that the Agency shall have the right to temporarily interrupt service and to apportion its available supply of water among its customers as law and equity require.

B. Scheduled interruptions. Whenever the Agency finds it necessary to schedule an interruption to its service, it shall, where feasible, notify all customers to be affected by the interruption, stating the approximate time and anticipated duration of the interruption. Repairs or improvements shall be made as rapidly as is practicable and at such times as will cause the least inconvenience to the customers consistent with reasonable operations. Where fire protection is provided by the mains affected by the interruption, the Agency shall give the fire protection district with jurisdiction prior

notification, stating the approximate time and anticipated duration, and shall promptly notify this fire protection district upon restoration of service.

C. Emergency interruptions. The Agency disclaims all responsibility for notification of emergency interruption of service, but will endeavor to notify the fire protection district with jurisdiction of such interruption and of subsequent restoration of service. The Agency shall make all reasonable efforts to reestablish service with the shortest delay consistent with safety to its customers and the general public.

3.40.160 Enforcement.

The Engineer is hereby charged with enforcement of the provisions of this Title and with the coordination of all Agency and County officials and departments in order to achieve this purpose.

Appendix J: Water Shortage Contingency Plan – Stages of Action and Water Shortage Advisory

WATER SHORTAGE ADVISORY

Sacramento County Water Agency

Date

WARNING: Failure to follow this advisory could the assessment of civil penalties.

Due to the recent event (e.g., flood, fire, earthquake or other emergency situation), the water delivery capabilities of the water system serving your home has been significantly impaired. In order to maximize public health and fire protection, the Sacramento County Water Agency must temporarily impose the following WATER USE RESTRICTIONS in the (SERVICE AREA) until further notice:

1. Water delivered by the public water system MAY be used only for drinking, cooking, ice making, toilet flushing, showering, bathing, tooth brushing, and other sanitary purposes;

2. Water delivered by the public water system MAY NOT be used for outside landscape irrigation;

3. Water delivered by the public water system MAY NOT be used for filling or refilling swimming pools or hot tubs;

4. Water delivered by the public water system MAY NOT be used for washing cars, sidewalks, driveways or gutters except to abate an immediate sanitary hazard.

OPTIONAL:
Potable water is available at the following locations:

Please bring clean water containers (5 gallons maximum capacity).

For more information call:

Sacramento County Water Agency at (916) 875-6426 or 874-6851

California Department of Health Services at (916) 229-3126

Sacramento County Environmental Management Department at (916) 875-5000

CANCELLATION OF WATER SHORTAGE ADVISORY

Sacramento County Water Agency

Date

On (DATE), you were informed of temporary water restrictions that were imposed in Sacramento County Water Agency's (SERVICE AREA) to abate an emergency water shortage problem due to (EMERGENCY).

This notice is being distributed to inform the water users in (SERVICE AREA) that the water shortage problem has been abated and that THE TEMPORARY WATER USE RESTRICTIONS HAVE BEEN LIFTED. Please remember, however, that is always a good idea to conserve water no matter what the water supply conditions may be.

The water agency wishes to acknowledge and thank all of the water users in (SERVICE AREA) for their patience and cooperation throughout this ordeal.

For more information call:

Sacramento County Water Agency at (916) 875-6426 or 874-6851

California Department of Health Services at (916) 229-3126

Sacramento County Environmental Management Department at (916) 875-5000

P:\Shared Folders\WSO&M\Regulatory Doc's & Rpts\Disaster Response Plan\Appendices\Conserve.doc

SACRAMENTO COUNTY WATER MAINTENANCE DISTRICT
Sunrise Service Area

Water Shortage Contingency Plan - Stages of Action

STAGE 1 – Normal Supply

Stage 1 of the water shortage contingency plan is the normal operations stage of action. No new water conservation regulations are in effect. Existing water conservation measures are listed below. Customers are notified of the potential water supply shortage and the necessity for conservation. The penalties for water wasting are explained as well as other water shortage stages. A telephone hotline is established for anonymous reporting of violators (875-6H20). Water conservation patrols will be in effect to encourage responsible water use.

- **Odd/Even Irrigation for Residential & Commercial.**
  - Addresses ending in an **odd** number (1,3,5,7,9)
    - Irrigate on Tuesday, Thursday, and Saturday
  - Addresses ending in an **even** number (0,2,4,6,8)
    - Irrigate on Wednesday, Friday, and Sunday
  - NO IRRIGATION ON MONDAYS
- **Irrigation Hours.** No landscape irrigation shall be permitted between the hours of noon and 6:00 p.m. in the evening.
- **Runoff.** Irrigation shall not be allowed to run off to adjoining property or to the roadside ditch or gutter.
- **Hoses.** Open hoses are not permitted. Automatic shutoff nozzles are required.
- **Washing Driveways and Other Paved Areas.** Use of water to clean sidewalks, driveways, or patios is not permitted. Washing of streets and commercial parking lots with a hose is not permitted, except to alleviate immediate fire or sanitation hazards.
- **Water Leaks.** Leaking pipes, fixtures, or sprinklers shall be repaired promptly.
- **Serving of Water.** Restaurants shall serve water to customers only upon special request.
- **Pools, Ponds, and Fountains.** All swimming pools, ponds, and fountains shall be equipped with re-circulating pumps.

PENALTIES FOR WATER WASTING

- First violation – Customer is notified of violation.
- Second violation – Written warning sent to customer.
- Subsequent violations - $100 fine.

SACRAMENTO COUNTY WATER MAINTENANCE DISTRICT
Sunrise Service Area

Water Shortage Contingency Plan - Stages of Action

STAGE 2 – Water Alert

Stage 2 becomes effective in the event that there is a probability that the District's supply or distribution system will not be able to meet all the water demands of its customers under Stage 1. In addition to the measures implemented in Stage 1, irrigation is restricted to 3 days a week in 2-hour time slots, as described below. Penalties for water wasting are strengthened. Customers are notified of the stage 2 water shortage and more severe penalties, and customers are asked to voluntarily reduce water usage 20%.

- **Irrigation Zones.** Irrigation zones are established by geographic area as shown on the attached map. Irrigation shall be permitted by zone in accordance with the schedule:

		Time of Day		
Zone	Watering Days	6-8pm	8-10pm	10pm-12am
1	Sun, Wed, Fri			
3	Sun, Wed, Fri			
5	Sun, Wed, Fri			
2	Tue, Thu, Sat			
4	Tue, Thu, Sat			
6	Tue, Thu, Sat			

- **Construction Water.** No potable water from the District's system shall be used for dust control, compaction, or trench jetting.

PENALTIES FOR WATER WASTING

- First violation - Customer is notified of violation.
- Second violation - Written warning sent to customer.
- Third violation - $200 fine and customer is scheduled for a mandatory water audit.
- Fourth violation - $500 fine and a flow restriction device is installed.
- Fifth violation - $500 fine and the water service is shut off. Connection fee assessed to re-activate water service.

SACRAMENTO COUNTY WATER MAINTENANCE DISTRICT
Sunrise Service Area

Water Shortage Contingency Plan - Stages of Action

STAGE 3 – Water Warning

Stage 3 is triggered in the event that the District's supply or distribution system will not be able to meet all the water demands of its customers under Stage 2. In addition to the measures implemented in Stages 1and 2, water use is further restricted and irrigation is restricted to 2 days a week in 2-hour time slots, as described below. Customers are notified of the stage 3 water shortage and asked to voluntarily reduce water usage 30%.

- **Irrigation Zones.** Landscape Irrigation shall be permitted by zone in accordance with the schedule:

		Time of Day	
Zone	Watering Days	8-10pm	10pm-12am
1	Tue, Fri		
4	Tue, Fri		
2	Wed, Sun		
5	Wed, Sun		
3	Thu, Sat		
6	Thu, Sat		

- **Pools, Ponds, and Fountains.** Water use for ornamental ponds and fountains is prohibited. No potable water from the District's system shall be used to fill or refill new swimming pools, artificial lakes, ponds, or streams until the WATER WARNING has been declared over.
- **Main Flushing.** Main flushing allowed only for emergency purposes.

SACRAMENTO COUNTY WATER MAINTENANCE DISTRICT
Sunrise Service Area

Water Shortage Contingency Plan - Stages of Action

STAGE 4 – Water Crisis

Stage 4 is triggered in the event that the District's supply or distribution system will not be able to meet all the water demands of its customers under Stage 3. In addition to the measures implemented in Stages 1, 2, and 3, new connections are prohibited and irrigation is restricted to 2 days a week in 1-hour time slots, as described below. Customers are notified of the stage 4 water shortage and asked to voluntarily reduce water usage 40%.

- **Irrigation Zones.** Landscape Irrigation shall be permitted by zone in accordance with the schedule:

		Time of Day	
Zone	Watering Days	8-9pm	9-10pm
1	Tue, Fri		
4	Tue, Fri		
2	Wed, Sun		
5	Wed, Sun		
3	Thu, Sat		
6	Thu, Sat		

- **New connections.** No new connections will be added to the system until the WATER CRISIS has been declared over.
- **System pressures.** Maximum system operating pressure will be reduced to 40 psi.
- **Water allotments.** Customer water allotments are determined. Water usage above water allotment billed at 150% of normal water rate.

SACRAMENTO COUNTY WATER MAINTENANCE DISTRICT
Sunrise Service Area

Water Shortage Contingency Plan - Stages of Action

STAGE 5 – Water Emergency

Stage 5 is triggered in the event that the District's supply or distribution system will not be able to meet all the water demands of its customers under Stage 4. In addition to the measures implemented in Stages 1, 2, 3, and 4, irrigation is restricted to one day a week in a 1-hour time slot, as described below. Customers are notified of the stage 5 water shortage and asked to voluntarily reduce water usage 50%.

- **Irrigation Zones.** Landscape Irrigation shall be permitted by zone in accordance with the schedule:

		Time of Day
Zone	Watering Day	9-10pm
1	Tue	
4	Wed	
2	Thu	
5	Fri	
3	Sat	
6	Sun	