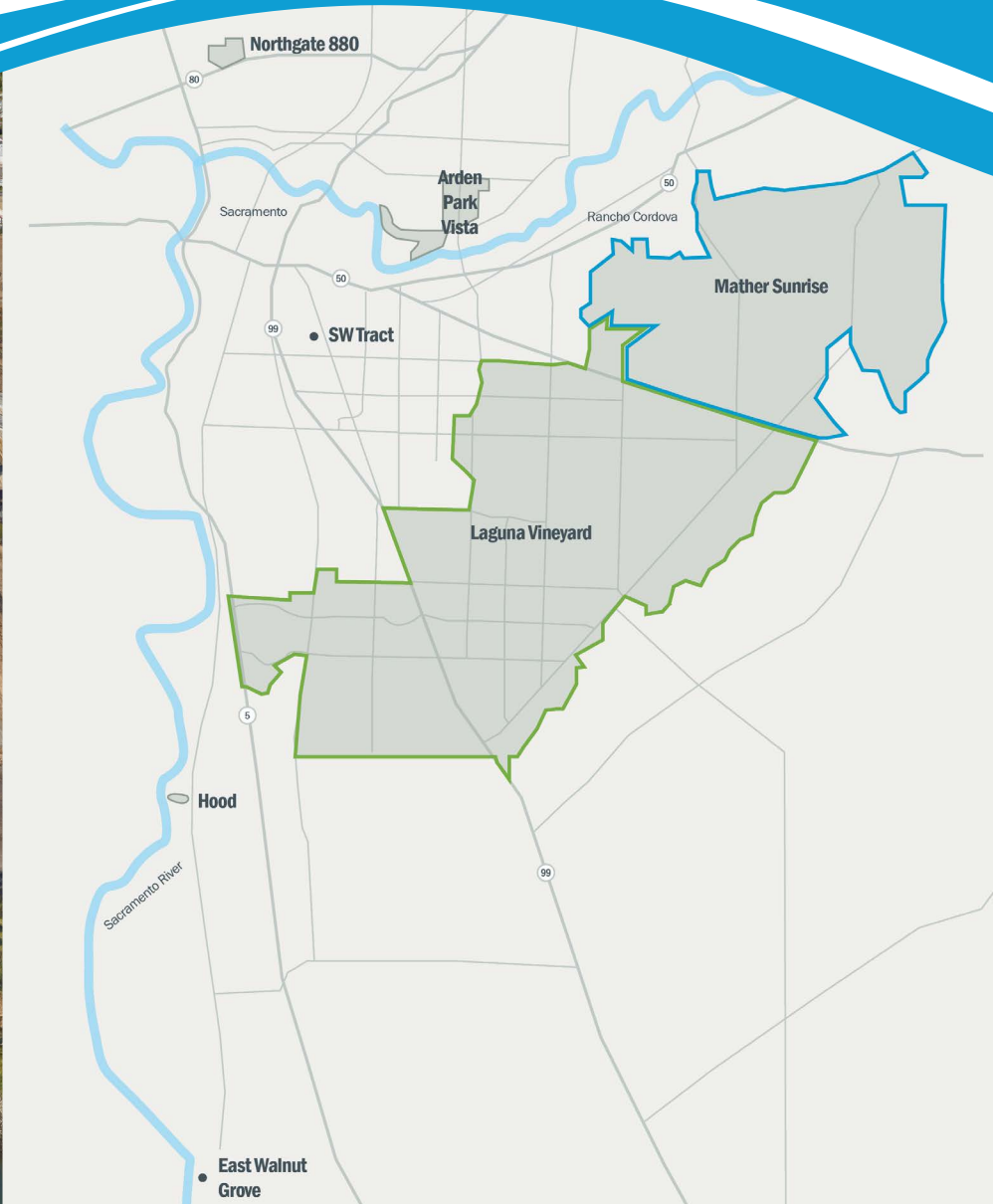
Brown AND Caldwell

Prepared for
Sacramento County Water Agency

SACRAMENTO COUNTY WATER AGENCY

2015 Urban Water Management Plan

June 2016



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148373

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List of Abbreviations

Act	Urban Water Management Planning Act
ac-ft	acre-feet
ac-ft/yr	acre-feet per year
Agency Act	Sacramento County Water Agency Act
ALERT	Automated Local Evaluation in Real Time
AWWA	American Water Works Association
BMP	best management practices
Cal-Am	California American Water Company
CASGEM	California Statewide Groundwater Elevation Monitoring
CBSC	California Building Standards and Code
CRS	Community Rating System
CSA	Central Service Area
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
DHCD	Department of Housing and Community Development
DMM	Demand Management Measure
DWR	California Department of Water Resources
EPA	U.S. Environmental Protection Agency
ETo	evapotranspiration
ft	feet/foot
FRWA	Freeport Regional Water Authority
FVWC	Fruitridge Vista Water Company
GET	Groundwater and Extraction Treatment
GMP	groundwater management plan
GPCD	gallons per capita per day
GSA	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plans
IRWMP	Integrated Regional Water Management Plan
kWh	kilowatt-hour
LHMP	Local Hazard Mitigation Plan
MIE	Media in Education
M&I	Municipal and Industrial
MGD	million gallons per day
MIE	media in education
NSA	North Service Area
NWS	National Weather Service
°F	degrees Fahrenheit
PL	public law
Plan	Urban Water Management Plan
POU	Place of Use
PSA	public service announcement
Reclamation	U.S. Bureau of Reclamation
RWA	Regional Water Authority
RWQCB	Regional Water Quality Control Board
SACOG	Sacramento Area Council of Governments
SB X7-7	Senate Bill X7-7
SCGA	Sacramento Central Groundwater Authority
SCWA	Sacramento County Water Agency
SGA	Sacramento Groundwater Authority
SGMA	Sustainable Groundwater Management Act
SMUD	Sacramento Municipal Utilities District
SRCSD	Sacramento Regional County Sanitation District
SSA	South Service Area
SSWD	Sacramento Suburban Water District
SWRCB	State Water Resources Control Board
SWTP	Surface Water Treatment Plant
SWTWMD	Southwest Tract Water Maintenance District
WDR	Waste Discharge Requirement
WEP	Water Efficiency Program
WROS	Water Recycling Opportunities Study
WRPP	Water Recycling Pilot Program

Section 1

Introduction

This Urban Water Management Plan (Plan) addresses the Sacramento County Water Agency (SCWA) and includes a description of the water supply sources, historical and projected water use, and a comparison of water supply to water demands during normal, single-dry, and multiple-dry years. SCWA supplies water to its retail customers and also provides wholesale water supply to a retail water agency, Elk Grove Water District. This Plan serves as a long-range planning document for SCWA's water supply. Elk Grove Water District has prepared its own 2015 Plan, which should be consulted for details on their demands and supplies. This section describes the Urban Water Management Planning Act (Act) and the Plan organization.

1.1 Urban Water Management Planning Act

SCWA's Plan has been prepared in accordance with the Act, as amended, California Water Code, Division 6, Part 2.6, Sections 10610 through 10656. 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 amended in November 2009 with the adoption of the Water Conservation Act or SBX 7-7 and was most recently amended in 2014. The Water Conservation Act is described in Division 6, Part 2.55, Section 10608.

The Act requires every urban water supplier that provides water for municipal purposes to more than 3,000 connections, or supplying more than 3,000 acre-feet (ac-ft) of water annually, to adopt and submit a Plan every five years to the California Department of Water Resources (DWR). The Act describes the required contents of the Plan as well as how urban water suppliers should adopt the Plan.

1.2 Plan Organization

This section provides a summary of the sections in the Plan. Section 2 presents the basis for preparing the Plan, linkage to regional planning, and coordination and outreach. Section 3 provides the system description including SCWA's organization, service area, climate, and demographics. Section 4 presents current and projected water uses. Section 5 presents the per capita water demand baselines and targets. Water supply sources are described in Section 6. Section 7 describes the reliability of the water supplies. Section 8 presents the water shortage contingency planning and Section 9 addresses water demand management measures. Section 10 addresses the Plan adoption and submittal. Section 11 presents the references used to help prepare this Plan. 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. The checklist is completed for this Plan and provided in Appendix D. It references the sections and page numbers where the specific items can be found.

Section 2

Plan Preparation

This section presents the basis for preparing the Plan; Plan identification, coordination, and outreach; and Plan notification.

2.1 Basis for Preparing the Plan

SCWA is both a retail urban water supplier and a wholesale water supplier. Table 2-1 presents the public water system name and number for the applicable water systems that are owned and operated by SCWA. As shown in Table 2-1, SCWA owns and operates several smaller water systems that are below the size threshold for Plan reporting. The smaller water systems are included in this Plan.

SCWA has selected individual reporting for this Plan, as identified in Table 2-2. This Plan is reporting on a calendar year basis using ac-ft as the unit of measure as noted in Table 2-3.

Table 2-1. (DWR Table 2-1 R) Retail Only: Public Water Systems

Public water system number	Public water system name	Number of municipal connections, 2015	Volume of water supplied, ac-ft 2015
CA3400101	Hood Water Maintenance District	81	35
CA3400106	East Walnut Grove	157	64
CA3400156	Southwest Tract Water Maintenance District	30	25
CA3400173	Northgate 880	262	1,074
CA3410002	Arden Park Vista	2,979	2,803
CA3410029	Laguna Vineyard[a]	43,767	21,618
CA3410704	Mather-Sunrise[b]	5,482	3,531
	Metro Air Park[c]	0	0
Total		52,758	29,150

Notes: Source of data is spreadsheet workbook file entitled "SCWA 2015 UWMP_ Connection and Consumption Data.xlsx" provided by Dan Gwaltney in email dated January 12, 2016. Source of 2015 Elk Grove wholesale deliveries is memo provided by Dave Zuccaro on April 15, 2016.

[a] Corresponds to SCWA's Zone 40 Central and South Service Areas. Includes raw water and recycled water. Excludes wholesale water deliveries to Elk Grove and City of Sacramento, with a 7.5% and 3.0% assumed loss respectively. See Section 4.1 for explanation.

[b] Corresponds to SCWA's Zone 40 North Service Area.

[c] Inactive water system.

Table 2-2. (DWR Table 2-2) Plan Identification		
✓	Individual UWMP	
	Regional UWMP (RUWMP) (checking this triggers the next line to appear)	
	Choose One:	
		RUWMP includes a Regional Alliance
		RUWMP does not include a Regional Alliance
Notes:		

Table 2-3. (DWR Table 2-3) Agency Identification	
Type of Agency (select one or both)	
✓	Agency is a wholesaler
✓	Agency is a retailer
Fiscal or calendar year (select one)	
✓	UWMP tables are in calendar years
	UWMP tables are in fiscal years
If using fiscal years Provide month and day that the fiscal year begins	
Day	Month
Units of measure used in UWMP (select one)	
✓	acre feet (ac-ft)

2.2 Coordination and Outreach

This section presents the coordination that SCWA conducted in the preparation of this Plan with other agencies.

2.2.1 Coordination between Wholesaler and their Retailers

SCWA supplies wholesale water to a retail water agency and is supplied water by a wholesale water agency. The Act requires that both wholesale and retail water agencies that rely on each other for water supply provide each other information regarding projected water supply and demand.

SCWA coordinated with its current retail water agency customer, Elk Grove Water District, by identifying and quantifying water supplies available from SCWA. Elk Grove Water District provided their projected use of wholesale water as well as their population projections. A possible future wholesale customer is California American Water Company (Cal-Am) in the western portion of the Rio del Oro planning subarea. Recently, SCWA has supplied a small amount of water to the City of Sacramento. SCWA coordinated with Cal-Am by providing an estimate of the water demand for that future wholesale area. Table 2-4 presents the water supplier information exchange that was done.

Table 2-4. (DWR Table 2-4 W) Wholesale: Water Supplier Information Exchange

	Supplier has informed more than 10 other water suppliers of water supplies available in accordance with CWC 10631. Completion of the table below is optional. If not completed include a list of the water suppliers that were informed.
✓	Supplier has informed 10 or fewer other water suppliers of water supplies available in accordance with CWC 10631.Complete the table below.
Water supplier name	
Elk Grove Water District	
California American Water Company	
City of Sacramento	

SCWA is supplied wholesale water by the U.S. Bureau of Reclamation (Reclamation) and the City of Sacramento . Reclamation does not prepare a Plan. SCWA provided the Reclamation and the City of Sacramento its projected water demand for the wholesale water supply. Table 2-5 presents the information exchange with the wholesale suppliers.

Table 2-5. (DWR Table 2-4 R) Retail: Water Supplier Information Exchange

The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.
Wholesale water supplier name
US Bureau of Reclamation
City of Sacramento

2.2.2 Coordination with Other Agencies and the Community

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. Table 2-6 provides a summary of the Plan coordination with the appropriate agencies.

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. SCWA participates in RWA's regional water efficiency program designed to help local purveyors implement best management practices on a regional basis.

Table 2-6. Coordination of Plan Preparation

	Was contacted for input	Was sent a copy of the draft Plan	Commented on the draft Plan	Was sent a notice of public hearing	Attended the public hearing
Golden State Water Company					
California American Water Company	✓				
City of Elk Grove				✓	
East Bay Municipal Utility District					
Elk Grove Water District	✓				
City of Folsom					
Fruitridge Vista Water Company					
Omochumne-Hartnell Water District					
City of Rancho Cordova				✓	
Regional Water Authority					
Sacramento Groundwater Authority					
City of Sacramento	✓				
Sacramento Suburban Water District					
Sacramento Central Groundwater Authority					
Sacramento Regional County Sanitation District					
US Bureau of Reclamation	✓				

2.2.3 Notices to Cities and Counties

As required by the Act, SCWA notified cities and counties within the service area at least 60 days before the public hearing that the Plan was being prepared. Section 10 presents the information on this notice to cities and counties. SCWA is part of the County of Sacramento, so it did not need to provide notification to Sacramento County.

Section 3

System Description

This section describes the SCWA's service area, organization, water supply facilities, service area climate, and population.

3.1 General Description

SCWA was formed in 1952 by a special legislative act of the State of California called the Sacramento County Water Agency Act (Agency Act). SCWA is governed by a Board of Directors. Under the Agency Act, the Board may contract with the federal government and the State of California with respect to the purchase, sale, and acquisition of water. SCWA may also construct and operate any required capital facilities.

SCWA provides retail water supply to portions of unincorporated Sacramento County, the City of Rancho Cordova, and the City of Elk Grove. SCWA also provides wholesale water supply to a portion of the service area of Elk Grove Water District. It is anticipated that SCWA will also provide wholesale water supply in the future to Cal Am's service area in Rio del Oro. Elk Grove Water District operates a retail water system serving customers within a portion of the City of Elk Grove.

The combined Mather Sunrise and Laguna Vineyard public water systems are known as Zone 40. The Mather Sunrise system consists of the Zone 40 North Service Area (NSA). The Laguna Vineyard water system consists of both the Zone 40 Central Service Area (CSA) and South Service Area (SSA)

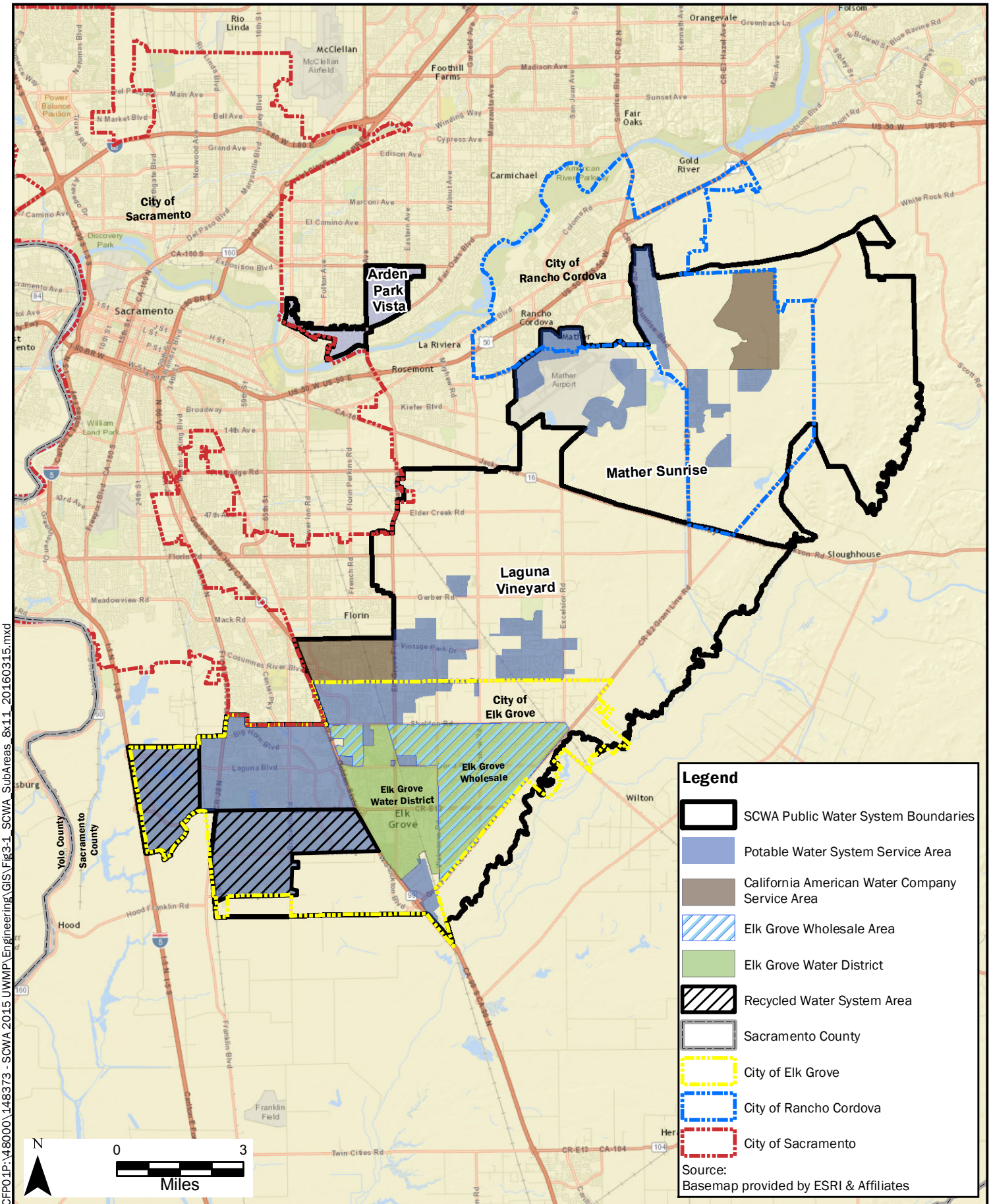
Figure 2-1 illustrates SCWA's service area and relevant jurisdictional boundaries. The service area of the water distribution system is also shown.

3.1.1 Mather Sunrise

The Mather Sunrise water system is also known as the NSA. The NSA is located south of the American River and includes part of the City of Rancho Cordova. The NSA is currently supplied exclusively by groundwater. The NSA is the least developed of the three service areas, with currently less than 10 percent of the projected build out population. This service area includes the old Mather and Sunrise Corridor systems, as well as the newer Sunridge system. 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-1990s. 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.

3.1.2 Laguna Vineyard

The Laguna Vineyard water system consists of the CSA and the SSA. The CSA is located to the south of the NSA and includes a portion of the City of Elk Grove. The CSA is supplied by surface water from the Vineyard Surface Water Treatment Plant (SWTP) and groundwater. SCWA provides wholesale water to Elk Grove Water District within the CSA. This service area includes the old Grantline-99 system, as well as the newer Vineyard, Vineyard Springs, and North Vineyard Station areas.



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DATE	PROJECT	SITE
3/15/16	148373	Sacramento County Water Agency Urban Water Management Plan

Brown AND Caldwell

DEPARTMENT OF WATER RESOURCES
SACRAMENTO COUNTY WATER AGENCY

TITLE

Sacramento County Water Agency Service Area

Figure 3-1

The CSA is predominately residential with a small amount of commercial and institutional customers and a large rural component to the east.

The SSA is located south of the CSA and to the west of Highway 99 and includes a portion of the City of Elk Grove. The SSA is supplied by a mix of surface water, groundwater, and recycled water. The SSA is predominantly residential with some commercial and institutional customers as well.

3.1.3 Arden Park Vista

The Arden Park Vista water system 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 water system is supplied by groundwater wells.

3.1.4 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.

3.1.5 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.

3.1.6 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.

3.1.7 Southwest Tract

The Southwest Tract service area is located in central Sacramento County, south of the American River, near Fruitridge Road and Stockton Boulevard. 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.

3.1.8 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. A water 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. 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.

3.2 Service Area Climate

The SCWA's 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 minimum and maximum monthly temperature ranges from 38 to 93 degrees Fahrenheit. The combination of hot and dry weather results in higher water demands during the summer than in the winter months. Table 3-1 summarizes the Sacramento region's climate conditions.

Table 3-1. Monthly Average Climate Data Summary

Month	Standard monthly average ET_o (inches)[a, c]	Average rainfall (inches) [b]	Average temperature (degrees Fahrenheit) [b]	
			Max	Min
January	1.14	3.56	53.5	37.8
February	1.76	3.07	59.9	41.0
March	3.28	2.44	64.6	43.1
April	4.51	1.17	71.4	45.9
May	6.46	0.50	79.9	50.7
June	7.44	0.18	87.2	55.4
July	7.91	0.03	92.7	58.2
August	7.02	0.06	91.5	57.8
September	5.13	0.25	87.7	55.8
October	3.33	0.93	77.7	50.2
November	1.59	2.04	63.7	42.6
December	1.02	3.02	53.8	38.2
Total	50.59	17.25		

[a] *Data recorded from Sacramento Valley, Fair Oaks station 131, CIMIS www.cimis.water.ca.gov (April 1997 – October 2015).*

[b] *Data recorded from Sacramento Executive Airport, WRCC Station Number 047630 wrcc.dri.edu (November 1941 - January 2015)*

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

3.3 Service Area Population and Demographics

This section presents the historical and projected population within the service areas of the eight public water systems. Table 3-2 presents the current and projected future population for SCWA's retail water systems. The 2015 population is estimated using the DWR population tool. The DWR population tool uses a GIS map of the water distribution system service area to calculate the 2010 population using the 2010 census and then estimates the 2015 population based on a correlation of the number of single family and multi family connections in 2015 compared to 2010.

The projected populations for the Mather Sunrise and Laguna Vineyard water systems are based on the projections developed in the Water System Infrastructure Plan Update (SCWA, 2016). That document developed buildout land use acreage by type of approved land use, which was used to quantify the buildout number of dwelling units and water system connections. That assessment included the proposed West Jackson, Jackson Township, and NewBridge projects. The number of buildout dwelling units was used to estimate the buildout population. Buildout is projected to occur after 2040 in Zone 40. The annual growth in

population was developed from the assumed annual numbers of new connections. The populations for the Arden Park Vista, East Walnut Grove, Hood, and Southwest Tract systems are expected to remain stable at since those service areas are built out. The Metro Air Park and Northgate 880 water systems do not have residential population and are expected to remain with only nonresidential customers.

The projected populations for SCWA's wholesale customers presented in Table 3-3 were developed by SCWA and shared with those retail agencies (SCWA, 2016).

Table 3-2. (DWR Table 3-1 R) Retail: Population - Current and Projected

Water system	2015	2020	2025	2030	2035	2040
Arden Park Vista [a]	[b]	9,372	9,372	9,372	9,372	9,372
Hood Water Maintenance District [a]	[b]	256	256	256	256	256
East Walnut Grove [a]	[b]	428	432	436	440	440
Southwest Tract Water Maintenance District [a]	[b]	157	157	157	157	157
Northgate 880 [a]	[b]	0	0	0	0	0
Zone 40, Laguna Vineyard and Mather-Sunrise [c]	[b]	186,347	220,402	256,900	295,843	337,229
Metro Air Park [a]	[b]	0	0	0	0	0
Population served	165,895	196,560	230,619	267,121	306,068	347,454

[a] *Based on projection in 2010 UWMP.*

[b] *Not quantified separately with DWR population tool.*

[c] *Population developed in Water System Infrastructure Plan Update (SCWA, 2016).*

Table 3-3. (DWR Table 3-1 W) Wholesale: Population - Current and Projected

Retail agency	2015	2020	2025	2030	2035	2040
Elk Grove Water District Wholesale Area	10,500	12,053	12,963	13,845	14,697	15,520
Cal-Am Rio del Oro	-	-	2,500	5,000	7,500	10,000
Total		12,053	15,463	18,845	22,197	25,520

Note: Developed by SCWA. No population projection has been received from the retail agencies.

3.3.1 Other Demographic Factors

Other demographic factors that affect water management planning include the uncertainty in estimating future population growth and per capita water use. The actual population growth that has occurred since the preparation of the 2005 and 2010 Plans has been generally less than anticipated. The recession that started in 2008 and the accompanying slow down in the construction of dwelling units resulted in population not growing as much as previously estimated. The adoption of 2020 per capita demand targets in 2010 along with the mandated demand reductions announced by the Governor in 2015 due to the drought have resulted in a significant decline in per capita water use. It is not known to what extent per capita water use will rebound to pre-drought levels once the drought ends. The uncertainties with both future population and per capita water use are considered in SCWA's water management planning.

Section 4

System Water Use

This section presents the current and projected retail water demands by sector and the demands of SCWA's wholesale water customers, distribution system water losses, passive water savings, low income household water use, and climate change impacts on water use.

4.1 Water Uses by Sector

The 2015 retail water demands by customer sector are presented in Table 4-1. Since SCWA's water system connections are not fully metered, the 2015 water sales by use type in Table 4-1 is estimated. The total water production in Table 4-1 excludes the deliveries to wholesale water customers plus an assumed amount for system losses. The 2015 wholesale water demands are presented in Table 4-2.

Table 4-1. (DWR Table 4-1 R) Retail: Demands for Potable and Raw Water – Actual

Use type	2015 Actual		
	Additional description	Level of treatment when delivered	Volume, ac-ft/yr
Single family		Drinking water	16,526
Multi-family		Drinking water	759
Commercial		Drinking water	2,442
Industrial		Drinking water	311
Institutional/Governmental		Drinking water	586
Landscape		Drinking water	1,510
Landscape		Raw water	170
Losses		Drinking water	6,270
Total			28,574

Note: Source of data is spreadsheet workbook file entitled "SCWA 2015 UWMP_ Connection and Consumption Data.xlsx" provided by Dan Gwaltney in email dated January 12, 2016.

System losses may include some non metered water uses since not all connections are metered.

The total water production excludes deliveries to wholesale customers and water losses associated with those deliveries as presented in Table 4-2.

Table 4-2. (DWR Table 4-1 W) Wholesale: Demands for Potable and Raw Water - Actual			
Use type	2015 Actual		
	Additional description	Level of treatment when delivered	Volume, ac-ft/yr
Sales to other agencies	Elk Grove Water District	Drinking water	1,987
Sales to other agencies	City of Sacramento	Drinking water	627
Losses	Transmission losses	Drinking water	78
Total			2,692

Note: Source of Elk Grove data provided in memo provided by Dave Zuccaro on April 15, 2016. The data identified as "Water Deliveries to EGWD as reported from customer's meters" of 1,901 ac-ft is used. Assumed 4.5 percent loss added for system losses from wholesaler/retailer interconnections to retail agency's customers. Losses are calculated as a percent of the sales amount.

Source of City of Sacramento data provided in spreadsheet workbook file entitled "SCWA 2015 UWMP_ Connection and Consumption Data.xlsx" provided by Dan Gwaltney in email dated January 12, 2016.

Transmission system losses estimated as 3.0 percent from water sources to interconnections. Transmission system losses are calculated as a percent of the sales amount for Elk Grove and the wholesale delivery amount for the City.

Table 4-3 presents the current and projected future water demand by system, excluding recycled water and raw water. Tables 4-4 and 4-5 present the projected retail and wholesale water demands by use type through 2040. The projected retail water demands for the Laguna Vineyard and Mather Sunrise water systems are based on the projections developed in the 2016 Water System Infrastructure Plan (SCWA, 2016). In that document the buildout land use analysis was used to develop the buildout water demands. The assumed growth rate in water system connections was used to develop the water demand projections for the years before buildout. The portion of the demand projection for the other water systems are the same as the projections developed in the 2010 Plan since that is the most recent projection that has been developed. The projection of the wholesale demands for the Elk Grove wholesale area are based on coordination with Elk Grove Water District. The projection of the wholesale demands for Cal-Am are based on an analysis prepared by SCWA (SCWA, 2016). Tables 4-6 and 4-7 present the 2015 and projected total potable and recycled water demands.

Table 4-3. Water Demands by System						
	2015	2020	2025	2030	2035	2040
Retail						
Zone 40, Laguna Vineyard and Mather Sunrise	24,403	41,312	48,881	56,816	64,786	72,921
Arden Park Vista	2,803	3,630	3,527	3,412	3,315	3,315
East Walnut Grove	64	132	133	132	133	133
Hood	35	62	60	59	57	57
Northgate 880	1,074	1,264	1,168	1,148	1,131	1,131
Southwest Tract	25	21	21	21	21	21
Retail subtotal	28,404	46,421	53,790	61,588	69,443	77,578

Table 4-3. Water Demands by System						
	2015	2020	2025	2030	2035	2040
Wholesale						
Elk Grove	1,986	4,000	4,200	4,560	4,560	4,560
Cal-Am Rio del Oro	-	-	486	1,006	1,491	2,012
City of Sacramento	627	-	-	-	-	-
Transmission system losses	78	120	141	167	182	197
Wholesale subtotal	2,691	4,120	4,826	5,733	6,233	6,769
Total potable demand, retail and wholesale	31,095	50,541	58,616	67,321	75,676	84,346
Recycled and raw water	745	1,700	1,700	1,700	1,700	1,700
Total demand	31,840	52,241	60,316	69,021	77,376	86,046
Retail demand w/ RW	29,149	48,121	55,490	63,288	71,143	79,278

Table 4-4. (DWR Table 4-2 R) Retail: Demands for Potable and Raw Water – Projected					
Use type	Projected water use, ac-ft/yr				
	2020	2025	2030	2035	2040
Single family	30,840	34,322	37,540	40,282	42,663
Multi-family	2,139	3,257	4,629	6,245	8,118
Commercial	5,223	6,057	7,060	8,145	9,360
Industrial	524	1,084	1,801	2,670	3,699
Institutional/Governmental	1,109	1,251	1,391	1,517	1,635
Landscape	3,196	3,920	4,730	5,604	6,554
Losses	3,390	3,898	4,437	4,982	5,549
Total	46,421	53,789	61,588	69,445	77,578

Notes: Projected demands for all of SCWA's retail water systems.

Table 4-5. (DWR Table 4-2 W) Wholesale: Demands for Potable and Raw Water - Projected						
Use type	Additional description	Projected water use, ac-ft/yr				
		2020	2025	2030	2035	2040
Sales to other agencies	Elk Grove Water District	4,000	4,200	4,560	4,560	4,560
Sales to other agencies	California American Water Company	0	486	1,006	1,491	2,012
Losses	Losses from supply sources to wholesale/retail interconnections projected to be 3.0% of wholesale delivery amounts.	120	141	167	182	197
Total		4,120	4,826	5,733	6,233	6,769

Note: Subsequent to release of the public draft, EGWD presented their projections as 2,940 ac-ft/yr , 3,316 ac-ft/yr, 3,400 ac-ft/yr, 3,442 ac-ft/yr, and 3,462 ac-ft/yr for the five year intervals.

Table 4-6. (DWR Table 4-3 R) Retail: Total Water Demands, ac-ft/yr						
	2015	2020	2025	2030	2035	2040
Potable and raw water from Tables 4-1 and 4-5	28,574	46,421	53,789	61,588	69,445	77,578
Recycled water demand from Table 6-6	575	1,700	1,700	1,700	1,700	1,700
Total water demand	29,149	48,121	55,489	63,288	71,145	79,278

Table 4-7. (DWR Table 4-3 W) Wholesale: Total Water Demands, ac-ft/yr						
	2015	2020	2025	2030	2035	2040
Potable and raw water from Tables 4-2 and 4-4	2,692	4,120	4,826	5,733	6,233	6,769
Recycled water demand from Table 6-4	0	0	0	0	0	0
Total water demand	2,692	4,120	4,826	5,733	6,233	6,769

4.2 Distribution System Water Losses

Water losses in SCWA's water system for 2015 are presented in Table 4-8. A detailed water system loss analysis is provided in Appendix G. The water audit is an accounting exercise that tracks all sources and uses of water within a water system over a specified period.

Metered records are available for the retail customers that are located in the Elk Grove Water District's wholesale area. SCWA does not currently meter the wholesale water supplied to Elk Grove Water District at the multiple points of interconnection. Therefore, the water losses that occur between the wholesale/retail interconnections and each retail customer is projected to be 4.5 percent of the retail customer water sales amount and 3.0 percent from SCWA's production sources to the wholesale/retail interconnections.

Table 4-8. (DWR Table 4-4 R&W) Retail and Wholesale: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (Month/Year)	Volume of Water Loss, ac-ft/yr
1/2014	2,860
Note: Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.	

4.3 Water Savings from Codes, Standards, Ordinances, or Transportation and Land Use Plans

Water savings from codes, standards, ordinances, or transportation and land use plans decrease the future water use for both existing and future customers compared to past water use characteristics. These water savings have been partially included in the water demand projections as noted in Table 4-9. Table 4-10 has been developed to quantify the projected water demand that includes the total water savings.

The requirements that will result in future water savings include:

Model Water Efficient Landscape Ordinance – Effective on December 1, 2015, this new ordinance is projected to reduce the typical residential outdoor landscape demands for new construction by up to 20

percent from the estimated demand using the prior ordinance provisions. Commercial landscape for new construction may reduce outdoor water demand by up to 35 percent over the prior ordinance.

California Energy Commission Title 20 appliance standards for toilets, urinals, faucets, and showerheads – This standard will impact both new construction and replacement fixtures in existing homes. This is included in the CALGreen assumption for new construction described below.

CALGreen Building Code – Requires residential and non-residential water efficiency and conservation measures for new buildings and structures.

For the development of Table 4-10, it is assumed that the reduction in unit water demands for customers in 2040 compared to existing older customers will be approximately 25 percent lower for residential customers, 15 percent lower for nonresidential customers, and 20 percent lower for landscape water customers.

Table 4-9. (DWR Table 4-5 R) Retail Only: Inclusion in Water Use Projections

Are future water savings included in projections?	Yes
If "Yes" to above, state the section or page number where citations of the codes, ordinances, etc... utilized in demand projections are found.	Location in UWMP on page 4-4.
Are lower income residential demands included in projections?	Yes

Table 4-10. 2040 Water Demand Projections with Savings due to Codes and Standards

Customer category	Demand with no future savings	Demand as presented in Table 4-4	Demand with full savings
Single family	48,697	42,663	36,752
Multi-family	10,532	8,118	7,697
Commercial	10,008	9,360	8,543
Industrial	3,990	3,699	3,446
Institutional	1,749	1,635	1,495
Landscape irrigation	7,294	6,554	5,758
Losses	6,170	5,549	4,777
Total	88,440	77,578	68,468

4.4 Water Use for Lower Income Households

The Act requires that the water demand projections include the projected water use for lower income households. The demand projections presented in this Plan include all of the households in SCWA's service area, therefore lower income household water use is included in the demand projections. DWR states that

water suppliers should determine the number of low income housing units projected for the service area as identified in housing elements of applicable general plans and estimate their projected water use. The income limits for lower income households are to be established by DWR based on 80 percent of area median income, adjusted for family size. The Sacramento County median household income is $55,615 and $79,051 for the City of Elk Grove.

None of the applicable housing elements quantify the number of low income households in SCWA's service area, and none of them present projections. The Housing Element of the Sacramento County General Plan, which was adopted on October 8, 2013, states that the Vineyard Community Area has 23.1 percent low income households (Sacramento County, 2013). The City of Elk Grove Housing Element (City of Elk Grove, March 2015) does not quantify the number of low income households. The Sacramento Area Council of Governments (SACOG) estimates that the low income households are 43 percent of the total for Sacramento County, 25 percent for the City of Elk Grove, and 48 percent for the City of Rancho Cordova (SACOG, 2012). Based on these information sources, it is likely that the proportion of low income households within SCWA's service area is within the range of 23 to 48 percent of the total number of households.

Section 5

SB X7-7 Baselines and Targets

This section presents the updated per capita water demand baseline and target analysis including the baseline periods, service area population, gross water use, resulting updated baseline and target per capita water use, and comparison of the 2015 per capita water use to the 2015 target. This analysis replaces the analysis prepared for the 2010 Plan. The Senate Bill (SB) X7-7 verification tables are presented in Appendix E.

5.1 Baseline Periods

SCWA selected the 1995 to 2004 as its 10-year baseline period and 2003 to 2007 as its 5-year baseline period in the 2010 Plan. SCWA has decided to use the same baseline periods for this Plan. The baseline period ranges are presented in Table 5-1.

5.2 Service Area Population

In order to calculate the annual baseline gallons per capita per day (GPCD), SCWA re-estimated the served population for each baseline year in both the baseline periods and for the 2015 compliance year. SCWA conducted a baseline population analysis as part of the 2010 Plan based on the year 2000 census and using the population of all of its public water systems. The year 2010 census data was not available until after the 2010 Plan submittal deadline. For this 2015 UWMP, SCWA re-calculated its baseline population using 1990, 2000, and 2010 census data for its public water systems. The DWR population tool was used as noted in Table SBX7-7 Table 2, located in Appendix E. The boundaries of areas served by the water distribution systems in 1990 and 2010 were used with the population tool. The population for the non-census years was determined by correlating the population to the number of single and multifamily residential connections for each of those years. The updated population results are presented in Table SBX7-7 Table 3, located in Appendix E.

5.3 Gross Water Use

Gross water use is the measure of water that enters the SCWA distribution system over a 12-month period with certain allowable exclusions. SCWA's gross water use for the baseline years and 2015 are shown in Table SBX7-7 Table 4 located in Appendix E.

5.4 Baseline Daily Per Capita Water Use

The daily per capita water use for each of the baseline years is calculated by dividing the gross water use for each year by the service area population for each year as presented in Table SBX7-7 Table 5, located in Appendix E. The resulting 5-year and 10-year baseline per capita water use are shown in Table 5-1. The 10-year baseline per capita water use determined in the 2010 Plan was 278 GPCD compared to the 295 GPCD determined in this updated analysis.

5.5 2015 and 2020 Targets

SCWA has selected Method 1 to determine its per capita water use targets as noted in SBX7-7 Tables 7 and 7-A, located in Appendix E. SBX7-7 Table 7-F located in Appendix E confirms that the minimum reduction for the 2020 target is met. This is the same method selected in the 2010 Plan. Method 1 determines the per

capita water demand target as 80 percent of the baseline per capita water use. The resulting per capita water demand targets are summarized in Table 5-1. The 2020 per capita demand target of 236 GPCD compares to the 222 GPCD from the 2010 Plan.

Table 5-1. (DWR Table 5-1 R) Baselines and Targets Summary: Retail Agency or Regional Alliance Only

Baseline period	Start year	End year	Average GPCD	2015 interim target , GPCD	Confirmed 2020 target, GPCD
10-15 year	1995	2004	295	265	236
5 Year	2003	2007	248	N/A	N/A

5.6 Compliance Daily per Capita Water Use

As shown in Table 5-2, SCWA's 2015 per capita water demand was less than the 2015 interim target. There are allowable adjustments that can be made to the gross water use for extraordinary events, economic adjustments, or weather normalization. SCWA did not adjust their 2015 gross water use, as noted in Table 5-2.

Table 5-2. (DWR Table 5-2 R) 2015 Compliance: Retail Agency or Regional Alliance Only

Actual 2015 GPCD[a]	2015 Interim target GPCD[a]	Optional adjustments to 2015 GPCD from Methodology 8					2015 GPCD[a] (adjusted if applicable)	Did supplier achieve targeted reduction for 2015? Y/N
		Extraordinary events[a]	Economic adjustment[a]	Weather normalization[a]	TOTAL adjustments[a]	Adjusted actual 2015 GPCD[a]		
153	265				0	153	153	Yes

[a] *All values are in gallons per capita per day (GPCD)*

Section 6

Water Supplies

SCWA uses purchased water, surface water, groundwater, and recycled water as its sources of water supply. DWR defines purchased water as water purchased from other suppliers, including non self-supplied surface water. Surface water is defined by DWR as self-supplied water that is drawn from streams, lakes, and reservoirs (DWR, 2016). These water supply definitions are used in this Plan for the purpose of describing SCWA's water supplies. This section describes each of the water supplies, future water projects, and climate change impacts to supply.

6.1 Purchased Water

SCWA has two sources of purchased surface water supplies, as described below.

6.1.1 Central Valley Project

The Central Valley Project (CVP) water supply consists of the CVP contract held by SCWA and the two Sacramento Municipal Utilities District (SMUD) assignments that total 45,000 acre feet per year (ac-ft/yr). Most of the CVP water is diverted at the Freeport diversion on the Sacramento River and treated at the Vineyard SWTP. Some of the CVP supplies are diverted from the Sacramento River and treated at the City's Sacramento River Surface Water Treatment Plant and delivered to SCWA at the Franklin Intertie.

SCWA entered into a contract in April 1999 with the Reclamation for 22,000 ac-ft/yr of CVP supplies pursuant to Public Law (PL) 101-514. This contract is often referred to as "Fazio Water" in recognition of the efforts by Congressman Vic Fazio to secure this contract. Of this 22,000 ac-ft/yr, 7,000 ac-ft/yr has been subcontracted to the City of Folsom for diversion from Folsom Lake, with 15,000 ac-ft/yr available for SCWA through the Freeport diversion or Franklin Intertie.

SCWA has entered into two three-party agreements with the City of Sacramento and SMUD for the assignment to SCWA for a total of 30,000 ac-ft/yr of water from SMUD's existing contract with Reclamation. These assignments are often referred to as "SMUD I" and "SMUD II".

SCWA's total CVP supply is subject to reductions in dry years. The water supply allocations are defined by Reclamation on a year to year basis and are expressed as a percentage of either the contract amount or amount of average use. For the 21 year period of 1995 to 2015, the lowest allocation was in 2015 when it was established as 25 percent of the previous three years average unconstrained use.

The water supply allocations are based on a draft policy that defines water shortage terms and conditions. Reclamation initiated the development of a Municipal and Industrial (M&I) Water Shortage Policy in 1992, with several proposals prepared through 2001. The 2001 draft water shortage policy states that Reclamation would reduce M&I water to a contractor once irrigation water allocations are reduced below 75 percent of the contract amount. Reclamation has a provision in the draft policy for a minimum M&I shortage allocation of 75 percent that is applied to the last three years of historical use with certain adjustments, although the actual allocation in 2014 was 75 percent and in 2015 it was 25 percent of the use during the previous three unconstrained years. In 2010, Reclamation convened several workshops that will lead to the development of an Environmental Impact Statement that could potentially modify the existing policy or develop a new policy (US, 2011). This process has not been completed.

6.1.2 City of Sacramento's American River Place of Use Water Supply

A portion of Zone 40 lies within the City of Sacramento's American River Place of Use (POU). The City of Sacramento has a pre-1914 water right to the American River with a POU boundary that extends beyond the City's boundary and includes a portion of Zone 40. The amount of water available to serve the POU area within Zone 40 is estimated to be 9,300 ac-ft/yr. SCWA is planning for the future wholesale delivery of American River water within the POU. A connection would be constructed to supply the Florin Vineyard Community Plan area of the Laguna Vineyard water system, with the timing based on when the supply is actually needed.

The City of Sacramento's diversions from the American River at the Fairbairn Water Treatment Plant are reduced when American River flows are less than the Hodge Flow Criteria, which would likely result in no POU water being available for SCWA in these circumstances. The City of Sacramento may decide to divert water during these restricted times at their Sacramento River diversion, although additional infrastructure might need to be constructed by the City of Sacramento to be able to convey this water to SCWA. It might be possible for SCWA to divert the POU water at the Freeport diversion. Given the uncertainty of the availability of POU water during dry periods, a supply allocation of zero percent is assumed for dry years and 100 percent for normal climate years.

6.2 Surface Water

SCWA has an appropriative water supply that is self-supplied surface water that is drawn from the Sacramento River. 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). The amount of appropriated water available for use could range up to 71,000 ac-ft/yr in wet years, primarily during the winter months. This water would be diverted at the Freeport diversion on the Sacramento River. Since SCWA's demands are low in the winter months, it is possible that not all of this supply could be utilized without the ability to store the water.

6.3 Groundwater

Groundwater is a vital source of supply for SCWA. Groundwater is supplied by SCWA's system of groundwater wells and as remediated groundwater that is extracted by others.

The Arden Park Vista, Northgate 880, Hood, East Walnut Grove, and Mather Sunrise water systems are completely reliant on groundwater. The Mather Sunrise system is planned to be supplied also by purchased water and surface water in the near future. The Laguna Vineyard system is supplied by groundwater as well as purchased water, surface water, and a small amount of recycled water. Laguna Vineyard system depends on mostly groundwater during dry years when available surface water supplies are reduced. The groundwater is supplied by a system of groundwater wells and groundwater treatment plants.

This section provides a description of SCWA's groundwater supplies including descriptions of the applicable groundwater basins, the status of groundwater management, overdraft conditions, historical groundwater pumping, and the remediated groundwater supply.

6.3.1 Groundwater Basin Description

The Arden Park Vista system is supplied by groundwater from the Sacramento Valley Groundwater Basin, North American Subbasin (5-21.64) and Zone 40 system is supplied groundwater from the South American Subbasin (5-21.65).

The Water Forum Agreement divided the groundwater basin in Sacramento County into three portions as shown on Figure 6-1. The North Basin identified in Figure 6-1 is the southern portion of the North American Subbasin (5-21.64). The Central Basin's boundaries shown on Figure 6-1 are similar to the boundaries of the

South American Subbasin (5-21.65), although there are some differences. Both the North and Central Basins have had on going groundwater management efforts as described below in Section 6.3.2

Some of the other groundwater purveyors in the North American and South American Subbasins are listed in Table 6-1.

Table 6-1. Other Known Groundwater Basin Purveyors

North American Subbasin (5-21.64)	South American Subbasin (5-21.65)
City of Sacramento	City of Sacramento
Sacramento Suburban Water District	Golden State Water Company
California American Water Company	California American Water Company
Rio Linda/Elverta Community Water District	Fruitridge Vista Water Company
Golden State Water Company	Elk Grove Water District
Citrus Heights Water District	Florin County Water District
Fair Oaks Water District	Tokay Park
Orangevale Mutual Water Company	
Del Paso Manor Water District	
Carmichael Water District	
City of Roseville	
Natomas Central Mutual Water Company	

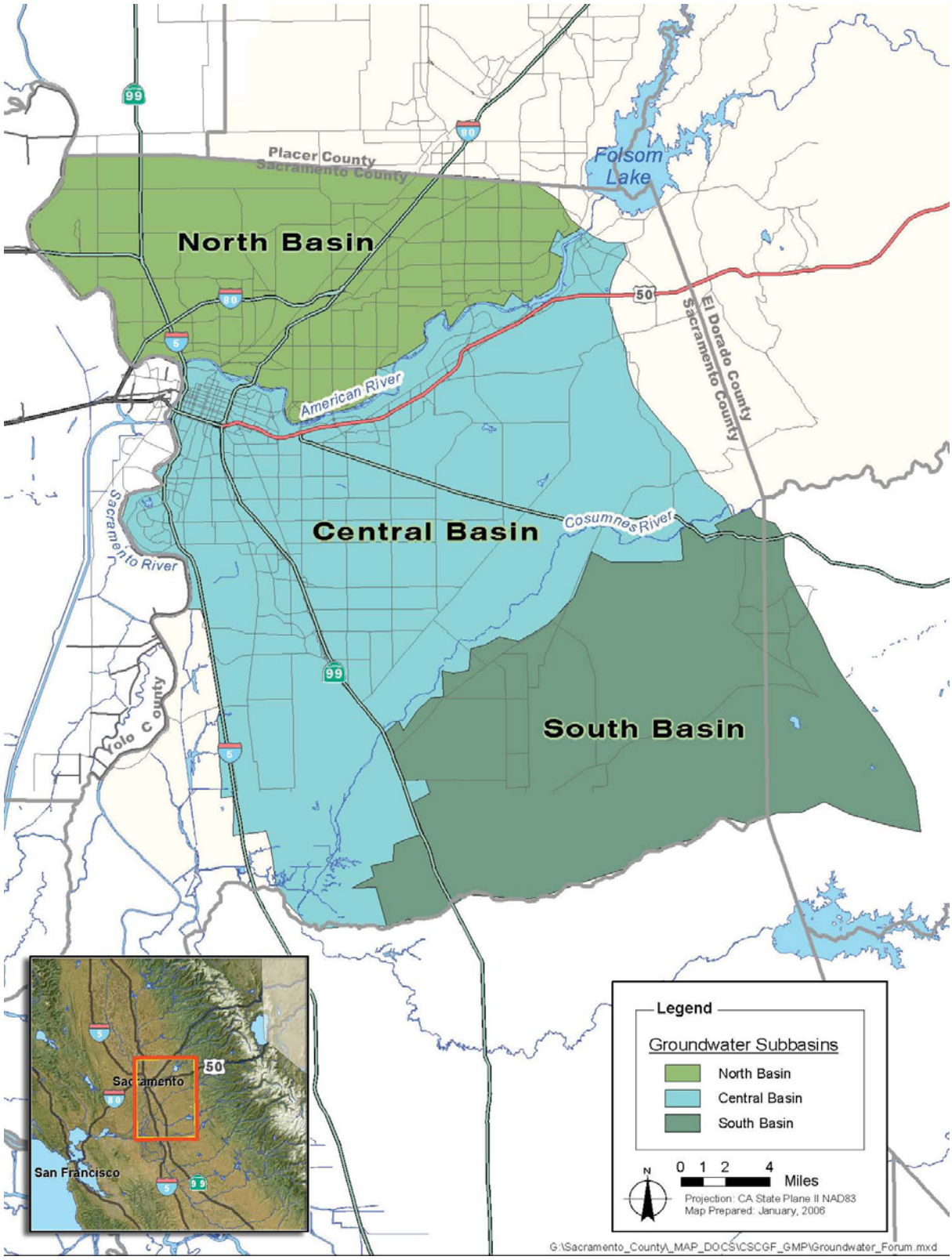

Figure 6-1. Groundwater Basins in Sacramento County

North American Subbasin (5-21.64)

The historical use of groundwater in the North American Subbasin (5-21.64) has resulted in a general lowering of groundwater levels that have stabilized in recent years. These depressions have grown and coalesced into a single cone of depression centered in the area of the prior McClellan Air Force Base. Groundwater elevations in the eastern and western areas of the North American Subbasin (5-21.64) have been fairly stable, while the central area (within the cone of depression) experienced continuing decline every year until groundwater levels stabilized and had some recovery starting in the late 1990s. The groundwater level stabilization in the cone of depression was due, at least in part, to expanded conjunctive use operations by water agencies in this area.

The groundwater quality in the North American Subbasin (5-21.64) is generally excellent. Most municipal wells do not need any treatment to meet drinking water standards other than disinfection. However, there are some wells that have iron and manganese treatment, as well as locations with elevated levels of arsenic and hexavalent chromium. There are several groundwater contaminant plumes and some point sources of contamination (e.g., leaking underground storage tanks). The three groundwater contaminant plumes emanate from source areas at the prior McClellan Air Force Base, the Roseville railroad yard, and the Aerojet in Rancho Cordova. 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.

South American Subbasin (5-21.65)

Intensive groundwater extraction from the South American Subbasin (5-21.65) in the past has resulted in a general lowering of groundwater elevations. These depressions have grown and coalesced into a single cone of depression centered near Elk Grove. With the completion of the Freeport Regional Water Authority (FRWA) project and SCWA's Vineyard SWTP, the groundwater levels are anticipated to stabilize as the conjunctive use program is fully implemented.

The groundwater quality in the South American Subbasin (5-21.65) is generally good, although iron and manganese is common and there are some occurrences of arsenic and nitrate. Most of SCWA's Zone 40 wells have iron and manganese treatment facilities.

Principal groundwater contaminant plumes within the South American Subbasin (5-21.65) emanate from source areas including Mather Field, Aerojet, Boeing, the former Army Depot, 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 South American Subbasin (5-21.65). There are on-going discussions and negotiations between purveyors and parties responsible for the clean-up to keep the remediated groundwater in the South American Subbasin (5-21.65) and put it to beneficial use.

6.3.2 Groundwater Management

This section describes the groundwater management efforts that have been occurring in the North American Subbasin (5-21.64) and the South American Subbasin (5-21.65). Neither subbasin has been adjudicated. Activities to meet the Sustainable Groundwater Management Act (SGMA) requirements are also described.

North American Subbasin (5-21.64)

The groundwater in the North Basin portion of the North American Subbasin (5-21.64) is managed by the Sacramento Groundwater Authority (SGA). 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. The goal of the SGA is to ensure a viable groundwater resource for beneficial uses including agricultural, industrial, and municipal supplies that support the Water Forum Agreement'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.

The SGA Groundwater Management Plan was first completed in December 2003 and updated in December 2008. The SGA prepares a biannual report to evaluate progress on Groundwater Management Plan (GMP) implementation and to report on basin conditions. The most recent groundwater management plan and biennial report are located at SGA's website at www.sgah2o.org.

South American Subbasin (5-21.65)

The groundwater in the Central Basin portion (as shown in Figure 4-2) of the South American Subbasin (5-21.65) is managed by the Sacramento Central Groundwater Authority (SCGA). SCGA was formed in 2006 through a joint powers agreement signed by the Cities of Elk Grove, Folsom, Rancho Cordova, and Sacramento, and the County of Sacramento. SCGA was formed for several purposes including maintaining the long-term sustainable yield of the Central Basin, managing the use of groundwater in the Central Basin, and facilitating the implementation of a conjunctive use program.

The SCGA Groundwater Management Plan, which was adopted in 2006, establishes a framework for maintaining sustainable groundwater resources in the Central Basin. This framework includes specific goals, objectives, and an action plan to manage the basin. The SCGA Groundwater Management Plan also prescribes a well protection program 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 Groundwater Management Plan includes a detailed groundwater management implementation plan to comply with the requirements of their basin management objectives. Additionally, SCGA prepares a biennial report to evaluate progress on Groundwater Management Plan implementation and to report on basin conditions. The most recent groundwater management plan and biennial report are located at SCGA's website at www.scgah2o.org.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) was enacted by the legislature in 2014, with subsequent amendments in 2015. SGMA requires groundwater management in priority groundwater basins, which includes the formation of Groundwater Sustainability Agencies (GSAs) and the development of Groundwater Sustainability Plans (GSPs) for groundwater basins or subbasins that are designated by DWR as medium or high priority.

The designation of the priority of groundwater basins was done as part of the California Statewide Groundwater Elevation Monitoring (CASGEM) Program. CASGEM was developed in response to legislation enacted in California's 2009 Comprehensive Water package. The CASGEM Groundwater Basin Prioritization is a statewide ranking of groundwater basin importance that incorporates groundwater reliance and focuses on basins producing greater than 90 percent of California's annual groundwater. The CASGEM Program has ranked both the North American Subbasin (5-21.64) and the South American Subbasin (5-21.65) as high priority.

SGMA directs DWR to identify groundwater basins and subbasins in conditions of critical overdraft. DWR identified such basins in Bulletin-118, 1980 and Bulletin 118, Update 2003. DWR issued an updated draft list of critically overdrafted basins in July 2015. Neither of the two subbasins that supply SCWA are on the list.

Groundwater basins designated as high or medium priority and critically overdrafted must be managed under a GSP by January 31, 2020. All other high and medium priority basins must be managed under a GSP by January 31, 2022. The two subbasins that supply SCWA are covered by the latter deadline.

A GSA must be formally established by June 30, 2017. The GSA will have enforcement authority over their designated portion of the basin. There are three options for preparing a GSP and forming a GSA, as follows:

- A single GSP covering the entire basin developed and implemented by one GSA.
- A single GSP covering the entire basin developed and implemented by multiple GSAs.
- Multiple GSPs implemented by multiple GSAs and coordinated pursuant to a single coordination agreement that covers the entire basin.

The various agencies that are located in the North American Subbasin (5-21.64) have been in discussions to explore options for the organization of one or more GSA's. It is likely that the North American Subbasin (5-21.64) will have several GSAs and possibly several GSPs. SGA filed a notice with DWR on October, 20, 2015 that it intends to be the GSA for a portion of the North American Subbasin (5-21.64).

The SCGA is currently in discussions with other groundwater basin users of the South American Subbasin (5-21.65) to evaluate options for management of the basin.

6.3.3 Overdraft Conditions

As mentioned in the previous subsection, the North American Subbasin (5-21.64) and the South American Subbasin (5-21.65) are not on the draft list of critically overdrafted basins issued by DWR in July 2015.

According to the Water Forum Agreement, the long-term average annual groundwater pumping from the North Basin is limited to 131,000 ac-ft/yr and the Central Basin is limited to 273,000 ac-ft/yr. No specific annual groundwater pumping amount has been defined for SCWA in the Central Basin. In June 2010, the SGA developed Phase III of the Water Accounting Framework which established a combined sustainable pumping estimate of 4,288 ac-ft/yr for SCWA's Arden Park Vista and Northgate 880 systems (SGA, 2010). It is expected that the GSPs that will be developed for the North American Subbasin (5-21.64) and the South American Subbasin (5-21.65) will establish the safe yields.

6.3.4 Historical Groundwater Pumping

Table 6-2 presents the amount of groundwater pumping by SCWA that has occurred over the last five years.

Table 6-2 (DWR Table 6-1 R&W) Retail and Wholesale: Groundwater Volume Pumped, ac-ft/yr

Groundwater type	Location or basin name	2011	2012	2013	2014	2015
Alluvial basin	Sacramento Valley Groundwater Basin, North American Subbasin (5-21.64)	4,654	5,076	5,316	4,602	3,877
Alluvial basin	Sacramento Valley Groundwater Basin, South American Subbasin (5-21.65)	29,972	25,553	23,512	23,179	20,775
Total		34,626	30,629	28,828	27,781	24,652

Notes: Source of data is spreadsheet workbook file entitled "SCWA 2015 UWMP_ Connection and Consumption Data.xlsx" provided by Dan Gwaltney in email dated January 12, 2016.

Amounts include groundwater that was supplied to wholesale customers.

Groundwater remediation water not included because it was not pumped by SCWA.

6.3.5 Remediated Groundwater

SCWA has a remediated groundwater supply of 8,900 ac-ft/yr in accordance with the terms and conditions in the agreement entitled "Agreement between Sacramento County, SCWA, and Aerojet-General Corporation With Respect To Transfer of GET Water" dated May 18, 2010. The timing and amount of remediated groundwater available is subject to change as a result of on-going negotiations with water purveyors affected by groundwater contamination and with Aerojet/Boeing as their remediation plans may change as directed by various regulatory agencies. The remediated groundwater is pumped from the northern portion of the South American Subbasin (5-21.65) and discharged into the American River from Aerojet's Groundwater Extraction and Treatment (GET) facilities located in the Rancho Cordova area that are used for groundwater clean-up operations. This remediated groundwater supply is diverted by SCWA from the Sacramento River at Freeport along with SCWA's surface water supplies.

6.4 Stormwater

Stormwater is not currently used as an urban water supply source. SCWA may consider the use of stormwater at a future time.

6.5 Wastewater and Recycled Water

The purpose of this section is to provide information on recycled water and its potential as a resource for Zone 40. 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) current water recycling systems, and (4) the potential for water recycling in the service area.

6.5.1 Recycled Water Coordination

The Sacramento Regional County Sanitation District (SRCSD) is responsible for the collection, treatment, disposal, and reuse of wastewater throughout most of the urbanized areas of Sacramento County. This includes much of the area where SCWA provides retail water service.

Through an agreement, SRCSD has successfully implemented a nominal capacity of 5 million gallons per day (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 a portion of the Laguna Vineyard water system service area (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.

In 2007, SRCSD completed the Water Reuse Opportunity Study (WROS) to identify opportunities for water recycling program growth through 2030 (SRCSD, 2007). SRCSD's objective is to increase water recycling usage in the Sacramento region during peak irrigation months to 30 MGD 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.

The agencies and their respective roles in water reuse planning are described in Table 6-3.

Table 6-3. 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.
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 for the current recycled water system in the South Service Area.

6.5.2 Wastewater Collection, Treatment, and Disposal

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. An estimate of wastewater generated within SCWA's service area is presented in Table 6-4.

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 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.

The Sacramento Regional Wastewater Plant is currently being upgraded to produce cleaner water for discharge to the Sacramento River and for water reuse. Upgrades to the treatment plant include nutrient removal, filtration, and additional disinfection. Upgrades are planned to be completed by 2023.

Table 6-4. (DWR Table 6-2 R) Wastewater Collected Within Service Area in 2015

100	Percentage of 2015 service area covered by wastewater collection system
100	Percentage of 2015 service area population covered by wastewater collection system

Wastewater collection			Receiving wastewater treatment			
Name of wastewater collection agency	Wastewater volume metered or estimated?	Volume of wastewater collected from UWMP service area 2015, ac-ft/yr	Name of wastewater treatment agency receiving collected wastewater	Treatment plant name	Is WWTP located within UWMP area?	Is WWTP operation contracted to a third party?
Add additional rows as needed						
Sacramento Regional County Sanitation District	estimated	15,000	Sacramento Regional County Sanitation District	Sacramento Regional Wastewater Treatment Plant	No	No
Total wastewater collected from service area in 2015		15,000				

Notes:

A summary of wastewater volumes treated, discharged, and recycled by SRCSD in 2015 is provided in Table 6-5.

Table 6-5. (DWR Table 6-3 R) Retail: Wastewater Treatment and Discharge Within Service Area in 2015, ac-ft/yr

Wastewater treatment plant name	Discharge location name or identifier	Discharge location description	Wastewater discharge ID number	Method of disposal	Does this plant treat wastewater generated outside the service area?	Treatment level	2015 volumes (ac-ft)			
							Wastewater treated	Discharged treated wastewater	Recycled within service area	Recycled outside of service area
Sacramento Regional Wastewater Treatment Plant	Sacramento River	Near Freeport		River or creek outfall	Yes	Secondary, Disinfected-23	142,185	118,688		
Sacramento Regional Wastewater Treatment Plant	Zone 40 recycled water system	West part of City of Elk Grove in Laguna-Vineyard system		Other		Tertiary			575	
						Total	142,185	118,688	575	

6.5.3 Recycled Water System

Tertiary treated wastewater is supplied from SRCSD's Water Reclamation Facility to a part of the Laguna Vineyard system that is shown on Figure 3-1 as the Recycled Water System Area. The 5 MGD Water Reclamation Facility is located at the Sacramento Regional Wastewater Treatment Plant site. SCWA owns and maintains the recycled water distribution system. 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 State Water Resources Control Board recycled water standards and SRCSD's Master Reclamation Permit Waste Discharge Requirement (WDR) #97-146).

6.5.4 Recycled Water Beneficial Uses

The most commonly used category of 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 many types of beneficial uses, including for outdoor irrigation demands such as for parks, schools, street medians, residential front and backyard landscaping, and public open space, as well as for industrial uses such as cooling water. Additionally, recycled water is commonly used for environmental purposes such as wetland and habitat restoration.

SRCSD is currently in the process of implementing the South Sacramento County Agriculture and Habitat Lands Recycled Water Program. Benefits include protecting surface water and groundwater supplies by providing 52,000 ac-ft/yr of recycled water to irrigate permanent agriculture and habitat lands. Another benefit is the augmentation of regional water supplies and restoration of groundwater elevations in that area. Facilities that will be needed include water transmission and distribution pipelines and treatment, pumping, and storage facilities. SCWA could potentially tap into the proposed pipeline to access recycled water supply. Since the proposed area where this recycled water would be used is outside of SCWA's service area, it is not included in the recycled water projections.

Table 6-6 presents the projected possible reuse water demands for landscape irrigation in SCWA's service area. SCWA is planning to initiate a recycled water feasibility study in 2016 that will take a comprehensive look at various options for expanding recycled water use.

Table 6-6. (DWR Table 6-4 R) Retail: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area, ac-ft/yr

	Recycled water is not used and is not planned for use within the service area of the supplier.
Name of agency producing (treating) the recycled water:	Sacramento Regional County Sanitation District
Name of agency operating the recycled water distribution system:	Sacramento County Water Agency
Supplemental water added in 2015	170
Source of 2015 supplemental water	Raw water

Beneficial use type	General description of 2015 uses	Level of treatment	2015	2020	2025	2030	2035	2040 (opt)
Agricultural irrigation								
Landscape irrigation (exc golf courses)		Tertiary	575	1,700	1,700	1,700	1,700	1,700
Golf course irrigation								
Commercial use								
Industrial use								
Geothermal and other energy production								
Seawater intrusion barrier								
Recreational impoundment								
Wetlands or wildlife habitat								
Groundwater recharge (IPR)								
Surface water augmentation (IPR)								
Direct potable reuse								
Other (provide general description)								
		Total	575	1,700	1,700	1,700	1,700	1,700

**IPR – Indirect Potable Reuse*

Notes: The projected future amount of recycled water could be increased as a result of the recycled water feasibility study that SCWA is preparing in 2016.

Table 6-7 shows actual recycled water use in 2015 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 6-7. (DWR Table 6-5 R) Retail: 2010 UWMP Use Projection Compared to 2015 Actual, ac-ft/yr			
Use type		2010 Projection for 2015	2015 actual use
Agricultural irrigation			
Landscape irrigation (ex golf courses)		1,700	575
Golf course irrigation			
Commercial use			
Industrial use			
Geothermal and other energy production			
Seawater intrusion barrier			
Recreational impoundment			
Wetlands or wildlife habitat			
Groundwater recharge (IPR)			
Surface water augmentation (IPR)			
Direct potable reuse			
Other			
	Total	1,700	575

Notes: An additional 170 ac-ft of raw water was also used.

6.5.5 Actions to Encourage and Optimize Future Recycled Water 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 in that area. 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 basin management objectives. 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 6-8 shows that SCWA is planning to prepare a recycled water feasibility study to evaluate the projected recycled water demand in SCWA's service area and the actions to encourage recycled water use. Alternatives that will be evaluated consist of expansion of the existing recycled water program, direct reuse, indirect reuse, and the status quo.

Expanding 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 lower recycled water unit cost compared to the potable water unit cost, the requirement of recycled water use in the future, the increased reliability of recycled water as compared to the water supply from groundwater and surface water supply sources, and the increase in installation of dedication landscape meters. Customers may be allotted a higher water use budget for recycled water use compared to those customers using potable water for their landscape water needs.

Table 6-8. (DWR Table 6-6 R) Retail: Methods to Expand Future Recycled Water Use

	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in UWMP.		
Name of action	Description	Planned implementation year	Expected increase in recycled water use
Prepare recycled water feasibility study	Expanding the existing recycled water system, indirect potable reuse, and direct potable reuse will be considered.	Recycled Water Feasibility Study to be completed in 2017.	Not quantified until Recycled Water Feasibility Study is completed.
		Total	Will be identified in Recycled Water Feasibility Study.

Notes:

6.6 Desalinated Water Opportunities

While limited sources of brackish groundwater do exist within the region, it would be cost prohibitive to install desalination treatment to be able to use these supplies. SCWA has no plans to develop or implement a desalination program as a future supply source.

6.7 Exchanges or Transfers

Other sources of water for SCWA are water transfers. The water transfer supply would be obtained from various water users that hold surface water rights on the Sacramento River and the American River upstream of SCWA's point of diversion. To obtain these supplies, SCWA would enter into purchase and transfer agreements with other entities that hold surface water rights upstream of SCWA's points of diversion. There are Sacramento River water supplies available for transfer in dry years, although the costs of these dry year supplies can exceed $500 per ac-ft. The assumed quantity of other water supplies is 9,600 ac-ft/yr in dry years and no supplies transferred in wet years. The amount of water transfer supplies that would be needed would vary depending on the amount of supplies actually needed to close the gap between SCWA's other supplies and demands.

6.8 Future Water Projects

Table 6-9 provides a summary and schedule of the SCWA's planned water supply projects that are planned through 2040 to meet projected water demands and continue to provide supply reliability. SCWA has plans to construct additional water supply projects after 2040.

Table 6-9. (DWR Table 6-7 R&W) Retail and Wholesale: Expected Future Water Supply Projects or Programs

	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.
	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.
	Provide page location of narrative in the UWMP

Name of future projects or programs	Joint project with other agencies?		Description (if needed)	Planned implementation year	Planned for use in year type	Expected increase in water supply to agency, ac-ft/yr
	(Y/N)	If yes, agency name				
Phase A NSA Project	No			2020	All year types	9,000
Disconnection of Anatolia GWTP [a]	No			2020	All year types	-4,000
Phase B NSA Project	No			2025	All year types	27,000 [b]
Poppy Ridge GWTP Expansion	No			2025	All year types	4,000
West Jackson GWTP	No			2035	All year types	10,000
Big Horn GWTP Expansion	No			2035	All year types	5,000

Notes: These projects will expand infrastructure capacity to allow SCWA to utilize more of its available water supplies. The expected increase in supplies includes supply for the wholesale customers. The retail and wholesale breakdown of the supplies from each project is not specifically known.

[a] The decline in groundwater capacity is because the Excelsior wells will be put on standby until the West Jackson GWTP is constructed.

[b] With the existing capacity of the Vineyard SWTP, this project plus the Phase A NSA Project will combined be able to deliver 18,000 ac-ft/yr of surface water to the NSA. The full capacity of this project will not be utilized until the Vineyard SWTP is expanded.

6.9 Summary of Existing and Planned Sources of Water

Table 6-10 presents SCWA's water supplies and amounts delivered in 2015 for its retail water systems. Table 6-11 presents the wholesale water supplies delivered in 2015.

Table 6-10. (DWR Table 6-8 R) Retail: Water Supplies — Actual, ac-ft/yr

Water supply	Additional detail on water supply	2015		
		Actual volume	Water quality	Total right or safe yield
Purchased or imported water	CVP water	115	Drinking water	45,000
Surface water	Appropriative water	2,125	Drinking water	71,000
Groundwater		21,963	Drinking water	
Groundwater	Remediated groundwater	4,176	Drinking water	8,900
Transfers	Other surface water supplies	0	Drinking water	9,600
Recycled water		575	Drinking water	1,700
Raw water		170	Raw water	
Other	Supply for SW Tract	25	Drinking water	
Total		29,149		136,200

Notes: Water supplies for SCWA's retail systems determined by using total production and then subtracting out the deliveries to wholesale customers that include system losses.
The amount of CVP water, appropriative water, and remediated groundwater supplied in 2015 based on the Freeport intake amounts provided in email from Dave Zuccaro dated April 19, 2016. The amounts have been proportioned down to reflect the supply provided from the Vineyard SWTP using a total of 6,959 ac-ft at Freeport versus a supply of 6,416 ac-ft/yr at Vineyard SWTP.
The safe yield of the groundwater supply has not been determined.

Table 6-11. (DWR Table 6-8 W) Wholesale: Water Supplies — Actual, ac-ft/yr

Water supply	Additional detail on water supply	2015		
		Actual volume	Water quality	Total right or safe yield
Purchased or imported water	CVP water	0	Drinking water	0
Surface water	Appropriative water	0	Drinking water	0
Groundwater		2,689	Drinking water	
Groundwater	Remediated groundwater	0	Drinking water	0
Transfers	Other surface water supplies	0	Drinking water	0
Recycled water		0	Recycled water	0
Total		2,689		

Notes: It is assumed for the purpose of this Plan that wholesale water is supplied by groundwater. There could be varying amounts of some surface water included in the wholesale supply that have not been quantified.

The projected annual availability of each water supply is constrained by available water infrastructure capacity. The projected reasonably available water supply volume for SCWA's retail water systems for the next 25 years during a normal climate year considering facility capacity constraints is projected in Table 6-12.

The availability of each water supply type on an annual basis is projected based on the assumption that the proportional annual mix of supplies is the same as that on the day of maximum demand. The actual annual use of supplies could somewhat differ from the presented values if SCWA took an operational approach that would result in the annual mix of supplies being different than the mix of supplies used during the day of maximum demand.

Table 6-13 presents the projected water supplies available for wholesale customers. It is assumed in Table 6-13 that wholesale water customers would be provided the supply needed to meet their demands. The supply available for SCWA's retail water systems is assumed to be the total supply available minus the supply available for the wholesale customers.

Table 6-12. (DWR Table 6-9 R) Retail: Water Supplies — Projected, ac-ft/yr

Water supply	Additional detail on water supply	Projected Water Supply Report To the Extent Practicable									
		2020		2025		2030		2035		2040	
		Reasonably available volume	Total right or safe yield	Reasonably available volume	Total right or safe yield	Reasonably available volume	Total right or safe yield	Reasonably available volume	Total right or safe yield	Reasonably available volume	Total right or safe yield
Purchased or imported water	CVP water. SCWA may vary this amount in combination with the appropriative surface water, remediated groundwater, and transfer supplies so that the combined total does not exceed the total annual demand that the Vineyard SWTP can supply of approximately 34,200 ac-ft/yr.	21,300	45,000	21,300	45,000	21,300	45,000	21,300	45,000	21,300	45,000
Purchased or imported water	City of Sacramento supply. Not planned for use until the interconnection with the City is constructed after 2040.	0	9,300	0	9,300	0	9,300	0	9,300	0	9,300
Surface water	Appropriative water. SCWA may vary this amount as described for purchased water.	4,000	71,000	4,000	71,000	4,000	71,000	4,000	71,000	4,000	71,000
Groundwater	Available volume based on groundwater supply capacity. Safe yield not quantified.	47,000		47,000		52,000		62,000		62,000	
Groundwater	Remediated groundwater. SCWA may vary this amount as described for purchased water.	8,900	8,900	8,900	8,900	8,900	8,900	8,900	8,900	8,900	8,900
Transfers	Other surface water supplies. SCWA may vary this amount as described for purchased water.	0	9,600	0	9,600	0	9,600	0	9,600	0	9,600
Recycled water		1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700
Total		82,900	145,500	82,900	145,500	87,900	145,500	97,900	145,500	97,900	145,500

Table 6-13. (DWR Table 6-9 W) Wholesale: Water Supplies — Projected, ac-ft/yr

Water supply	Additional detail on water supply	Projected water supply report to the extent practicable									
		2020		2025		2030		2035		2040	
		Reasonably available volume	Total right or safe yield	Reasonably available volume	Total right or safe yield	Reasonably available volume	Total right or safe yield	Reasonably available volume	Total right or safe yield	Reasonably available volume	Total right or safe yield
Groundwater		5,000		5,000		6,000		7,000		7,000	
Total		5,000		5,000		6,000		7,000		7,000	

6.10 Energy Intensity

Reporting of the energy intensity associated with sources of water is a voluntary item. Water energy intensity is the total amount of energy on a per ac-ft basis associated with water management processes occurring within the SCWA's operational control. SCWA has selected to report its energy intensity using the total utility approach option B. Table 6-14 presents the energy intensity of SCWA's water supplies for the year 2015.

Table 6-14. (DWR Table O-1B) Voluntary Energy Intensity-Total Utility Approach

Urban water supplier:	Sacramento County Water Agency		
Water delivery product			
Retail and wholesale potable water deliveries			
Table O-1B: Voluntary energy intensity - total utility approach			
Enter start date for reporting period 1/1/2015 End date 12/31/2015	Urban water supplier operational control		
	Sum of all water management processes	Non-consequential hydropower	
	Total utility	Hydropower	Net utility
Volume of water entering process (ac-ft)	31,068	0	0
Energy consumed (kWh)	21,792,052	0	0
Energy intensity (kWh/ac-ft)	701.4	0.0	0.0
Quantity of self-generated renewable energy			
	kWh		
Data quality			
Metered data			
Data quality narrative:			
Data obtained from power billings based on metered usage. Power amount includes power for the administrative and shop buildings at the Vineyard SWTP. Volume of water is total water production from wells and Vineyard SWTP and includes supplies for both retail and wholesale customers.			

6.11 Climate Change

Climate change is anticipated to have an impact on water demands and supplies. SCWA is a member of the Regional Water Authority that prepared the American River Basin Integrated Regional Water Management Plan (IRWMP) (RWA, 2013). One of the elements in the IRWMP is the identification and prioritization of areas of potential vulnerability to climate change impacts. The resulting Climate Change Vulnerability Assessment is presented in Appendix J. The vulnerability assessment highlights the water resources that are important to the region and are sensitive to climate change. The identified highest priority vulnerabilities in the region pertinent to urban water demands and supplies are as follows:

- Increased potential for summer water shortage due to increased summer demand caused by warming temperatures.
- Reduced water supply reliability due to the region's reliance on snowpack, existing storage capacity limitations, and increased drought potential. The projected reductions of Sierra snowpack, earlier snowmelt runoff, and more frequent and longer periods of drought would reduce water supply reliability for the region.

A quantitative vulnerability assessment was done in the IRWMP to evaluate the impacts of climate change on water resources in the region. The quantitative assessment indicates that surface water supplies would be reduced and would be mostly associated with reduced diversions from the American River. The analysis projected that the annual surface water deliveries at Freeport would increase by 2 percent. The long-term average monthly surface water deliveries would increase by 3 to 9 percent from May to July and decrease by 9 percent from August to September under climate change conditions. Increased groundwater pumping would occur to meet urban and agricultural demands. The long term average groundwater pumping in the central groundwater basin would increase by 6 percent. Groundwater elevations would decrease from 6 to 15 feet from the baseline condition in SCWA's service area.

Planned actions to address noted vulnerabilities from the climate change assessment include decreasing urban per capita water demand and continuing current efforts such as implementing conjunctive use management, recycled water use, and interconnections between adjacent water purveyors. SCWA will update this Plan every five years and utilize the latest available data to plan for climate change effects.

Purchased wholesale CVP water from Reclamation is SCWA's primary source of surface water supply. Reclamation recently completed the Sacramento and San Joaquin Basins Study (Reclamation, 2016) that evaluates the potential impacts of climate and socioeconomic changes. The evaluation concluded that unmet water demands would increase slightly in the Sacramento River watershed. Unmet demands are the gaps between supplies and demands. No specific conclusions were made regarding the impacts of climate change on the specific availability of CVP supplies.

Section 7

Water Supply Reliability

This section describes constraints on water sources and reliability by climate year type and provides a comparison of projected water supplies and demands.

7.1 Constraints on Water Sources

Constraints on SCWA's surface water supplies includes the significant variation of supplies that are available depending on the climate year type as described in Section 6. Even though the surface water supplies are not available at a consistent level of use, SCWA has available groundwater supplies to be able to replace the reduction in surface water supplies in dry years. While groundwater is more consistently available over different climate year types, it has been constrained by groundwater contamination plumes, some naturally occurring contaminants, and the long term need to not exceed the safe yield. The capacity of supply and conveyance facilities is also a constraint on both surface water and groundwater supplies. SCWA has plans to construct additional water supply facilities as presented in Table 6-9. In general, water quality does not have a significant impact on SCWA's current and projected water supplies. The Vineyard SWTP and groundwater treatment plants provide treatment meet to drinking water standards.

7.2 Reliability by Type of Year

The basis of water year data for determining surface water supply reliability is provided in Table 7-1. The water supply allocation from the CVP supply in 2015 was a historical low. The CVP allocation for the three year 2013 to 2015 period was also the lowest historical three year sequence. As can be seen in Table 7-2, the CVP allocation for 2013 to 2015, was 100 percent, 75 percent, and 25 percent of the prior three year average constrained use for each of the years respectively. The CVP supply represents SCWA's most significant surface water supply source. Even with the low CVP allocation in 2015, as shown in Table 7-1 the overall water supply was still 90 percent of normal because of the availability of other water supply sources. Table 7-2 shows the breakdown of the estimated availability of each supply source for 2013 to 2015. Table 7-3 shows the basis of the wholesale water supply reliability. As stated earlier, it is assumed that wholesale water supplies would be fully available as required to meet wholesale water demands.

Table 7-1. (DWR Table 7-1) Retail: Basis of Water Year Data			
Year type	Base year	Available supplies if year type repeats	
			Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location_____
		✓	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume available	% of avg supply
Average year	2013		100%
Single-dry year	2015		90%
Multiple-dry years 1st year	2013		100%
Multiple-dry years 2nd year	2014		84%
Multiple-dry years 3rd year	2015		73%

Notes: Percent of average supply based on amount used as determined in Table 7-2. These percentages of average supply will change in the future as the dry year allocation amount of CVP water increases as the normal year use of CVP water increases.

Table 7-2. Calculation of Percent of Average Supply, ac-ft/yr			
Water supply	2013	2014	2015
Purchased water, surface water, and remediated groundwater	13,969	7,933	6,416
Groundwater	28,828	27,781	24,652
Recycled water and raw water	831	779	745
Total	43,628	36,493	31,813
Normal year	43,628	43,628	43,628
Supply as % of normal year	100%	84%	73%

Notes: In 2014 and 2015, demand was reduced due to the drought and the required reduction in demands.

Table 7-3. (DWR Table 7-1 W) Wholesale: Basis of Water Year Data			
Year type	Base year	Available supplies if year type repeats	
			Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location_____
		✓	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume available	% of avg supply
Average year	2013		100%
Single-dry year	2015		100%
Multiple-dry years 1st year	2013		100%
Multiple-dry years 2nd year	2014		100%
Multiple-dry years 3rd year	2015		100%

Notes: Supply was provided to retail agencies to meet their demands. In 2014 and 2015 demand was reduced due to the drought and the required reduction in demands.

7.3 Supply and Demand Assessment

This section provides a comparison of normal, single-dry, and multiple dry water year supply and demand for SCWA. Table 7-4 presents the normal year supply to demand comparison for the retail water system, and Table 7-5 presents the comparison for the wholesale water system. The projected supplies are based on the approximate amount that can be delivered with the capacity constraints of the water supply infrastructure that is planned to exist at that time.

Table 7-4. (DWR Table 7-2 R) Retail: Normal Year Supply and Demand Comparison, ac-ft/yr					
	2020	2025	2030	2035	2040
Supply totals	82,900	82,900	87,900	97,900	97,900
Demand totals	48,121	55,489	63,288	71,145	79,278
Difference	34,779	27,411	24,612	26,755	18,622

Table 7-5. (DWR Table 7-2 W) Wholesale: Normal Year Supply and Demand Comparison, ac-ft/yr					
	2020	2025	2030	2035	2040
Supply totals	5,000	5,800	6,000	7,000	7,000
Demand totals	4,120	4,826	5,733	6,233	6,769
Difference	880	174	267	767	231

The projected water supplies are compared to the demands for a single dry year for the SCWA retail systems in Table 7-6. Table 7-7 presents the single dry year comparison for the wholesale supplies and demands.

The dry year demands are assumed to be the same as the normal year demands in Table 7-6. In actuality, demands in dry years can be a few percentage points higher due to the hotter and drier climate in dry years that leads to higher outdoor water use. On the other hand, during 2015 the State Water Resources Control Board mandated demand reductions that amounted to 32 percent for SCWA. It is possible that future years that are the same water supply conditions as 2015 may have similar demand reductions.

Table 7-6. (DWR Table 7-3 R) Retail: Single Dry Year Supply and Demand Comparison, ac-ft/yr

	2020	2025	2030	2035	2040
Supply totals	70,200	70,500	74,600	83,600	83,800
Demand totals	48,121	55,489	63,288	71,145	79,278
Difference	22,079	15,011	11,312	12,455	4,522

Notes: See Table 7-10 for a break down of the supplies by source.

Table 7-7. (DWR Table 7-3 W) Wholesale: Single Dry Year Supply and Demand Comparison, ac-ft/yr

	2020	2025	2030	2035	2040
Supply totals	5,000	5,000	6,000	7,000	7,000
Demand totals	4,120	4,826	5,733	6,233	6,769
Difference	880	174	267	767	231

Notes: See Table 7-10 for a break down of the supplies by source.

The projected water supplies are compared to the demands for a multiple dry year for the SCWA retail systems in Table 7-8. Table 7-9 presents the multiple dry year comparison for the wholesale supplies and demands. The multiple dry year scenario mimics the water supply conditions of 2013 to 2015 when CVP allocations were 100 percent, 75 percent, and 25 percent of the average use of supplies during the previous three years. The demands presented in Tables 7-8 and 7-9 are the same as the normal year demands, but as discussed for the single dry year scenario, the second and third year demands might be lower if demand reduction mandates are imposed by the State of California.

Table 7-8. (DWR Table 7-4 R) Retail: Multiple Dry Years Supply and Demand Comparison, ac-ft/yr						
		2020	2025	2030	2035	2040
First year	Supply totals	82,900	82,900	87,900	97,900	97,900
	Demand totals	48,121	55,489	63,288	71,145	79,278
	Difference	35,779	27,411	24,612	26,755	18,622
Second year	Supply totals	77,900	77,900	81,900	90,900	90,900
	Demand totals	48,121	55,489	63,288	71,145	79,278
	Difference	29,779	22,410	18,612	19,757	11,622
Third year	Supply totals	70,200	70,500	74,600	83,600	83,800
	Demand totals	48,121	55,489	63,288	71,145	79,278
	Difference	22,079	15,011	11,312	12,455	4,522

Notes: Based of the selected base years in Table 7-3, the first year is normal year supplies, the second year is based on a 75% allocation of CVP water, and the third year is the same as the single dry year with a 25% CVP allocation. Table 7-11 presents the second year supplies by source. Table 7-10 presents the third year supplies by source. First year supply values corrected from public draft to reflect normal year assumption.

Table 7-9. (DWR Table 7-4 W) Wholesale: Multiple Dry Years Supply and Demand Comparison, ac-ft/yr						
		2020	2025	2030	2035	2040
First year	Supply totals	5,000	5,000	6,000	7,000	7,000
	Demand totals	4,120	4,826	5,733	6,233	6,769
	Difference	880	174	267	767	231
Second year	Supply totals	5,000	5,000	6,000	7,000	7,000
	Demand totals	4,120	4,826	5,733	6,233	6,769
	Difference	880	174	267	767	231
Third year	Supply totals	5,000	5,000	6,000	7,000	7,000
	Demand totals	4,120	4,826	5,733	6,233	6,769
	Difference	880	174	267	767	231

Determining the amount of CVP supplies available in the dry years requires first a projection of the use of the CVP supply in normal years. The CVP dry year allocation is determined based on a percentage of the previous three years of use. The projected availability of single dry year supplies is presented in Table 7-10 with facility capacity constraints. During dry years SCWA would seek to supplement its reduced CVP supplies with the use of other surface water supplies. Table 7-11 presents the projected availability of supplies for the second year of a multiple dry year with facility capacity constraints. Tables 7-10 through 7-11 are for the combined total of water supplies for SCWA's retail service area and wholesale customers.

Table 7-10. Projected Available Single Dry Year Water Supplies with Facility Constraints, ac-ft/yr					
Water Supply	2020	2025	2030	2035	2040
Surface water, all types					
Purchased water					
CVP [a]	8,000	8,300	8,400	8,400	8,600
City of Sacramento					
Surface water (appropriative)	-	-	-	-	-
Transfers (other surface water supplies)	9,600	9,600	9,600	9,600	9,600
Other (remediated groundwater)	8,900	8,900	8,900	8,900	8,900
Subtotal	26,500	26,800	26,900	26,900	27,100
Groundwater for Zone 40	41,000	41,000	46,000	56,000	56,000
Groundwater for non Zone 40 systems	6,000	6,000	6,000	6,000	6,000
Recycled water	1,700	1,700	1,700	1,700	1,700
Total	75,200	75,500	80,600	90,600	90,800
Wholesale supply to retailers	5,000	5,000	6,000	7,000	7,000
Retail supply w/ recycled water	70,200	70,500	74,600	83,600	83,800

Notes: This table is also applicable for the third year of the multiple dry year scenario.

[a] *Assumes normal year use of CVP water is maximized.*

Table 7-11. Projected Available Multiple Dry Years Water Supplies for Second Year with Facility Constraints, ac-ft/yr					
Water Supply	2020	2025	2030	2035	2040
Surface water, all types					
Purchased water					
CVP	24,000	24,900	25,050	25,125	25,650
City of Sacramento					
Surface water (appropriative)	-	-	-	-	-
Transfers (other surface water supplies)	1,300	400	250	175	
Other (remediated groundwater)	8,900	8,900	8,900	8,900	8,550
Subtotal	34,200	34,200	34,200	34,200	34,200
Groundwater for Zone 40	41,000	41,000	46,000	56,000	56,000
Groundwater for non Zone 40 systems	6,000	6,000	6,000	6,000	6,000
Recycled water	1,700	1,700	1,700	1,700	1,700
Total	82,900	82,900	87,900	97,900	97,900
Wholesale supply to retailers	5,000	5,000	6,000	7,000	7,000
Retail supply w/ recycled water	77,900	77,900	81,900	90,900	90,900

Notes: See Table 6-12 for the first year and Table 7-10 for the third year for a breakdown of supplies for the multiple dry year scenario.

7.4 Regional Supply Reliability

SCWA relies fully on local water supplies with no use of imported water. Water programs that SCWA utilizes to maximize regional supply reliability are described as follows.

- RWA - SCWA is member of RWA and participates in RWA's American River Integrated Regional Water Management Plan (IRWMP) as well as RWA's water efficiency program. The IRWMP 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.
- Water Forum Successor Effort - SCWA is a member of the Water Forum Successor Effort and is a signatory to the Water Forum Agreement. 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 Water Forum Agreement 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 Water Forum Agreement contains seven major elements to meet its objectives including purveyor specific agreements.
- SGA - SCWA, through the County of Sacramento, is a Board member of the SGA. SGA has adopted a regional groundwater management 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.

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.

Section 8

Water Shortage Contingency Planning

This section describes SCWA's planning for responding to water shortages including stages of action, prohibitions, penalties, consumption reduction methods, mechanisms for determining actual reductions in use, revenue and expenditure impacts, a shortage contingency resolution, plans for catastrophic events, and the estimated multiple dry-year minimum water supply.

In its role as a water wholesaler, SCWA does not have the ability to impose use restrictions or other requirements directly on end users of water in the event of a shortage; such actions must be taken by the SCWA's retail water agencies.

8.1 Stages of Action

Table 8-1 presents SCWA's stages of action. SCWA updated its stages of action in a Water Shortage Contingency Plan document in 2014, as presented in Appendix I.

Table 8-1 (DWR Table 8-1 R&W). Retail : Stages of WSCP

Stage	Complete both	
	Percent supply reduction	Water supply condition
Normal	0	Normal
1	10%	Water alert - probability that supplies will not be able to meet all demands
2	25%	Water warning - supplies not meeting current demands
3	50%	Water crisis - major failure of a supply, storage, or distribution system, supplies not meeting current demands
4	Greater than 50%	Water emergency - major failure of a supply, storage, or distribution system, supplies not meeting current demands

8.2 Prohibitions on End Uses

Prohibitions on end uses are presented in Table 8-2. The prohibitions in Table 8-2 are based on the prohibitions for each stage that are presented in the 2014 Water Shortage Contingency Plan document presented in Appendix I.

Table 8-2 (DWR Table 8-2 R). Retail Only: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and prohibitions to end users	Additional explanation or reference	Penalty, charge, or other enforcement? Y/N
	Landscape irrigation		
Normal	Restrict or prohibit runoff from landscape irrigation		Y
Normal to 3	Limit landscape irrigation to specific days per week and times	Varies from 3 days per week to 1 day per week.	Y
4	Prohibit all landscape irrigation		Y
	CII		
Normal	Restaurants may only serve water only upon request		Y
	Water features and swimming pools		
2	Water use for decorative water features, such as fountains, is prohibited		Y
3	Prohibit filling of residential swimming pools		Y
Normal	Require recirculating water pumps for pools, ponds, and fountains.		Y
	Other		
Normal	Customers must repair leaks, breaks, and malfunctions in a timely manner		Y
Normal	Require automatic shut off hoses		Y
Normal	Prohibit use of potable water for washing hard surfaces		Y
3	Prohibit residential car washing and charity car wash events		Y
4	New connection moratorium		Y
2	Use of potable water for construction		Y

In May 2015, the State Water Resources Control Board adopted an emergency conservation regulation in response to four Executive orders issued by Governor Brown to address California's severe drought condition. The emergency conservation regulation prohibited the following water uses:

- Using potable water to irrigate ornamental turf on public street medians

- Using potable water to irrigate landscapes of new homes & buildings inconsistent with California Building Standards and Code (CBSC) and Department of Housing and Community Development (DHCD) requirements
- Using outdoor irrigation during and 48 hours following measurable precipitation
- Using potable water in decorative water features that do not recirculate the water
- Using hoses with no shutoff nozzles to wash cars
- Runoff when irrigating with potable water
- Using potable water to wash sidewalks & driveways

Requirements for water suppliers include:

- Notify customers about leaks that are within the customer's control
- Report on water use, compliance & enforcement

Requirements for businesses (commercial users) include:

- Hotels & motels must provide guests with the option of not having towels & linens laundered daily
- Restaurants & other food service establishments can only serve water to customers on request

8.3 Penalties, Charges, and Other Enforcement of Prohibitions

SCWA utilizes several approaches to enforce water use prohibitions including notices of violation, fines, and termination of service. Section 3.50.105 of the Water Agency Code describes a fine for unauthorized actions.

8.4 Consumption Reduction Methods

Consumption reduction methods are actions that SCWA can take to reduce its water consumption. Table 8-3 presents these methods.

Table 8-3 (DWR Table 8-3 R). Retail Only: Stages of WSCP - Consumption Reduction Methods

Stage	Consumption reduction methods by water supplier	Additional explanation or reference
1	Expand public information campaign	
2	Increase frequency of customer billing and meter reading	
1	Offer water use surveys	
3	Provide rebates for plumbing fixtures and devices	
1	Provide rebates for landscape irrigation efficiency	
3	Provide rebates for turf replacement	
2	Decrease line flushing	
2	Reduce system water loss	
2	Increase water waste patrols	
4	Moratorium or net zero demand increase on new connections	
4	Implement or modify drought rate structure or surcharge	
4	Other – Reduce pressure in water lines	
2	Other – Flow restriction	

Table 8-3 (DWR Table 8-3 R). Retail Only: Stages of WSCP - Consumption Reduction Methods		
Stage	Consumption reduction methods by water supplier	Additional explanation or reference
2	Other – Restrict use of potable water for construction	
4	Other – Per capita water allotment by customer type	
1	Other – Voluntary rationing	
4	Other – Mandatory rationing	
4	Other-Water shortage pricing	

8.5 Determining Water Shortage Reductions

To determine reductions in 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 ninety 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 customers' water use.

To determine reductions in production, SCWA maintains records of how much groundwater produced at each groundwater well and how much surface water is being supplied. 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 8-4 summarizes SCWA's procedure for monitoring its various water shortage actions for effectiveness.

Table 8-4. 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

8.6 Revenue and Expenditure Impacts

Approximately ninety 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. Costs would also decrease, but at a slower rate than revenues because SCWA continues to incur fixed costs during a water shortage. To address revenue reductions during a water shortage, SCWA would consider utilizing a portion of the Rate Stabilization Fund, delaying capital projects, and seeking funding assistance from the state or federal government through loans and/or grants. SCWA will consider adopting a drought surcharge in its rate structure the next time water rates are updated.

8.7 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. Appendix I presents the water shortage contingency resolution.

8.8 Catastrophic Supply Interruption Plan

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 water storage capacity, backup power generators at every 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 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

The Multi-Jurisdictional Local Hazard Mitigation Plan (LHMP) was prepared in accordance with the requirements of the Disaster Mitigation Act of 2000 (PL 106-3900). The LHMP 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, flood, dam and levee failure, earthquakes, wildfires, and drought (Sacramento County).

Sacramento County Multi-Hazard Disaster Plan

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 (Sacramento County, 2004). 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 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 an emergency condition occurs.

8.9 Minimum Supply Next Three Years

The estimated three-year minimum water supply is presented in Tables 8-5 and 8-6 assuming the historical multiple dry year hydrology of 2013 to 2015.

Table 8-5. (DWR Table 8-4 R). Retail: Minimum Supply Next Three Years, ac-ft/yr

	2016	2017	2018
Available water supply	82,900	77,900	70,200

Note: First year supply values corrected from public draft to reflect normal year assumption.

Table 8-6. (DWR Table 8-4 W). Wholesale: Minimum Supply Next Three Years, ac-ft/yr

	2016	2017	2018
Available water supply	5,000	5,000	5,000

Section 9

Demand Management Measures

SCWA is a member of the California Urban Water Conservation Council (CUWCC) and has submitted its 2013-2014 best management practices (BMP) annual reports, as presented in Appendix F. This section briefly describes the progress in implementing several specific measures that can be optionally described in the Plan in addition to providing the BMP reports.

9.1 Demand Management Measures Common for Retail and Wholesale Water Agencies

This section describes demand management measures (DMMs) that are implemented by SCWA for both its retail and wholesale customers.

9.1.1 Water Waste Prevention Ordinances

Water waste is prohibited by ordinance SCWA Code Title 3 Section 3.40.120. Section 3.40 of Title 3 of the SCWA Code is provided in Appendix H. Water waste can be reported online on SCWA's website or by calling either SCWA or our 875-RAIN hotline. 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.

9.1.2 Metering

The SCWA water system currently has meters installed on most of the connections. The wholesale interconnections that supply Elk Grove Water District are not currently metered due to the large number of interconnections and the high cost of metering all of these interconnections. SCWA is investigating how to most efficiently meter all wholesale/retail agency interconnections.

9.1.3 Conservation Pricing

SCWA implements conservation pricing in accordance with the CUWCC Memorandum of Understanding.

9.1.4 Public Education and Outreach

In addition to local public education and outreach programs, SCWA also participates in a regional public education and outreach program through the RWA. The RWA is a joint powers authority formed in 2001 to promote collaboration on water management and water supply reliability programs in the greater Sacramento, Placer, El Dorado, Yolo, and Sutter counties. In collaboration with 22 water provider members and other wastewater, stormwater and energy partners, RWA formed the Water Efficiency Program (WEP) in 2001 to bring cost effectiveness through economies of scale to public education and outreach activities. The remainder of this subsection describes the regional program.

The WEP operates on an average annual budget of $411,000 and is supplemented by grant funding. In response to the 2015 drought, the WEP collected an additional $150,000 in funding from participating water providers for additional media and advertising buys to help meet the SWRCB's mandatory conservation targets. Grant funding is an important funding resource for the WEP. Since 2003, the WEP has been awarded $9.1 million in grant funding for public outreach and education as well as rebate, direct install, water loss, individualized customer usage reports, large landscape budgets and more.

The main function of the WEP is to develop and distribute public outreach messages for customers in the region by collaborating with its water provider members on their outreach activities. The WEP distributes these messages on a regional scale through regional media and advertising buys. From 2010-2015, the WEP created a series of public outreach campaigns. Below is a summary of each campaign and highlighted achievements.

The Blue Thumb campaign ran from 2010-2012 and was focused on reducing outdoor water use. While most people have heard of a "Green Thumb," which describes someone with a skill for gardening, the campaign showcased people who earned their "Blue Thumb" by making a personal commitment to using water wisely outdoors. The iconic blue thumb gardening gloves were given away at public events and were worn by local celebrities like Sacramento's Mayor Johnson during promotional activities.

The Do the Sprinkler campaign launched in 2013 and featured the vintage sprinkler dance from the 1970's as the celebration residents would do after saving water outdoors. This campaign focused on finding and fixing problems with your sprinkler system to make sure it was running efficiently. The WEP created a public service announcement, mash-up videos and a series of "how to" videos to show residents how to fix their sprinkler systems.

The How Low Can You Go campaign launched in 2014 and asked residents how low they could get their water use down. The campaign focused on providing three water savings tips, each with increasing water savings and then one tip that went "too far" such as having Rover the dog do the dishes. Campaign posters were mounted in all the bathroom stalls at Raley Field.

The Water Myths Busted! campaign was launched in 2015 to challenge residents to decide what water conservation tips were fact or myth. The main message behind this campaign was to communicate that most of a household's water use is used outdoors. Also in 2015, the WEP partnered with Save Our Water to collaborate on campaign messages and advertising buys.

These campaigns are implemented through both paid advertising buys and earned media from public service announcements. Every year the campaigns can be heard on local radio stations such as Capital Public Radio and online (since 2013) through google, Facebook and YouTube advertisements. Television advertising was also used when funding was available. For example, in 2015, the WEP partnered with News10 to deliver water conservation messages during the weather forecast. From 2010-2015, the WEP public outreach campaigns generated more than 134 million impressions through advertising and public service announcement activities, 617,000 impressions through video views and 82,000 impressions through online clicks. Impressions represent the number of times an advertisement is served, seen or heard.

The WEP also continues messaging through its own Facebook page. From 2012-2015, the WEP has made 350 Facebook posts about water saving tips and other relevant information. In 2014 and 2015, the WEP hosted several sweepstakes contests including Drought Face, where participates had to proudly submit pictures of their fully bearded face in an effort to save water. The winners of the Drought Face sweepstakes had their photo displayed on a prominent billboard near downtown Sacramento that created 773,000 impressions. The other contest was called Naughty or Nice?, where participates took a holiday theme water conservation quiz to determine if they were naughty or nice in terms of saving water.

In 2014, the WEP's website bewatersmart.info was redesigned to simplify use for visitors. The website contains regional and local water provider information on rebates and services, top ways to save, drought information including an interactive drought map, watering day times and restrictions, a water-wise gardening database, recent press releases, the Sacramento Smart Irrigation Scheduler tool, information about RWA's Carwash Program and more. In 2015, the website received 80,000 unique visitors.

Twice a year the WEP distributes an e-newsletter to residents. The e-newsletters are filled with water savings tips, upcoming events and other interesting articles. They are usually timed around changes in the weather

to help signal the need for residents to adjust their irrigation systems, such as day light savings coupled with a message to dial back sprinkler systems.

Every year the WEP selects three to five public events to attend and to have a booth for the public to interact with local water conservation staff. This provides an opportunity for the region to communicate its messages. Events have included the Sacramento Home & Garden Show, Creek Week, Harvest Day, Farm-to-Fork Festival and several Earth Day events. From 2010-2015, all the public events that WEP participated in had an estimated attendance of 362,383 people, which represents about 20 percent of the region's total population.

The WEP is also very active in communicating to local media outlets such as the Sacramento Bee. RWA regularly issues press releases on WEP activities and regionally significant news. From 2010-2015, the RWA and the WEP were mentioned in 569 news articles published by local and regional media outlets both within and outside of the Sacramento region. From 2010-2014, the WEP averaged about 38 media stories per year. However, media coverage dramatically increased in response to the drought in 2014 and 2015 generating about 200 media stories in the last two years.

In addition to public outreach, the WEP also coordinates public education activities in partnership with the Sacramento Bee's Media in Education (MIE) program. Since 2012, the WEP has hosted the Water Spots contest. The contest is for high school and middle school students. The WEP provides a new theme each year and provides the region's teacher and students with relevant facts and images to help with the development of 30 second PSAs. Students submit their videos to a judging panel of local celebrities who decide on a first, second and third place winner. The top 10 videos are posted online for voting through the MIE program to select a "people's choice" winner as well. Both teachers and student receive cash prizes. The winning PSAs are incorporated into the WEP's media activities as well. Past themes include *BET THE LEAK: Find and Fix Leaks Fast!* and *BE A DROUGHT CHAMP: Conserve Water!* Between 2012 and 2015, 352 videos were submitted.

Also in partnership with MIE, the WEP started a new effort in 2015, the Be Water Smart Poster Contest. A theme was chosen focusing on Fix a Leak Week in March and a poster featuring the region's mascot, Les Leaky, fixing leaks on one side and a water conservation infographic on the other side. This double sided poster was included in the Sacramento Bee's paper on March 15, 2015 and distributed to all zip codes within RWA's members' service areas. The contest received 450 entries and the top five winners posters were posted online and received gift cards.

9.1.5 Programs to Assess and Manage Distribution System Real Loss

SCWA's water loss control program consists of annual water audits and an 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 activities include:

- Standard water audit and water balance annually.
- Validation: Staff has collected data on well production meters (90 percent complete) and test for accuracy. SCWA is making the necessary improvements to increase data accuracy in a phased approach based on feasibility, cost, reduction in overall error and other relevant factors.
- 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.

9.1.6 Water Conservation Program Coordination and Staffing Support

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. Additional staff members that contribute to the conservation program are Engineering Technicians.

9.1.7 Other Demand Management Measures

SCWA implements other DMMs that are documented in the CUWCC reports in Appendix F.

9.2 Additional Demand Management Measures Specific for Wholesale Water Agencies

This section describes additional DMMs that are implemented by SCWA for its wholesale customers.

9.2.1 Asset Management

Wholesale water agencies are required to describe their distribution system asset management program in the Plan. Asset management is typically considered to include asset information, level of service and performance measures, risk management, condition assessment, maintenance management, and asset needs.

SCWA's water system assets consist of pipelines, groundwater wells, pump stations, storage facilities, the surface water treatment plant, and groundwater treatment plants. SCWA places a high priority on properly maintaining the water system asset to keep it as reliable as possible.

SCWA has a comprehensive inventory of all of its infrastructure assets that is maintained on a database that can be accessed using GIS mapping tools. SCWA actively assesses the condition of the water system. SCWA uses a computerized maintenance management system to help manage the ongoing maintenance of the water system. Asset needs are identified and included in the capital improvement plan that is updated annually.

9.2.2 Wholesaler Supplier Assistance Program

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.

9.3 Planned Implementation to Achieve Water Use Targets

SCWA will have to meet its 2020 per capita demand target. As described in Section 5, SCWA has met its 2015 interim target and is on track to meet the 2020 target. A combination of the installation of low flow plumbing devices, replacement of older plumbing fixtures, 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 reduce current per capita water use.

Section 10

Plan Adoption, Submittal, and Implementation

SCWA notified cities and counties within the service area more than 60 days before the public hearing was held as presented in Tables 10-1 and 10-2. A Notice of Public Hearing was published twice in the Sacramento Bee more than 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. Appendix A provides documentation of the 60 days notification to cities and counties. Appendix B documents the notice of public hearing.

The public hearing on May 24, 2016 provided an opportunity for SCWA's customers to learn and ask questions about their water supply and SCWA's plans for providing a reliable water supply. This Plan was adopted by SCWA's elected body on May 24, 2016. A copy of the adoption resolution is provided in Appendix C.

The adopted Plan was provided to DWR, the State library, and the appropriate cities and counties within 30 days of adoption. The Plan was also submitted electronically to DWR. The adopted Plan is available for public review during normal business hours at the SCWA administration building and on-line at www.msa2.saccounty.net/dwr/scwa. Supporting documentation is presented in Appendix C.

Table 10-1. (DWR Table 10-1 R) Retail: Notification to Cities and Counties

City name	60 day notice	Notice of public hearing
City of Elk Grove	✓	✓
City of Rancho Cordova	✓	✓
City of Sacramento	✓	✓

County name	60 day notice	Notice of public hearing
Sacramento	✓	✓

Table 10-2. (DWR Table 10-2 W) Wholesale: Notification to Cities and Counties		
	Supplier has notified more than 10 cities or counties in accordance with CWC 10621 (b) and 10642. Include a separate list of the cities and counties that were notified. Location of this list in the UWMP_____	
✓	Supplier has notified 10 or fewer cities or counties. Complete the table below.	
City name	60 day notice	Notice of public hearing
City of Elk Grove	✓	✓
City of Rancho Cordova	✓	✓
City of Sacramento	✓	✓

County name	60 day notice	Notice of public hearing
Sacramento	✓	✓

Section 11

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US Department of the Interior, Bureau of Reclamation. Sacramento and San Joaquin Rivers Basin Study Basin Study Report and Executive Summary, March 2016.

Appendix A: Documentation of City/County Notification and Water Supplier Coordination

From: Paul Selsky
Sent: Friday, March 25, 2016 3:11 PM
To: 'cabhar@cityofranchocordova.org'
Cc: ZuccaroD@SacCounty.NET
Subject: Notification of Urban Water Management Plan Update

To: Mr. Cyrus Abhar
City Manager
City of Rancho Cordova

Dear Mr. Abhar:

This email is being sent on behalf of Sacramento County Water Agency (Water Agency) to notify you that the Water Agency is updating its Urban Water Management Plan (Plan) and will hold a public hearing to discuss these efforts. The California Water Code (CWC) 10621 (b) requires that agencies notify cities and counties to which they serve water that the Plan is being updated and reviewed. The CWC specifies that this must be done at least 60 days prior to the public hearing. The public hearing will take place at the Sacramento County Board of Supervisors Chambers, located at 700 H Street, Suite 1450, Sacramento, CA 95814. The exact date and time of the public hearing will be announced online at http://www.saccounty.net.

The Water Agency's Urban Water Management Plan will discuss and describe the following:

- Existing water supplies;
- Projected water demands in the Water Agency's service area over the next 25 years;
- Projected water supplies available to the Water Agency over the next 25 years, the reliability of that supply, and general schedules for water supply projects;
- Water Agency water conservation activities;
- And a comparison of water supply and water demand over the next 25 years under different hydrological assumptions (normal year, single dry year, multiple dry years).

Please share this notification with anyone in your organization that might be interested. If you have any questions or comments regarding the Urban Water Management, please contact Mr. Dave Zuccaro at 916-875-6917 or at ZuccaroD@SacCounty.NET .

Sincerely,

Paul Selsky, P.E.*

Brown and Caldwell | Rancho Cordova, CA
PSelsky@brwncald.com
T 916.853.5306 | **C** 916.612.9832
*Licensed in California

From: Paul Selsky
Sent: Friday, March 25, 2016 3:11 PM
To: 'underwoodd@SacCounty.NET'
Cc: ZuccaroD@SacCounty.NET
Subject: Notification of Urban Water Management Plan Update

To: Mr. David Underwood
County of Sacramento

Dear Mr. Underwood,

This email is being sent on behalf of Sacramento County Water Agency (Water Agency) to notify you that the Water Agency is updating its Urban Water Management Plan (Plan) and will hold a public hearing to discuss these efforts. The California Water Code (CWC) 10621 (b) requires that agencies notify cities and counties to which they serve water that the Plan is being updated and reviewed. The CWC specifies that this must be done at least 60 days prior to the public hearing. The public hearing will take place at the Sacramento County Board of Supervisors Chambers, located at 700 H Street, Suite 1450, Sacramento, CA 95814. The exact date and time of the public hearing will be announced online at http://www.saccounty.net.

The Water Agency's Urban Water Management Plan will discuss and describe the following:

- Existing water supplies;
- Projected water demands in the Water Agency's service area over the next 25 years;
- Projected water supplies available to the Water Agency over the next 25 years, the reliability of that supply, and general schedules for water supply projects;
- Water Agency water conservation activities;
- And a comparison of water supply and water demand over the next 25 years under different hydrological assumptions (normal year, single dry year, multiple dry years).

Please share this notification with anyone in your organization that might be interested. If you have any questions or comments regarding the Urban Water Management, please contact Mr. Dave Zuccaro at 916-875-6917 or at ZuccaroD@SacCounty.NET .

Sincerely,

Paul Selsky, P.E.*

Brown and Caldwell | Rancho Cordova, CA
PSelsky@brwncald.com
T 916.853.5306 | **C** 916.612.9832
*Licensed in California

From: Paul Selsky
Sent: Friday, March 25, 2016 3:11 PM
To: 'lgill@elkgrovecity.org'
Cc: ZuccaroD@SacCounty.NET
Subject: Notification of Urban Water Management Plan Update

To: Ms. Laura Gill
City Manager
City of Elk Grove

Dear Ms. Gill:

This email is being sent on behalf of Sacramento County Water Agency (Water Agency) to notify you that the Water Agency is updating its Urban Water Management Plan (Plan) and will hold a public hearing to discuss these efforts. The California Water Code (CWC) 10621 (b) requires that agencies notify cities and counties to which they serve water that the Plan is being updated and reviewed. The CWC specifies that this must be done at least 60 days prior to the public hearing. The public hearing will take place at the Sacramento County Board of Supervisors Chambers, located at 700 H Street, Suite 1450, Sacramento, CA 95814. The exact date and time of the public hearing will be announced online at http://www.saccounty.net.

The Water Agency's Urban Water Management Plan will discuss and describe the following:

- Existing water supplies;
- Projected water demands in the Water Agency's service area over the next 25 years;
- Projected water supplies available to the Water Agency over the next 25 years, the reliability of that supply, and general schedules for water supply projects;
- Water Agency water conservation activities;
- And a comparison of water supply and water demand over the next 25 years under different hydrological assumptions (normal year, single dry year, multiple dry years).

Please share this notification with anyone in your organization that might be interested. If you have any questions or comments regarding the Urban Water Management, please contact Mr. Dave Zuccaro at 916-875-6917 or at ZuccaroD@SacCounty.NET .

Sincerely,

Paul Selsky, P.E.*

Brown and Caldwell | Rancho Cordova, CA
PSelsky@brwncald.com
T 916.853.5306 | **C** 916.612.9832
*Licensed in California

From: Paul Selsky
Sent: Friday, March 25, 2016 3:11 PM
To: Jim Peifer
Cc: ZuccaroD@SacCounty.NET
Subject: Notification of Urban Water Management Plan Update

To: Mr. Jim Peifer
City of Sacramento

Dear Mr. Peifer:

This email is being sent on behalf of Sacramento County Water Agency (Water Agency) to notify you that the Water Agency is updating its Urban Water Management Plan (Plan) and will hold a public hearing to discuss these efforts. The California Water Code (CWC) 10621 (b) requires that agencies notify cities and counties to which they serve water that the Plan is being updated and reviewed. The CWC specifies that this must be done at least 60 days prior to the public hearing. The public hearing will take place at the Sacramento County Board of Supervisors Chambers, located at 700 H Street, Suite 1450, Sacramento, CA 95814. The exact date and time of the public hearing will be announced online at http://www.saccounty.net.

The Water Agency's Urban Water Management Plan will discuss and describe the following:

- Existing water supplies;
- Projected water demands in the Water Agency's service area over the next 25 years;
- Projected water supplies available to the Water Agency over the next 25 years, the reliability of that supply, and general schedules for water supply projects;
- Water Agency water conservation activities;
- And a comparison of water supply and water demand over the next 25 years under different hydrological assumptions (normal year, single dry year, multiple dry years).

Please share this notification with anyone in your organization that might be interested. If you have any questions or comments regarding the Urban Water Management, please contact Mr. Dave Zuccaro at 916-875-6917 or at ZuccaroD@SacCounty.NET .

Sincerely,

Paul Selsky, P.E.*

Brown and Caldwell | Rancho Cordova, CA
PSelsky@brwncald.com
T 916.853.5306 | **C** 916.612.9832
*Licensed in California

From: Brenda Estrada
To: Paul Selsky
Cc: Brett Ewart; underwoodd@SacCounty.NET; Paige Dulberg; Melanie Holton; ZuccaroD@SacCounty.NET
Subject: RE: City of Sacramento UWMP
Date: Tuesday, May 03, 2016 1:21:17 PM
Attachments: image001.gif

Hi Paul,
Thank you for sending the information. We have also been listing the number of 2015 connections in our descriptions for the wholesale agencies service area description. Would you be able to provide us with this number? Also, would there be any specific demographic factors the City should include regarding SCWA's service area?
Thank you.
Brenda

From: Paul Selsky [mailto:PSelsky@BrwnCald.com]
Sent: Monday, May 02, 2016 4:27 PM
To: Brenda Estrada <bestrada@westyost.com>
Cc: Brett Ewart <BEwart@cityofsacramento.org>; underwoodd@SacCounty.NET; Paige Dulberg <pdulberg@westyost.com>; Melanie Holton <MHolton@BrwnCald.com>; ZuccaroD@SacCounty.NET
Subject: RE: City of Sacramento UWMP

Brenda,

The projected population for SCWA is provided in Table 3-2 below. The City of Sacramento wholesale supply would be applicable to a portion of the Zone 40 population. The projected population in the City's Place of Use area within Zone 40 has not been specifically broken out.

The amount of water assumed to be available to serve the POU area within Zone 40 is estimated to be 9,300 ac-ft/yr. This wholesale supply is not planned for use until the interconnection is constructed with the City, which is assumed to not occur until after 2040. Please let us know if this information is consistent with the City's view.

Table 3-2. (DWR Table 3-1 R) Retail: Population - Current and Projected

Water system	2015	2020	2025	2030	2035	2040
Arden Park Vista [a]	(b)	9,372	9,372	9,372	9,372	9,372
Hood Water Maintenance District [a]	(b)	256	256	256	256	256
East Walnut Grove [a]	(b)	428	432	436	440	440
Southwest Tract Water Maintenance District [a]	(b)	157	157	157	157	157
Northgate 880 [a]	(b)	0	0	0	0	0
Zone 40, Laguna Vineyard and Mather-Sunrise [c]	(b)	186,347	220,402	256,900	295,843	337,229
Metro Air Park [a]	(b)	0	0	0	0	0

Population served	165,895	196,560	230,619	267,121	306,068	347,454

(a) *Based on projection in 2010 UWMP.*

(b) *Not quantified separately with DWR population tool.*

(c) *Population projection developed in Water System Infrastructure Plan Update (SCWA, 2016).*

Sincerely,

Paul Selsky, P.E.*

Brown and Caldwell | Rancho Cordova, CA
PSelsky@brwncald.com
T 916.853.5306 | **C** 916.612.9832
*Licensed in California

From: Brenda Estrada [mailto:bestrada@westyost.com]
Sent: Thursday, April 28, 2016 8:18 AM
To: Paul Selsky; Melanie Holton
Cc: Brett Ewart; underwoodd@SacCounty.NET; Paige Dulberg
Subject: City of Sacramento UWMP

Melanie,
I appreciate you talking with me this morning about Sacramento's UWMP. As I mentioned, we are working with the City in preparing their 2015 UWMP. Since the City provides wholesale water to SCWA, we need to get some information to include about SCWA. We need to get the population projection information and wholesale supply assumptions SCWA will be using in their 2015 UWMP. If there is any additional information about SCWA's system you think should be included please provide that information also and we will work with the City on including the data.

We would appreciate getting this information early next week if at all possible. If you have any questions, please feel free to contact me.

Thank you,
Brenda

Brenda Estrada
WEST YOST ASSOCIATES
2020 Research Park Drive, Suite 100
Davis CA, 95618
office 530.756.5905
direct 530.792.3250
bestrada@westyost.com

www.westyost.com | LinkedIn | Facebook

From:	Paul Selsky
To:	Brenda Estrada
Cc:	Brett Ewart; underwoodd@SacCounty.NET; Paige Dulberg; Melanie Holton; ZuccaroD@SacCounty.NET
Subject:	Re: City of Sacramento UWMP
Date:	Thursday, May 05, 2016 10:27:53 AM
Attachments:	image001.gif

Brenda,

Here is the 2015 connection info:

Laguna Vineyard system 43,767
Mather Sunrise system 5,482

Paul

From: Paul Selsky
Sent: Tuesday, May 24, 2016 3:34 PM
To: 'lbillingsley@usbr.gov'
Cc: ZuccaroD@SacCounty.NET
Subject: Water Projections for Urban Water Management Plan

To: Lucille Billingsley
US Bureau of Reclamation

Dear Ms. Billingsley,

On behalf of Sacramento County Water Agency (Water Agency) , I am contacting you to provide the water use projections from the Central Valley Project (CVP) supply source that will be presented in the 2015 Urban Water Management Plan. This coordination with the wholesale water supplier is required by the California Department of Water Resources as part of the development of the Water Agency's Urban Water Management Plan, including the documentation of the coordination.

It is assumed that the Water Agency has a total CVP supply of 45,000 ac-ft/yr available for normal climate years. For the single dry year scenario it is assumed that the CVP supply would be 25% of the prior three year average use of the CVP supply. The three year multiple dry year scenario mimics the water supply conditions of 2013 to 2015 when CVP allocations were 100 percent, 75 percent, and 25 percent of the average use of CVP supplies during the previous three years.

The tables below are extracted from the draft Urban Water Management. Table 6-12 presents the projected normal year water supplies for the Water Agency including the CVP supplies. As noted in the detail column in Table 6-12, the Water Agency could increase the use of CVP supplies in a normal year up to 34,200 ac-ft/yr based on their water treatment plant capacity and to what extent they used their other supplies. Tables 7-10 and 7-11 present the projected supplies for the single dry and the second year of the multiple dry years scenario. Year 3 of the multiple dry year scenario would be the same as the single dry year shown in Table 7-10. The dry year CVP supply values presented in Tables 7-10 and 7-11 are determined based on a normal year use of CVP supply of 32,000 ac-ft/yr in 2020 increasing to 34,000 ac-ft/yr in 2040.

The draft 2015 Urban Water Management Plan is available under "Doing Business with Us/Engineering Reports" at this link: http://www.scwa.net. If you have any feedback on these projections, please contact me and Mr. Dave Zuccaro at ZuccaroD@SacCounty.NET.

Table 6-12. (DWR Table 6-9 R) Retail: Water Supplies — Projected, ac-ft/yr

Additional detail on water supply	Projected Water Supply Report To the Extent Practicable								
	2020		2025		2030		2035		
	Reasonably available volume	Total right or safe yield	Reasonably available volume	Total right or safe yield	Reasonably available volume	Total right or safe yield	Reasonably available volume	Total right or safe yield	Reasonably available volume
CVP water. SCWA may vary this amount in combination with the appropriative surface water, remediated groundwater, and transfer supplies so that the	21,300	45,000	21,300	45,000	21,300	45,000	21,300	45,000	21,300

combined total does not exceed the total annual demand that the Vineyard SWTP can supply of approximately 34,200 ac-ft/yr.									
City of Sacramento supply. Not planned for use until the interconnection with the City is constructed after 2040.	0	9,300	0	9,300	0	9,300	0	9,300	0
Appropriative water. SCWA may vary this amount as described for purchased water.	4,000	71,000	4,000	71,000	4,000	71,000	4,000	71,000	4,000
Available volume based on groundwater supply capacity. Safe yield not quantified.	47,000		47,000		52,000		62,000		62,000
Remediated groundwater. SCWA may vary this amount as described for purchased water.	8,900	8,900	8,900	8,900	8,900	8,900	8,900	8,900	8,900
Other surface water supplies. SCWA may vary this amount as described for purchased water.	0	9,600	0	9,600	0	9,600	0	9,600	0
	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700
	82,900	145,500	82,900	145,500	87,900	145,500	97,900	145,500	97,900

Table 7-10. Projected Available Single Dry Year Water Supplies with Facility Constraints, ac-ft/yr

Water Supply	2020	2025	2030	2035	2040
Surface water, all types					
Purchased water					
CVP	8,000	8,300	8,400	8,400	8,600
City of Sacramento					
Surface water (appropriative)	-	-	-	-	-
Transfers (other surface water supplies)	9,600	9,600	9,600	9,600	9,600
Other (remediated groundwater)	8,900	8,900	8,900	8,900	8,900
Subtotal	26,500	26,800	26,900	26,900	27,100
Groundwater for Zone 40	41,000	41,000	46,000	56,000	56,000
Groundwater for non Zone 40 systems	6,000	6,000	6,000	6,000	6,000
Recycled water	1,700	1,700	1,700	1,700	1,700
Total	75,200	75,500	80,600	90,600	90,800
Wholesale supply to retailers	5,000	5,000	6,000	7,000	7,000
Retail supply w/ recycled water	70,200	70,500	74,600	83,600	83,800

Notes: This table is also applicable for the third year of the multiple dry year scenario.

Table 7-11. Projected Available Multiple Dry Years Water Supplies for Second Year with Facility Constraints, ac-ft/yr

Water Supply	2020	2025	2030	2035	2040
Surface water, all types					
Purchased water					
CVP	24,000	24,900	25,050	25,125	25,650
City of Sacramento					

Surface water (appropriative)	-	-	-	-	-
Transfers (other surface water supplies)	1,300	400	250	175	
Other (remediated groundwater)	8,900	8,900	8,900	8,900	8,550
Subtotal	34,200	34,200	34,200	34,200	34,200
Groundwater for Zone 40	41,000	41,000	46,000	56,000	56,000
Groundwater for non Zone 40 systems	6,000	6,000	6,000	6,000	6,000
Recycled water	1,700	1,700	1,700	1,700	1,700
Total	82,900	82,900	87,900	97,900	97,900
Wholesale supply to retailers	5,000	5,000	6,000	7,000	7,000
Retail supply w/ recycled water	77,900	77,900	81,900	90,900	90,900

Notes: See Table 6-12 for the first year and Table 7-10 for the third year for a breakdown of supplies for the multiple dry year scenario.

Sincerely,

Paul Selsky, P.E.*

Brown and Caldwell | Rancho Cordova, CA
PSelsky@brwncald.com
T 916.853.5306 | **C** 916.612.9832
*Licensed in California

From: Paul Selsky
To: "deana.donohue@amwater.com"
Cc: ZuccaroD@SacCounty.NET
Subject: Coordination with Sacramento Co WA UWMP
Date: Tuesday, May 24, 2016 3:33:44 PM
Attachments: image001.gif

To: Ms. Deana Donohue
California American Water Company

Dear Ms. Donohue:

On behalf of Sacramento County Water Agency, I am contacting you to provide the amounts of water that we have projected that would be supplied to California American Water Company in the Water Agency's 2015 Urban Water Management Plan. Sacramento County Water Agency is anticipated to be a wholesale water supplier to your future water system located in the western portion of the Rio del Oro planning subarea.

The tables below are extracted from the draft Urban Water Management Plan and include the quantities for both of Sacramento County Water Agency's wholesale customers. Table 3-3 presents the projected populations. Table 4-5 presents the projected water demands. Tables 7-5, 7-7, and 7-9 present the projected supply to demand comparison for the two wholesale customers for the normal, single dry, and multiple dry years scenarios.

The draft 2015 Urban Water Management Plan is available under "Doing Business with Us/Engineering Reports" at this link: http://www.scwa.net. If you have any feedback on these projections, please contact me and Mr. Dave Zuccaro at ZuccaroD@SacCounty.NET.

Table 3-3. (DWR Table 3-1 W) Wholesale: Population - Current and Projected

Retail agency	2015	2020	2025	2030	2035	2040
Elk Grove Water District Wholesale Area		12,053	12,963	13,845	14,697	15,520
Cal-Am Rio del Oro	-	-	2,500	5,000	7,500	10,000
Total		12,053	15,463	18,845	22,197	25,520

Note: Developed by SCWA. No population projection has been received from the retail agencies.

Table 4-5. (DWR Table 4-2 W) Wholesale: Demands for Potable and Raw Water - Projected

Use type	Additional description	Projected water use, ac-ft/yr				
		2020	2025	2030	2035	2040
Sales to other agencies	Elk Grove Water District	4,000	4,200	4,560	4,560	4,560
Sales to other agencies	California American Water Company	0	486	1,006	1,491	2,012
Losses	Losses from supply sources to wholesale/retail interconnections projected to be 3.0% of wholesale delivery amounts.	120	141	167	182	197
Total		4,120	4,826	5,733	6,233	6,769

Table 7-5. (DWR Table 7-2 W) Wholesale: Normal Year Supply and Demand Comparison, ac-ft/yr

	2020	2025	2030	2035	2040

Supply totals	5,000	5,000	6,000	7,000	7,000
Demand totals	4,120	4,826	5,733	6,233	6,769
Difference	880	174	267	767	231

Table 7-7. (DWR Table 7-3 W) Wholesale: Single Dry Year Supply and Demand Comparison, ac-ft/yr

	2020	2025	2030	2035	2040
Supply totals	5,000	5,000	6,000	7,000	7,000
Demand totals	4,120	4,826	5,733	6,233	6,769
Difference	880	174	267	767	231

Notes: See Table 7-10 for a break down of the supplies by source.

Table 7-9. (DWR Table 7-4 W) Wholesale: Multiple Dry Years Supply and Demand Comparison, ac-ft/yr

		2020	2025	2030	2035	2040
First year	Supply totals	5,000	5,000	6,000	7,000	7,000
	Demand totals	4,120	4,826	5,733	6,233	6,769
	Difference	880	174	267	767	231
Second year	Supply totals	5,000	5,000	6,000	7,000	7,000
	Demand totals	4,120	4,826	5,733	6,233	6,769
	Difference	880	174	267	767	231
Third year	Supply totals	5,000	5,000	6,000	7,000	7,000
	Demand totals	4,120	4,826	5,733	6,233	6,769
	Difference	880	174	267	767	231

Sincerely,

Paul Selsky, P.E.*

Brown and Caldwell | Rancho Cordova, CA
PSelsky@brwncald.com
T 916.853.5306 | **C** 916.612.9832
*Licensed in California

From: Paul Selsky
Sent: Tuesday, May 24, 2016 3:34 PM
To: 'Greg Young'; 'Bruce Kimilos'
Cc: ZuccaroD@SacCounty.NET
Subject: RE: 2015 UWMP

To: Greg Young and Bruce Kimilos
Elk Grove Water District

Dear Mr. Young and Kimilos:

On behalf of Sacramento County Water Agency, I want to get back to you to provide the amounts of water that we have projected that would be supplied to Elk Grove Water District in the Water Agency's 2015 Urban Water Management Plan. We would like to get your input on these values. We know that your email dated Sacramento County Water Agency dated March 28, 2016 said that you were developing these projections.

The tables below are extracted from the draft Urban Water Management Plan and include the quantities for both of Sacramento County Water Agency's wholesale customers. Table 3-3 presents the projected populations. Table 4-5 presents the projected water demands. Tables 7-5, 7-7, and 7-9 present the projected supply to demand comparison for the two wholesale customers for the normal, single dry, and multiple dry years scenarios.

The draft 2015 Urban Water Management Plan is available under "Doing Business with Us/Engineering Reports" at this link: http://www.scwa.net. If you have any feedback on these projections, please contact me and Mr. Dave Zuccaro at ZuccaroD@SacCounty.NET.

Table 3-3. (DWR Table 3-1 W) Wholesale: Population - Current and Projected

Retail agency	2015	2020	2025	2030	2035	2040
Elk Grove Water District Wholesale Area		12,053	12,963	13,845	14,697	15,520
Cal-Am Rio del Oro	-	-	2,500	5,000	7,500	10,000
Total		12,053	15,463	18,845	22,197	25,520

Note: Developed by SCWA. No population projection has been received from the retail agencies.

Table 4-5. (DWR Table 4-2 W) Wholesale: Demands for Potable and Raw Water - Projected

Use type	Additional description	Projected water use, ac-ft/yr				
		2020	2025	2030	2035	2040
Sales to other agencies	Elk Grove Water District	4,000	4,200	4,560	4,560	4,560
Sales to other agencies	California American Water Company	0	486	1,006	1,491	2,012
Losses	Losses from supply sources to wholesale/retail interconnections projected to be 3.0% of wholesale delivery amounts.	120	141	167	182	197
Total		4,120	4,826	5,733	6,233	6,769

Table 7-5. (DWR Table 7-2 W) Wholesale: Normal Year Supply and Demand Comparison, ac-ft/yr					
	2020	2025	2030	2035	2040
Supply totals	5,000	5,000	6,000	7,000	7,000
Demand totals	4,120	4,826	5,733	6,233	6,769
Difference	880	174	267	767	231

Table 7-7. (DWR Table 7-3 W) Wholesale: Single Dry Year Supply and Demand Comparison, ac-ft/yr					
	2020	2025	2030	2035	2040
Supply totals	5,000	5,000	6,000	7,000	7,000
Demand totals	4,120	4,826	5,733	6,233	6,769
Difference	880	174	267	767	231
Notes: See Table 7-10 for a break down of the supplies by source.					

Table 7-9. (DWR Table 7-4 W) Wholesale: Multiple Dry Years Supply and Demand Comparison, ac-ft/yr						
		2020	2025	2030	2035	2040
First year	Supply totals	5,000	5,000	6,000	7,000	7,000
	Demand totals	4,120	4,826	5,733	6,233	6,769
	Difference	880	174	267	767	231
Second year	Supply totals	5,000	5,000	6,000	7,000	7,000
	Demand totals	4,120	4,826	5,733	6,233	6,769
	Difference	880	174	267	767	231
Third year	Supply totals	5,000	5,000	6,000	7,000	7,000
	Demand totals	4,120	4,826	5,733	6,233	6,769
	Difference	880	174	267	767	231

Sincerely,

Paul Selsky, P.E.*

Brown and Caldwell | Rancho Cordova, CA
PSelsky@brwncald.com
T 916.853.5306 | **C** 916.612.9832
*Licensed in California

From: Paul Selsky
Sent: Monday, March 28, 2016 4:27 PM
To: 'Greg Young'
Cc: Bruce Kimilos; ZuccaroD@SacCounty.NET
Subject: RE: 2015 UWMP

Greg,

Thanks for the info. We will standby for your input. Can you also provide an estimate of population for the Elk Grove wholesale area for DWR Table 3-1?

Paul Selsky, P.E.*

Brown and Caldwell | Rancho Cordova, CA
PSelsky@brwncald.com
T 916.853.5306 | **C** 916.612.9832
*Licensed in California

From: Greg Young [mailto:gyoung@tullyandyoung.com]
Sent: Monday, March 28, 2016 3:58 PM
To: Paul Selsky
Cc: Bruce Kimilos
Subject: Re: 2015 UWMP

Paul,
I wanted to follow up with you regarding Elk Grove's representation of demand on the Sac County water system for purposes of the 2015 UWMPs. As outlined below, we had represented the demand to be capped at 4,560 af/yr, which was represented in the 2010 UWMP as a "contracted value," and as the max demand in 2030 and beyond. The 2010 UWMP did not include a copy of the contract with the County. We have subsequently received a copy of the functioning contract and now see that there is NO cap on the volume from the County. Specifically, the contract states the County "shall deliver all potable water necessary" (June 2002 "Restated Master Water Agreement").

This is obviously a different representation than that presented in the 2010 UWMP. So, we are reassessing the demand out to 2040 for the Service Area 2 that is served with County water. We just received information from the City regarding their views of growth in this zone, and will prepare new demand estimates this week. The resulting values may be different than the 4,560 af/yr, but should be the more appropriate demands to include. I wanted to give you a heads up on this!

Regards,

Greg Young, P.E.
Principal
Tully & Young
Comprehensive Water Planning
o: 916.669.9356
m: 916.769.3749
3600 American River Drive, Suite 260
Sacramento, California 95864
gyoung@tullyandyoung.com
www.tullyandyoung.com

From: Paul Selsky <PSelsky@BrwnCald.com>
Date: Wednesday, March 2, 2016 at 10:16 AM
To: Bruce Kimilos <bkamilos@egwd.org>
Cc: "Zuccaro. Dave" <ZuccaroD@SacCounty.NET>, "Perez. Juan" <perezju@SacCounty.NET>, "Melanie Holton (melanieholton@icloud.com)" <melanieholton@icloud.com>, Kerry Schmitz <schmitzk@SacCounty.NET>, Mark Madison <MMadison@egwd.org>, Greg Young <gyoung@tullyandyoung.com>
Subject: Re: 2015 UWMP

Bruce,

Those values look good. Thanks for the info.

Paul

On Feb 29, 2016, at 8:19 AM, Bruce Kamilos <bkamilos@egwd.org<mailto:bkamilos@egwd.org>> wrote:

Hello Dave & Paul,

Attached is an email and letter Elk Grove Water District (EGWD) sent to Kerry Schmitz addressing this very subject. Please review the letter in the attached email. The letter explains how EGWD intends to represent the availability and reliability of SCWA wholesale water supply for its 2015 Urban Water Management Plan (UWMP).

Please provide your concurrence that you agree with this approach. I may be contacted by email or phone if you have any questions. Or, if you prefer, contact directly our UWMP consultant, Greg Young, of Tully & Young to further discuss the approach. Greg's contact information is:

Greg Young, P.E.
Principal
Tully & Young
Comprehensive Water Planning
o: 916.669.9356
m: 916.769.3749
3600 American River Drive, Suite 260
Sacramento, California 95864
gyoung@tullyandyoung.com<applewebdata://DAF95927-9E50-4E2F-AC90-F9DAE6AFB746/gyoung@tullyandyoung.com>

Thank you,

Bruce M. Kamilos, P.E.
Elk Grove Water District
(916) 585-9385
bkamilos@egwd.org<mailto:mmadison@egwd.org>

From: Zuccaro. Dave [mailto:ZuccaroD@SacCounty.NET]
Sent: Friday, February 26, 2016 3:01 PM
To: Paul Selsky
Cc: Perez. Juan; Melanie Holton (melanieholton@icloud.com<mailto:melanieholton@icloud.com>); Bruce Kamilos
Subject: RE: 2015 UWMP

Yes,

It would be great if you would initiate contact with Bruce Kamilos of the Elk Grove Water District? We would like to make sure that we complying with the State's requirements. It is my understanding that they are using Tully & Young to help them prepare their 2015 UWMP.

Bruce's contact info is as follows:

Bruce M. Kamilos, P.E.
Associate Civil Engineer
Elk Grove Water District
9257 Elk Grove Blvd.
Elk Grove, CA 95624
(916) 585-9385
bkamilos@egwd.org<mailto:mmadison@egwd.org>

From: Paul Selsky
Sent: Tuesday, May 24, 2016 3:34 PM
To: 'cabhar@cityofranchocordova.org'
Cc: ZuccaroD@SacCounty.NET
Subject: Urban Water Management Plan public hearing

To: Mr. Cyrus Abhar
City Manager
City of Rancho Cordova

Dear Mr. Abhar:

As a follow-up to our email to you dated March 25, 2016, we want to directly provide you the notice of public hearing for Sacramento County Water Agency's Urban Water Management Plan. The draft document is available under "Doing Business with Us/Engineering Reports" at this link: http://www.scwa.net

If you have any questions or comments regarding the Urban Water Management Plan, please contact Mr. Dave Zuccaro at ZuccaroD@SacCounty.NET.

NO 636 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 2015 Urban Water Management Plan. The hearing will be held at the following time and place:

May 25, 2016
2:00 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 10151 Florin Road.

Sincerely,

Paul Selsky, P.E.*

Brown and Caldwell | Rancho Cordova, CA
PSelsky@brwncald.com
T 916.853.5306 | **C** 916.612.9832

From: Paul Selsky
Sent: Tuesday, May 24, 2016 3:34 PM
To: 'lgill@elkgrovecity.org'
Cc: ZuccaroD@SacCounty.NET
Subject: Urban Water Management Plan public hearing

To: Ms. Laura Gill
City Manager
City of Elk Grove

Dear Ms. Gill:

As a follow-up to our email to you dated March 25, 2016, we want to directly provide you the notice of public hearing for Sacramento County Water Agency's Urban Water Management Plan. The draft document is available under "Doing Business with Us/Engineering Reports" at this link: http://www.scwa.net

If you have any questions or comments regarding the Urban Water Management Plan, please contact Mr. Dave Zuccaro at ZuccaroD@SacCounty.NET.

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Sincerely,

Paul Selsky, P.E.*

Brown and Caldwell | Rancho Cordova, CA
PSelsky@brwncald.com
T 916.853.5306 | **C** 916.612.9832

From: Paul Selsky
Sent: Tuesday, May 24, 2016 3:34 PM
To: Jim Peifer
Cc: ZuccaroD@SacCounty.NET
Subject: Urban Water Management Plan public hearing

To: Mr. Jim Peifer
City of Sacramento

Dear Mr. Peifer:

As a follow-up to our email to you dated March 25, 2016, we want to directly provide you the notice of public hearing for Sacramento County Water Agency's Urban Water Management Plan. The draft document is available under "Doing Business with Us/Engineering Reports" at this link: http://www.scwa.net

If you have any questions or comments regarding the Urban Water Management Plan, please contact Mr. Dave Zuccaro at ZuccaroD@SacCounty.NET.

NO 636 PUBLIC NOTICE
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Sincerely,

Paul Selsky, P.E.*

Brown and Caldwell | Rancho Cordova, CA
PSelsky@brwncald.com
T 916.853.5306 | **C** 916.612.9832

Appendix B: Notice of Public Hearing

NO 636 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 2015 Urban Water Management Plan. The hearing will be held at the following time and place:

May 25, 2016
2:00 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 10151 Florin Road.

Appendix C: Urban Water Management Plan Adoption

APPROVED
BOARD OF SUPERVISORS

MAY 25 2016

Clerk of the Board

SACRAMENTO COUNTY WATER AGENCY
CALIFORNIA

16

For the Agenda of:
May 25, 2016
Timed: 2:40 p.m.

To: Board of Directors
Sacramento County Water Agency

From: Department of Water Resources

Subject: Public Hearing For The Adoption Of The Sacramento County Water Agency 2015 Urban Water Management Plan Update

Supervisorial District(s): All

Contact: Dave Underwood, Senior Civil Engineer, 875-6947

Overview

The California Water Code (Water Code) §10620 requires that every urban water supplier prepare and adopt an Urban Water Management Plan (UWMP). Once adopted, Water Code §10621 requires the UWMP to be updated every five years. On December 6, 2005, the Sacramento County Water Agency (SCWA) Board adopted its 2005 UWMP and the 2010 update was adopted by the SCWA Board on June 21, 2011. SCWA's 2015 UWMP update incorporates the latest planning information developed by SCWA and satisfies all current requirements in the Water Code. The 2015 UWMP can be found on-line at www.scwa.net or at the Clerk of the Board's office.

Recommendations

1. Open public hearing on the adoption of the 2015 SCWA UWMP update.
2. Close public hearing.
3. Adopt the SCWA UWMP update.

Measures/Evaluation

Measures/Evaluation are not applicable to this agenda item.

Fiscal Impact

Adopting the UWMP has no direct fiscal impact. However, completing the update will allow SCWA to qualify for future applications of State administered grants, loans, and drought assistance.

BACKGROUND

The Urban Water Management Planning Act (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 describes the contents of the UWMP as well as how urban water suppliers should adopt and implement the UWMP. 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 revision at that time was the requirement to establish per capita water use targets.

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 per service area to adopt and submit a UWMP every five years to the California Department of Water Resources. Currently, SCWA provides water service to approximately 57,000 connections and serves approximately 40,000 acre-feet of potable drinking water (2015) cumulatively to its nine service areas throughout Sacramento County (Zone 40 North, Central and South service areas, Arden Park Vista, Northgate 880, Metro Air Park, Southwest Track, Hood and East Walnut Grove).

The State considers the UWMP a long-range planning document for water supply and a source of data for development of General Plans and Regional Water Plans. UWMPs contain the latest information on available water supplies, water supply reliability, water shortage contingencies, recycled water usage, and water conservation. The UWMP provides key components in developing Integrated Regional Water Management Plans, and is a source of information for Water Supply Assessments (Senate Bill 610) Water Code §10613 *et seq.* (*Added by* Stats. 2001, c. 643) and Written Verifications of Supply (Senate Bill 221) Water Code §66473.7 (*Added by* Stats. 2001, c. 642). The State also requires an approved UWMP to qualify for State sponsored grants and loans.

DISCUSSION

The SCWA 2015 UWMP includes an analysis of all service areas within Zone 41. The cities of Sacramento, Elk Grove and Rancho Cordova and neighboring water agencies were notified of SCWA's intention to update its UWMP and that there would be an opportunity for public review and a public hearing later this year. Notice of the public hearing was published in the Sacramento Bee on May 9th.

Since approval of the 2010 UWMP, SCWA has been involved in various planning efforts that have a bearing on the UWMP. These efforts include the Zone 40 Master Plan Amendment for Cordova Hills (March 2011), the Zone 40 Water System Infrastructure Plan Update (in progress), Zone 40 Water Supply Master Plan Amendments for new growth areas (in progress), various activities related to the Sustainable Groundwater Management Act (in progress), and the Recycled Water Feasibility Study (in progress).

The 2015 UWMP incorporates the latest planning information developed by SCWA and satisfies all current requirements set forth in the Water Code. The significant changes in the 2015 UWMP compared to prior versions include:

- 2020 per capita demand target was updated. SCWA target does not change significantly.
- Shows SCWA compliance with the 2015 interim per capita demand target.
- Population and water demand projections are based on recent Water System Infrastructure Plan update.
- Dry year supply projections were updated to reflect recent low allocation of Central Valley Project (CVP) supplies.

The 2015 UWMP would have ordinarily been due by June 2015, but the State granted water providers an extension to June 30, 2016 because of updated plan requirements described above.

FINANCIAL ANALYSIS

Adopting the UWMP has no direct fiscal impact. However, completing the update will allow SCWA to qualify for future applications of State administered grants, loans, and drought assistance.

Respectfully submitted,

MICHAEL L. PETERSON, Director
Department of Water Resources

APPROVED:
NAVDEEP S. GILL
County Executive

By: _____
ROBERT B. LEONARD
Chief Deputy County Executive

Phil Serna – District 1
Patrick Kennedy – District 2
Susan Peters – District 3
Roberta MacGlashan – District 4 (Chair)
Don Nottoli – District 5 (Vice Chair)

SACRAMENTO COUNTY

ACTION SUMMARY
BOARD OF SUPERVISORS
700 H STREET SUITE 1450
SACRAMENTO, CA 95814

WEDNESDAY **May 25, 2016** **2:00 PM**

(All Supervisors were present)

The Board meets simultaneously as the Board of Supervisors and as the governing board of all special districts having business heard this date.

The Board of Supervisors welcomes and encourages participation in the meetings. At the outset of an item the Chair of the Board will announce the maximum amount of time per speaker that will be allowed for presentation of testimony.

Matters under the jurisdiction of the Board and not on the posted agenda may be addressed by the public following completion of regular business. The Board limits testimony on matters not on the posted agenda to five minutes per person and not more than fifteen minutes for a particular subject.

The public may electronically sign up to speak to the Board using the kiosk located in the back of the Board Chambers or the public may complete a speaker request form and submit it to the Clerk of the Board.

The meeting is videotaped and cablecast live on Metrocable 14 on the Comcast, Consolidated Communications and AT&T U-Verse Systems. It is closed captioned for hearing impaired viewers and webcast live at http://www.saccounty.net. There will be a rebroadcast of this meeting on Friday at 6:00 p.m. A DVD copy will be available for checkout through the County Library System seven to ten days following the meeting.

The on-line version of the agenda and associated materials are posted for your convenience at http://www.saccounty.net. Some documents may not be posted on-line because of their size and/or format (maps, site plans, and renderings). As they become available, hard copies of all documents are available at the Clerk of the Board's Office, 700 H Street, Room 2450.

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Meeting facilities are accessible to persons with disabilities. Requests for interpreting services, assistive listening devices or other considerations should be through the Clerk of the Board's office by calling (916) 874-5411 (voice) and CA Relay Services 711 (for the hearing impaired), no later than five working days prior to the meeting.

****

ROLL CALL

PLEDGE OF ALLEGIANCE

15. **2:30 PM -- PLNP2015-00067. Vander Eyk Williamson Act Contact Rescission And New Contract Execution. Request To Partially Rescind An Existing Williamson Act Contract And Simultaneously Enter Into A New Williamson Act Contract Required To Approve A Lot Line Adjustment At 15041 State Highway 160 In The Delta Community. Applicant: Javier Medina; APNs 157-0100-092, 045, And 091; Environmental Determination: Exempt (Community Development)**
Supervisorial District(s): Nottoli

2:48 PM Board Action: Don Nottoli/ Phil Serna - Recognized the Exempt status of the environmental document. Approved the partial rescission of an existing Williamson Act Contract 70-AP-045 to remove Parcel 157-0100-092 and simultaneously adopted Resolution 2016-AP-001 covering Parcel 157-0100-092 and 157-0100-045 to facilitate the proposed Boundary Line Adjustment. The Board further amended conditions allowing 60 days for the conditions of approval to be completed prior to the Boundary Line Adjustment recordation and added findings recommended by staff.

AYES: Patrick Kennedy, Roberta MacGlashan, Don Nottoli, Susan Peters, Phil Serna
NOES: (None)
ABSTAIN: (None)
ABSENT: (None)
RECUSAL: (None)
(PER POLITICAL REFORM ACT (§ 18702.5.))

SACRAMENTO COUNTY WATER AGENCY
(Directors: P. Kennedy, R. MacGlashan, D. Nottoli, S. Peters, P. Serna)

16. **2:40 PM -- Public Hearing For The Adoption Of The Sacramento County Water Agency 2015 Urban Water Management Plan Update (Water Resources)**
Supervisorial District(s): All

3:03 PM Board Action: Don Nottoli/ Phil Serna - Closed the public hearing. Adopted the Sacramento County Water Agency 2015 Urban Water Management Plan update.

AYES: Patrick Kennedy, Roberta MacGlashan, Don Nottoli, Susan Peters, Phil Serna
NOES: (None)
ABSTAIN: (None)
ABSENT: (None)
RECUSAL: (None)
(PER POLITICAL REFORM ACT (§ 18702.5.))

Appendix D: DWR Urban Water Management Plan Checklist

Checklist Arranged by Subject

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location *(Optional Column for Agency Use)*
10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.1	Appendix C
10620(d)(2)	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.	Plan Preparation	Section 2.5.2	Pages 2-2 to 2-4
10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	Plan Preparation	Section 2.5.2	Pages 2-2 to 2-4 and Appendices A and B
10631(a)	Describe the water supplier service area.	System Description	Section 3.1	Pages 3-1 to 3-3
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	Page 3-4
10631(a)	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	Page 3-5
10631(a)	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	Page 3-5
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	Page 3-5 and Appendix E
10631(e)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	Pages 4-1 to 4-4
10631(e)(3)(A)	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	Page 4-4 and Appendix G
10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5	Page 4-5
10608.20(b)	Retail suppliers shall adopt a 2020 water use target using one of four methods.	Baselines and Targets	Section 5.7 and App E	Page 5-2 and Appendix E

10608.20(e)	Retail suppliers shall 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.	Baselines and Targets	Chapter 5 and App E	Page 5-2 and Appendix E
10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.7.2	Page 5-2 and Appendix E
10608.24(a)	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and App E	Page 5-2 and Appendix E
10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Section 5.8.2	N/A
10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Section 5.1	Page 9-4
10608.40	Retail suppliers shall report on their progress in meeting their water use targets. The data shall be reported using a standardized form.	Baselines and Targets	Section 5.8 and App E	Page 5-2
10631(b)	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	Pages 6-16 to 6-19
10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	Page 6-2
10631(b)(1)	Indicate whether a groundwater management plan has 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.	System Supplies	Section 6.2.2	Page 6-6
10631(b)(2)	Describe the groundwater basin.	System Supplies	Section 6.2.1	Pages 6-2 to 6-8
10631(b)(2)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.2	Page 6-6

10631(b)(2)	For unadjudicated basins, indicate whether or not the department has identified the basin as overdrafted, or projected to become overdrafted. Describe efforts by the supplier to eliminate the long-term overdraft condition.	System Supplies	Section 6.2.3	Page 6-7
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	System Supplies	Section 6.2.4	Page 6-8
10631(b)(4)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Sections 6.2 and 6.9	Pages 6-18 to 6-19
10631(d)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	Page 6-14
10631(g)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years.	System Supplies	Section 6.8	Page 6-15
10631(h)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	Page 6-14
10631(j)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) – if any - with water use projections from that source.	System Supplies	Section 2.5.1	Page 2-2 to 2-3 and Appendix A
10631(j)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Section 2.5.1	Page 2-2 and Appendix A
10633	For wastewater and recycled water, coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.1	Page 6-8 to 6-9
10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area. Include quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	System Supplies (Recycled Water)	Section 6.5.2	Pages 6-9 to 6-11
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.	System Supplies (Recycled Water)	Section 6.5.2.2	Page 6-11 to 6-12
10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.3 and 6.5.4	Page 6-12 to 6-13

10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.4	Pages 6-11 to 6-12
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.	System Supplies (Recycled Water)	Section 6.5.4	Pages 6-12 to 6-13
10633(f)	Describe the actions 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.	System Supplies (Recycled Water)	Section 6.5.5	Pages 6-13 to 6-14
10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5	Page 6-13 to 6-14
10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.4	Pages 7-6
10631(c)(1)	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	Page 6-21, 7-1 and 7-6
10631(c)(1)	Provide data for an average water year, a single dry water year, and multiple dry water years	Water Supply Reliability Assessment	Section 7.2	Page 7-2
10631(c)(2)	For any water source that may not be available at a consistent level of use, describe plans to supplement or replace that source.	Water Supply Reliability Assessment	Section 7.1	Page 7-1
10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.1	Page 7-1
10635(a)	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.3	Pages 7-2 to 7-11
10632(a) and 10632(a)(1)	Provide an urban water shortage contingency analysis that specifies stages of action and an outline of specific water supply conditions at each stage.	Water Shortage Contingency Planning	Section 8.1	Page 8-1
10632(a)(2)	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.	Water Shortage Contingency Planning	Section 8.9	Page 8-6
10632(a)(3)	Identify actions to be undertaken by the urban water supplier in case of a catastrophic interruption of water supplies.	Water Shortage Contingency Planning	Section 8.8	Page 8-5

10632(a)(4)	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	Page 8-2
10632(a)(5)	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	Page 8-3
10632(a)(6)	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency Planning	Section 8.3	Page 8-3
10632(a)(7)	Provide an analysis of the impacts of each of the actions and conditions in the water shortage contingency analysis on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts.	Water Shortage Contingency Planning	Section 8.6	Page 8-5
10632(a)(8)	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	Appendix I
10632(a)(9)	Indicate a mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis.	Water Shortage Contingency Planning	Section 8.5	Page 8-4
10631(f)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Sections 9.2 and 9.3	Page 9-1 to 9-4 and Appendix F
10631(f)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Sections 9.1 and 9.3	Pages 9-1 to 9-4
10631(i)	CUWCC members may submit their 2013-2014 CUWCC BMP annual reports in lieu of, or in addition to, describing the DMM implementation in their UWMPs. This option is only allowable if the supplier has been found to be in full compliance with the CUWCC MOU.	Demand Management Measures	Section 9.5	Appendix F
10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets.	Plan Adoption, Submittal, and Implementation	Section 10.3	Page 10-1 and Appendix B
10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.	Plan Adoption, Submittal, and Implementation	Section 10.2.1	Pages 10-1, 10-2, and Appendix A
10621(d)	Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.	Plan Adoption, Submittal, and Implementation	Sections 10.3.1 and 10.4	Page 10-1

10635(b)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 60 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	Page 10-1 and Appendix C
10642	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan.	Plan Adoption, Submittal, and Implementation	Sections 10.2.2, 10.3, and 10.5	Appendices A and B
10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Sections 10.2.1	Page 10-1 and Appendix B
10642	Provide supporting documentation that the plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	Appendix C
10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4.3	Appendix C
10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	Appendix C
10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2	Page 10-1
10645	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5	Page 10-1

Appendix E: SB X7-7 Verification Forms

SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent with Table 2-3*
NOTES:

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	**Parameter**	**Value**	**Units**
10- to 15-year baseline period	2008 total water deliveries	42,823	Acre Feet
	2008 total volume of delivered recycled water	903	Acre Feet
	2008 recycled water as a percent of total deliveries	2.11%	Percent
	Number of years in baseline period[1, 2]	10	Years
	Year beginning baseline period range	1995	
	Year ending baseline period range[3]	2004	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range[4]	2007	

[1] If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period. *[2] The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.*

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

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

NOTES:

SB X7-7 Table 3: Service Area Population		
Year		**Population**
10 to 15 Year Baseline Population		
Year 1	1995	46,845
Year 2	1996	50,343
Year 3	1997	51,710
Year 4	1998	56,913
Year 5	1999	70,252
Year 6	2000	73,421
Year 7	2001	80,227
Year 8	2002	89,738
Year 9	2003	101,372
Year 10	2004	112,711
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2003	101,372
Year 2	2004	112,711
Year 3	2005	126,204
Year 4	2006	136,383
Year 5	2007	141,991
2015 Compliance Year Population		
2015		165,895
NOTES:		

SB X7-7 Table 4: Annual Gross Water Use *								
Baseline Year *Fm SB X7-7 Table 3*		**Volume Into Distribution System** *This column will remain blank until SB X7-7 Table 4-A is completed.*	**Deductions**					**Annual Gross Water Use**
			Exported Water	**Change in Dist. System Storage** (+/-)	**Indirect Recycled Water** *This column will remain blank until SB X7-7 Table 4-B is completed.*	**Water Delivered for Agricultural Use**	**Process Water** *This column will remain blank until SB X7-7 Table 4-D is completed.*	
10 to 15 Year Baseline - Gross Water Use								
Year 1	1995	15,220			-		-	15,220
Year 2	1996	19,322			-		-	19,322
Year 3	1997	19,725			-		-	19,725
Year 4	1998	18,164	172		-		-	17,992
Year 5	1999	23,335	370		-		-	22,965
Year 6	2000	26,180	589		-		-	25,591
Year 7	2001	27,886	917		-		-	26,969
Year 8	2002	29,937	1,724		-		-	28,213
Year 9	2003	30,559	1,977		-		-	28,582
Year 10	2004	35,888	2,648		-		-	33,240
Year 11	0	-			-		-	-
Year 12	0	-			-		-	-
Year 13	0	-			-		-	-
Year 14	0	-			-		-	-
Year 15	0	-			-		-	-
10 - 15 year baseline average gross water use								**23,782**
5 Year Baseline - Gross Water Use								
Year 1	2003	30,559	1,977		-		-	28,582
Year 2	2004	35,888	2,648		-		-	33,240
Year 3	2005	38,800	3,027		-		-	35,773
Year 4	2006	38,651	3,306		-		-	35,345
Year 5	2007	41,625	3,403		-		-	38,222
5 year baseline average gross water use								**34,232**
2015 Compliance Year - Gross Water Use								
2015		31,093	2,689		-		-	**28,404**

* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3

NOTES:

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source	Groundwater
This water source is:	
☑	The supplier's own water source
☐	A purchased or imported source

Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1995	13,706		13,706
Year 2	1996	16,924		16,924
Year 3	1997	18,175		18,175
Year 4	1998	16,309		16,309
Year 5	1999	21,375		21,375
Year 6	2000	23,940		23,940
Year 7	2001	23,612		23,612
Year 8	2002	24,789		24,789
Year 9	2003	25,657		25,657
Year 10	2004	31,103		31,103
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2003	25,657		25,657
Year 2	2004	31,103		31,103
Year 3	2005	33,048		33,048
Year 4	2006	34,321		34,321
Year 5	2007	36,222		36,222
2015 Compliance Year - Water into Distribution System				
2015		24,652		24,652

** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 4-A: Volume Entering the Distribution				
Name of Source	Surface Water			
This water source is:				
☐	The supplier's own water source			
☑	A purchased or imported source			
Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1,995	1514		1,514
Year 2	1,996	2398		2,398
Year 3	1,997	840		840
Year 4	1,998	1712		1,712
Year 5	1,999	1788		1,788
Year 6	2,000	1595		1,595
Year 7	2,001	3044		3,044
Year 8	2,002	4355		4,355
Year 9	2,003	4040		4,040
Year 10	2,004	4202		4,202
Year 11	-			0
Year 12	-			0
Year 13	-			0
Year 14	-			0
Year 15	-			0
5 Year Baseline - Water into Distribution System				
Year 1	2,003	4040		4,040
Year 2	2,004	4202		4,202
Year 3	2,005	5040		5,040
Year 4	2,006	4253		4,253
Year 5	2,007	5403		5,403
2015 Compliance Year - Water into Distribution System				
2015		6,416		6,416
** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*				
NOTES:				

SB X7-7 Table 4-A: Volume Entering the Distribution				
Name of Source	Purchased from Golden State and SSWD			
This water source is:				
☐	The supplier's own water source			
☑	A purchased or imported source			
Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1,995	0		0
Year 2	1,996	0		0
Year 3	1,997	710		710
Year 4	1,998	143		143
Year 5	1,999	172		172
Year 6	2,000	645		645
Year 7	2,001	1230		1,230
Year 8	2,002	793		793
Year 9	2,003	862		862
Year 10	2,004	583		583
Year 11	-			0
Year 12	-			0
Year 13	-			0
Year 14	-			0
Year 15	-			0
5 Year Baseline - Water into Distribution System				
Year 1	2,003	862		862
Year 2	2,004	583		583
Year 3	2,005	712		712
Year 4	2,006	77		77
Year 5	2,007	0		0
2015 Compliance Year - Water into Distribution System				
2015		25		25
** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*				
NOTES:				

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Annual Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1995	46,845	15,220	290
Year 2	1996	50,343	19,322	343
Year 3	1997	51,710	19,725	341
Year 4	1998	56,913	17,992	282
Year 5	1999	70,252	22,965	292
Year 6	2000	73,421	25,591	311
Year 7	2001	80,227	26,969	300
Year 8	2002	89,738	28,213	281
Year 9	2003	101,372	28,582	252
Year 10	2004	112,711	33,240	263
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	
10-15 Year Average Baseline GPCD				**295**
5 Year Baseline GPCD				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use
Year 1	2003	101,372	28,582	252
Year 2	2004	112,711	33,240	263
Year 3	2005	126,204	35,773	253
Year 4	2006	136,383	35,345	231
Year 5	2007	141,991	38,222	240
5 Year Average Baseline GPCD				**248**
2015 Compliance Year GPCD				
2015		165,895	28,404	**153**
NOTES:				

SB X7-7 Table 6: Gallons per Capita per Day *Summary From Table SB X7-7 Table 5*	
10-15 Year Baseline GPCD	295
5 Year Baseline GPCD	248
2015 Compliance Year GPCD	153
NOTES:	

SB X7-7 Table 7: 2020 Target Method *Select Only One*		
Target Method		Supporting Documentation
☑	Method 1	SB X7-7 Table 7A
☐	Method 2	SB X7-7 Tables 7B, 7C, and 7D *Contact DWR for these tables*
☐	Method 3	SB X7-7 Table 7-E
☐	Method 4	Method 4 Calculator
NOTES:		

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	**2020 Target GPCD**
295	**236**
NOTES:	

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target			
5 Year Baseline GPCD *From SB X7-7 Table 5*	Maximum 2020 Target[1]	Calculated 2020 Target[2]	**Confirmed 2020 Target**
248	236	244	**236**

[1] Maximum 2020 Target is 95% of the 5 Year Baseline GPCD *[2] 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.*

NOTES: Used Method 1.

SB X7-7 Table 8: 2015 Interim Target GPCD		
Confirmed 2020 Target *Fm SB X7-7 Table 7-F*	10-15 year Baseline GPCD *Fm SB X7-7 Table 5*	**2015 Interim Target GPCD**
236	295	**265**
NOTES:		

SB X7-7 Table 9: 2015 Compliance								
Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments *(in GPCD)* Enter "0" if Adjustment Not Used: Extraordinary Events	Weather Normalization	Economic Adjustment	TOTAL Adjustments	Adjusted 2015 GPCD	2015 GPCD *(Adjusted if applicable)*	**Did Supplier Achieve Targeted Reduction for 2015?**
153	265	*From Methodology 8 (Optional)*	*From Methodology 8 (Optional)*	*From Methodology 8 (Optional)*	-	153	153	**YES**
NOTES:								

Appendix F: 2013 and 2014 Best Management Practices Annual Reports to the California Urban Water Conservation Council

Reporting Unit: Sacramento County Water Agency - Arden Park Vista
Signatory: Sacramento County Water Agency
RU Type: Retail

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Role: Editor

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Reporting Year

< 2013 >

Water Sources and Usage

- **Potable Water Sources**
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses
- **BMP 1**
- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing
- **BMP 2**
- 2.1 Public Information Programs
- 2.2 School Education
- **BMP 3 - Residential**
- 3 Traditional / FlexTrack
- **BMP 4 - CII**
- 4 Traditional / FlexTrack
- **BMP 5 - Landscape**
- 5 Traditional / FlexTrack
- **GPCD**
- GPCD

Review / Submit

Potable Water Sources

Online Help

Form Complete

Submited to CUWCC
11/23/2015 7:08:44 AM

Form Status: Submitted

Service Area Population: 10,536

Copy from previous year | Save

Potable

Potable Water

Imported	AF/Year	Water Supply Type	Water Supply Description
No data to display			

Local Watershed	AF/Year	Water Supply Type	Water Supply Description
APV areas	5,427.00	Groundwater	Wells
	Total: 5,427.00		

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Signatory: Sacramento County Water Agency
RU Type: Retail

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Water Sources and Usage

- Potable Water Sources
- **Non Potable Water Sources**
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

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Non Potable Water Sources

Online Help

Form Complete

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Form Status: Submitted

Service Area Population: 10,536

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Non Potable Water

Imported	AF/Year	Water Supply Type	Water Supply Description
No data to display			

Local Watershed	AF/Year	Water Supply Type	Water Supply Description
No data to display			
Total: 0.00			

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- **Potable Water Uses**
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

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Potable Water Uses

Online Help

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Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
Single-Family	198	59.00	2,749	987.00	Unmetered estimated based on metered connection usage
Multi-Family	17	24.00	16	27.00	Unmetered estimated based on metered connection usage
Commercial	204	366.00	244	525.00	Unmetered estimated based on metered connection usage
Industrial	6	250.00	0	0.00	Unmetered estimated based on metered connection usage
Institutional	17	85.00	10	60.00	Unmetered estimated based on metered connection usage
Dedicated Irrigation	40	181.00	2	11.00	Unmetered estimated based on metered connection usage
Other	0	0.00	20	21.00	Unmetered estimated based on metered connection usage
		Total : 965.00		Total : 1,631.00	

Un-Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
Other	0			69.00	from Water Audit
		Total : 0.00		Total : 69.00	

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RU Type:Retail

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- **Non Potable Water Uses**

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

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Non Potable Water Uses

Online Help

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Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
No data to display					
		Total : 0.00		Total : 0.00	

Un-Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
No data to display					
		Total : 0.00		Total : 0.00	

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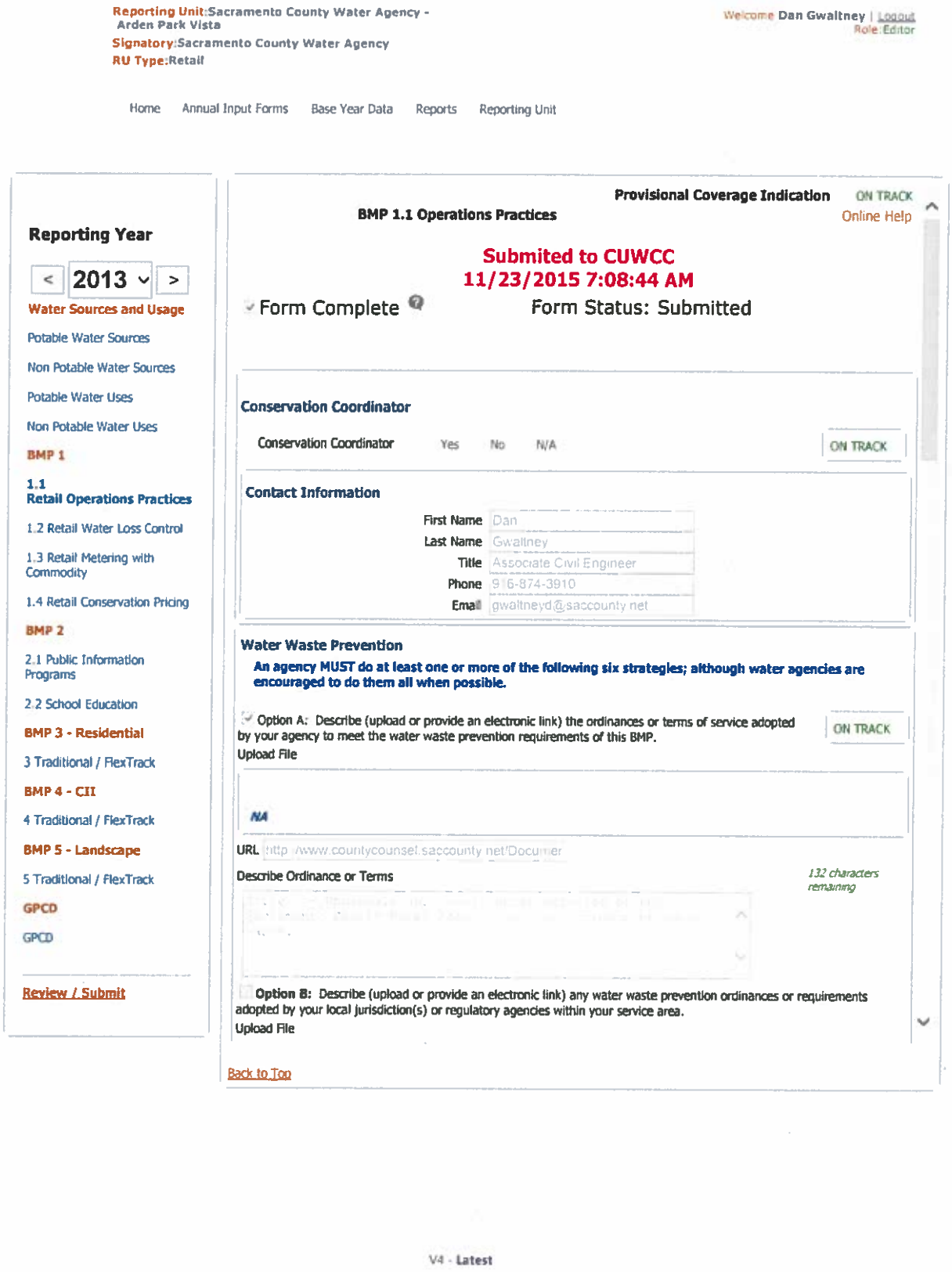

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RU Type:Retail

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5 Traditional / FlexTrack
GPCD
GPCD

Review / Submit

BMP 1.1 Operations Practices

Provisional Coverage Indication ON TRACK
Online Help

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11/23/2015 7:08:44 AM

Form Complete
Form Status: Submitted

Conservation Coordinator

Conservation Coordinator Yes No N/A ON TRACK

Contact Information

First Name Dan
Last Name Gwaltney
Title Associate Civil Engineer
Phone 916-874-3910
Email gwaltneyd@saccounty.net

Water Waste Prevention

An agency MUST do at least one or more of the following six strategies; although water agencies are encouraged to do them all when possible.

Option A: Describe (upload or provide an electronic link) the ordinances or terms of service adopted by your agency to meet the water waste prevention requirements of this BMP. ON TRACK
Upload File

NA

URL http://www.countycounsel.saccounty.net/Documer

Describe Ordinance or Terms 132 characters remaining

Option B: Describe (upload or provide an electronic link) any water waste prevention ordinances or requirements adopted by your local jurisdiction(s) or regulatory agencies within your service area.
Upload File

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- Non Potable Water Uses
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- 1.4 Retail Conservation Pricing
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- 2.1 Public Information Programs
- 2.2 School Education
- BMP 3 - Residential
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- BMP 4 - CII
- 4 Traditional / FlexTrack
- BMP 5 - Landscape
- 5 Traditional / FlexTrack
- GPCD
- GPCD

Review / Submit

BMP 1.2 Water Loss Control

Provisional Coverage Indication ON TRACK
Online Help

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Form Complete | Form Status: Submitted

AWWA Water Audit

Agency to complete a water audit and balance using the AWWA software	Yes	No	N/A	ON TRACK
Upload Worksheets (AWWA Water Audit)				
Uploaded filename: WaterAudit2013 - nonZone40.xls				ON TRACK
Water Audit Validity Score: 78				
Agency Completed Training In The AWWA Water Audit Method	Yes	No	N/A	ON TRACK
Agency Completed Training In The Component Analysis Process	Yes	No	N/A	ON TRACK
Completed/Updated the Component Analysis (at least every 4 years) (Effective from 2013)	Yes	No	N/A	ON TRACK
Component Analysis Completed/Updated Date: 08/25/2012 format:mm/dd/yyyy				

Water Loss Performance

Agency repaired all reported leaks & breaks to the extent cost effective	Yes	No	N/A	ON TRACK

Recording Keeping Requirements Beginning in Year 2

Does your agency maintain a record keeping system for the following?

Date/Time Leak Reported	Yes	No	N/A	Leak Location	Yes	No	N/A
Type of Leaking Pipe Segment or Fitting	Yes	No	N/A	Leak Running Time From Report to Repair	Yes	No	N/A
Leak Volume Estimate :	Yes	No	N/A	Cost of Repair:	Yes	No	N/A
Do you have an infrastructure rehabilitation and renewal program ?	Yes	No	N/A				

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Arden Park Vista
Signatory:Sacramento County Water Agency
RU Type:Retail

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Role: Editor

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- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses
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- 1.2 Retail Water Loss Control
- **1.3 Retail Metering with Commodity**
- 1.4 Retail Conservation Pricing
- BMP 2
- 2.1 Public Information Programs
- 2.2 School Education
- BMP 3 - Residential
- 3 Traditional / FlexTrack
- BMP 4 - CII
- 4 Traditional / FlexTrack
- BMP 5 - Landscape
- 5 Traditional / FlexTrack
- GPCD
- GPCD

Review / Submit

Provisional Coverage Indication NOT ON TRACK

BMP 1.3 Metering with Commodity Rates Online Help

Submited to CUWCC
11/23/2015 7:08:44 AM

Form Complete Form Status: Submitted

Implementation

NOT ON TRACK

Does your agency have any unmetered service connections?	Yes	No	N/A
If YES, has your agency completed a meter retrofit plan?	Yes	No	N/A
If YES, number of previously unmetered accounts fitted with meters during reporting year:	6		

ON TRACK

Are all new service connections being metered?	Yes	No	N/A
Are all new service connections being billed volumetrically?	Yes	No	N/A

ON TRACK

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters?	Yes	No	N/A

NA

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# Estimated Bills/Year	# Of Meter Readings per Year
Single-Family	198.00	198.00	198.00	Bi-monthly	6.00	6.00
Multi-Family	17.00	17.00	17.00	Bi-monthly	6.00	6.00
Commercial	204.00	204.00	204.00	Bi-monthly	6.00	6.00
Industrial	6.00	6.00	6.00	Bi-monthly	6.00	6.00
Institutional	17.00	17.00	17.00	Bi-monthly	6.00	6.00

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Arden Park Vista
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role: Editor

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Reporting Year

< 2013 >

Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- **1.4 Retail Conservation Pricing**

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Review / Submit

Provisional Coverage Indication NOT ON TRACK

BMP 1.4 Retail Conservation Pricing Online Help

Submited to CUWCC
11/23/2015 7:08:44 AM

Form Complete Form Status: Submitted

A. Implementation (Water Rate Structure)

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

Rate Structure Option	Customer Class Name	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed) Charges	New
No data to display				
		$0.00	$0.00	

B. Implementation Options (Compliance with Conservation Pricing Options (Water))

Please Select an Option

Option 1: Annual Revenue As Reported Option 2: Canadian Water Wastewater Assn Rate Design Model

Use 3 years average instead of most recent year

If CWWA is selected, please upload spreadsheet here.

NA

Canadian Water & Wastewater Association Rate Design Model Implementation

C. Canadian Water & Wastewater Association

Rate Structure Option	Customer Class Name	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed) Charges
No data to display			
		$0.00	$0.00

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Arden Park Vista
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- **2.1 Public Information Programs**
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Review / Submit

Provisional Coverage Indication ON TRACK

BMP 2.1 Public Information Programs Online Help

Submited to CUWCC
11/23/2015 7:08:44 AM

Form Complete | Form Status: Submitted

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP? Yes No N/A

If "Yes" please select council wholesale agencies;

Please provide the name of agency , contact name and email address if not A Council Group 1 member.
144 characters remaining

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

ON TRACK

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
16	Email Messages
3	General water conservation information
19	

Contact with the Media Yes No N/A

ON TRACK

Media Contacts List

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

Number of Media Contacts	Media Contacts Type
2	Newspaper contacts
12	News releases
6	Radio contacts
9	Articles or stories resulting from outreach

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Arden Park Vista
Signatory:Sacramento County Water Agency
RU Type:Retail

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Role: Editor

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- Water Sources and Usage
- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses
- BMP 1
- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing
- BMP 2
- 2.1 Public Information Programs
- **2.2 School Education**
- BMP 3 - Residential
- 3 Traditional / FlexTrack
- BMP 4 - CII
- 4 Traditional / FlexTrack
- BMP 5 - Landscape
- 5 Traditional / FlexTrack
- GPCD
- GPCD

Review / Submit

Provisional Coverage Indication ON TRACK

BMP 2.2 School Education Programs, Retail Agencies Online Help

Submited to CUWCC
11/23/2015 7:08:44 AM

Form Complete

Form Status: Submitted

Does your agency implement a school education program? Yes No N/A

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

Please provide the name of Agency, contact name and email address if not CUWCC Group 1 members.

ON TRACK

Materials meet state education framework requirements. Description: *6 characters remaining*

ON TRACK

Materials distributed to K-6 students. Description of materials distributed to K-6 students: *54 characters remaining*

Number of student reached. 0

Materials distributed to 7-12 students. (optional) Description of materials distributed to 7-12 students *54 characters remaining*

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V4 - Latest

Reporting Unit: Sacramento County Water Agency - Arden Park Vista
Signatory: Sacramento County Water Agency
RU Type: Retail

Welcome Dan Gwaltney | Logout
Role: Editor

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Water Sources and Usage

- **Potable Water Sources**
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses
- **BMP 1**
- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing
- **BMP 2**
- 2.1 Public Information Programs
- 2.2 School Education
- **BMP 3 - Residential**
- 3 Traditional / FlexTrack
- **BMP 4 - CII**
- 4 Traditional / FlexTrack
- **BMP 5 - Landscape**
- 5 Traditional / FlexTrack
- **GPCD**
- GPCD

Review / Submit

Potable Water Sources

Online Help

Form Complete

Submited to CUWCC
11/23/2015 7:09:22 AM

Form Status: Submitted

Service Area Population: 10,536

Copy from previous year | Save

Potable

Potable Water

Imported	AF/Year	Water Supply Type	Water Supply Description
No data to display			

Local Watershed	AF/Year	Water Supply Type	Water Supply Description
APV areas	4,710.00	Groundwater	Wells
Total: 4,710.00			

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Arden Park Vista
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role:Editor

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< 2014 >

Water Sources and Usage

- Potable Water Sources
- **Non Potable Water Sources**
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Review / Submit

Non Potable Water Sources

Online Help

Form Complete

Submited to CUWCC
11/23/2015 7:09:22 AM

Form Status: Submitted

Service Area Population: 10,536

Copy from previous year | Save

Non Potable Water

Imported	AF/Year	Water Supply Type	Water Supply Description
No data to display			

Local Watershed	AF/Year	Water Supply Type	Water Supply Description
No data to display			
Total: 0.00			

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Arden Park Vista
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role: Editor

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- **Potable Water Uses**
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Review / Submit

Potable Water Uses

Online Help

Form Complete

Submited to CUWCC 11/23/2015 7:09:22 AM

Copy from previous year | Save

Form Status: Submitted

Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
Single-Family	199	67.00	2,747	1,116.00	Unmetered estimated based on metered connection usage
Multi-Family	17	22.00	16	24.00	Unmetered estimated based on metered connection usage
Commercial	205	420.00	246	605.00	Unmetered estimated based on metered connection usage
Industrial	6	247.00	0	0.00	Unmetered estimated based on metered connection usage
Institutional	17	78.00	10	55.00	Unmetered estimated based on metered connection usage
Dedicated Irrigation	39	151.00	2	9.00	Unmetered estimated based on metered connection usage
Other	0	0.00	21	20.00	Unmetered estimated based on metered connection usage
		Total : 985.00		Total : 1,829.00	

Un-Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
Other	0	0.00		58.00	from Water Audit
		Total : 0.00		Total : 58.00	

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V4 - Latest

Reporting Unit: Sacramento County Water Agency - Arden Park Vista
Signatory: Sacramento County Water Agency
RU Type: Retail

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Role: Editor

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- **Non Potable Water Uses**

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Review / Submit

Non Potable Water Uses

Online Help

✓ Form Complete

Submited to CUWCC 11/23/2015 7:09:22 AM

Copy from previous year | Save

Form Status: Submitted

Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
No data to display					
		Total : 0.00		Total : 0.00	

Un-Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
No data to display					
		Total : 0.00		Total : 0.00	

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V4 - Latest

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Signatory:Sacramento County Water Agency
RU Type:Retail

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Role:Editor

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
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BMP 1

1.1 Retail Operations Practices

- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Review / Submit

Provisional Coverage Indication ON TRACK

Online Help

BMP 1.1 Operations Practices

Submited to CUWCC
11/23/2015 7:09:22 AM

Form Complete

Form Status: Submitted

Conservation Coordinator

Conservation Coordinator Yes No N/A ON TRACK

Contact Information

First Name	Dan
Last Name	Gwaltney
Title	Associate Civil Engineer
Phone	916-874-3910
Email	gwaltneyd@saccounty.net

Water Waste Prevention

An agency MUST do at least one or more of the following six strategies; although water agencies are encouraged to do them all when possible.

Option A: Describe (upload or provide an electronic link) the ordinances or terms of service adopted by your agency to meet the water waste prevention requirements of this BMP. ON TRACK

Upload File

NA

URL http://www.countycounsel.saccounty.net/Documen

Describe Ordinance or Terms *132 characters remaining*

Option B: Describe (upload or provide an electronic link) any water waste prevention ordinances or requirements adopted by your local jurisdiction(s) or regulatory agencies within your service area.

Upload File

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Signatory: Sacramento County Water Agency
RU Type: Retail

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- Water Sources and Usage
- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses
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- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing
- BMP 2
- 2.1 Public Information Programs
- 2.2 School Education
- BMP 3 - Residential
- 3 Traditional / FlexTrack
- BMP 4 - CII
- 4 Traditional / FlexTrack
- BMP 5 - Landscape
- 5 Traditional / FlexTrack
- GPCD
- GPCD

Review / Submit

Provisional Coverage Indication ON TRACK

BMP 1.2 Water Loss Control

Online Help

Submited to CUWCC
11/23/2015 7:09:22 AM

Form Complete | Form Status: Submitted

AWWA Water Audit

Agency to complete a water audit and balance using the AWWA software	Yes	No	N/A	ON TRACK
Upload Worksheets (AWWA Water Audit)				
Uploaded filename: WaterAudit2014 - nonZone40.xls				ON TRACK
Water Audit Validity Score 78				
Agency Completed Training In The AWWA Water Audit Method	Yes	No	N/A	ON TRACK
Agency Completed Training In The Component Analysis Process	Yes	No	N/A	ON TRACK
Completed/Updated the Component Analysis (at least every 4 years) (Effective from 2013)	Yes	No	N/A	ON TRACK
Component Analysis Completed/Updated Date: 06/25/2012 format:mm/dd/yyyy				

Water Loss Performance

Agency repaired all reported leaks & breaks to the extent cost effective	Yes	No	N/A	ON TRACK

Recording Keeping Requirements Beginning in Year 2

Does your agency maintain a record keeping system for the following?

Date/Time Leak Reported	Yes	No	N/A	Leak Location	Yes	No	N/A
Type of Leaking Pipe Segment or Fitting	Yes	No	N/A	Leak Running Time From Report to Repair	Yes	No	N/A
Leak Volume Estimate :	Yes	No	N/A	Cost of Repair:	Yes	No	N/A
Do you have an infrastructure rehabilitation and renewal program ?	Yes	No	N/A				

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V4 - Latest

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Signatory:Sacramento County Water Agency
RU Type:Retail

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- Water Sources and Usage
- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses
- BMP 1
- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- **1.3 Retail Metering with Commodity**
- 1.4 Retail Conservation Pricing
- BMP 2
- 2.1 Public Information Programs
- 2.2 School Education
- BMP 3 - Residential
- 3 Traditional / FlexTrack
- BMP 4 - CII
- 4 Traditional / FlexTrack
- BMP 5 - Landscape
- 5 Traditional / FlexTrack
- GPCD
- GPCD

Review / Submit

Provisional Coverage Indication NOT ON TRACK

BMP 1.3 Metering with Commodity Rates Online Help

Submited to CUWCC
11/23/2015 7:09:22 AM

Form Complete | Form Status: Submitted

Implementation

NOT ON TRACK

Does your agency have any unmetered service connections? Yes No N/A

If YES, has your agency completed a meter retrofit plan? Yes No N/A

If YES, number of previously unmetered accounts fitted with meters during reporting year: 0

ON TRACK

Are all new service connections being metered? Yes No N/A

Are all new service connections being billed volumetrically? Yes No N/A

ON TRACK

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? Yes No N/A

NA

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# Estimated Bills/Year	# Of Meter Readings per Year
Single-Family	199.00	199.00	199.00	Bi-monthly	6.00	6.00
Multi-Family	17.00	17.00	17.00	Bi-monthly	6.00	6.00
Commercial	205.00	205.00	205.00	Bi-monthly	6.00	6.00
Industrial	6.00	6.00	6.00	Bi-monthly	6.00	6.00
Institutional	17.00	17.00	17.00	Bi-monthly	6.00	6.00

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Arden Park Vista
Signatory:Sacramento County Water Agency
RU Type:Retail

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Role:Editor

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- **1.4 Retail Conservation Pricing**

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Review / Submit

Provisional Coverage Indication NOT ON TRACK

BMP 1.4 Retail Conservation Pricing Online Help

Submited to CUWCC
11/23/2015 7:09:22 AM

Form Complete Form Status: Submitted

A. Implementation (Water Rate Structure)

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

Rate Structure Option	Customer Class Name	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed) Charges	New
No data to display				
		$0.00	$0.00	

B. Implementation Options (Compliance with Conservation Pricing Options (Water))

Please Select an Option

Option 1: Annual Revenue As Reported Option 2: Canadian Water Wastewater Assn Rate Design Model

Use 3 years average instead of most recent year

If CWWA is selected, please upload spreadsheet here.

NA

Canadian Water & Wastewater Association Rate Design Model Implementation

C. Canadian Water & Wastewater Association

Rate Structure Option	Customer Class Name	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed) Charges
No data to display			
		$0.00	$0.00

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Arden Park Vista
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role: Editor

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- **2.1 Public Information Programs**
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Review / Submit

Provisional Coverage Indication ON TRACK

BMP 2.1 Public Information Programs Online Help

Submited to CUWCC
11/23/2015 7:09:22 AM

Form Complete Form Status: Submitted

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP? Yes No N/A

If "Yes" please select council wholesale agencies;

Please provide the name of agency , contact name and email address if not A Council Group 1 member.
144 characters remaining

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

ON TRACK

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
14	General water conservation information
3	Email Messages
17	

Contact with the Media Yes No N/A

ON TRACK

Media Contacts List

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

Number of Media Contacts	Media Contacts Type
114	Articles or stories resulting from outreach
13	News releases
41	Newspaper contacts

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Arden Park Vista
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role:Editor

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- 2.1 Public Information Programs
- **2.2 School Education**

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Review / Submit

Provisional Coverage Indication ON TRACK

BMP 2.2 School Education Programs, Retail Agencies Online Help

Submited to CUWCC
11/23/2015 7:09:22 AM

✓ Form Complete Form Status: Submitted

Does your agency implement a school education program? Yes No N/A

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

Please provide the name of Agency, contact name and email address if not CUWCC Group 1 members.

ON TRACK

✓ Materials meet state education framework requirements. Description: *6 characters remaining*

ON TRACK

✓ Materials distributed to K-6 students. Description of materials distributed to K-6 students: *95 characters remaining*

Number of student reached.

✓ Materials distributed to 7-12 students. (optional) Description of materials distributed to 7-12 students *121 characters remaining*

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V4 - Latest

Signatory: Sacramento County Water Agency
RU Type: Retail

Welcome Dan Gwaltney | Logout
Role: Data Entry User

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Potable Water Sources

Online Help

☑ Form Complete

Submited to CUWCC 6/30/2014 4:44:50 PM

Form Status: Submitted

Service Area Population: 150,220 | Save

Potable

Potable Water | New

Imported	AF/Year	Water Supply Type	Water Supply Description	Actions
No data to display				
Total: 0.00				

New

Local Watershed	AF/Year	Water Supply Type	Water Supply Description	Actions
Laguna/Vineyard Areas	23,274.00	Groundwater	Groundwater	Edit Delete
Sacramento River	13,969.00	Surface	Vineyard SWTP	Edit Delete
	Total: 37,243.00			

V4 - Latest

This application was created [illegible] Agency -
Visit www.devexpress.com to [illegible]

Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role Data Entry User

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Water Sources and Usage

- Potable Water Sources
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- Potable Water Uses
- Non Potable Water Uses

BMP 1

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- 1.2 Retail Water Loss Control
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- 1.4 Retail Conservation Pricing

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Non Potable Water Sources

Online Help

☑ Form Complete

Submited to CUWCC
6/30/2014 4:44:50 PM

Form Status: Submitted

Service Area Population: 150,220 Save

Non Potable Water

New

Imported	AF/Year	Water Supply Type	Water Supply Description	Actions
No data to display				
Total: 0.00				

New

Local Watershed	AF/Year	Water Supply Type	Water Supply Description	Actions
Laguna/Vineyard Area	686.00	Recycled Non Potable	SRWTP - Recycled	Edit Delete
Laguna/Vineyard Area	236.00	Raw Water	SRWTP - Makeup Water	Edit Delete
Total: 922.00				

V4 - Latest

Reporting Unit: Sacramento County Water Agency - Laguna / Vineyard
Signatory: Sacramento County Water Agency
RU Type: Retail

Welcome **Dan Gwaltney** | Logout
Role: Data Entry User

Home | Annual Input Forms | Base Year Data | Reports | Reporting Unit

Reporting Year

< 2013 >

Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Potable Water Uses

Online Help

☑ Form Complete

Submited to CUWCC
6/30/2014 4:44:50 PM

Save

Form Status: Submitted

Billed

New

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un-metered Water Delivered AF/Year	Description	Actions
Single-Family	40,950	18,604.00	6,904	4,140.00	Unmetered estimated based on metered connection usage	Edit Delete
Multi-Family	230	654.00	0	0.00	Unmetered estimated based on metered connection usage	Edit Delete
Commercial	976	1,704.00	11	21.00	Unmetered estimated based on metered connection usage	Edit Delete
Industrial	20	375.00	0	23.00	Unmetered estimated based on metered connection usage	Edit Delete
Institutional	177	754.00	2	5.00	Unmetered estimated based on metered connection usage	Edit Delete
Dedicated Irrigation	607	3,590.00	0			Edit Delete
Other	0	0.00	55	16.00		Edit Delete
		Total : 25,681.00		Total : 4,205.00		

Un-Billed

New

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un-metered Water Delivered AF/Year	Description	Actions
	0	153.00	0	446.00		Edit Delete
		Total : 153.00		Total : 446.00		

V4 - Latest

This application was created using [illegible] Agency -
Visit www.devexpress.com to [illegible]
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role Data Entry User

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Reporting Year

< 2013 >

Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
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BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Non Potable Water Uses

Online Help

☑ Form Complete

Submited to CUWCC
6/30/2014 4:44:50 PM

Save

Form Status: Submitted

Billed

New

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description	Actions
Dedicated Irrigation	266	686.00	0	0.00	SRWTP -	Edit Delete
Dedicated Irrigation	0	236.00	0	0.00	SRWTP - Makeup Water	Edit Delete
		Total : 922.00		Total : 0.00		

Un-Billed

New

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description	Actions
No data to display						
		Total : 0.00		Total : 0.00		

V4 - Latest

Reporting Unit:Sacramento County Water Agency - Laguna / Vineyard
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role Data Entry User

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Reporting Year

< 2013 >

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BMP 1.1 Operations Practices

ON TRACK

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6/30/2014 4:44:22 PM

☑ Form Complete Form Status: Submitted

Conservation Coordinator

Conservation Coordinator ◉ Yes ○ No

Contact Information

First Name: Dan
Last Name: Gwaltney
Title: Associate Civil Engineer
Phone: 916-874-3910
Email: gwaltneyd@saccounty.net

Water Waste Prevention

An agency MUST do at least one or more of the following six strategies; although water agencies are encouraged to do them all when possible.

☑ **Option A:** Describe (upload or provide an electronic link) to the ordinances or terms of service adopted by your agency to meet the water waste prevention requirements of this BMP.

Upload File

NA

URL http://www.countycounsel.saccounty.net/Documer

Describe Ordinance or Terms — *132 characters remaining*

☐ **Option B:** Describe (upload or provide an electronic link) any water waste prevention ordinances or requirements adopted by your local jurisdiction(s) or regulatory agencies within your service area.

Upload File

NA

URL

Describe Ordinances or Requirements — *250 characters remaining*

☐ **Option C:** Describe (upload or provide an electronic link) any documentation of support for legislation or regulations that prohibit water waste.

Upload File

NA

URL

Describe the support provided for legislation or regulations that prohibit water waste. *250 characters remaining*

☐ **Option D:** Describe your agency's efforts to cooperate with other entities in the adoption or enforcement of local requirements consistent with this BMP.

Upload File

NA

Describe Efforts *250 characters remaining*

☐ **Option E:** Describe your agency's support positions with respect to adoption of legislation or regulations that are consistent with this BMP.

Upload File

NA

Describe Legislation *250 characters remaining*

☐ **Option F:** Describe your agency's efforts to support local ordinances that establish permits requirements for water efficient design in new development.

Upload File

NA

Describe Legislation *250 characters remaining*

At Least As Effective As

Is your agency implementing an "At Least As Effective As" variant of this BMP? Yes No

If yes, please explain in detail why you consider it to be "At Least As Effective As". *250 characters remaining*

Please Upload Document(s)

NA

Exemption Type

Exemption Type :

Select an Exemption Type

Please Upload Document(s) for Exemption

NA

Comments *250 characters remaining*

V4 - **Latest**

Reporting Unit:Sacramento County Water Agency - Laguna / Vineyard
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role Data Entry User

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Reporting Year

< 2013 >

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- GPCD
- GPCD

BMP 1.2 Water Loss Control

ON TRACK

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☑ Form Complete Form Status: Submitted

AWWA Water Audit

Agency to complete a water audit and balance using the AWWA software — Yes / No

Upload Worksheets (AWWA Water Audit)

Uploaded filename: WaterAudit2013 - Zone40.xls

Water Audit Validity Score: 77

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) (Effective from 2013) — Yes / No

Component Analysis Completed/Updated Date: 06/05/2012 format:mm/dd/yyyy

Water Loss Performance

Agency repaired all reported leaks & breaks to the extent cost effective — Yes / No

Recording Keeping Requirements Beginning in Year 2

Does your agency maintain a record keeping system for the following?

Date/Time Leak Reported	Yes / No	Leak Location	Yes / No
Type of Leaking Pipe Segment or Fitting	Yes / No	Leak Running Time From Report to Repair	Yes / No
Leak Volume Estimate :	Yes / No	Cost of Repair:	Yes / No
Do you have an infrastructure rehabilitation and renewal program ?	Yes / No		

Agency Located and Repaired Unreported Leaks to the Extent Cost Effective — Yes / No

Type of Program Activities Used to Detect Unreported Leaks — *250 characters remaining*

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

Does your agency keeps records of each component analysis performed, and incorporates results into future annual standard water balances? (•) Yes ( ) No

Annual Summary Information

ON TRACK

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

Total Leaks Repaired	Economic Value Of RealLoss	Economic Value Of AppLoss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Linear feet of pipe renewal and rehabilitation	Water Saved (AF/Year)
			0.00				

Please describe your infrastructure rehabilitation and renewal activity below *250 characters remaining*

AWWA Model

Operational Efficiency Indicator

Apparent Losses per service connection per day:	16.05
Real Losses per service connection per day:	41.79
Real Losses per length of main per day:	N/A
Real Losses per service connection per day per psi pressure:	0.69
Unavoidable Annual Real Losses(UARL):	723.65
Above, Real Losses=Current Annual Real Losses(CARL):	2183.27
Infrastructure Leakage Index (ILI) [CARL/UARL]:	3.02

At Least As Effective As

Is your Agency implementing an "At Least As Effective As" Variant of this BMP? ( ) Yes ( ) No

If Yes, please explain in detail why you consider it to be "At Least As Effective As" *250 characters remaining*

Please Upload Document AsEffectiveAs

NA

Exemption Type

Exemption Type

Select an Exemption Type

Please Upload Document(s) for Exemption

NA

Comments: *250 characters remaining*

V4 - Latest

Reporting Unit:Sacramento County Water Agency - Laguna / Vineyard
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role Data Entry User

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BMP 1.3 Metering with Commodity Rates

NOT ON TRACK

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☑ Form Complete Form Status: Submitted

Implementation

Does your agency have any unmetered service connections? (●) Yes ( ) No

If YES, has your agency completed a meter retrofit plan? (●) Yes ( ) No

If YES, number of previously unmetered accounts fitted with meters during reporting year: 2833

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	# Estimated Bills/Year	# Of Meter Readings per Year
Single-Family	38,674.00	38,674.00	35,841.00	Bi-monthly	6.00	6.00
Multi-Family	230.00	230.00	230.00	Bi-monthly	6.00	6.00
Commercial	976.00	976.00	976.00	Bi-monthly	6.00	6.00
Industrial	20.00	20.00	20.00	Bi-monthly	6.00	6.00
Institutional	177.00	177.00	177.00	Bi-monthly	6.00	6.00
Dedicated Irrigation	607.00	607.00	607.00	Bi-monthly	6.00	6.00
Recycled	266.00	266.00	266.00	Bi-monthly	6.00	6.00

Number of CII Accounts with Mixed-used Meters

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

Feasibility Study

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

If YES, please fill in the following information:

A. When was the Feasibility Study conducted 11/05/2007

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

Uploaded filename: Copy of SacCoWA_Laguna-Vineyard_5031_2011_BMP_1-3_BarriersBMP4(incl 5030).doc

URL

Describe

Updating...

At Least As Effective As

Is your agency implementing an "at least as effective as" variant of this BMP? ○ Yes ◉ No

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

Updating...

Please Upload Document(s)

NA

Exemption Type

Exemption Type

Select an Exemption Type

Please Upload Document(s) for Exemption

NA

Comments

Comments On Metering with Commodity Rates

Updating...

V4 - Latest

Reporting Unit:Sacramento County Water Agency - Laguna / Vineyard
Signatory:Sacramento County Water Agency
RU Type:Retail

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Reporting Year

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- GPCD
- GPCD

BMP 1.4 Retail Conservation Pricing

NOT ON TRACK

Online Help

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6/30/2014 4:44:22 PM

☑ Form Complete

Form Status: Submitted

A. Implementation(Water Rate Structure)

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

Rate Structure Option	Customer Class Name	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed) Charges
No data to display			
		$0.00	$0.00

0 0

B.Implementation Options(Compliance with Conservation Pricing Options (Water))

Please Select an Option

○ Use Annual Revenue As Reported ○ Use Canadian Water Wastewater Association Rate Design Model

☐ Use 3 years average instead of most recent year

If CWWA is selected, please upload spreadsheet here.

NA

Canadian Water & Wastewater association rate design Model Implementation

C. Canadian Water & Wastewater association

Rate Structure Option	Customer Class Name	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed) Charges
No data to display			
		$0.00	$0.00

D. Retail Waste Water (Sewer) Rate Structure by Customer Class

Does your 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 Option	Customer Class Name	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed) Charges
No data to display			
		$0.00	$0.00

At Least As Effective As

If agency implemented an 'At Least As Effective As' variant, then please give explanation

Agency is implementing an 'At Least As Effective As' variant of this BMP ○ Yes ○ No

Explanation of At Least As Effective As *250 characters remaining*

Please Upload Document(s)

NA

Exemption Request

If Agency has Requested an Exemption then please Select a Exemption Type

Exemption Type * Legal

Please Upload Document(s)

NA

Comments on Conservation Pricing BMP *19 characters remaining*

0 0

V4 - Latest

Reporting Unit:Sacramento County Water Agency - Laguna / Vineyard
Signatory:Sacramento County Water Agency
RU Type:Retail

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Role Data Entry User

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Reporting Year

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- GPCD
- GPCD

BMP 2.1 Public Information Programs

ON TRACK

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☑ Form Complete Form Status: Submitted

Does your Agency perform Public Outreach? ○ Yes ◉ No

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

Please provide the name of Agency,contact name and email address if not CUWCC Group1 members
144 characters remaining

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

ON TRACK

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
16	General water conservation information
3	Email Messages
19	

Contact with the Media ○ Yes ◉ No

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

Please provide the name of Agency,contact name and email address if not Council members
144 characters remaining

ON TRACK

OR Retail Agency (Contact with the Media) Did at least one contact take place during each quarter of the reporting year? ☑

Number of Media Contacts	Media Contacts Type
9	Articles or stories resulting from outreach
12	News releases
2	Newspaper contacts
6	Radio contacts
4	Television contacts
33	

Wholesale Agency Website Updates

Did one or more Council wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for Council reporting of this BMP? ○ Yes ◉ No

Select the wholesale agency name(s)

Please provide the name of Agency,contact name and email address if not Council members

Agency Website Updates

Enter your agency's URL (website address): http://www.rwah2o.org/rwa/programs.wep

7 characters remaining

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

ON TRACK

Public Information Programs Annual Budget

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

Category	Amount	Personnel Costs Included?	Comments
RWEPAC dues	30,608.00		90% of RWEPAC dues

Public Information Expenses

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

ON TRACK

Expense Category	Expense Amount	Personnel Costs Included?
RWEPAC dues	30,608.00	
SCWA Labor	20,948.72	
	51,556.72	

Additional Public Information Program

You may report additional public information contacts. PLEASE 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
Regional Water Authority maintains a dedicated phone line, which provides information on rebates and allows customers to leave messages for their water provider. The "Be Water Smart" Hotline is 1-888-WTR-TIPS (888-987-8477).	
The Regional Water Authority has a "Blue Thumb Events Team" that participates in six events region wide. The booth features a prize wheel and people who take the Blue Thumb pledge. The events were the Sacramento Home & Landscape Expo; Creek Week; Sacramento Earth Day; El Dorado Master Gardeners Plant Sale; Auburn Spring Home and Garden Show; and Walk on the Wild Side	
additional training: Landscape Water-Use ROI, "Get smart About Your Controller" Critical Components of Smart Technologies and Estimating Water Use, and Green Gardener Training Program (For Professionals)	

Social Marketing Programs

Branding

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

75 characters remaining

Describe the brand, theme or mascot.

Market Research

Have you sponsored or participated in market research to refine your message? ○ Yes ● No

Market Research Topic — *0 characters remaining*

Brand Message — *21 characters remaining*

Brand Mission Statement — *5 characters remaining*

Community Committees

Do you have a community conservation committee? ○ Yes ● No

Enter the names of Community Committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other
No data to display			

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description
No data to display		

Partnering Programs

Name	Type of Program
☐ CLCA?	
☐ Green Building Programs?	
☑ Master Gardeners?	
☑ Cooperative Extension?	
☐ Local Colleges?	
☑ Other	Sacramento Kings and River Cats
☐ Retail and wholesale outlet; name(s) and type(s) of programs:	

Partnering Programs - Newsletters

Number of newsletters per year

Number of customers reached per year

Partnering with Other Utilities

80 characters remaining

Describe other utilities your agency partners with, including electrical utilities

Conservation Gardens

121 characters remaining

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

Landscape contests or awards

98 characters remaining

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

248 characters remaining

Additional Programs supported by agency but not mentioned above

At Least As Effective As

Is your agency implementing an "At Least As Effective As" Variant of this BMP? ○ Yes ◉ No

If Yes, please explain in detail why you consider it to be "At Least As Effective As" 250 characters remaining

Please Upload Document AsEffectiveAs

NA

Exemption Type

Exemption Type

Select an Exemption Type

Please Upload Document(s) for Exemption

NA

Comments: 250 characters remaining

V4 - **Latest**

Reporting Unit: Sacramento County Water Agency - Laguna / Vineyard
Signatory: Sacramento County Water Agency
RU Type: Retail

Welcome **Dan Gwaltney** | Logout
Role: Data Entry User

Home | Annual Input Forms | Base Year Data | Reports | Reporting Unit

Reporting Year

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- **BMP 5 - Landscape**
- 5 Traditional / FlexTrack
- **GPCD**
- GPCD

BMP 2.2 School Education Programs, Retail Agencies

ON TRACK

Online Help

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6/30/2014 4:44:22 PM

☑ Form Complete Form Status: Submitted

Does your agency implement a school education program? ◉ Yes ○ No

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

Please provide the name of Agency,contact name and email address if not CUWCC Group1 members

ON TRACK

☑ Materials meet state education framework requirements

Description: *6 characters remaining*

ON TRACK

☑ Materials distributed to K-6 students?

Description of materials distributed to K-6 students: *54 characters remaining*

Number of student reached

☑ Materials distributed to 7-12 students? (optional)

Description of materials distributed to 7-12 students *54 characters remaining*

Annual budget for school education program

ON TRACK

$ 3401.00

ON TRACK

Description of all other water supplier education programs *250 characters remaining*

School Program Activities

Classroom presentations:

Number of presentations

Number of attendees

250 characters remaining

Describe the topics covered in your classroom presentations:

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 12

Number of attendees

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

Description 250 characters remaining

Number distributed

Staffing children's booths at events and festivals:

Number of booths

Number of attendees

Water conservation contests such as poster and photo:

Description 142 characters remaining

Number of Participants

Offer monetary awards/funding or scholarships awards to students:

Number offered

Total funding

Teacher training workshops:

Number of presentations 4

Number of attendees 82

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 fair/workshops:

Number of presentations

Number of attendees

Additional program(s) supported by agency:

but not mentioned above

250 characters remaining

Number of events (if applicable)

Number of participants

Total reporting period budget expenditures for school education programs(include all agency costs):

At Least As Effective As

Is your Agency implementing an "At Least As Effective As" Variant of this BMP? ○ Yes ◉ No

If Yes, please explain in detail why you consider it to be "At Least As Effective As" *150 characters remaining*

Please Upload Document AsEffectiveAs

NA

Exemption Type

Exemption Type

Select an Exemption Type

Please Upload Document(s) for Exemption

NA

Comments: *250 characters remaining*

V4 - Latest

Reporting Unit: Sacramento County Water Agency - Laguna / Vineyard
Signatory: Sacramento County Water Agency
RU Type: Retail

Welcome Dan Gwaltney | Logout
Role: Editor

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Water Sources and Usage

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BMP 5 - Landscape

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GPCD

- GPCD

Review / Submit

Potable Water Sources

Online Help

Form Complete

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Form Status: Submitted

Service Area Population: 160,124

Copy from previous year | Save

Potable

Potable Water

Imported	AF/Year	Water Supply Type	Water Supply Description
No data to display			

Local Watershed	AF/Year	Water Supply Type	Water Supply Description
Laguna/Vineyard Areas	23,068.00	Groundwater	Groundwater
Sacramento River	7,933.00	Surface	Vineyard SWTP
	Total: 31,001.00		

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V4 - Latest

Reporting Unit: Sacramento County Water Agency - Laguna / Vineyard
Signatory: Sacramento County Water Agency
RU Type: Retail

Welcome Dan Gwaltney | Logout
Role: Editor

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Reporting Year

< 2014 >

Water Sources and Usage

- Potable Water Sources
- **Non Potable Water Sources**
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Review / Submit

Non Potable Water Sources

Online Help

Form Complete

Submited to CUWCC
10/30/2015 10:26:28 AM

Form Status: Submitted

Service Area Population: 160,124

Copy from previous year | Save

Non Potable Water

Imported	AF/Year	Water Supply Type	Water Supply Description
No data to display			

Local Watershed	AF/Year	Water Supply Type	Water Supply Description
Laguna/Vineyard Area	622.00	Recycled Non Potable	SRWTP - Recycled
Laguna/Vineyard Area	156.00	Raw Water	SRWTP - Makeup Water
	Total: 778.00		

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Laguna / Vineyard
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role: Editor

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< 2014 >

Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- **Potable Water Uses**
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
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BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Review / Submit

Potable Water Uses

Online Help

Form Complete **Submited to CUWCC 10/30/2015 10:26:28 AM**

Copy from previous year | Save

Form Status: Submitted

Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
Single-Family	41,840	16,552.00	4,250	2,018.00	Unmetered estimated based on metered connection usage
Multi-Family	232	624.00	0	0.00	Unmetered estimated based on metered connection usage
Commercial	987	1,904.00	9	21.00	Unmetered estimated based on metered connection usage
Industrial	6	64.00	0	0.00	Unmetered estimated based on metered connection usage
Institutional	183	598.00	1	4.00	Unmetered estimated based on metered connection usage
Dedicated Irrigation	585	2,833.00	0		
Other	0	0.00	48	11.00	
		Total : 22,575.00		Total : 2,054.00	

Un-Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
Other	0	256.00	0	331.00	Other selected as customer type because application wouldn't allow to leave blank
		Total : 256.00		Total : 331.00	

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Laguna / Vineyard
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role: Editor

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- **Non Potable Water Uses**

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Review / Submit

Non Potable Water Uses

Online Help

Form Complete

Submited to CUWCC 10/30/2015 10:26:28 AM

Copy from previous year | Save

Form Status: Submitted

Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
Dedicated Irrigation	265	622.00	0	0.00	SRWTP
Dedicated Irrigation	0	156.00	0	0.00	SRWTP - Makeup Water
		Total : 778.00		Total : 0.00	

Un-Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
No data to display					
		Total : 0.00		Total : 0.00	

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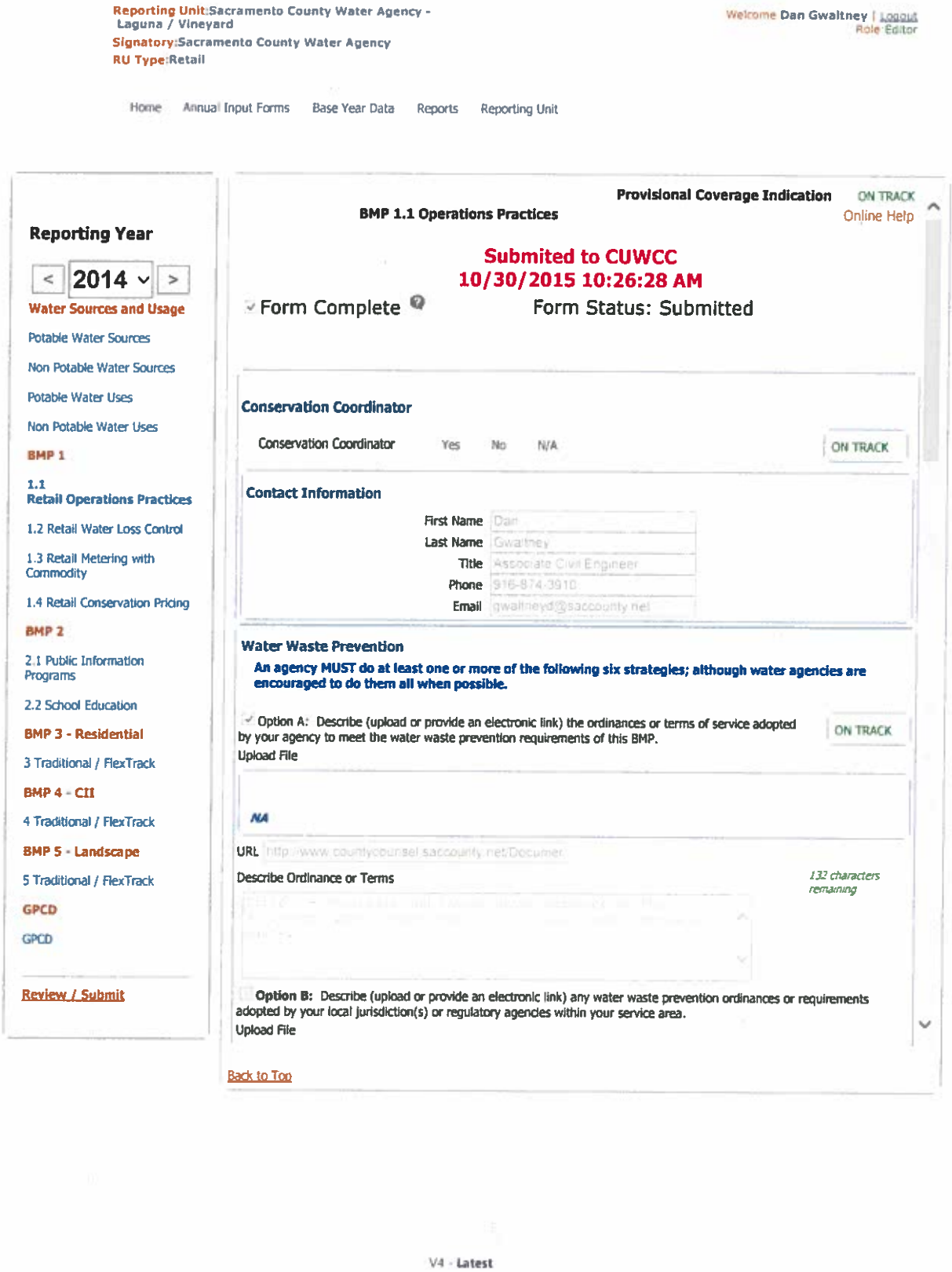
V4 - Latest



Reporting Unit:Sacramento County Water Agency - Laguna / Vineyard
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role: Editor

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Water Sources and Usage
Potable Water Sources
Non Potable Water Sources
Potable Water Uses
Non Potable Water Uses
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1.2 Retail Water Loss Control
1.3 Retail Metering with Commodity
1.4 Retail Conservation Pricing
BMP 2
2.1 Public Information Programs
2.2 School Education
BMP 3 - Residential
3 Traditional / FlexTrack
BMP 4 - CII
4 Traditional / FlexTrack
BMP 5 - Landscape
5 Traditional / FlexTrack
GPCD
GPCD

Review / Submit

Provisional Coverage Indication ON TRACK

BMP 1.1 Operations Practices

Online Help

Submited to CUWCC
10/30/2015 10:26:28 AM

Form Complete

Form Status: Submitted

Conservation Coordinator

Conservation Coordinator Yes No N/A ON TRACK

Contact Information

First Name Dan
Last Name Gwaltney
Title Associate Civil Engineer
Phone 916-874-3910
Email gwaltneyd@saccounty.net

Water Waste Prevention

An agency MUST do at least one or more of the following six strategies; although water agencies are encouraged to do them all when possible.

Option A: Describe (upload or provide an electronic link) the ordinances or terms of service adopted by your agency to meet the water waste prevention requirements of this BMP. ON TRACK

Upload File

NA

URL http://www.countycounsel.saccounty.net/Documer

Describe Ordinance or Terms 132 characters remaining

Option B: Describe (upload or provide an electronic link) any water waste prevention ordinances or requirements adopted by your local jurisdiction(s) or regulatory agencies within your service area.

Upload File

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Laguna / Vineyard
Signatory:Sacramento County Water Agency
RU Type:Retail

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Role: Editor

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- **1.2 Retail Water Loss Control**
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

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Provisional Coverage Indication ON TRACK

BMP 1.2 Water Loss Control

Online Help

Submited to CUWCC
10/30/2015 10:26:28 AM

☑ Form Complete | Form Status: Submitted

AWWA Water Audit

Agency to complete a water audit and balance using the AWWA software	Yes	No	N/A	ON TRACK
Upload Worksheets (AWWA Water Audit)				ON TRACK
Uploaded filename: WaterAudit2014 - Zone40.xls				
Water Audit Validity Score: 78				
Agency Completed Training In The AWWA Water Audit Method	Yes	No	N/A	ON TRACK
Agency Completed Training In The Component Analysis Process	Yes	No	N/A	ON TRACK
Completed/Updated the Component Analysis (at least every 4 years) (Effective from 2013)	Yes	No	N/A	ON TRACK

Component Analysis Completed/Updated Date: 06/05/2012 format: mm/dd/yyyy

Water Loss Performance

Agency repaired all reported leaks & breaks to the extent cost effective	Yes	No	N/A	ON TRACK

Recording Keeping Requirements Beginning in Year 2

Does your agency maintain a record keeping system for the following?

Date/Time Leak Reported	Yes	No	N/A	Leak Location	Yes	No	N/A
Type of Leaking Pipe Segment or Fitting	Yes	No	N/A	Leak Running Time From Report to Repair	Yes	No	N/A
Leak Volume Estimate :	Yes	No	N/A	Cost of Repair:	Yes	No	N/A
Do you have an infrastructure rehabilitation and renewal program ?	Yes	No	N/A				

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V4 - Latest

Reporting Unit: Sacramento County Water Agency - Laguna / Vineyard
Signatory: Sacramento County Water Agency
RU Type: Retail

Welcome Dan Gwaltney | Logout
Role: Editor

Home | Annual Input Forms | Base Year Data | Reports | Reporting Unit

Reporting Year

< 2014 >

Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- **1.3 Retail Metering with Commodity**
- 1.4 Retail Conservation Pricing

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Review / Submit

Provisional Coverage Indication NOT ON TRACK

BMP 1.3 Metering with Commodity Rates

Online Help

Submited to CUWCC
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Form Complete

Form Status: Submitted

Implementation

NOT ON TRACK

Does your agency have any unmetered service connections? Yes No N/A

If YES, has your agency completed a meter retrofit plan? Yes No N/A

If YES, number of previously unmetered accounts fitted with meters during reporting year: 3455

ON TRACK

Are all new service connections being metered? Yes No N/A

Are all new service connections being billed volumetrically? Yes No N/A

ON TRACK

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? Yes No N/A

NA

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# Estimated Bills/Year	# Of Meter Readings per Year
Single-Family	41,840.00	41,820.00	41,840.00	Bi-monthly	6.00	6.00
Multi-Family	232.00	232.00	232.00	Bi-monthly	6.00	6.00
Commercial	987.00	987.00	987.00	Bi-monthly	6.00	6.00
Industrial	6.00	6.00	6.00	Bi-monthly	6.00	6.00
Institutional	183.00	183.00	183.00	Bi-monthly	6.00	6.00

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Laguna / Vineyard
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role: Editor

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Reporting Year

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- **1.4 Retail Conservation Pricing**

BMP 2

- 2.1 Public Information Programs
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Review / Submit

Provisional Coverage Indication NOT ON TRACK

BMP 1.4 Retail Conservation Pricing Online Help

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Form Complete Form Status: Submitted

A. Implementation (Water Rate Structure)

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

Rate Structure Option	Customer Class Name	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed) Charges
No data to display			
		$0.00	$0.00

New

B. Implementation Options (Compliance with Conservation Pricing Options (Water))

Please Select an Option

Option 1: Annual Revenue As Reported Option 2: Canadian Water Wastewater Assn Rate Design Model

Use 3 years average instead of most recent year

If CWWA is selected, please upload spreadsheet here.

NA

Canadian Water & Wastewater Association Rate Design Model Implementation

C. Canadian Water & Wastewater Association

Rate Structure Option	Customer Class Name	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed) Charges
No data to display			
		$0.00	$0.00

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Laguna / Vineyard
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role: Editor

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- **2.1 Public Information Programs**
- 2.2 School Education

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

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Provisional Coverage Indication ON TRACK

BMP 2.1 Public Information Programs Online Help

Submited to CUWCC
10/30/2015 10:26:28 AM

Form Complete Form Status: Submitted

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP? Yes No N/A

If "Yes" please select council wholesale agencies;

Please provide the name of agency , contact name and email address if not A Council Group 1 member.
144 characters remaining

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

ON TRACK

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
14	General water conservation information
3	Email Messages
17	

Contact with the Media Yes No N/A

ON TRACK

Media Contacts List

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

Number of Media Contacts	Media Contacts Type
114	Articles or stories resulting from outreach
13	News releases
41	Newspaper contacts

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Laguna / Vineyard
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role: Editor

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing

BMP 2

- 2.1 Public Information Programs
- **2.2 School Education**

BMP 3 - Residential

- 3 Traditional / FlexTrack

BMP 4 - CII

- 4 Traditional / FlexTrack

BMP 5 - Landscape

- 5 Traditional / FlexTrack

GPCD

- GPCD

Review / Submit

Provisional Coverage Indication ON TRACK

BMP 2.2 School Education Programs, Retail Agencies Online Help

Submited to CUWCC
10/30/2015 10:26:28 AM

Form Complete | Form Status: Submitted

Does your agency implement a school education program? Yes No N/A

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

Please provide the name of Agency, contact name and email address if not CUWCC Group 1 members.

ON TRACK

Materials meet state education framework requirements. Description: *6 characters remaining*

ON TRACK

Materials distributed to K-6 students. Description of materials distributed to K-6 students: *95 characters remaining*

Number of student reached.

Materials distributed to 7-12 students. (optional) Description of materials distributed to 7-12 students *121 characters remaining*

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Wholesale
Signatory:Sacramento County Water Agency
RU Type:Wholesale

Welcome Dan Gwaltney | Logout
Role: Editor

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Water Sources and Usage

- **Potable Water Sources**
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Wholesale Operations Practices
- 1.2 Wholesale Water Loss Control
- 1.3 Wholesale Metering with Commodity

BMP 2

- 2.1 Wholesale Public Information Programs
- 2.2 Wholesale School Education Programs

BMP 3 - Residential

BMP 4 - CII

BMP 5 - Landscape

GPCD

Review / Submit

Potable Water Sources Online Help

Form Complete

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11/23/2015 7:10:12 AM

Form Status: Submitted

Service Area Population:

Copy from previous year | Save

Potable

Potable Water

Imported	AF/Year	Water Supply Type	Water Supply Description
No data to display			

Local Watershed	AF/Year	Water Supply Type	Water Supply Description
No data to display			

Total: 0.00

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V4 - Latest

Reporting Unit: Sacramento County Water Agency - Wholesale
Signatory: Sacramento County Water Agency
RU Type: Wholesale

Welcome Dan Gwaltney | Logout
Role: Editor

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Water Sources and Usage

- Potable Water Sources
- **Non Potable Water Sources**
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Wholesale Operations Practices
- 1.2 Wholesale Water Loss Control
- 1.3 Wholesale Metering with Commodity

BMP 2

- 2.1 Wholesale Public Information Programs
- 2.2 Wholesale School Education Programs

BMP 3 - Residential

BMP 4 - CII

BMP 5 - Landscape

GPCD

Review / Submit

Non Potable Water Sources

Online Help

Form Complete

Submited to CUWCC
11/23/2015 7:10:12 AM

Form Status: Submitted

Service Area Population: 0

Copy from previous year | Save

Non Potable Water

Imported	AF/Year	Water Supply Type	Water Supply Description
No data to display			

Local Watershed	AF/Year	Water Supply Type	Water Supply Description
No data to display			
Total: 0.00			

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V4 - Latest

Reporting Unit: Sacramento County Water Agency - Wholesale
Signatory: Sacramento County Water Agency
RU Type: Wholesale

Welcome Dan Gwaltney | Logout
Role: Editor

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- **Potable Water Uses**
- Non Potable Water Uses

BMP 1

- 1.1 Wholesale Operations Practices
- 1.2 Wholesale Water Loss Control
- 1.3 Wholesale Metering with Commodity

BMP 2

- 2.1 Wholesale Public Information Programs
- 2.2 Wholesale School Education Programs

BMP 3 - Residential

BMP 4 - CII

BMP 5 - Landscape

GPCD

Review / Submit

Potable Water Uses

Online Help

Form Complete **Submited to CUWCC 11/23/2015 7:10:12 AM**

Copy from previous year | Save

Form Status: Submitted

Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
Other	4,188	2,719.00	0	0.00	4080 residential, 108 commercial
		Total : 2,719.00		Total : 0.00	

Un-Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
No data to display					
		Total : 0.00		Total : 0.00	

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Wholesale
Signatory:Sacramento County Water Agency
RU Type:Wholesale

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- **Non Potable Water Uses**

BMP 1

- 1.1 Wholesale Operations Practices
- 1.2 Wholesale Water Loss Control
- 1.3 Wholesale Metering with Commodity

BMP 2

- 2.1 Wholesale Public Information Programs
- 2.2 Wholesale School Education Programs

BMP 3 - Residential

BMP 4 - CII

BMP 5 - Landscape

GPCD

Review / Submit

Non Potable Water Uses

Online Help

Form Complete

Submited to CUWCC 11/23/2015 7:10:12 AM

Copy from previous year | Save

Form Status: Submitted

Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
No data to display					
		Total : 0.00		Total : 0.00	

Un-Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
No data to display					
		Total : 0.00		Total : 0.00	

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Reporting Unit:Sacramento County Water Agency - Wholesale
Signatory:Sacramento County Water Agency
RU Type:Wholesale

Welcome Dan Gwaltney ! Logout
Role: Editor

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- Water Sources and Usage
- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses
- BMP 1
- 1.1 Wholesale Operations Practices
- 1.2 Wholesale Water Loss Control
- 1.3 Wholesale Metering with Commodity
- BMP 2
- 2.1 Wholesale Public Information Programs
- 2.2 Wholesale School Education Programs
- BMP 3 - Residential
- BMP 4 - CII
- BMP 5 - Landscape
- GPCD

Review / Submit

Provisional Coverage Indication ON TRACK

BMP 1.1 Operations Practices, Wholesale Agencies

Online Help

Submited to CUWCC
11/23/2015 7:10:12 AM

Form Complete

Form Status: Submitted

Conservation Coordinator Contact Information

First Name	Dan
Last Name	Gwaltney
Title	Associate Civil Engineer
Phone	916-874-3910
Email	gwaltneyd@saccounty.net

Wholesale agency assistance programs

ON TRACK

a.Financial Investments & Building Partnerships

List the total monetary amount of financial incentives and equivalent resources provided to retail members assist with, or to otherwise support implementation of BMPs.

List regional partnerships developed to encourage resource conservation and maximize economies of scale benefits.

BMP Name	Monetary Amount for Financial Incentives	Monetary Amount for Equivalent Resources
BMP 3 Residential	2,497.00	

ON TRACK

b.Technical Support

Supply a summary of types of technical support provided to retail agencies.

31 characters remaining

c.Program Management

If your wholesale agency has assumed reporting responsibility, list the program managed on behalf of the

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Reporting Unit:Sacramento County Water Agency - Wholesale
Signatory:Sacramento County Water Agency
RU Type:Wholesale

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Water Sources and Usage
Potable Water Sources
Non Potable Water Sources
Potable Water Uses
Non Potable Water Uses
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1.2 Wholesale Water Loss Control
1.3 Wholesale Metering with Commodity
BMP 2
2.1 Wholesale Public Information Programs
2.2 Wholesale School Education Programs
BMP 3 - Residential
BMP 4 - CII
BMP 5 - Landscape
GPCD

Review / Submit

Provisional Coverage Indication ON TRACK

BMP 1.2 Water Loss Control, Wholesale Agencies Online Help

Submited to CUWCC
11/23/2015 7:10:12 AM

☑ Form Complete Form Status: Submitted

AWWA Water Audit

Agency to complete a water audit and balance using the AWWA software	Yes	No	N/A	ON TRACK
Upload Worksheets (AWWA Water Audit)				ON TRACK
Uploaded filename: WaterAudit2013 - Zone40.xls				
Water Audit Validity Score 78				
Agency Completed Training In The AWWA Water Audit Method	Yes	No	N/A	ON TRACK
Agency Completed Training In The Component Analysis Process	Yes	No	N/A	ON TRACK
Completed/Updated the Component Analysis (at least every 4 years) (Effective from 2013)	Yes	No	N/A	ON TRACK

Component Analysis Completed/Updated Date: 06/05/2012 format:mm/dd/yyyy

Water Loss Performance

Agency repaired all reported leaks & breaks to the extent cost effective	Yes	No	N/A	ON TRACK

Recording Keeping Requirements Beginning in Year 2

Does your agency maintain a record keeping system for the following?

Date/Time Leak Reported	Yes	No	N/A	Leak Location	Yes	No	N/A
Type of Leaking Pipe Segment or Fitting	Yes	No	N/A	Leak Running Time From Report to Repair	Yes	No	N/A
Leak Volume Estimate :	Yes	No	N/A	Cost of Repair:	Yes	No	N/A
Do you have an infrastructure rehabilitation and renewal program ?	Yes	No	N/A				

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Wholesale
Signatory:Sacramento County Water Agency
RU Type:Wholesale

Welcome Dan Gwaltney | Logout
Role: Editor

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Wholesale Operations Practices
- 1.2 Wholesale Water Loss Control
- **1.3 Wholesale Metering with Commodity**

BMP 2

- 2.1 Wholesale Public Information Programs
- 2.2 Wholesale School Education Programs

BMP 3 - Residential

BMP 4 - CII

BMP 5 - Landscape

GPCD

Review / Submit

Provisional Coverage Indication NOT ON TRACK

BMP 1.3 Metering with Commodity Rates, Wholesale Agencies Online Help

Submited to CUWCC

✓ Form Complete Form Status: Submitted

Implementation

NOT ON TRACK

Does your agency have any unmetered service connections? Yes No N/A

If YES, has your agency completed a meter retrofit plan? Yes No N/A

If YES, number of previously unmetered accounts fitted with meters during reporting year: 0

ON TRACK

Are all new service connections being metered? Yes No N/A

Are all new service connections being billed volumetrically? Yes No N/A

ON TRACK

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? Yes No N/A

Browse... Upload Clear

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# Estimated Bills/Year
Single-Family	4,080.00				
Commercial	108.00				

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Wholesale
Signatory:Sacramento County Water Agency
RU Type:Wholesale

Welcome Dan Gwaltney | Logout
Role: Editor

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Reporting Year

< 2013 >

Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Wholesale Operations Practices
- 1.2 Wholesale Water Loss Control
- 1.3 Wholesale Metering with Commodity

BMP 2

- **2.1 Wholesale Public Information Programs**
- 2.2 Wholesale School Education Programs

BMP 3 - Residential

BMP 4 - CII

BMP 5 - Landscape

GPCD

Review / Submit

Provisional Coverage Indication ON TRACK

BMP 2.1 Public Information Programs, Wholesale Agencies Online Help

Submited to CUWCC
11/23/2015 7:10:12 AM

Form Complete | Form Status: Submitted

Does your Agency perform Public Outreach? Yes No N/A

Please use the dropdown menu below to indicate which retail agencies your wholesale agency assists with public outreach.

Please provide the name of Agency,contact name and email address if not a Council member.
144 characters remaining

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

ON TRACK

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
16	General water conservation information
3	Email Messages
19	

Contact with the Media Yes No N/A

ON TRACK

Media Contacts List

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

Number of Media Contacts	Media Contacts Type
9	Articles or stories resulting from outreach
12	News releases
2	Newspaper contacts
6	Radio contacts

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Wholesale
Signatory:Sacramento County Water Agency
RU Type:Wholesale

Welcome Dan Gwaltney | Logout
Role: Editor

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< 2013 >

- Water Sources and Usage
- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses
- BMP 1
- 1.1 Wholesale Operations Practices
- 1.2 Wholesale Water Loss Control
- 1.3 Wholesale Metering with Commodity
- BMP 2
- 2.1 Wholesale Public Information Programs
- **2.2 Wholesale School Education Programs**
- BMP 3 - Residential
- BMP 4 - CII
- BMP 5 - Landscape
- GPCD

Review / Submit

Provisional Coverage Indication NOT ON TRACK

BMP 2.2 School Education Programs, Wholesale Agencies Online Help

Submited to CUWCC
11/23/2015 7:10:12 AM

Form Complete Form Status: Submitted

Does your agency implement a school education program? Yes No N/A

Please use the dropdown menu below to indicate which retail agencies your wholesale agency assists with school education programs.

Please provide the name of Agency, contact name and email address if not CUWCC Group 1 members.

ON TRACK

Materials meet state education framework requirements. Description: *35 characters remaining*

NOT ON TRACK

Materials distributed to K-6 students. Description of materials distributed to K-6 students: *250 characters remaining*

Number of student reached.

Materials distributed to 7-12 students. (optional) Description of materials distributed to 7-12 students *250 characters remaining*

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Wholesale
Signatory:Sacramento County Water Agency
RU Type:Wholesale

Welcome Dan Gwaltney | Logout
Role: Editor

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Reporting Year

< 2014 >

Water Sources and Usage

- **Potable Water Sources**
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses

BMP 1

- 1.1 Wholesale Operations Practices
- 1.2 Wholesale Water Loss Control
- 1.3 Wholesale Metering with Commodity

BMP 2

- 2.1 Wholesale Public Information Programs
- 2.2 Wholesale School Education Programs

BMP 3 - Residential

BMP 4 - CII

BMP 5 - Landscape

GPCD

Review / Submit

Potable Water Sources Online Help

Form Complete

Submited to CUWCC
11/23/2015 7:10:35 AM

Form Status: Submitted

Service Area Population: 0 Copy from previous year Save

Potable

Potable Water

Imported	AF/Year	Water Supply Type	Water Supply Description
No data to display			

Local Watershed	AF/Year	Water Supply Type	Water Supply Description
No data to display			
Total: 0.00			

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V4 - Latest

Reporting Unit: Sacramento County Water Agency - Wholesale
Signatory: Sacramento County Water Agency
RU Type: Wholesale

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Role: Editor

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- Water Sources and Usage
- Potable Water Sources
- **Non Potable Water Sources**
- Potable Water Uses
- Non Potable Water Uses
- BMP 1
- 1.1 Wholesale Operations Practices
- 1.2 Wholesale Water Loss Control
- 1.3 Wholesale Metering with Commodity
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- 2.1 Wholesale Public Information Programs
- 2.2 Wholesale School Education Programs
- BMP 3 - Residential
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- BMP 5 - Landscape
- GPCD

Review / Submit

Non Potable Water Sources

Online Help

Form Complete

Submited to CUWCC
11/23/2015 7:10:35 AM

Form Status: Submitted

Service Area Population: 0

Copy from previous year | Save

Non Potable Water

Imported	AF/Year	Water Supply Type	Water Supply Description
No data to display			

Local Watershed	AF/Year	Water Supply Type	Water Supply Description
No data to display			
Total: 0.00			

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- **Potable Water Uses**
- Non Potable Water Uses

BMP 1

- 1.1 Wholesale Operations Practices
- 1.2 Wholesale Water Loss Control
- 1.3 Wholesale Metering with Commodity

BMP 2

- 2.1 Wholesale Public Information Programs
- 2.2 Wholesale School Education Programs

BMP 3 - Residential

BMP 4 - CII

BMP 5 - Landscape

GPCD

Review / Submit

Potable Water Uses

Online Help

Form Complete **Submited to CUWCC 11/23/2015 7:10:35 AM**

Copy from previous year | Save

Form Status: Submitted

Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
Other	4,270	2,322.00	0	0.00	4162 residential, 108 commercial
		Total : 2,322.00		Total : 0.00	

Un-Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
No data to display					
		Total : 0.00		Total : 0.00	

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V4 - Latest

Reporting Unit: Sacramento County Water Agency - Wholesale
Signatory: Sacramento County Water Agency
RU Type: Wholesale

Welcome Dan Gwaltney | Logout
Role: Editor

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Water Sources and Usage

- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- **Non Potable Water Uses**

BMP 1

- 1.1 Wholesale Operations Practices
- 1.2 Wholesale Water Loss Control
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BMP 2

- 2.1 Wholesale Public Information Programs
- 2.2 Wholesale School Education Programs

BMP 3 - Residential

BMP 4 - CII

BMP 5 - Landscape

GPCD

Review / Submit

Non Potable Water Uses

Online Help

Form Complete

Submited to CUWCC 11/23/2015 7:10:35 AM

Copy from previous year | Save

Form Status: Submitted

Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
No data to display					
		Total : 0.00		Total : 0.00	

Un-Billed

Customer Type	Metered Accounts	Metered Water Delivered AF/Year	Un-Metered # Accounts	Un - metered Water Delivered AF/Year	Description
No data to display					
		Total : 0.00		Total : 0.00	

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Wholesale
Signatory:Sacramento County Water Agency
RU Type:Wholesale

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Role: Editor

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- Water Sources and Usage
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- 2.1 Wholesale Public Information Programs
- 2.2 Wholesale School Education Programs
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- BMP 5 - Landscape
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Review / Submit

Provisional Coverage Indication NOT ON TRACK

BMP 1.1 Operations Practices, Wholesale Agencies Online Help

Submited to CUWCC
11/23/2015 7:10:35 AM

Form Complete | Form Status: Submitted

Conservation Coordinator Contact Information

First Name	Dan
Last Name	Gwaltney
Title	Associate Civil Engineer
Phone	916-874-3910
Email	gwaltneyd@saccounty.net

Wholesale agency assistance programs

ON TRACK

a.Financial Investments & Building Partnerships

List the total monetary amount of financial incentives and equivalent resources provided to retail members assist with, or to otherwise support implementation of BMPs.

List regional partnerships developed to encourage resource conservation and maximize economies of scale benefits.

BMP Name	Monetary Amount for Financial Incentives	Monetary Amount for Equivalent Resources
BMP 3 Residential	4,550.00	

ON TRACK

b.Technical Support

Supply a summary of types of technical support provided to retail agencies. *31 characters remaining*

c.Program Management

If your wholesale agency has assumed reporting responsibility, list the program managed on behalf of the

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Water Sources and Usage

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- Potable Water Uses
- Non Potable Water Uses

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- **1.2 Wholesale Water Loss Control**
- 1.3 Wholesale Metering with Commodity

BMP 2

- 2.1 Wholesale Public Information Programs
- 2.2 Wholesale School Education Programs

BMP 3 - Residential

BMP 4 - CII

BMP 5 - Landscape

GPCD

Review / Submit

Provisional Coverage Indication ON TRACK

BMP 1.2 Water Loss Control, Wholesale Agencies Online Help

Submited to CUWCC
11/23/2015 7:10:35 AM

Form Complete | Form Status: Submitted

AWWA Water Audit

Agency to complete a water audit and balance using the AWWA software	Yes	No	N/A	ON TRACK
Upload Worksheets (AWWA Water Audit)				ON TRACK
Uploaded filename: Copy of WaterAudit2014 - Zone40.xls				
Water Audit Validity Score				
Agency Completed Training In The AWWA Water Audit Method	Yes	No	N/A	ON TRACK
Agency Completed Training In The Component Analysis Process	Yes	No	N/A	ON TRACK
Completed/Updated the Component Analysis (at least every 4 years) (Effective from 2013)	Yes	No	N/A	ON TRACK
Component Analysis Completed/Updated Date: 06/05/2012	format:mm/dd/yyyy			

Water Loss Performance

Agency repaired all reported leaks & breaks to the extent cost effective	Yes	No	N/A	ON TRACK

Recording Keeping Requirements Beginning in Year 2

Does your agency maintain a record keeping system for the following?

Date/Time Leak Reported	Yes	No	N/A	Leak Location	Yes	No	N/A
Type of Leaking Pipe Segment or Fitting	Yes	No	N/A	Leak Running Time From Report to Repair	Yes	No	N/A
Leak Volume Estimate :	Yes	No	N/A	Cost of Repair:	Yes	No	N/A
Do you have an infrastructure rehabilitation and renewal program ?	Yes	No	N/A				

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V4 - Latest

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Signatory: Sacramento County Water Agency
RU Type: Wholesale

Welcome Dan Gwaltney | Logout
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- Water Sources and Usage
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- 1.2 Wholesale Water Loss Control
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- GPCD

Review / Submit

Provisional Coverage Indication NOT ON TRACK

BMP 1.3 Metering with Commodity Rates, Wholesale Agencies Online Help

Submited to CUWCC

Form Complete

Form Status: Submitted

Implementation

NOT ON TRACK

Does your agency have any unmetered service connections? Yes No N/A

If YES, has your agency completed a meter retrofit plan? Yes No N/A

If YES, number of previously unmetered accounts fitted with meters during reporting year:

ON TRACK

Are all new service connections being metered? Yes No N/A

Are all new service connections being billed volumetrically? Yes No N/A

ON TRACK

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? Yes No N/A

Browse...

Upload Clear

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# Estimated Bills/Year
Single-Family	4,162.00				
Commercial	108.00				

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V4 - Latest

Reporting Unit: Sacramento County Water Agency - Wholesale
Signatory: Sacramento County Water Agency
RU Type: Wholesale

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Role: Editor

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Water Sources and Usage

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- Potable Water Uses
- Non Potable Water Uses

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- **2.1 Wholesale Public Information Programs**
- 2.2 Wholesale School Education Programs

BMP 3 - Residential

BMP 4 - CII

BMP 5 - Landscape

GPCD

Review / Submit

Provisional Coverage Indication ON TRACK

BMP 2.1 Public Information Programs, Wholesale Agencies Online Help

Submited to CUWCC
11/23/2015 7:10:35 AM

Form Complete | Form Status: Submitted

Does your Agency perform Public Outreach? Yes No N/A

Please use the dropdown menu below to indicate which retail agencies your wholesale agency assists with public outreach.

Please provide the name of Agency,contact name and email address if not a Council member.
144 characters remaining

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

ON TRACK

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
14	General water conservation information
3	Email Messages
17	

Contact with the Media Yes No N/A

ON TRACK

Media Contacts List

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

Number of Media Contacts	Media Contacts Type
114	Articles or stories resulting from outreach
13	News releases
41	Newspaper contacts
24	Radio contacts

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V4 - Latest

Reporting Unit:Sacramento County Water Agency - Wholesale
Signatory:Sacramento County Water Agency
RU Type:Wholesale

Welcome Dan Gwaltney | Logout
Role:Editor

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Water Sources and Usage

- Potable Water Sources
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- Potable Water Uses
- Non Potable Water Uses

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- 1.1 Wholesale Operations Practices
- 1.2 Wholesale Water Loss Control
- 1.3 Wholesale Metering with Commodity

BMP 2

- 2.1 Wholesale Public Information Programs
- **2.2 Wholesale School Education Programs**

BMP 3 - Residential

BMP 4 - CII

BMP 5 - Landscape

GPCD

Review / Submit

Provisional Coverage Indication NOT ON TRACK

BMP 2.2 School Education Programs, Wholesale Agencies Online Help

Submited to CUWCC
11/23/2015 7:10:35 AM

Form Complete Form Status: Submitted

Does your agency implement a school education program? Yes No N/A

Please use the dropdown menu below to indicate which retail agencies your wholesale agency assists with school education programs.

Please provide the name of Agency, contact name and email address if not CUWCC Group 1 members.

ON TRACK

Materials meet state education framework requirements. Description: *34 characters remaining*

NOT ON TRACK

Materials distributed to K-6 students. Description of materials distributed to K-6 students: *250 characters remaining*

Number of student reached.

Materials distributed to 7-12 students. (optional) Description of materials distributed to 7-12 students *250 characters remaining*

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V4 - Latest

California Urban Water Conservation Council

2020 GPCD Target Calculator v1.5

This spreadsheet-based calculator is designed to help urban retail water suppliers establish a 2020 water use target

The methodologies contained herein are consistent with the publication *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*, the purpose of which is to ensure the consistent implementation of the Water Conservation Act of 2009.

Name of City or Utility: **Sacramento County Water Agency**

Name of Contact: **Dan Gwaltney**

Telephone: **916-874-3910**

Email: gwaltneyd@saccounty.net

Ext:

Reporting Period: Calendar Year (Jan-Dec)

Beginning Month: January

Guidance & Instructions

This GPCD target calculator is designed to enable the user to generate and select a 2020 water use target
Only systems serving more than 3,000 end users, or that supply more than 3,000 acre-feet of potable water annually at re
for municipal purposes need to develop a target.
Please note the following items:

Please read before data entry begins...
Establishing a baseline period is a key step in developing a 2020 water use target. The choice of baseline period is dependent on the result of evaluating 2008 recycled water use against water delivered and the result of this test will determine, to some extent, the timeframe for required data input. Please see below for more details...

All data entry is required to be in units of Acre-feet, unless indicated otherwise.

Cells shown in this color are for data entry.

Cells shown in this color are calculated fields and cannot be changed or overwritten.

Option buttons for user selection.

Data can be input monthly, or annually; the monthly totals will override the annual totals. However, when entering monthly data, ensure all month fields are completed.
Do NOT leave blanks. For zero enter "0".
If any month is left blank, all other monthly data for that year will be ignored and the annual total will be used.

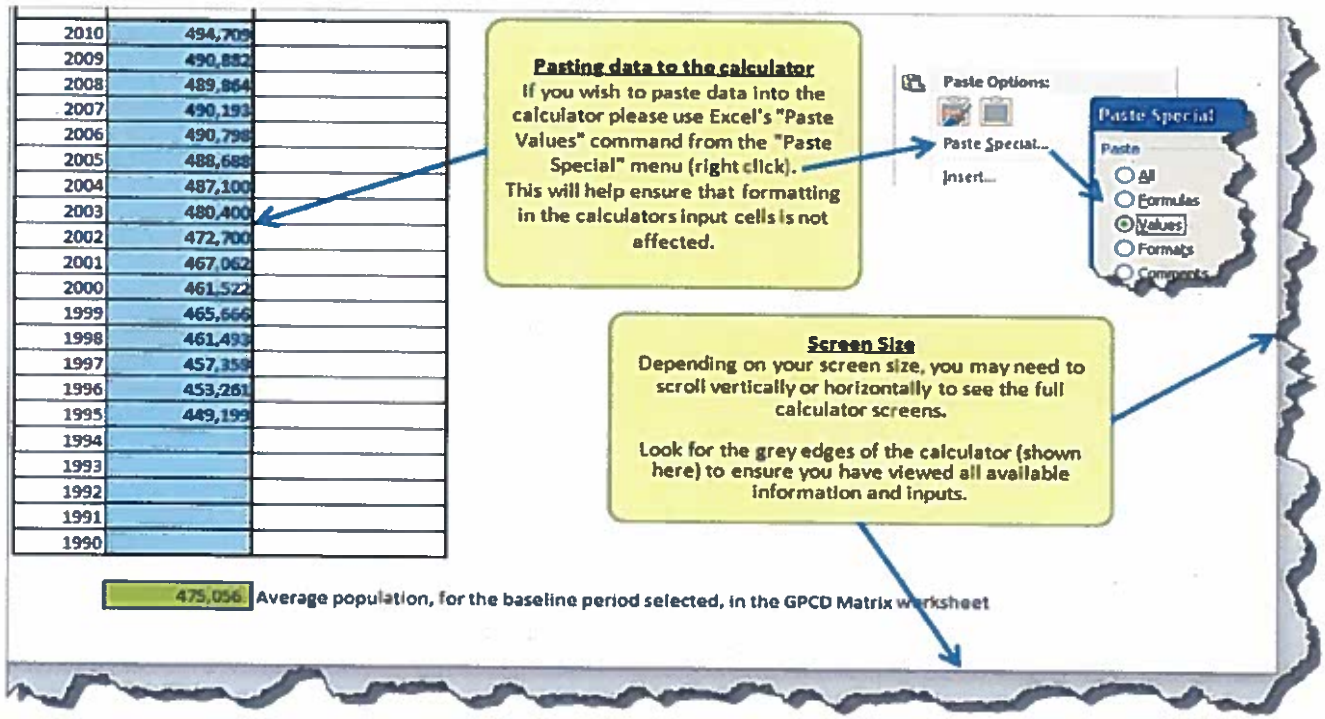
Cells shown in this color warn the user that monthly data has been left blank and therefore other monthly data entered for the year will be ignored.

User tips... User tips are shown in these boxes.

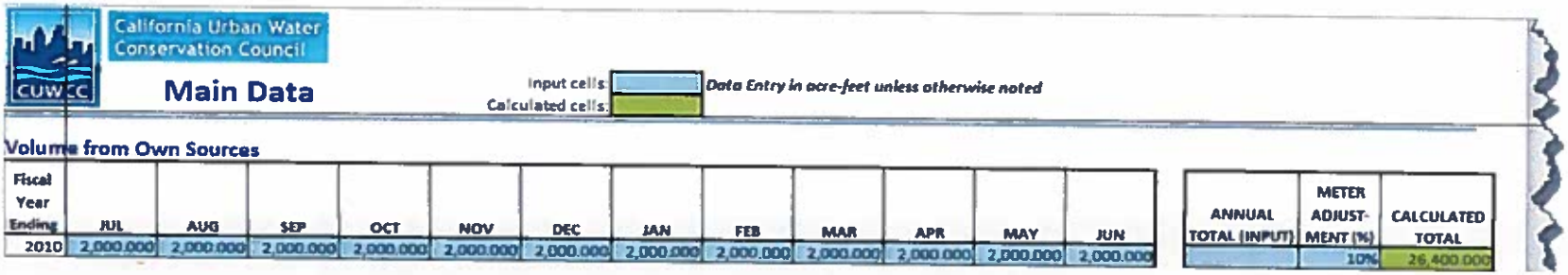
California Urban Water Conservation Council

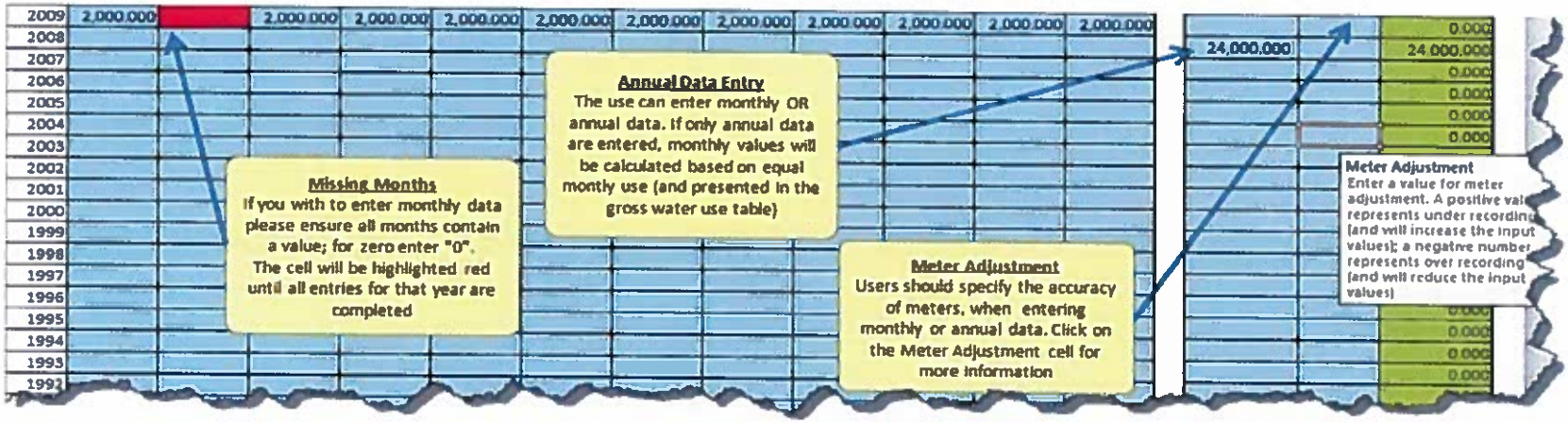
Hints and Tips for Using the GPCD Calculator

Hints and Tips Common to all worksheets:



Hints and Tips for the Main Data worksheet:




2009 2,000,000
2008
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2002
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1993
1992
2,000,000
2,000,000
2,000,000
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24,000,000
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0.000
Missing Months
If you with to enter monthly data please ensure all months contain a value; for zero enter "0". The cell will be highlighted red until all entries for that year are completed
Annual Data Entry
The use can enter monthly OR annual data. If only annual data are entered, monthly values will be calculated based on equal montly use (and presented in the gross water use table)
Meter Adjustment
Users should specify the accuracy of meters, when entering monthly or annual data. Click on the Meter Adjustment cell for more information
Meter Adjustment
Enter a value for meter adjustment. A positive val represents under recordin (and will increase the input values); a negative number represents over recording (and will reduce the input values)

California Urban Water Conservation Council

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
2013												

ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
42,906.000	4%	44,622.240

Volume from Imported Sources

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2013												

ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
0.000	4%	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
2013												

ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2,923.000	4%	3,039.920

Recycled Water Delivered

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2013												

ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
686.000	4%	713.440

Change in Distribution System Storage

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2013												

Year	ANNUAL CHANGE IN STORAGE	CALCULATED Net Change in Storage
2013		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
2013	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
2013		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
2013												

ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
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
2013												

ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
691.000		691.000

Gross Water Use

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2013	3,407.610	3,407.610	3,407.610	3,407.610	3,407.610	3,407.610	3,407.610	3,407.610	3,407.610	3,407.610	3,407.610	3,407.610

ANNUAL TOTAL USAGE
40,891.320

California Urban Water Conservation Council

Population

Input cells:
Calculated cells:

Enter population data for the service area.

YEAR	POPULATION
2013	160,754

California Urban Water Conservation Council

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:

						Use Default ☐ 3%		
Surface Reservoir Augmentation	N/A	N/A	Volume Discharged from Reservoir for Distribution System Delivery	Recycled Water Blend %	Recycled Water Delivered to Treatment Plant	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

		Use Default ☐ 90%				Use Default ☐ 3%		
Groundwater Recharge	5-Year Annual Average Recharge	Recharge Recovery Factor	Recycled Water Pumped from Basin	Utility Pumping as % of Basin Total	Recycled Water Pumped by Utility	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 5								

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

GPCD Matrix

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2013	227.1	227.1	227.1	227.1	227.1	227.1	227.1	227.1	227.1	227.1	227.1	227.1

ANNUAL GPCD
227.1

California Urban Water Conservation Council

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

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

* = Sum of Monthly data and Annual Total are not equal; monthly data will be used

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
2013																	

California Urban Water Conservation Council

TARGETS / COMPLIANCE
(CUWCC MOU)

GPCD in 2013: 222.0

Monthly GPCD Data for Weather Normalization

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2013	222.0	222.0	222.0	222.0	222.0	222.0	222.0	222.0	222.0	222.0	222.0	222.0

Reporting Unit:Sacramento County Water Agency - Laguna / Vineyard
Signatory:Sacramento County Water Agency
RU Type:Retail

Welcome Dan Gwaltney | Logout
Role: Editor

Home | Annual Input Forms | Base Year Data | Reports | Reporting Unit

Reporting Year

< 2014 >

- Water Sources and Usage
- Potable Water Sources
- Non Potable Water Sources
- Potable Water Uses
- Non Potable Water Uses
- BMP 1
- 1.1 Retail Operations Practices
- 1.2 Retail Water Loss Control
- 1.3 Retail Metering with Commodity
- 1.4 Retail Conservation Pricing
- BMP 2
- 2.1 Public Information Programs
- 2.2 School Education
- BMP 3 - Residential
- 3 Traditional / FlexTrack
- BMP 4 - CII
- 4 Traditional / FlexTrack
- BMP 5 - Landscape
- 5 Traditional / FlexTrack
- GPCD
- GPCD

Review / Submit

GPCD Coverage Calculations

Provisional Coverage Indication
Online Help

Submited to CUWCC
10/30/2015 2:23:24 PM

☑ Form Complete

Calculate | Save

Instructions | Hints and Tips | Main Data | Population | Indirect Recycled Water | GPCD Matrix | Landscape Area Wateruse | Baseline CII | Targets (CUWCC MOU) | Targets (SBx7_7)

Would you like to use Weather Normalization (WN) adjustments? ○ Yes ● No

Do you accept the Council's default calculations? ● Yes ○ No

GPCD in 2006	232.99	With WN	0	GPCD In 2014	180.75	With WN	0
Baseline GPCD (1997 to 2006)	275.7	With WN	0	GPCD Target for 2018	226.1	With WN	0

Biennial GPCD Coverage Table

Year	Report	Target		Highest Acceptable Bound for WN option	
		% Base	GPCD	% Base	GPCD
2010	1	96.4%	265.8	100%	275.7
2011 [1]	2	94.6%	260.8	98.2%	270.7
2012	2	92.8%	255.8	96.4%	265.8
2013 [1]	3	91%	250.9	94.6%	260.8
2014	3	89.2%	245.9	92.8%	255.8
2015 [1]	4	87.4%	241	91%	250.9
2016	4	85.6%	236	89.2%	245.9
2017 [1]	5	83.8%	231	85.6%	236
2018	5	82.0%	260.8	82.0%	226.1

1 Interim odd year targets are shown for USBR Contractors

Potable Water GPCD for each Year in the Baseline Period

Year	GPCD	GPCD W. WN
2006	232.99	0
2005	253.38	0
2004	260.64	0
2003	247.98	0
2002	276	0
2001	294.41	0
2000	304.66	0
1999	284.85	0
1998	273.34	0
1997	328.75	0

TARGETS/COMPLIANCE (SBx7-7)

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V4 - Latest

Appendix G: AWWA Water Audit Tables

AWWA WLCC Free Water Audit Software: Reporting Worksheet

WAS v4.2

Back to Instructions

? Click to access definition

Water Audit Report for: SCWA - Non-Zone 40

Reporting Year: 2014 (1/2014 - 12/2014)

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

WATER SUPPLIED

<< Enter grading in column 'E'

Volume from own sources:	?	7	4,710.500	acre-ft/yr
Master meter error adjustment (enter positive value):	?	9	94.600	over-registered acre-ft/yr
Water imported:	?	8	0.000	acre-ft/yr
Water exported:	?	7	0.000	acre-ft/yr
WATER SUPPLIED:			4,615.900	acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

					Pcnt:	Value:
Billed metered:	?	9	985.000	acre-ft/yr		
Billed unmetered:	?	7	2,197.000	acre-ft/yr		
Unbilled metered:	?	6	0.000	acre-ft/yr		
Unbilled unmetered:	?		57.699	acre-ft/yr	1.25%	

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION:	?	3,239.699	acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

1,376.201 acre-ft/yr

Apparent Losses

					Pcnt:	Value:
Unauthorized consumption:	?		11.540	acre-ft/yr	0.25%	

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	?	7	20.102	acre-ft/yr	2.00%	
Systematic data handling errors:	?	8	23.600	acre-ft/yr		
Apparent Losses:	?		55.242			

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:	?		1,320.959 acre-ft/yr
WATER LOSSES:			1,376.201 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER:	?		1,433.900 acre-ft/yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	?	9	96.2	miles
Number of active AND inactive service connections:	?	9	3,525	
Connection density:			37	conn./mile main
Average length of customer service line:	?	9	0.0	ft (pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	?	9	63.0	psi

COST DATA

Total annual cost of operating water system:	?	9	$2,359,900	$/Year
Customer retail unit cost (applied to Apparent Losses):	?	9	$1.07	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	?	8	$455.13	$/acre-ft

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	31.1%
Non-revenue water as percent by cost of operating system:	27.7%
Annual cost of Apparent Losses:	$25,748
Annual cost of Real Losses:	$601,208

Operational Efficiency Indicators

Apparent Losses per service connection per day:	13.99	gallons/connection/day
Real Losses per service connection per day*:	334.55	gallons/connection/day
Real Losses per length of main per day*:	N/A	
Real Losses per service connection per day per psi pressure:	5.31	gallons/connection/day/psi
? Unavoidable Annual Real Losses (UARL):	74.06	acre-feet/year
From Above, Real Losses = Current Annual Real Losses (CARL):	1,320.96	acre-feet/year
? Infrastructure Leakage Index (ILI) [CARL/UARL]:	17.84	

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 78 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources

2: Unauthorized consumption

3: Billed unmetered

For more information, click here to see the Grading Matrix worksheet

AWWA WLCC Free Water Audit Software: Water Balance

WAS v4.2

Water Audit Report For:	Report Yr:
SCWA - Non-Zone 40	2014

<table>
<tr><td rowspan="11">Own Sources
(Adjusted for known errors)
4,615.900</td><td rowspan="11">Water Supplied
4,615.900</td><td rowspan="6">Authorized Consumption
3,239.699</td><td rowspan="3">Billed Authorized Consumption
3,182.000</td><td colspan="2">Billed Water Exported</td></tr>
<tr><td>Billed Metered Consumption (inc. water exported)
985.000</td><td rowspan="2">Revenue Water
3,182.000</td></tr>
<tr><td>Billed Unmetered Consumption
2,197.000</td></tr>
<tr><td rowspan="3">Unbilled Authorized Consumption
57.699</td><td>Unbilled Metered Consumption
0.000</td><td rowspan="6">Non-Revenue Water (NRW)
1,433.900</td></tr>
<tr><td>Unbilled Unmetered Consumption
57.699</td></tr>
<tr><td rowspan="5">Water Losses
1,376.201</td><td rowspan="3">Apparent Losses
55.242</td><td>Unauthorized Consumption
11.540</td></tr>
<tr><td>Customer Metering Inaccuracies
20.102</td></tr>
<tr><td>Systematic Data Handling Errors
23.600</td></tr>
<tr><td rowspan="3">Water Imported
0.000</td><td rowspan="3">Real Losses
1,320.959</td><td>Leakage on Transmission and/or Distribution Mains
Not broken down</td></tr>
<tr><td>Leakage and Overflows at Utility's Storage Tanks
Not broken down</td></tr>
<tr><td>Leakage on Service Connections
Not broken down</td></tr>
</table>

Water Exported: **0.000**

Water Loss Control Planning Guide

Functional Focus Area	Water Audit Data Validity Level / Score				
	Level I (0-25)	**Level II** (26-50)	**Level III** (51-70)	**Level IV** (71-90)	**Level V** (91-100)
Audit Data Collection	Launch auditing and loss control team; address production metering deficiencies	Analyze business process for customer metering and billing functions and water supply operations. Identify data gaps.	Establish/revise policies and procedures for data collection	Refine data collection practices and establish as routine business process	Annual water audit is a reliable gauge of year-to-year water efficiency standing
Short-term loss control	Research information on leak detection programs. Begin flowcharting analysis of customer billing system	Conduct loss assessment investigations on a sample portion of the system: customer meter testing, leak survey, unauthorized consumption, etc.	Establish ongoing mechanisms for customer meter accuracy testing, active leakage control and infrastructure monitoring	Refine, enhance or expand ongoing programs based upon economic justification	Stay abreast of improvements in metering, meter reading, billing, leakage management and infrastructure rehabilitation
Long-term loss control		Begin to assess long-term needs requiring large expenditure: customer meter replacement, water main replacement program, new customer billing system or Automatic Meter Reading (AMR) system.	Begin to assemble economic business case for long-term needs based upon improved data becoming available through the water audit process.	Conduct detailed planning, budgeting and launch of comprehensive improvements for metering, billing or infrastructure management	Continue incremental improvements in short-term and long-term loss control interventions
Target-setting			Establish long-term apparent and real loss reduction goals (+10 year horizon)	Establish mid-range (5 year horizon) apparent and real loss reduction goals	Evaluate and refine loss control goals on a yearly basis
Benchmarking			Preliminary Comparisons - can begin to rely upon the Infrastructure Leakage Index (ILI) for performance comparisons for real losses (see below table)	Performance Benchmarking - ILI is meaningful in comparing real loss standing	Identify Best Practices/ Best in class - the ILI is very reliable as a real loss performance indicator for best in class service

For validity scores of 50 or below, the shaded blocks should not be focus areas until better data validity is achieved.

Once data has been entered into the Reporting Worksheet, the performance indicators are automatically calculated. How does a water utility operator know how well his or her system is performing? The AWWA Water Loss Control Committee provided the following table to assist water utilities is gauging an approximate Infrastructure Leakage Index (ILI) that is appropriate for their water system and local conditions. The lower the amount of leakage and real losses that exist in the system, then the lower the ILI value will be.
Note: this table offers an approximate guideline for leakage reduction target-setting. The best means of setting such targets include performing an economic assessment of various loss control methods. However, this table is useful if such an assessment is not possible.

General Guidelines for Setting a Target ILI (without doing a full economic analysis of leakage control options)

Target ILI Range	Financial Considerations	Operational Considerations	Water Resources Considerations
1.0 - 3.0	Water resources are costly to develop or purchase; ability to increase revenues via water rates is greatly limited because of regulation or low ratepayer affordability.	Operating with system leakage above this level would require expansion of existing infrastructure and/or additional water resources to meet the demand.	Available resources are greatly limited and are very difficult and/or environmentally unsound to develop.
>3.0 -5.0	Water resources can be developed or purchased at reasonable expense; periodic water rate increases can be feasibly imposed and are tolerated by the customer population.	Existing water supply infrastructure capability is sufficient to meet long-term demand as long as reasonable leakage management controls are in place.	Water resources are believed to be sufficient to meet long-term needs, but demand management interventions (leakage management, water conservation) are included in the long-term planning.
>5.0 - 8.0	Cost to purchase or obtain/treat water is low, as are rates charged to customers.	Superior reliability, capacity and integrity of the water supply infrastructure make it relatively immune to supply shortages.	Water resources are plentiful, reliable, and easily extracted.
Greater than 8.0	Although operational and financial considerations may allow a long-term ILI greater than 8.0, such a level of leakage is not an effective utilization of water as a resource. Setting a target level greater than 8.0 - other than as an incremental goal to a smaller long-term target - is discouraged.		
Less than 1.0	If the calculated Infrastructure Leakage Index (ILI) value for your system is 1.0 or less, two possibilities exist. a) you are maintaining your leakage at low levels in a class with the top worldwide performers in leakage control. b) A portion of your data may be flawed, causing your losses to be greatly understated. This is likely if you calculate a low ILI value but do not employ extensive leakage control practices in your operations. In such cases it is beneficial to validate the data by performing field measurements to confirm the accuracy of production and customer meters, or to identify any other potential sources of error in the data.		

AWWA WLCC Free Water Audit Software: Reporting Worksheet

WAS v4.2

Back to Instructions

? Click to access definition

Water Audit Report for: SCWA - Zone 40
Reporting Year: 2014 | 1/2014 - 12/2014

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

WATER SUPPLIED

<< Enter grading in column 'E'

Volume from own sources:	?	7	29,759.700	acre-ft/yr
Master meter error adjustment (enter positive value):	?	9	788.400	over-registered acre-ft/yr
Water imported:	?	8	0.050	acre-ft/yr
Water exported:	?	7	2,496.300	acre-ft/yr
WATER SUPPLIED:			26,475.050	acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

					Pcnt:	Value:
Billed metered:	?	9	21,843.000	acre-ft/yr		
Billed unmetered:	?	7	2,562.000	acre-ft/yr		
Unbilled metered:	?	8	255.800	acre-ft/yr		
Unbilled unmetered:	?		330.938	acre-ft/yr	1.25%	

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION:	?		24,991.738	acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

1,483.312 acre-ft/yr

Apparent Losses

					Pcnt:	Value:
Unauthorized consumption:	?		66.188	acre-ft/yr	0.25%	

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	?	7	450.996	acre-ft/yr	2.00%	
Systematic data handling errors:	?	8	147.700	acre-ft/yr		
Apparent Losses:	?		664.884			

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:	?		818.428	acre-ft/yr
WATER LOSSES:			1,483.312	acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER:	?		2,070.050	acre-ft/yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	?	9	664.6	miles	
Number of active AND inactive service connections:	?	9	48,406		
Connection density:			73	conn./mile main	
Average length of customer service line:	?	9	0.0	ft	(pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	?	9	63.0	psi	

COST DATA

Total annual cost of operating water system:	?	9	$27,275,729	$/Year
Customer retail unit cost (applied to Apparent Losses):	?	9	$1.07	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	?	8	$466.87	$/acre-ft

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	7.8%
Non-revenue water as percent by cost of operating system:	3.5%
Annual cost of Apparent Losses:	$310,418
Annual cost of Real Losses:	$382,100

Operational Efficiency Indicators

Apparent Losses per service connection per day:	12.26	gallons/connection/day
Real Losses per service connection per day*:	15.09	gallons/connection/day
Real Losses per length of main per day*:	N/A	
Real Losses per service connection per day per psi pressure:	0.24	gallons/connection/day/psi
? Unavoidable Annual Real Losses (UARL):	766.11	acre-feet/year
From Above, Real Losses = Current Annual Real Losses (CARL):	818.43	acre-feet/year
? Infrastructure Leakage Index (ILI) [CARL/UARL]:	1.07	

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 78 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Water exported
3: Unauthorized consumption

For more information, click here to see the Grading Matrix worksheet

AWWA WLCC Free Water Audit Software: Water Balance

WAS v4.2

Water Audit Report For:	Report Yr:
SCWA - Zone 40	2014

Own Sources (Adjusted for known errors) 28,971.300	Water Exported 2,496.300	Billed Water Exported			
	Water Supplied 26,475.050	Authorized Consumption 24,991.738	Billed Authorized Consumption 24,405.000	Billed Metered Consumption (inc. water exported) 21,843.000	Revenue Water 24,405.000
				Billed Unmetered Consumption 2,562.000	
			Unbilled Authorized Consumption 586.738	Unbilled Metered Consumption 255.800	Non-Revenue Water (NRW) 2,070.050
				Unbilled Unmetered Consumption 330.938	
		Water Losses 1,483.312	Apparent Losses 664.884	Unauthorized Consumption 66.188	
				Customer Metering Inaccuracies 450.996	
				Systematic Data Handling Errors 147.700	
Water Imported 0.050			Real Losses 818.428	Leakage on Transmission and/or Distribution Mains Not broken down	
				Leakage and Overflows at Utility's Storage Tanks Not broken down	
				Leakage on Service Connections Not broken down	

AWWA WLCC Free Water Audit Software: Determining Water Loss Standing

WAS v4.2

Back to Instructions

Water Loss Control Planning Guide

Functional Focus Area	Water Audit Data Validity Level / Score				
	Level I (0-25)	**Level II** (26-50)	**Level III** (51-70)	**Level IV** (71-90)	**Level V** (91-100)
Audit Data Collection	Launch auditing and loss control team; address production metering deficiencies	Analyze business process for customer metering and billing functions and water supply operations. Identify data gaps.	Establish/revise policies and procedures for data collection	Refine data collection practices and establish as routine business process	Annual water audit is a reliable gauge of year-to-year water efficiency standing
Short-term loss control	Research information on leak detection programs. Begin flowcharting analysis of customer billing system	Conduct loss assessment investigations on a sample portion of the system: customer meter testing, leak survey, unauthorized consumption, etc.	Establish ongoing mechanisms for customer meter accuracy testing, active leakage control and infrastructure monitoring	Refine, enhance or expand ongoing programs based upon economic justification	Stay abreast of improvements in metering, meter reading, billing, leakage management and infrastructure rehabilitation
Long-term loss control		Begin to assess long-term needs requiring large expenditure: customer meter replacement, water main replacement program, new customer billing system or Automatic Meter Reading (AMR) system.	Begin to assemble economic business case for long-term needs based upon improved data becoming available through the water audit process.	Conduct detailed planning, budgeting and launch of comprehensive improvements for metering, billing or infrastructure management	Continue incremental improvements in short-term and long-term loss control interventions
Target-setting			Establish long-term apparent and real loss reduction goals (+10 year horizon)	Establish mid-range (5 year horizon) apparent and real loss reduction goals	Evaluate and refine loss control goals on a yearly basis
Benchmarking			Preliminary Comparisons - can begin to rely upon the Infrastructure Leakage Index (ILI) for performance comparisons for real losses (see below table)	Performance Benchmarking - ILI is meaningful in comparing real loss standing	Identify Best Practices/ Best in class - the ILI is very reliable as a real loss performance indicator for best in class service

For validity scores of 50 or below, the shaded blocks should not be focus areas until better data validity is achieved.

Once data has been entered into the Reporting Worksheet, the performance indicators are automatically calculated. How does a water utility operator know how well his or her system is performing? The AWWA Water Loss Control Committee provided the following table to assist water utilities is gauging an approximate Infrastructure Leakage Index (ILI) that is appropriate for their water system and local conditions. The lower the amount of leakage and real losses that exist in the system, then the lower the ILI value will be.
Note: this table offers an approximate guideline for leakage reduction target-setting. The best means of setting such targets include performing an economic assessment of various loss control methods. However, this table is useful if such an assessment is not possible.

General Guidelines for Setting a Target ILI (without doing a full economic analysis of leakage control options)

Target ILI Range	Financial Considerations	Operational Considerations	Water Resources Considerations
1.0 - 3.0	Water resources are costly to develop or purchase; ability to increase revenues via water rates is greatly limited because of regulation or low ratepayer affordability.	Operating with system leakage above this level would require expansion of existing infrastructure and/or additional water resources to meet the demand.	Available resources are greatly limited and are very difficult and/or environmentally unsound to develop.
>3.0 -5.0	Water resources can be developed or purchased at reasonable expense; periodic water rate increases can be feasibly imposed and are tolerated by the customer population.	Existing water supply infrastructure capability is sufficient to meet long-term demand as long as reasonable leakage management controls are in place.	Water resources are believed to be sufficient to meet long-term needs, but demand management interventions (leakage management, water conservation) are included in the long-term planning.
>5.0 - 8.0	Cost to purchase or obtain/treat water is low, as are rates charged to customers.	Superior reliability, capacity and integrity of the water supply infrastructure make it relatively immune to supply shortages.	Water resources are plentiful, reliable, and easily extracted.
Greater than 8.0	Although operational and financial considerations may allow a long-term ILI greater than 8.0, such a level of leakage is not an effective utilization of water as a resource. Setting a target level greater than 8.0 - other than as an incremental goal to a smaller long-term target - is discouraged.		
Less than 1.0	If the calculated Infrastructure Leakage Index (ILI) value for your system is 1.0 or less, two possibilities exist. a) you are maintaining your leakage at low levels in a class with the top worldwide performers in leakage control. b) A portion of your data may be flawed, causing your losses to be greatly understated. This is likely if you calculate a low ILI value but do not employ extensive leakage control practices in your operations. In such cases it is beneficial to validate the data by performing field measurements to confirm the accuracy of production and customer meters, or to identify any other potential sources of error in the data.		

Appendix H: Water Waste Section 3.40.120 of the Conditions of Service Chapter of the Sacramento County Water Agency Code

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. (WAO-0069 § 1, 2007)

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. (WAO-0069 § 1, 2007)

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, or in violation of the Water Shortage Contingency Plan.

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. (WAO-0069 § 1, 2007; WAO-0083 § 1, 2014)

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;

E. use water in a wasteful or negligent manner, or in violation of the Water Shortage Contingency Plan.

Appendix I: Water Shortage Contingency Resolution and Plan

SACRAMENTO COUNTY WATER AGENCY

RESOLUTION NO. WA-2860

REVISE THE SACRAMENTO COUNTY WATER AGENCY WATER SHORTAGE CONTINGENCY PLAN AND AUTHORIZE THE AGENCY ENGINEER TO IMPLEMENT CONSERVATION MEASURES THERETO

WHEREAS, the Sacramento region is experiencing its third consecutive year of below average rainfall and water supply storage in Folsom Reservoir is at nineteen percent of capacity and dropping; and

WHEREAS, the Sacramento County Water Agency (SCWA) adopted a Water Shortage Contingency Plan in November 2012, prescribing actions to be taken to respond to the event of low water supply conditions; and

WHEREAS, revisions to the Water Shortage Contingency Plan (Shortage Plan) are necessary to accurately reflect the intent of the plan, respond to current conditions, and align with recent recommendations from the Regional Water Authority;

WHEREAS, the Agency Engineer has determined that due to the persistent dry weather conditions, below average rainfall, and historically low water supply in storage in Folsom Reservoir, water supply conditions may deviate from normal and inhibit the ability of SCWA to meet customer demand;

WHEREAS, the uncertainty of water supply conditions require the Agency Engineer be accorded the authority to identify and implement the Stages of the Shortage Plan, as revised, as weather conditions, water demand, and water supply change;

NOW, THEREFORE, be it resolved that the Board of Directors

1. Adopts the proposed revisions to the Shortage Plan; and,
2. Supports the Agency's request to the SCWA service area for voluntary 20% water conservation; and,
3. Authorizes the Agency Engineer to identify and implement subsequent conservation measures in accordance with criteria identified in the Shortage Plan, as revised, and to do that which is necessary to further carry out the intent and purpose of this resolution.

On a motion by Director Nottoli, seconded by Director Serna, the foregoing Resolution was passed and adopted by the Board of Directors of the Sacramento County Water Agency this 28th day of January, 2014, by the following vote, to wit:

AYES: Directors, MacGlashan, Nottoli, Peters, Serna, Yee

NOES: Directors, None

ABSENT: Directors, None

(SEAL)

Chairperson of the Board of Directors of the Sacramento County Water Agency

ATTEST:

Clerk of the Board of Supervisors and Ex Officio Secretary to the Board of Directors of the Sacramento County Water Agency

In accordance with Section 25103 of the Government Code of the State of California a copy of the document has been delivered to the Chairman on 1-28-14

By Rena White
Deputy Clerk, Board of Directors

FILED
BOARD OF DIRECTORS
JAN 28 2014
BY CLERK OF THE BOARD

Sacramento County Water Agency

Water Shortage Contingency Plan

(Revised January 2014)

The Sacramento County Water Agency (Agency) has developed this Water Shortage Contingency Plan (WSCP) to respond to water shortages resulting from reduced source water allocations, mechanical failures, or other circumstances that inhibit the Agency's ability to deliver sufficient water to meet customer demand. Should the Agency Engineer determine that water supply conditions will deviate from Normal and inhibit the ability of the Agency to meet customer demand, the Agency Engineer shall identify the Stage of water supply conditions and implement the associated conservation measures identified in this Water Shortage Contingency Plan to meet customer demand and ensure essential provision of water for Health and Safety purposes. Once implemented, these requirements will be in effect until the Agency Engineer determines that water supply conditions are returned to Normal and adequate to allow water restrictions to be reduced or rescinded.

Stages of Action

Table 1 presents stage definitions and corresponding shortage triggers which are used to enact each stage. Detailed descriptions of the Conservation Stages are included further in this document.

Table 1 - Conservation Stages to Address Water Supply Shortages

Stage	Water Supply Conditions	Conservation Target (%)
Normal	Normal Water Supply	NA
1	Water Alert – probability that supplies will not be able to meet all demands	Up to 10%
2	Water Warning - supplies not meeting current demands	Up to 25%
3	Water Crisis - major failure of a supply, storage, or distribution system; supplies not meeting current demands	Up to 50%
4	Water Emergency - major failure of a supply, storage, or distribution; supplies not meeting current demands	Greater than 50%

NORMAL – Normal Water Use

During the Normal stage the following conservation measures and regulations are in effect within areas served by the Water Agency. Failure thereto constitutes 'water waste', and is an unauthorized use of Agency water pursuant to Water Agency Code Sections 3.40.120 and 3.40.130.

- **Residential and Commercial Irrigation Schedule** - Irrigation is permitted based on the last digit of customer addresses, in accordance with the schedule below:

Normal Stage - Irrigation Schedule

Addresses Ending In	Watering Days	Time of Day
Even Number (0, 2, 4, 6, 8)	Wednesday, Friday, Sunday	Between 8 p.m. and 6 a.m.
Odd Number (1, 3, 5, 7, 9)	Tuesday, Thursday, Saturday	

- **Irrigation Runoff** – Excess runoff of irrigation water onto driveways, sidewalks, gutters, streets, into roadside ditches, or onto adjacent properties is discouraged.
- **Hose Nozzles Required** – Use automatic shutoff nozzles on all hoses.
- **Washing Down with Water to Clean Impervious Surfaces Prohibited** – Do not use water to wash down or clean driveways, sidewalks, patios, parking lots or streets.
- **Water Leak Repair Requirements** – Repair leaking pipes, fixtures and sprinklers promptly.
- **Pool, Pond and Fountain Restrictions** – All swimming pools, ponds and fountains must be equipped with recirculating water pumps.
- **Serving of Water in Restaurants** – Restaurants to serve water to customers only upon request.
- **Customers are encouraged to use these additional measures to conserve:**
    - Install drought tolerant, low- water use, landscaping.
    - Use high efficiency plumbing fixtures and appliances
    - Only wash full loads when running laundry and dish washing appliances.

- Use a bucket, rather than a hose, when washing a car.

STAGE 1 – Water Alert

During Stage 1 conditions a Water Alert will be issued by the Agency to its customers requesting a reduction in water use of **up to10%**. Additionally, the following regulations go into effect during Stage 1, which are in addition to, or supersede where conflicting, those in effect during the Normal stage:

- **Irrigation Restrictions** –Irrigation is permitted **3 days per week** based on the last digit of customer addresses, in accordance with the below schedule:

STAGE 1 – Irrigation Schedule

Addresses Ending In	Watering Days	Permitted Irrigation Time of Day
Even Number (0, 2, 4, 6, 8)	Wednesday, Friday, Sunday	Between 8 p.m. and 6 a.m.
Odd Number (1, 3, 5, 7, 9)	Tuesday, Thursday, Saturday	

STAGE 2 – Water Warning

During Stage 2 conditions a Water Warning will be issued by the Agency to its customers requesting a reduction in water use of **up to 25%.** The following regulations are in effect during Stage 2, and are in addition to, or supersede where conflicting, those in effect during the Normal stage and Stage 1:

- **Irrigation Restrictions** –Irrigation is permitted **2 days per week** based on the last digit of customer addresses, in accordance with the below schedule:

STAGE 2 – Irrigation Schedule

Addresses Ending In	Watering Days	Permitted Irrigation Time of Day
Even Number (0, 2, 4, 6, 8)	Wednesday, Sunday	Between 8 p.m. and 6 a.m.
Odd Number (1, 3, 5, 7, 9)	Tuesday, Saturday	

- **Pond and Fountain Restrictions**– Use of Water Agency potable supply for ornamental ponds , fountains, streams and other water features is prohibited.

STAGE 3 – Water Crisis

During Stage 3 conditions a Water Crisis will be issued by the Agency to its customers requesting a reduction in water use of **up to 50%.** The following regulations go into effect during Stage 3, which are either in addition to, or supersede, those in effect during the Normal stage and Stages 1 and 2:

- **Irrigation Restrictions** – Irrigation is permitted **1 day per week** based on the last digit of customer addresses, in accordance with the below schedule:

Addresses Ending In	Watering Days	Permitted Irrigation Time of Day
Even Number (0, 2, 4, 6, 8)	Sunday	Between 8 p.m. and 6 a.m.
Odd Number (1, 3, 5, 7, 9)	Saturday	

- **Pool Restrictions**– Potable water supplied by the Water Agency may not be used to fill or add water to swimming pools.
- **Residential Car Washing** – Potable water supplied by the Agency may not be used for residential car washing and charity fund-raising car wash activities.

STAGE 4– Water Emergency

During Stage 4 conditions a Water Emergency will be issued by the Agency to its customers requesting a reduction in water use of **greater than 50%.** The following regulations go into effect during Stage 4, which are either in addition to, or supersede where conflicting, those in effect during the Normal stage and Stages 1, 2 and 3:

- **Irrigation Restrictions** –All residential and commercial outdoor irrigation is **prohibited**.
- **New Connection Moratorium** – New connections to the Water Agency's system are prohibited.

Appendix J: Climate Change Vulnerability Assessment

Table C-1. Climate Change Vulnerability Checklist and Prioritization

Question	Response	Priority	Justification	Vulnerability
I. Water Demand				
Are there major industries that require cooling/process water in your planning region?	Yes	Low	The largest water-intensive industry in the Region is agriculture.	Increased potential for summer water shortage.
Does water use vary by more than 50% seasonally in parts of your region?	Yes	High	Summer months are as much as 50% higher than the average month and winter months are as much as 50% lower than the average month. Warming temperatures and increased extreme events will likely exacerbate summer demand.	Increased potential for summer water shortage.
Are crops grown in your region climate sensitive? Would shifts in daily heat patterns, such as how long heat lingers before nighttime cooling, be prohibitive for some crops?	Yes	High	A variety of crop types are grown in the Region, including row crops, tree crops, and irrigated grains. Agricultural production in Sacramento County has a value of approximately $300 million dollars (Sacramento County Department of Agriculture 2002). Many of these crops are sensitive to climate change (Sacramento County Climate Action Plan 2011).	Increased potential for summer water shortage.
Do groundwater supplies in your region lack resiliency after drought events?	No	Low	Groundwater supplies in the Region have proved resilient after past drought events.	N/A
Are water use curtailment measures effective in your region?	Yes	Low	Water conservation BMPs are used effectively throughout the Region, as detailed in various UWMPs.	Potential for demand hardening and limited opportunities for further conservation.
Are some in-stream flow requirements in your region either currently insufficient to support aquatic life, or occasionally unmet?	No	Low	Minimum in-stream flow requirements are generally met in both the American River and the Sacramento River. However, climate change is expected to place additional stress on summer low flows.	Reduced summer low flows.
II. Water Supply				
Does a portion of the water supply in your region come from snowmelt?	Yes	Medium	American River runoff from April through July is dominated by snowmelt. This provides water supply throughout the dry summer and fall.	Reduced water supply reliability.
Does part of your region rely on water diverted from the Delta, imported from the Colorado River, or imported from other climate-sensitive systems outside your region?	No	N/A	Currently, there is no use of imported water in the Region, and use of this supply is not anticipated in the future.	N/A
Does part of your region rely on coastal aquifers? Has salt intrusion been a problem in the past?	No	N/A	There are no coastal aquifers within the Region.	N/A
Would your region have difficulty in storing carryover supply surpluses from year to year?	Yes	Medium	Current regional reservoir operating conditions limit storage opportunities during winter runoff season; increased winter runoff would not necessarily translate into increased storage of water leading into the spring season. In the ARB Region, the ratio of storage to annual runoff is approximately 0.64, indicating that this is likely to be the case (Roos 2005). In addition, less spring snowmelt could make it more difficult to refill winter reservoir flood control space during late spring and early summer of many years, which could potentially reduce the amount of surface water available during the dry season (Roos 2005). Conversely, storage capture of snowmelt runoff has traditionally occurred during the late spring and early summer seasons. Reductions in runoff during these seasons likely would translate into reductions in storage capture and, likewise, reductions in water supply for warm season delivery.	Reduced water supply reliability.
Has your region faced a drought in the past during which it failed to meet local water demands?	No	High	The Region has not failed to meet local water demands during drought years. However, the potential effects of climate change make this a possibility. The Region is projected to have more frequent, longer, and more-extreme heat waves and longer periods of drought (Sacramento County 2011).	Reduced water supply reliability.
Does your region have invasive species management issues at your facilities, along conveyance structures, or in habitat areas?	Yes	Medium	Invasive species, including various nonnative fish and plant species, are an ongoing issue within the Region (**Appendix B**).	Invasive species impacts on infrastructure.

Table C-1. Climate Change Vulnerability Checklist and Prioritization (contd.)

Question	Response	Priority	Justification	Vulnerability
III. Water Quality				
Are increased wildfires a threat in your region? If so, does your region include reservoirs with fire-susceptible vegetation nearby that could pose a water quality concern from increased erosion?	No	Low	Increased frequency of wildfires is a relatively low threat in this Region (CEC 2011). However, Folsom reservoir could be vulnerable to water quality impairments resulting from increased erosion.	Reduced beneficial use of water from degraded water quality.
Does part of your region rely on surface water bodies with current or recurrent water quality issues related to eutrophication, such as low dissolved oxygen or algal blooms? Are there other water quality constituents potentially exacerbated by climate change?	Yes	High	Surface water bodies in the Region do not have current water quality issues related to eutrophication. However, surface water temperature in the Region is highly likely to rise and adversely impact beneficial uses in the Region. Additionally, several water bodies have beneficial uses impaired by invasive species, which are likely to be exacerbated by climate change (State Water Resources Control Board 2012).	
Are seasonal low flows decreasing for some waterbodies in your region? If so, are the reduced low flows limiting the waterbodies' assimilative capacity?	No	Medium	Seasonal low-flows are not currently decreasing; however this is a potential impact from climate change.	
Are there beneficial uses designated for some water bodies in your region that cannot always be met due to water quality issues?	Yes	Low	Beneficial uses on surface water bodies throughout the Region are listed as impaired on the CWA 303 (d) list for various water quality constituents, including mercury and pesticides. Climate change may increase impairments of beneficial uses in the Region's surface water bodies.	
Does part of your region currently observe water quality shifts during rain events that impact treatment facility operation?	Yes	Medium	Disinfectant byproduct precursors tend to spike during storm events (DWR 2001). Storm events currently contribute to high turbidity in area rivers and streams (Sacramento County, et. al. 2010).	
IV. Sea-Level Rise				
Has coastal erosion already been observed in your region?	No	N/A	The Region does not contain any coastal areas.	N/A
Are there coastal structures, such as levees or breakwaters, in your region?	Yes	High	There are tidally influenced levees on the Sacramento River on the western boundary of the Region.	Increased tidal flood risk.
Is there significant coastal infrastructure, such as residences, recreation, water and wastewater treatment, tourism, and transportation) at less than 6 feet above mean sea level in your region?	Yes	Medium	There is infrastructure adjacent to the lower Sacramento River that is at or near 6 feet above mean sea level, including transportation (Interstate 5), residences, and recreational facilities.	
Are there climate-sensitive low-lying coastal habitats in your region?	No	N/A	There are no coastal habitats within the Region.	N/A
Are there areas in your region that currently flood during extreme high tides or storm surges?	No	Medium	The areas adjacent to the lower Sacramento River do not currently flood during extreme high tides alone, but are threatened when extreme high tides occur in conjunction with extreme storm events.	Increased tidal flood risk.
Is there land subsidence in the coastal areas of your region?	Yes	Low	Land has subsided from 0 to 10 feet below mean sea level in limited areas along the lower Sacramento River in the southwestern portion of the Region (USGS 2000).	
Do tidal gauges along the coastal parts of your region show an increase over the past several decades?	Yes	Low	In recent decades, the mean sea level trend has been an increase of 2.08mm/year at the nearest tidal gage to the Region (Port Chicago, located in the San Francisco Bay) (NOAA 2012).	

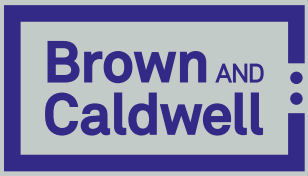
Table C-1. Climate Change Vulnerability Checklist and Prioritization (contd.)

Question	Response	Priority	Justification	Vulnerability
V. Flooding				
Does critical infrastructure in your region lie within the 200-year floodplain? DWR's best available floodplain maps are available at: http://www.water.ca.gov/floodmgmt/lrafmo/fmb/fes/best_available_maps/.	Yes	High	Major Infrastructure in floodplains includes major Interstate highways and water/wastewater infrastructure (DWR 2012b).	Increase riverine flood risk.
Does part of your region lie within the Sacramento-San Joaquin Drainage District?	Yes	High	The Region lies entirely within the Sacramento-San Joaquin Drainage District.	
Does aging critical flood protection infrastructure exist in your region?	Yes	High	Major metropolitan areas, small communities, and rural areas are protected by aging levees, weirs, bypasses, and other flood management infrastructure. An inventory of the infrastructure deficiencies is detailed in the Flood Control System Status Report (DWR 2011).	Increase riverine flood risk.
Have flood control facilities (such as impoundment structures) been insufficient in the past?	Yes	Medium	Portions of the Region are vulnerable to five flood types: localized flooding, riverine flooding, flash flooding, levee overtopping/failure, and dam failure.	
Are wildfires a concern in parts of your region?	Yes	Low	Wildfires are a low priority concern, and, per Cal-Adapt are not likely to become a substantially higher priority concern in the near future.	
VI. Ecosystem and Habitat Vulnerability				
Does your region include inland or coastal aquatic habitats vulnerable to erosion and sedimentation issues?	Yes	Medium	Wetland and riverine habitats are vulnerable to erosion and sedimentation issues.	Increased adverse impacts to habitats and species.
Does your region include estuarine habitats that rely on seasonal freshwater flow patterns?	Yes	Low	The Delta portion of the Region relies on seasonal freshwater flow patterns.	
Do climate-sensitive fauna or flora populations live in your region?	Yes	High	Climate sensitive populations include salmonid species, migratory bird species, and wetland species (CEC 2008)	
Do endangered or threatened species exist in your region? Are changes in species distribution already being observed in parts of your region?	Yes	High	Yes, a number of state-listed and federally listed threatened and endangered species exist in the Region (**Appendix B**). Changes in aquatic and terrestrial ecosystems have already been observed (DWR 2009).	
Does the region rely on aquatic or water-dependent habitats for recreation or other economic activities?	Yes	Low	Boating, hunting, fishing, and bird watching are important recreational and economic activities that rely on aquatic or water-dependent habitats in the Region.	
Are there rivers in your region with quantified environmental flow requirements or known water quality/quantity stressors to aquatic life?	Yes	High	The American River and the Lower Sacramento River have quantified environmental flow requirements. The majority of waters in the Region are listed on the CWA 303(d) list for impairments to aquatic habitat beneficial uses.	
Do estuaries, coastal dunes, wetlands, marshes, or exposed beaches exist in your region? If so, are coastal storms possible/frequent in your region?	Yes	Low	The Bay-Delta estuary, marshes, and seasonal and emergent wetland habitats exist in the Region, particularly in the southwestern portion. However, coastal storms are not frequent in the Region.	
Does your region include one or more of the habitats described in the Endangered Species Coalition's Top 10 habitats vulnerable to climate change (http://www.itsgettinghotoutthere.org/)?	Yes	High	The Region contains portions of two Endangered Species Coalition's Top 10 vulnerable habitats: the Bay-Delta and the Sierra Nevada.	
Are there areas of fragmented estuarine, aquatic, or wetland wildlife habitat within your region? Are there movement corridors for species to naturally migrate? Are there infrastructure projects planned that might preclude species movement?	Yes	Medium	The combined effect of various stressors has fragmented and/or eliminated extensive areas of wetland and riparian habitat and impeded movement corridors (DWR 2012b).	

Table C-1. Climate Change Vulnerability Checklist and Prioritization (contd.)

Question	Response	Priority	Justification	Vulnerability
VII. Hydropower				
Is hydropower a source of electricity in your region?	Yes	Low	Folsom Lake and Camp Far West Reservoir provide hydroelectric power for the Region.	Potential decrease in hydropower potential.
Are energy needs in your region expected to increase in the future? If so, are there future plans for hydropower generation facilities or conditions for hydropower generation in your region?	Yes	Low	Based on data collected by SACOG in 2012, the Region's population is expected to continue to grow significantly between now and 2025. Sacramento County is expected to grow about 37% between 2008 and 2035, Placer County is expected to grow about 49%, and El Dorado County is expected to grow about 24%. As a whole, the three-county Region (excluding the Tahoe basin) is expected to grow about 38%, with the most aggressive growth occurring between 2020 and 2035 (**Section 2.5.2**).	

Key:
ARB = American River Basin
Bay-Delta = Sacramento-San Joaquin River Delta and San Francisco Bay
BMP = Best Management Practices
CEC = California Energy Commission
CWA = Clean Water Act
Delta = Sacramento-San Joaquin River Delta
DWR = California Department of Water Resources
IRWMP = Integrated Regional Water Management Plan
N/A = not available/ not applicable
NOAA = National Oceanic and Atmospheric Administration
SACOG = Sacramento Area Council of Governments
USGS = U.S. Geological Survey
UWMP = Urban Water Management Plan



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